

September 1, 2005

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EVENT STUDY OF THE AUGUST 2004 McALPINE LOCK CLOSURE



US Army Corps
of Engineers®

IWR Report 05-NETS-R-07

Navigation Economic Technologies

The purpose of the Navigation Economic Technologies (NETS) research program is to develop a standardized and defensible suite of economic tools for navigation improvement evaluation. NETS addresses specific navigation economic evaluation and modeling issues that have been raised inside and outside the Corps and is responsive to our commitment to develop and use peer-reviewed tools, techniques and procedures as expressed in the Civil Works strategic plan. The new tools and techniques developed by the NETS research program are to be based on 1) reviews of economic theory, 2) current practices across the Corps (and elsewhere), 3) data needs and availability, and 4) peer recommendations.

The NETS research program has two focus points: expansion of the body of knowledge about the economics underlying uses of the waterways; and creation of a toolbox of practical planning models, methods and techniques that can be applied to a variety of situations.

Expanding the Body of Knowledge

NETS will strive to expand the available body of knowledge about core concepts underlying navigation economic models through the development of scientific papers and reports. For example, NETS will explore how the economic benefits of building new navigation projects are affected by market conditions and/or changes in shipper behaviors, particularly decisions to switch to non-water modes of transportation. The results of such studies will help Corps planners determine whether their economic models are based on realistic premises.

Creating a Planning Toolbox

The NETS research program will develop a series of practical tools and techniques that can be used by Corps navigation planners. The centerpiece of these efforts will be a suite of simulation models. The suite will include models for forecasting international and domestic traffic flows and how they may change with project improvements. It will also include a regional traffic routing model that identifies the annual quantities from each origin and the routes used to satisfy the forecasted demand at each destination. Finally, the suite will include a microscopic event model that generates and routes individual shipments through a system from commodity origin to destination to evaluate non-structural and reliability based measures.

This suite of economic models will enable Corps planners across the country to develop consistent, accurate, useful and comparable analyses regarding the likely impact of changes to navigation infrastructure or systems.

NETS research has been accomplished by a team of academicians, contractors and Corps employees in consultation with other Federal agencies, including the US DOT and USDA; and the Corps Planning Centers of Expertise for Inland and Deep Draft Navigation.

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U.S. Army
Corps of Engineers
Great Lakes and Ohio River Division

Event Study of the August 2004 McAlpine Lock Closure



September 2005

Executive Summary

McAlpine Lock and Dam, Ohio River mile 606.8, has been operating with only one chamber since January 2001. At that time, the auxiliary chamber was taken out of service to make way for construction of a new chamber.

In April, 2004, an underwater dive inspection revealed extensive cracking in the downstream riverside miter gate. A second dive inspection, conducted during better water conditions, confirmed these cracks. The US Army Corps of Engineers, working with the US Coast Guard, the River Industry Executive Task force, and other inland river associations, organized a meeting on May 27, 2004 where it was announced that the lock was going to close in August 2004 for emergency repairs. This meeting was attended by dozens of river carriers and shippers who stressed that they needed as much time as possible to build inventories and make other shipping arrangements.

All those involved expected this closure to be highly disruptive to navigation on the Ohio River. Queue lengths were expected to reach 75 to 100 tows by time the lock reopened. For this reason, many activities were undertaken to insure the safety of the tows while in queue, and the orderly and efficient processing of vessels after the lock reopened. Among the actions taken were declaration of a Regulated Navigation Area by the US Coast Guard accompanied by land and water based patrols, development and staffing of a Command Center by the navigation carriers, and dredging of the lower approach to the lock by the Corps of Engineers, and extensive pre-planning by the Corps.

The lock closed on August 9, 2004 and reopened 3 days earlier than originally projected on August 19, 2004. Effective pre-planning before the closure, excellent productivity from the expanded workforce, and ideal weather conditions contributed to the earlier than expected reopening.

Early notice of the closure allowed shippers and carriers to build inventories and make other shipping arrangements. This is evidenced by the small queue, only 14 tows, that developed during the closure.

The table below lists the costs incurred by various interests due to the closure.

Description	Cost
US Corps of Engineers	\$ 1,869,000
US Coast Guard	\$ 135,000
Non-Federal Coordination and Preparation	\$ 94,500
Delays Costs	\$ 697,000
Shipper-Carrier Costs Excluding Delay	\$ 6,345,198
Total =	\$ 9,140,698

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- Attachment 1 – US Coast Guard Regulated Navigation Area Notice***
- Attachment 2 – Redacted Transcript from May 27, 2004 Meeting***
- Attachment 3 – RIETF Announcement Establishing Priority Lockage Program***
- Attachment 4 – Information Package***
- Attachment 5 – After Action Report***

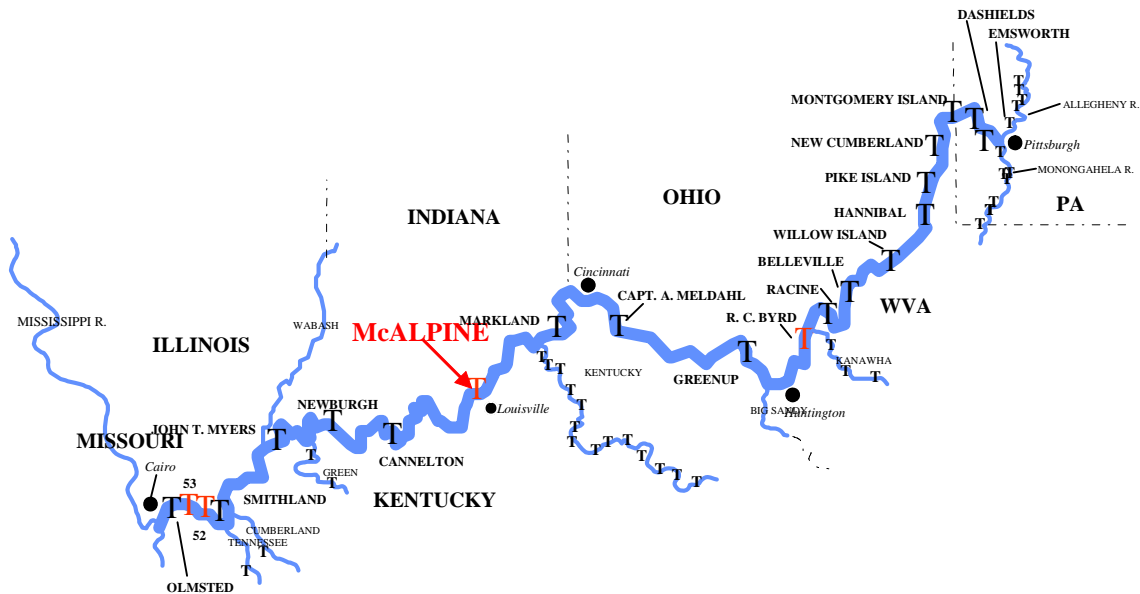
Introduction

McAlpine Lock and Dam, located on the Ohio River at river mile 606.8 (**Figure 1**), has been serving navigation with only one operable chamber since January 2001. At that time, the auxiliary chamber was removed from service to make way for a new 1200' x 110' chamber which is currently under construction.

The US Army Corps of Engineers in Louisville Kentucky was aware of miter gate problems prior to 2001. Given this awareness, the Corps performed major repair on the gates in 1997 and minor repair and inspection in 1999. After 2001, they conducted dive inspections on McAlpine's miter gates semi-annually instead of annually. During one of the inspections in April 2004, unexpected significant cracking was found. The April dive was conducted during high flow conditions when the water was very turbid. Therefore, another inspection took place in early May 2004 when water turbidity had decreased. This second inspection confirmed the cracking. Consultations among the engineers in the District resulted in a decision to dewater the chamber as soon as practicable.

This decision had the potential to profoundly impact navigation on the Ohio River. McAlpine normally passes about 13 tows, carrying 135,000 tons, per day. This means that a 10 day closure had the potential to disrupt shipping schedules for over 130 tows. The consensus opinion was there could be between 75 and 100 tows in queue when the closure ended. This report documents the actions of the Corps, the US Coast Guard, the towing industry and their customers to reduce the impact of the closure.

Figure 1
McAlpine L&D Location



General Chronology of Events

Some of the more important dates related to the 2004 closure at McAlpine include:

1991 – Project Authorization. Anticipate being without an auxiliary chamber for 4 years.

1997 – Major maintenance performed on 1200’ main chamber including extensive gate repairs.

1999 – Last dewatering before cofferdam construction. Minor gate repair.

May 2000 – Construction contract awarded. Anticipated completion date now 2006 or 2007.

January 2001 – Auxiliary chamber permanently taken out of service.

April 2004 – Corps discovers miter gate cracking during dive inspection.

Early May 2004 – Corps confirms miter gate cracking.

May 27, 2004 – Corps announces need for McAlpine closure at meeting with shippers, carriers, US Coast Guard, and other river interests. Anticipated on-line date for new chamber now 2008.

June 7, 2004 – Concurrent closure of Markland and Meldahl main chambers begins.

June 8, 2004 – Cargo prioritization rules meeting led by River Industry Executive Task Force.

June 16, 2004 – First Queue Management Group meeting.

June 17, 2004 – Concurrent closure of Markland and Meldahl main chambers ends.

June 30, 2004 – Second Queue Management Group meeting.

July 20, 2004 – Third Queue Management Group meeting.

July 30, 2004 – Pre-Closure status meeting hosted by the Corps.

August 9, 2004 07:15 – McAlpine lock closed, scheduled to reopen August 22, 2004.

August 12, 2004 – Lock dewatered and gate inspection complete. Corps announces no unanticipated cracks were found. Scheduled reopening date remains August 22, 2004.

August 18, 2004 14:20 – Corps announces lock will reopen earlier than anticipated. Scheduled reopening date now August 20, 2004 07:00.

August 19, 2004 16:15 – McAlpine 1200' chamber reopens to traffic.

Actions Taken by Federal Agencies

US Army Corps of Engineers

Activities Prior to May 27, 2004. The US Army Corps of Engineers first became concerned with the condition of the gates at McAlpine during the mid to late 1990's. Extensive gate cracking was found at Markland L&D in the mid 1990's. Finite element and other engineering analysis were performed to determine why Markland's gates were cracking. This analysis concluded that the fabrication techniques used during construction locked stresses into the gates. Furthermore, whenever the gates were opened and closed, the stresses within the gate reversed, meaning the gates were going through a compression-tension cycle every time they were cycled. Thirty plus years of these stress reversals had taken its toll on the gates. Since the gates at McAlpine were of the same design, fabricated using the same techniques, and were built at about the same time, they were similarly distressed.

Knowing the condition of McAlpine's gates, the Corps performed extensive gate maintenance during a closure in 1997 and a relatively short inspection closure in September 1999. The Corps performed these closures to insure the gates were in the best possible shape prior to permanent closure of the auxiliary chamber..

The construction contract was awarded in May 2000, and the auxiliary chamber was permanently taken out of service in January 2001.

In addition to these maintenance events, the Corps fabricated two new miter gates and built a storage area to house them. The Corps knew the existing gates were in bad shape, so these new gates were intended to serve as emergency backups in case of a catastrophic failure. The new gates began arriving in sections in the year 2000, and the heavy lifter crane, which is needed to install the gates, arrived in 2002.

From 2001 until May of 2004 the Corps performed dive inspections every 6 months, instead of the usual 12 months. It was during one of these inspections in April 2004 that cracks were found in the downstream, riverside gate. Due to high water



turbidity in April, the Corps decided to do another inspection when water levels receded and turbidity decreased. This second inspection occurred early in May 2004. During that inspection, numerous cracks were found in the main structural members of the gate leaves. The majority of the cracks were concentrated in the pintle casting and in areas around the heel of the gate. Due to the location of the cracks, the size of the cracks, and the condition of the 43 year old gates, a decision was made to conduct an emergency dewatering of the chamber.

News of the cracks was relayed to the local Congressional office, the River Industry Executive Task Force, inland river associations, and the US Coast Guard. The RIETF organized and hosted a meeting on May 27, 2004 between navigation interests, the Corps and the US Coast Guard.

May 27, 2004 to August 9, 2004. The Corps was involved in many activities between May 27th and August 9th. The major activities included:

- Bi-weekly underwater dive inspections
- Participation in several organizational meetings with RIETF and the Queue Management Group
- Keeping the public informed by meeting with local media and developing a web site for disseminating information to the public
- Dredging the lower approach to the main chamber to remove deposition which had accumulated since construction began
- Patrolling the river to inspect and replace Federal mooring buoys
- Planning of work activities and staging equipment prior to the closure
- Designing and fabricating stiffening plates that would be welded to the gates during the closure
- Rescheduling a closure at Meldahl L&D so it would occur at the same time as a closure at Markland L&D.

After the auxiliary chamber was taken out of service in January 2001, dive inspections were conducted semi-annually at McAlpine. After the cracks were found in May 2004, dive inspection frequency was increased to once every two weeks. These additional inspections were made as a safety against catastrophic unexpected failure of the gates. Six additional dive inspections were made between May 2004 and August 9, 2004.

Corps representatives participated in the [May 27, 2004](#) meeting, a [June 8, 2004 RIETF meeting](#), three different [Queue Management Group meetings](#), and an [August 8, 2004 Queue Management Group teleconference](#). Many other smaller coordination related activities occurred.

The Louisville District Public Affairs office took the lead on information exchange. This ensured a consistent message was delivered to the public. Public affairs support to the McAlpine lock closure included:

- created and updated a web site. Daily updates included photographs and cutlines.
- created and implemented a communications plan
- media support and events

- assisted videographers for Headquarters, Department of the Army for video news releases, historical documentation
- community relations activities
- coordination of USACE headquarters public affairs support
- photography and information management coordination
- liaison between Coast Guard, Marine Safety Office, navigation industry and public
- administrative support in meeting coordination, list construction, documentation of meetings, coordinated archive of photos/web/news clips, attendance rosters, etc.
- hosting of contracted camera crews for video documentation
- preparation of synopses/articles to division, headquarters for publication after event

The Louisville District Operations office conducted dredging activities in the lower approach to the main chamber. This dredging was conducted to insure that vessels could easily exit and enter the chamber after it reopened. In addition to the dredging, surveys were conducted to insure that federal mooring buoys were on station.



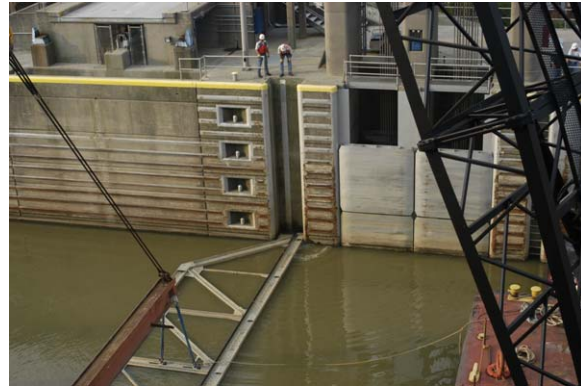
Prior to the closure, the Louisville repair station made arrangements to increase the size of the repair crew. Pittsburgh and Huntington Districts contributed experienced personnel, as did several of the locks in Louisville District. Additional cranes were rented so there would be a crane for each of the four gate areas. Additional welding machines and a large electrical generator were also rented and pre-staged prior to the closure. The project engineer and fleet superintendent went

through scenarios for each task to make sure they stayed organized and to eliminate any obstacles that might arise. Contingency plans were developed in case the unexpected was found during the dewatering. The spare miter gates were loaded on the derrick barge and positioned downstream of the chamber in case the existing gates were beyond repair. All parts and materials needed for the job were carefully thought out and obtained, and as much equipment as possible was pre-positioned prior to the closure

Engineering Division completed design of the stiffener plates. The plates were then fabricated using Louisville's Multiple Award Task Order Contract.

August 9, 2004 to August 19, 2004. The 1200' chamber at McAlpine was closed to traffic at 7:15 AM on August 9, 2004 and reopened at 4:15 PM on August 19, 2004. The following narrative is taken from the daily status reports produced by the Corps.

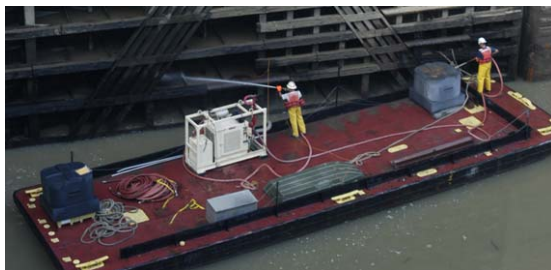
August 9 1230 hrs- McAlpine Lock closed ahead of schedule this morning, at 0715. No traffic was waiting for lockage, allowing it to be turned over to the repair crew ahead of the 0800 scheduled closure. The repair fleet moved into the chamber and is in the process of setting maintenance bulkheads and dewatering pumps.



Good progress is being made on this initial phase of the work. Extensive preparatory work was accomplished during the week prior to the closure, including the positioning of essential equipment such as cranes, scaffolds, welding machines, and the Derrickboat Henry M. Shreve, loaded with the McAlpine replacement gates. At this time, there are 4 boats in queue, 3 southbound and 1 northbound.



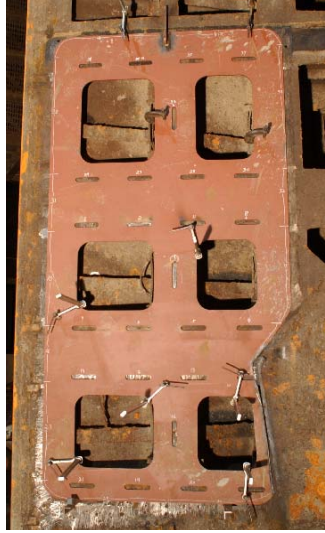
August 10 0900 hrs - The repair fleet completed setting maintenance bulkheads and dewatering pumps early this morning. Approximately eight feet of water has been pumped out of the chamber. Crews continue cleaning the miter gates by working from small barges inside the lock chamber. At this time, there are 3 boats in queue, 2 southbound and 1 northbound.



August 11 0800 hrs - Dewatering of the lock chamber is complete. Cleaning of the miter gates and sill area is nearly complete. Detailed inspection of cracking in the miter gates will begin this morning. At this time, there are 5 boats in queue, 2 southbound and 3 northbound.

August 12 0800 hrs - Inspection of the lower miter gate is complete and inspection of the upper miter gate is scheduled to be completed today. There has been no unanticipated cracking found at this time. Welding of the cracks has begun on all four miter gate leaves and reinforcing plates are being installed on the

lower miter gate leaves. There are three boats in queue, two southbound and one northbound.



August 12 1200 hrs - The initial inspection of the upper gates is complete. Inspection of the lower gates was completed yesterday. No unanticipated problems have been found on any of the gates. Work to repair all existing gate leaves is ongoing, in accordance with the original plans. This includes repairs to cracked structural members, and installation of reinforcement plates in critical areas. Structural engineers are presently evaluating the most critical problem areas identified during the initial inspections. At this time, the work is progressing steadily and we have no reason to alter the published schedule. There are presently two northbound tows and two southbound tows in queue.

August 13 0750 hrs - Weld repairs and installation of reinforcement plates are continuing on all four gate leaves. Queue is presently 3 tows above, and 3 below. At this time there is no reason to alter the scheduled completion of 22 August.



August 14 0755 hrs - A majority of the reinforcement plates have now been installed. Structural repairs to critical areas of the gates are ongoing with good progress being made on all gate leaves. Incidental repairs to other components and machinery are being completed concurrently with structural repairs to gates. No change in the projected completion of 22 August is presently anticipated. Boats in queue: 4 above, 4 below.

August 15 0730 hrs - All major reinforcement plates have now been installed on the lower end, and will be completed on the upper end today. Miter gates at lower end have been repositioned and supported to reduce stresses while continuing repairs to cracks in critical areas of the gates. Work continues steadily in all areas. Repairs to machinery and other important but less critical features continue concurrently with structural repairs to gates. No change in the projected completion of 22 August is presently anticipated. Boats in queue: 4 above, 4 below.



August 16 0730 hrs - Installation of all major reinforcement plates was completed yesterday. Work continues on all four gate leaves continuing to repair cracks, replacing and strengthening areas of buckling, and providing additional stiffeners in some areas. Three of four gate leaves have been supported by jacks to decrease dead load while critical areas around pintles and in lower girders are being repaired. Additional repairs and inspections of less critical components are continuing concurrently with miter gate repairs. No change in the projected completion of 22 August is presently anticipated. Boats in queue: 4 above, 5 below.

August 17 0745 hrs - Weld repairs on miter gates continue at both ends of the chamber. Ongoing inspections and repairs of various components are underway concurrently with miter gate repairs. No change in completion of August 22 is anticipated at this time. Boats in queue: 4 above, 6 below.

August 18 0750 hrs - Weld repairs have been completed on miter gates at both ends of the chamber. Repairs are underway to embedded load bearing (quoin) blocks at lower miter gates. Welding machines and other unneeded equipment are being removed from chamber. Boats in queue: 5 above, 9 below.



August 18 14:20 hrs - McAlpine Lock will reopen to traffic at 0700 on Friday, August 20. The lock was originally scheduled to reopen on August 22. Several factors have contributed to the early completion of repairs:

- Effective pre-planning based upon accurate diver inspections.
- Excellent productivity of the expanded work force.
- Ideal weather conditions contributing to higher productivity.

The Corps will be working closely with the McAlpine Command Center over the coming days to efficiently clear traffic and return to normal operations.

August 19 0805 hrs - Repair fleet in process of removing bulkheads and equipment from chamber in preparation for reopening. Boats in queue: 7 above, 9 below.

August 19 16:20 hrs - McAlpine Lock has re-opened as of 4:15 pm EDT. Entry of the first northbound tow into the chamber is presently in progress. After the tow in the chamber, there are now 16 tows in queue, 9 northbound and 7 southbound.

August 20 0800 hrs - McAlpine Lock reopened at 4:15 pm EDT, August 19, 2004. After reopening, 9 northbound tows and 7 southbound tows were locked. The queue was cleared by 0700 this morning. The command center is discontinuing operation this morning, and locking procedures have returned to normal.

The cost of the Corps activities is shown in **Table 1**.

Table 1
Corps of Engineers Costs

Description	Cost
RIETF and Command Center Meetings	\$ 6,000
Public Affairs	\$ 22,000
Dredging and surveys	\$ 350,000
Pre-Planning and staging activities	**
Engineering and design	**
Twice monthly dive inspections	\$ 36,000
Perform dewatering and repair	\$1,455,000
Total =	\$ 1,869,000

** Included in Perform dewatering and repair

United States Coast Guard

The US Coast Guard Marine Safety Office, Louisville Kentucky, provided significant resources before and during the closure at McAlpine.

Prior to the closure, they participated as integral members of the Executive Steering and Queue Management groups. They identified areas in the McAlpine and Cannelton pools where certain dangerous cargos (CDC) would not be allowed to moor due to their close proximity to highly populated areas. The Marine Safety Office, through the authority of the U. S. Coast Guard Eighth District Commander located in New Orleans, established a Regulated Navigation Area (RNA) empowering the Command Center to control traffic in the McAlpine and Cannelton pools. The notice of the establishment of this RNA and its continuation throughout the closure was broadcasted frequently on Marine Band VHF frequencies by the Coast Guard Group Ohio Valley Communications Center, also located in Louisville, keeping the boating public informed. A copy of the RNA is available as Attachment 1.



During the closure, the Coast Guard provided backup electrical generation capability at the Command Center to insure its operability should a power failure occur. One Coast Guard member stood duty at the Command Center on a 24 hour per day/7 days per week schedule. Coast Guard shore side and water-borne patrols of the McAlpine and Cannelton pools were conducted throughout the closure to insure vessels were not mooring in restricted areas, to insure pleasure boaters and other did not interfere with commercial traffic once locking resumed, and to observe for and guard against possible terror related incidents.

Due to the high media interest in this event the Coast Guard provided Public Affairs support throughout the entire evolution, working in conjunction with all agencies and industry involved to insure all media inquiries were responded to in a timely and most informative manner.

The cost of the US Coast Guard activities is shown in **Table 2**.

Table 2
US Coast Guard Costs

Description	Cost
Planning and Public Affairs	\$ 8,400
Command Center Staffing	\$ 13,800
Boat Patrols	\$ 113,400
Total =	\$ 135,600

Actions Taken by Non-Governmental Entities

Closure Announcement. On May 27, 2004 a meeting was hosted by the River Industry Executive Task Force (RIETF) at the Galt House in Louisville, KY. It was attended by approximately 20 representatives from the towing industry, 20 shipping company representatives, 10 Corps of Engineers representatives, and 3 members of the US Coast Guard.

At this meeting, the Corps of Engineers announced that recent dive inspections found extensive cracking of the downstream, riverside, miter gate. This extensive cracking caused the Corps to schedule a closure at McAlpine to repair this gate and perform other repairs as needed. At the time of this meeting the Corps proposed a tentative closure date of August 3, 2004 with an anticipated duration of approximately 10 days.

Shipping representatives expressed a strong desire to delay the closure as long as possible to enable them to build up inventories and make other shipping arrangements. The Corps explained that they had another critically important maintenance job scheduled at L&D 52. That job, which must be done during low water, prevented the Corps from pushing the McAlpine closure back by more than a few days. As a result of this meeting, the closure date was delayed until August 9, 2004.

Other issues discussed at the May 27th meeting were whether certain cargos should be given priority immediately after the lock reopens, where certain dangerous cargos (CDC) should tie off, and whether a group should be set up to handle operational logistics during and immediately after the closure. Two working groups were setup after the meeting. The first group, the Executive Committee, was assigned to develop procedures for prioritizing cargos after the lock reopened. The second group, dubbed the Queue Management Group, was assigned the task of developing and implementing the procedures for handling the arrival, queuing, and processing of vessels during and immediately after the lock reopened.

A redacted transcript of this meeting is available as Attachment 2.

Executive Committee. This committee met with about 30 industry representatives on June 8, 2004. The primary purpose of that meeting was to develop procedures for prioritizing shipments after the lock reopened. That was the only meeting of the Executive Committee. A copy of the procedures for establishing priority cargos is available as Attachment 3. This information was included in the “Info Packet” that was distributed to tows entering the McAlpine or Cannelton pools during the closure event.

Queue Management Group.

First Meeting. The Queue Management Group met for the first time on June 16, 2004 at American Commercial Barge Lines headquarters in Jeffersonville, IN. The meeting was attended by five towing company representatives, three Corps of Engineers representatives and two members of the US Coast Guard.

American Commercial Barge Lines volunteered office space to set-up a command center. The CC would be the central point of contact for gathering data and directing vessel movements. ACBL also volunteered use of a VHF radio tower and equipment that could be used to communicate with tows during the closure. ACBL also volunteered to provide two towboats to provide radar images of the river to the CC. ACBL would see if they could transmit those images via the internet to the CC.

The QMG agreed that the CC should be staffed 24/7 starting 2 days before the closure and lasting until operations return to normal after the lock reopens. The CC would be staffed with two licensed pilots and one member of the Coast Guard.

It was agreed that an information package would be developed. This package would be given to every tow as it passed through Markland or Cannelton lock. The package was intended to tell tows how and when to call into the CC, identify restricted areas and areas where CDC cargo could not moor, a description of the locking process that would be used when the lock reopens, and other information.

The Coast Guard said they would designate the entire McAlpine and Cannelton pools as Regulated Navigation Areas. This designation gave the CG legal status to control how and when vessels move in those pools. The CG volunteered backup generators to power the CC in case of power failure.

The QMG agreed that a set of rules needed to be developed and documented that describe how and where vessels would be put in queue, how they could switch positions in queue with other vessels in the same company, and other issues. The representative from Kirby Corporation volunteered for this task.

The Corps of Engineers said they could provide large scale maps which could be used in the CC to track where vessels are moored.

Second Meeting. The Queue Management Group met for the second time on June 30, 2004 at ACBL headquarters. This meeting was attended by seven towing company representatives, two Coast Guard members, and four people from the Corps.

By this meeting, the command center was operational, including the radio, radar link to moored boats, backup electrical generation, crew rotation schedule, and an email address for the CC.



Items being worked included the Regulated Navigation Area approval, identification of areas where certain dangerous cargos cannot moor, the large scale maps for the CC, development of the information packet, setting up fax capability in the CC, and the locking process rules.

One additional task was identified. The Corps was to determine whether all federal mooring buoys were on station, and mark those that are not on the maps.

Third Meeting. The Queue Management Group met for the third time on July 20, 2004 at McAlpine lock. This meeting was attended by eight towing company representatives, one Coast Guard member, and four people from the Corps.

By this time, the command center was operational, the locations where certain dangerous cargos could not moor had been identified, federal mooring buoy status had been determined, information packets (Attachment 4) were ready for delivery to the locks, back-up electrical generation was ready for delivery, and the Coast Guard agreed to provide the Group Ohio Valley VHF radio communications as an additional communication resource.

Items being worked included the Regulated Navigation Area announcement, and the Corps was going to check mooring facilities in the canal.

The Queue Management Group agreed that no further face-to-face meetings were needed. A teleconference was set-up for August 12, 2004, 3 days after the lock closed.

August 12, 2004 Teleconference. This teleconference was set up before the closure began. It was intended to serve as an informational teleconference. Prior to the closure, the Corps thought that it would take about three days after the closure began to dewater the chamber, clean off the critical areas, inspect those areas, and make a determination whether the gate condition was worse than expected. As it turned out, no unexpected damage was found, and it was announced that the anticipated reopening date remained August 22, 2004.

The non-federal costs are shown in **Table 3**.

Table 3
Non-Federal Costs

Description	Cost
Host and attend May 27 meeting	\$ 26,000
RIETF priority cargo meeting	\$ 19,500
Queue Management Group Meetings	\$ 4,000
Setup and Staff Command Center	\$ 45,000
Total =	\$ 94,500

LPMS Analysis

Markland-Meldahl Concurrent Closure. As soon as the Corps discovered the problem at McAlpine, they realized that inventories would have to be built up prior to the required closure. In order to facilitate this inventory build-up, they looked at main chamber closure schedules on the Ohio River and made modifications where possible.

One major closure schedule change was made. The main chamber at Markland L&D was scheduled to close for 9 days beginning June 7, 2004. The main chamber at Meldahl L&D, the next lock up the river from Markland was scheduled to close for 26 days beginning June 7, 2004. The Corps decided to shorten the closure at Meldahl so both it and Markland would be closed at the same time.

Although the Corps had not previously closed two adjacent locks concurrently they and industry believed there were efficiencies to be realized if adjacent locks were closed in this manner. The idea behind these beliefs was that a tow passing through both chambers would only be delayed once instead of twice. For example, it was thought that an upbound tow passing through Markland would see a delay as usual, but when the tow arrived at Meldahl, it would see very little delay because the upbound queue was being metered by the lockages at Markland. This section analyzes LPMS data from these two locks and determines whether delay reduction efficiencies were realized with the concurrent closure.

The main chamber at Meldahl L&D was closed June 7, 2004 at approximately 0900 hours. Less than a day later, on June 8, 2004, the Markland's main chamber closed at approximately 0430 hours. The main chamber reopened at Meldahl on June 15, 2004 at 1525 hours, and the main chamber at Markland reopened on June 17, 2004 at 0330 hours. Therefore, the Meldahl's main was closed for 8 days, 6 ½ hours and Markland's main was closed for 8 days, 23 hours.

An easy test of whether concurrent closures reduce delays is to look at average tow delay by direction. If upbound delays at Meldahl are significantly lower than downbound

delays, or if downbound delays at Markland are lower than upbound, we would have evidence that through traffic is tending to see only one delay even though both chambers are closed. **Table 4** shows average tow delay by direction. Clearly, the delays are about the same.

Table 4
Average Hourly Tow Delays
During Markland – Meldahl Closures
All Vessels

Lock	Direction	Average Tow Delay
Markland	Up	11.8
Markland	Down	11.9
Meldahl	Up	9.6
Meldahl	Down	9.7

A little more focused analysis considers only vessels that travel through both projects, not all vessels. **Table 5** shows average tow delay by direction for only those tows that traveled through both projects. In this case, there is a significant delay difference by direction of travel. However, the delays at Meldahl are opposite of what would be expected if the notion that one lock meters arrivals at the other were true.

Table 5
Average Hourly Tow Delays
During Markland – Meldahl Closure
Vessels Transiting Both Projects

Lock	Direction	Average Tow Delay
Markland	Up	16.4
Markland	Down	13.6
Meldahl	Up	11.0
Meldahl	Down	9.1

Clearly, the notion that delays can be reduced by closing two adjacent chambers concurrently is not validated by this closure. For all tows, there is very little delay difference by direction of travel. Even for those vessels that transited both locks, there is no evidence that having traveled through one lock, a tow is likely to experience low delay at the next.

The explanation may be that the large port of Cincinnati lies between these two locks. Of the 186 tows served by the two locks during the closure, only 116, or 62%, traveled through both locks. Of those 116, only 23 traveled through both locks without stopping

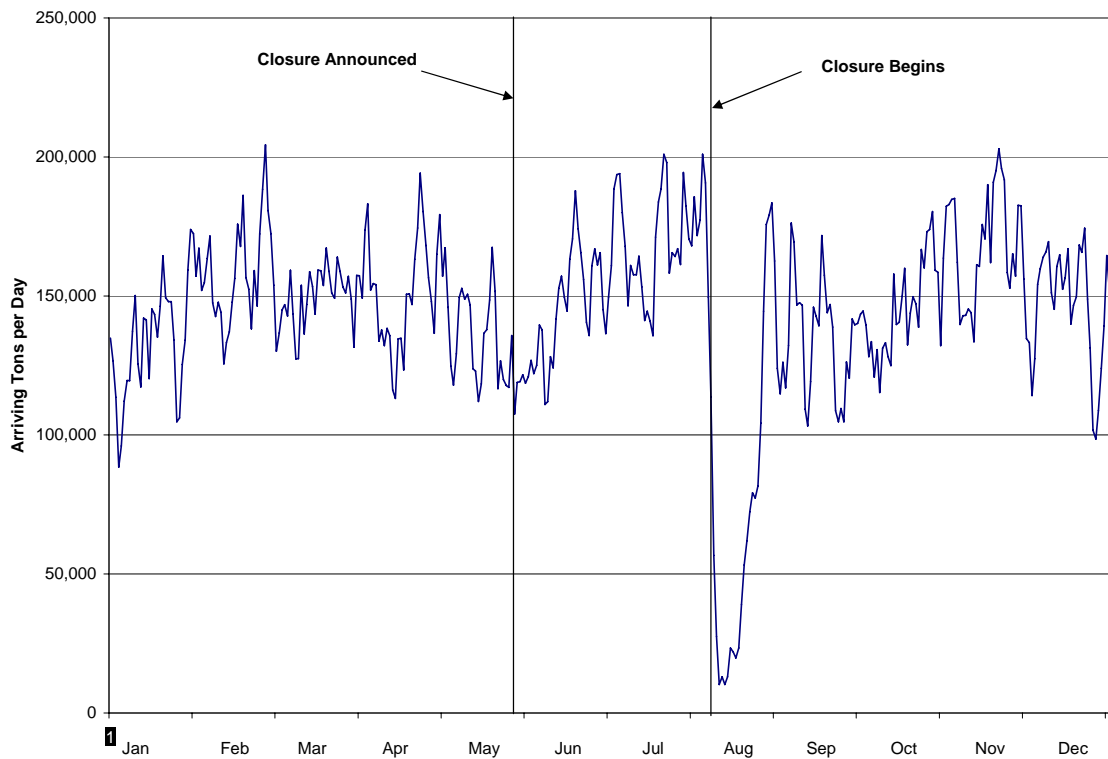
between them. This means only 12% of the lockages were made by tows that went through both locks without stopping.

While the Corps intentions to expedite traffic during these two closures were noble, the data does not indicate delays were reduced over what would have happened had the closures occurred at different times.

McAlpine Closure.

Pre-Closure Period. The McAlpine closure was officially announced to the public on May 27, 2004. The closure was announced as early as possible to allow carriers and shippers to build-up stockpiles and make other arrangements. This section focuses on the period of time between the announcement and the closure. **Figure 2** shows that shipments definitely increased as the closure neared.

Figure 2
Five Day Moving Average
Tons Arriving per Day
at McAlpine



Shippers and carriers increased tonnage shipments by moving larger tows in the period ahead of the closure. As can be seen in **Table __** barges per tow increased, meaning carriers were pushing more equipment with each lockage. Despite the fact that a higher percentage of total barges per day were empty, in absolute terms there were more loaded

barges moved per day. This allowed carriers to both move more product and to position barges ahead of the closure.

Table 6
Flotilla Characteristics of Vessels Arriving at McAlpine Prior to,
During and Following the Closure Event

	Pre-Closure (1) 1 Jan - 30 Jun	Pre-Closure (2) 1 Jul - 8 Aug	Closure Period	
			Scheduled 9 Aug - 19 Aug	Post-Closure 20 Aug - 31 Dec
Tows per Day	14.2	16.0	1.3	13.8
Barges per Day				
Loaded	90.2	103.3	9.9	91.2
Empty	42.3	53.8	3.7	39.6
Precent Empty	31.9%	34.3%	27.3%	30.3%
Total Barges	132.5	157.1	13.6	130.8
Barges per Tow	9.4	9.8	11.0	9.4
Tons per Tow	10,240	10,412	13,120	10,564
Tons per Day	145,107	166,323	16,698	146,240

Source: LPMS data

Closure Period. McAlpine officially closed August 9, 2004 07:15 and reopened August 19, 2004 16:15. Thus the river was closed for 10 days, 9 hours. During this time, very few tows arrived at the project. At the time the lock reopened, there were only 14 tows in queue.

The first tow arrived only 45 minutes after the lock closed. This was an upbound tow with 9 empty barges. It was apparently a placeholder since it was the last of the upbound group to lock after the closure ended.

The first tow to lock after reopening arrived only 10 hours before the lock reopened. This was a tow pushing priority cargos. It contained 7 barges of industrial chemicals, one barge of other chemicals, one barge of aggregates, and one barge of steel.

Processing began by serving the 9 upbound tows in queue. The chamber was then dedicated to serving all downbound tows in queue, 5 that were in queue when the lock reopened, and 2 that arrived after reopening. After these 16 tows were served, operations returned to normal.

The average delay experienced by the 16 tows was 91.7 hours. Normally, delays are about 1.1 hour per tow. Therefore, the closure caused an additional 90.8 hours delay for those 16 tows. Delay costs at McAlpine are about \$480 per hour. Given these figures, the closure caused about \$697,000 in additional delay cost.

Post Closure Period. Figure 2 shows that arrivals returned to pre-announcement levels after McAlpine reopened. Given the extreme drop in traffic during the closure, it is logical to ask whether a substantial amount of traffic left the river and moved by some

other mode. The shipper and carrier surveys are intended to help address this question in detail, but one can also use LPMS data to get an idea whether traffic diverted.

One easy way of answering the question is to compare year-to-year tonnage totals. If 2004 was substantially lower than the last 5 years, this may be an indicator that traffic diverted. It's obvious from **Table 6** that total tonnage through McAlpine did not decrease from 2003. Actually, 2004 was higher than the previous 2 years.

Table 7
McAlpine Tonnage (Mtons)
1999-2004

<u>Year</u>	<u>Tonnage</u>
1999	54.8
2000	55.9
2001	56.0
2002	51.8
2003	49.4
2004	52.7

Geographic Impact of Closure. **Figure 2** shows how tonnage at McAlpine decreased during the closure. One might ask, “Is this impact limited to only McAlpine, or does it impact other locks on the Ohio River?”

The next series of figures show the 5 day running average tonnage arriving at several locks upstream and downstream from McAlpine.

Figure 3
Five Day Moving Average
Arrivals at Cannelton
June – October 2004

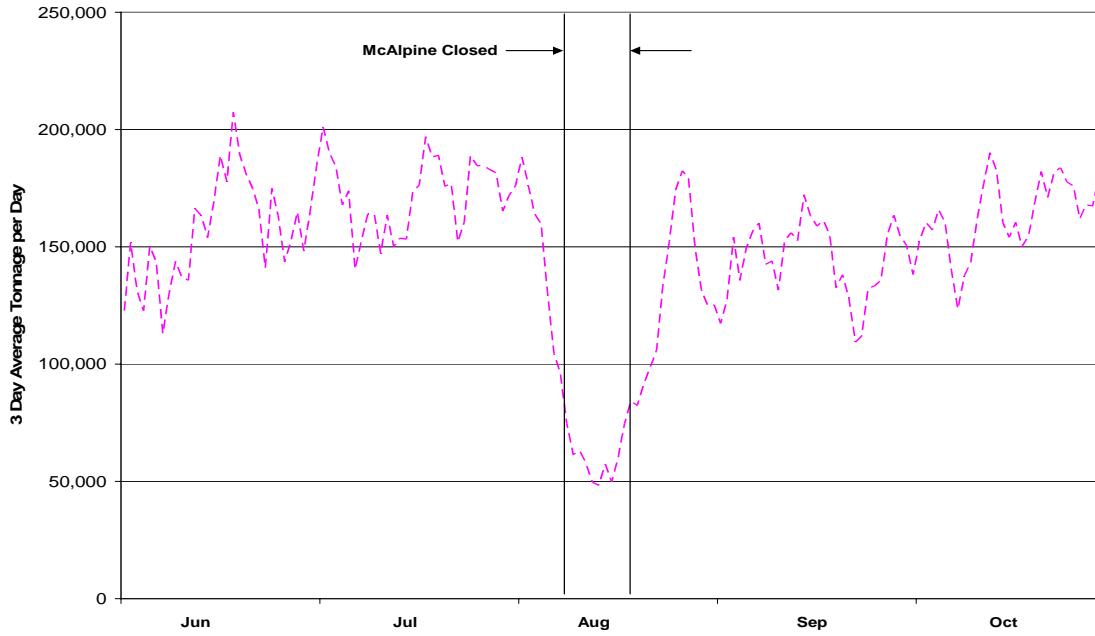


Figure 4
Five Day Moving Average
Arrivals at Myers
June – October 2004

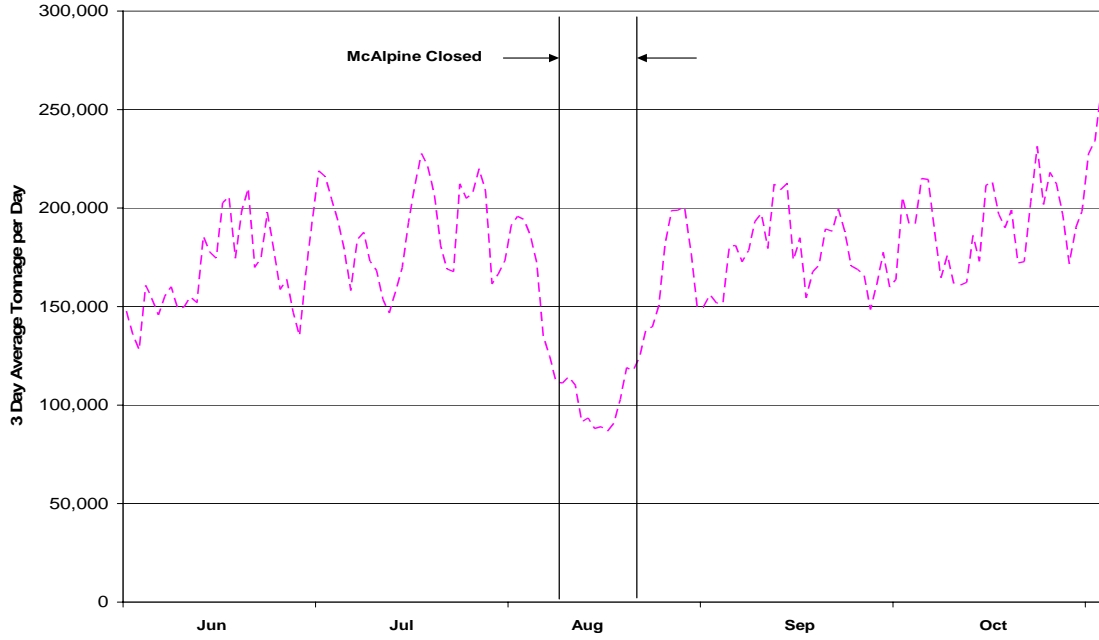


Figure 5
Five Day Moving Average
Arrivals at L&D 52
June – October 2004

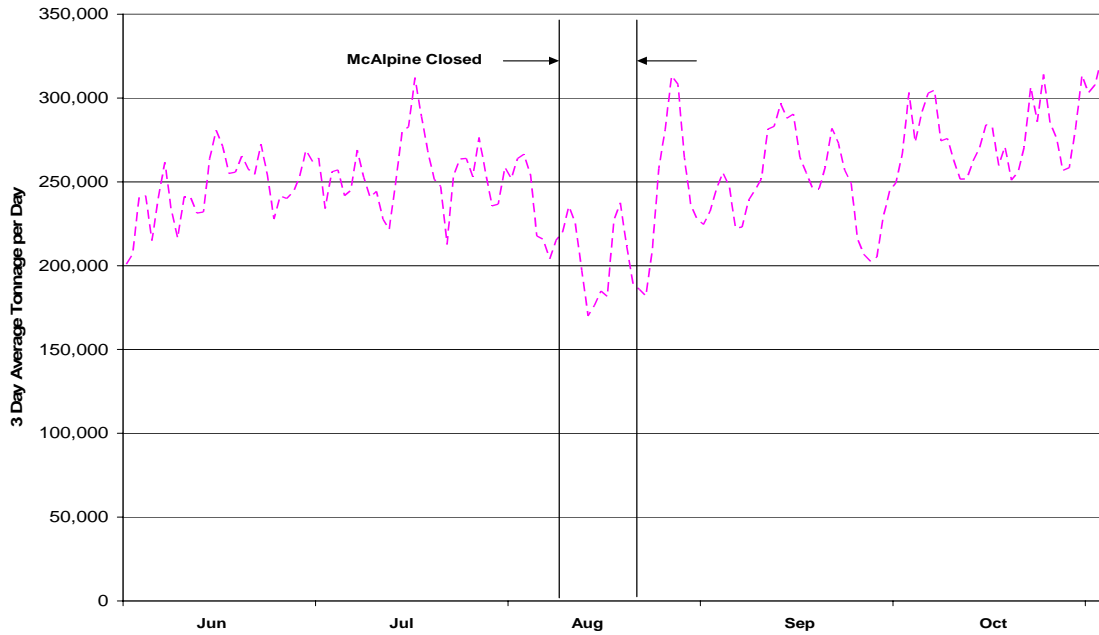


Figure 6
Five Day Moving Average
Arrivals at Markland L&D
June – October 2004

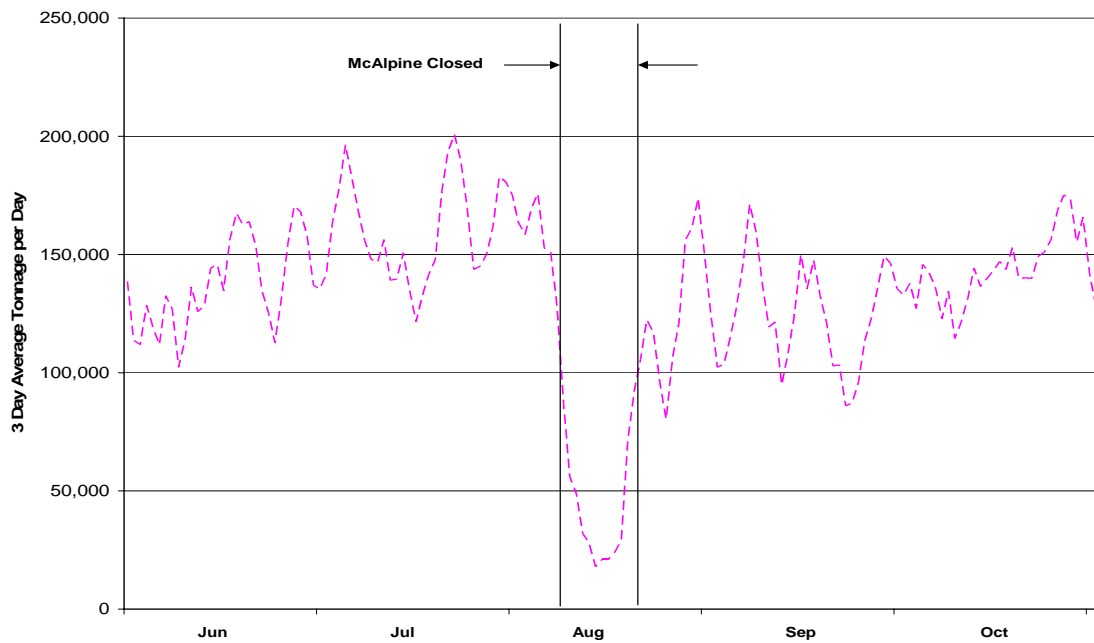


Figure 7
Five Day Moving Average
Arrivals at Greenup L&D
June – October 2004

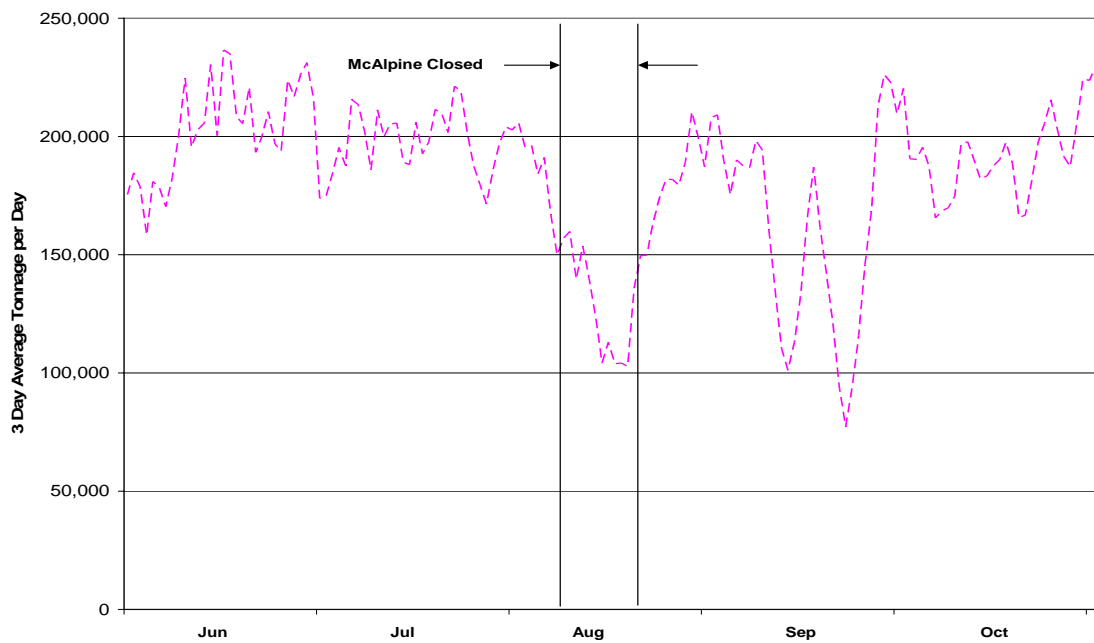


Figure 8
Five Day Moving Average
Arrivals at Racine L&D
June – October 2004

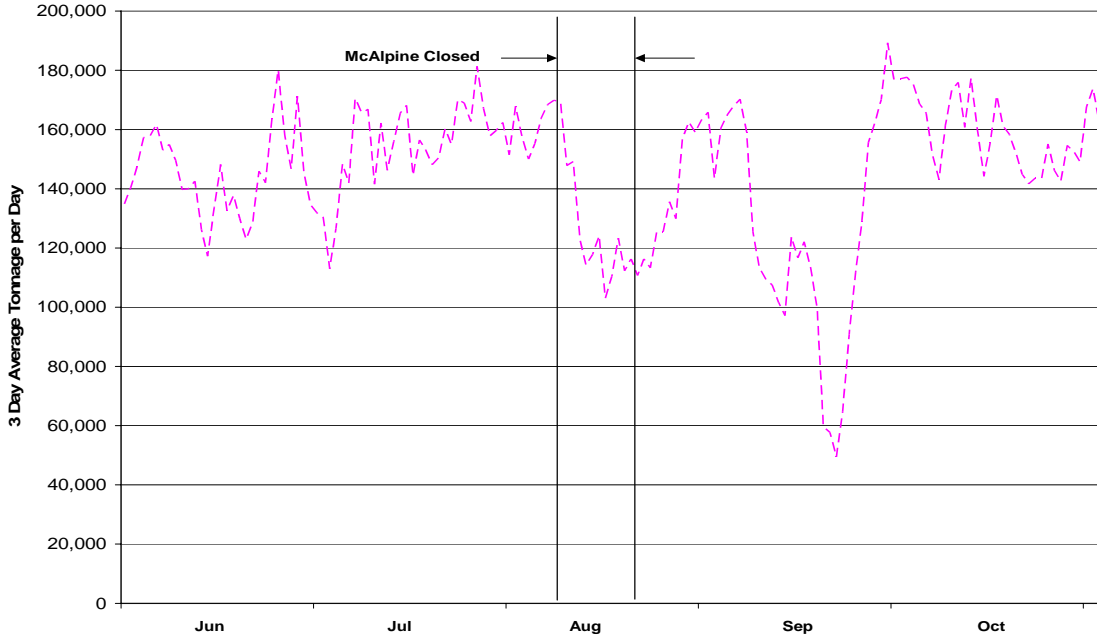
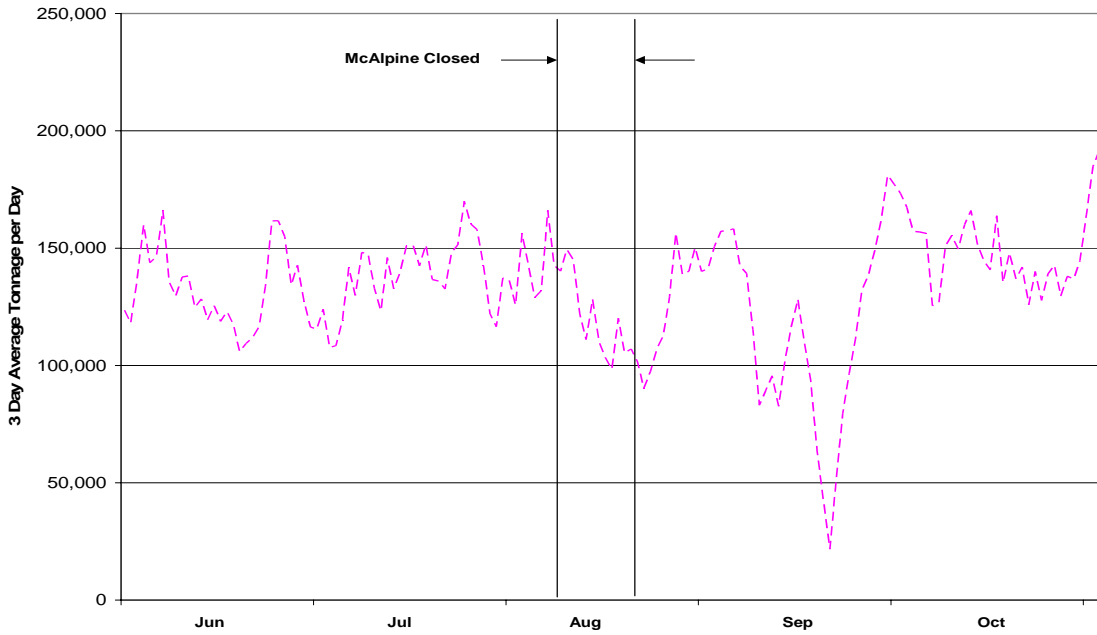


Figure 9
Five Day Moving Average
Arrivals at Willow Island L&D
June – October 2004



The previous seven figures show how the closure at McAlpine impacted traffic up and down the Ohio River. **Figure 3, Figure 4, and Figure 5** show tonnage arrivals at the locks downstream of McAlpine. Cannelton L&D is the first lock downstream of McAlpine. Even though it is 114 miles downstream, there clearly is a reduction in traffic. Myers L&D, which is 240 miles downstream, also shows a reduction in traffic during the McAlpine closure. One has to go over 330 miles, to L&D 52, to find only a minor impact from the McAlpine closure.

Upstream of McAlpine, the impact extends as far as Willow Island, which is 445 miles upstream. Clearly, the McAlpine closure impacted traffic over most of the Ohio River.

A point of clarification is offered regarding **Figure 7, Figure 8, and Figure 9**. The large traffic decrease in mid-September was caused by flooding on the Upper Ohio River. One can see that this event affected traffic as far downstream as Greenup.

Where Did the Towboats Go? It's obvious from the figures above that the number of tow arrivals decreased greatly during the McAlpine closure. It's also obvious that traffic decreased up and down the river from McAlpine. One is naturally led to ask the question, "Where did the towboats go, and what did they do"? To formulate an answer to this question, we looked at those towboats that arrived at McAlpine at least once every seven days, on average. There were 13 boats that fit this criterion.

The two tows that use McAlpine most often apparently laid up for the duration of the closure. These tows, which between them account for over 400 annual trips through McAlpine, did not arrive during the closure. These tows are small horsepower boats that historically move barges between the upper and lower pools in the Louisville area.

The tow that uses McAlpine 3rd most often usually moves small tows from the Louisville area up river as far as Byrd lock, and returns. It is able to make a round trip in about 5 days. During the ten day closure, this vessel made one trip upstream, came back and got in queue 7 days before the lock reopened. It waited the seven days, and locked through on August 20th.

The tow that uses McAlpine 4th most often usually makes rather long trips of at least 4 locks in one direction before turning around. This vessel works all parts of the Ohio River, lower, middle and upper. During the closure, this vessel switched to very short haul travel, generally moving back and forth through Greenup and Meldahl.

The 5th most frequent tow at McAlpine usually moves large tows, 12-15 barges, through several locks on the lower and middle Ohio. During the closure, this vessel moved down to the Paducah area on August 13, and didn't move through another lock until August 25. It appears this towboat was idled.

The 6th most frequent towboat usually moves large tows on the lower Ohio, from McAlpine downriver. It appears the closure didn't impact this tow very much.

The 7th most frequent tow moves large, 15 barge tows without exception. It operates on the lower river and reaches as far upriver as McAlpine to Greenup. During the closure this vessel moved a few trips on the far lower river, then moved up to McAlpine on 8/12 and sat there until 8/19 waiting to lock.

The 8th most frequent tow is another tow that moves large 15 barge tows almost exclusively. It comes up from the far lower Ohio, reaches the McAlpine pool, and then turns around and heads back downstream. During the closure it timed its turnaround at McAlpine so that by time it got to the far lower Ohio and turned around, it could travel through McAlpine after the closure.

The 9th most frequent tow is like the previous two. It comes from the far lower Ohio, turns around in the McAlpine pool, and goes back downstream. Early in the closure it moved a few very small tows around on the lower river. On the 14th, it started moving upstream from L&D 52 with a big tow. It reached McAlpine 2 days later, and waited there until the lock reopened.

The 10th most frequent tow tended to make long haul movements for nearly the entire length of the river, from below L&D 53 up into the New Cumberland pool. Prior to the closure it locked downbound through L&D 53, and did not return until August 13. It stayed on the lower Ohio and did not transit through McAlpine until early September.

The 11th most frequent tow moved exclusively in the middle and upper Ohio River prior to the closure. There were several trips between the Cannelton pools and New Cumberland pools. Early in June, the vessel made a long trip from the New Cumberland pool through L&D 53. It returned with a long haul from L&D 53 into the Greenup pool. It then made several short haul movements in the middle Ohio until just before the closure. It made one more trip from L&D 53 to above McAlpine just before the closure. It stayed above McAlpine until after the closure, and then returned to its usual New Cumberland to Cannelton pool route.

The 12th most frequent tow makes long haul movements between the mouth of the Ohio and points as far south as the Markland pool to as far north as the New Cumberland pool. During the closure it made one run from the mouth up to the Cannelton pool. It then returned to the Paducah area where it stayed until the 13th. It then took a load from the mouth up to McAlpine, where it arrived on the 15th, waited to lock on the 19th, and traveled into the Greenup pool.

The 13th most frequent tow makes trips very similar to the 12th most frequent. Typical runs are from the mouth up into the Greenup pool. During the closure, this tow moved onto the Tennessee River where it made a trip from the mouth of the Ohio up into the middle Tennessee River, and returned. It then started a trip from the mouth up to McAlpine where it arrived shortly after the closure ended, and proceeded into the Meldahl pool.

In summary, it appears the two tows that travel through McAlpine most frequently, quit operating during the closure. Other long haul tows either moved above or below the lock and continued to operate, or moved as usual and sat in queue.

Shipper and Carrier Surveys

Louisville District meetings with representatives of the towing industry and their customers revealed that, in the near term at least, many shippers that used McAlpine were almost completely dependent on the waterway. Closure of McAlpine would shut off the flow of inputs to their manufacturing facilities, leading to severe disruptions in production to the point of permanent plant closure. The Waterways Council, Inc. (WCI), a national public policy organization that advocates a modern waterway system, conducted a pre-closure telephone canvass and a post-closure canvass of waterway users in order to estimate the economic effect of the McAlpine closure on shippers. The Corps of Engineers was also interested in the economic effect and in carriers and shippers response to the closure. To that end the Corps conducted a formal survey of carriers and shippers following the closure. Information from both the telephone canvasses and the Corps survey were used to develop information on how shippers and carriers responded to the closure. A more detailed discussion of the results of the canvas and survey are presented in *Shipper and Carrier Response to the August 2004 McAlpine Main Lock Closure*, prepared by the USACE Planning Center of Expertise for Inland Navigation.¹

Waterways Council, Inc. Telephone Canvases. Notice of the impending McAlpine closure caused considerable alarm among the WCI's members. These companies noted that over the past ten years service disruptions at busy inland locks were coming with greater frequency and with less advance notice. Closure of McAlpine also represented the first time the Ohio River with its two lock chamber configuration would be closed at any geographic point due to an emergency structural repair. The WCI wanted to know how waterway users would be affected by the closure. They determined to canvas industry prior to the closure to see how they planned to cope and then again after the closure in order to make an estimate of the economic impacts. The results of the pre-closure canvas were compiled and presented by Linare Consulting for WCI in an Interim Report, and the post-closure canvas results were presented in a Final Report.²

WCI canvassed 74 companies by telephone prior to the closure and found that 54 would be negatively affected by the closure. Closure effects were ranked as Severe, Heavy, Moderate, Possible, or No Effect. Twenty-four companies, primarily chemical and metal manufacturers, were ranked as being heavily or severely affected, meaning production cutbacks and/or high additional costs. It was estimated that nearly two million tons of

¹ This September 2005 report was prepared for the Institute for Water Resources as part of the NETS program.

² *Interim Report, Study of the Effects on the Economy of the Upcoming Emergency Closure of the McAlpine Lock*, July 21, 2004 and *Final Report, Study of the Effects on the Economy of the Emergency Closure of the McAlpine Lock*, October 2, 2004. Both reports were prepared by Linare Consulting for Waterways Council, Inc.

commerce would be adversely affected. A variety of strategies for coping with the McAlpine closure were being considered. These included: shifting suppliers; off-loading on one side of the lock, trucking around the lock and through Louisville, and then re-loading to barge on the other side of the lock; advanced shipping and stockpiling inventory; and shifting to other modes of delivery. All of these strategies involved additional costs that were not estimated. Many of these companies indicated that a closure lasting longer than the planned two weeks would render these plans inoperable and lead to production cutbacks. All were grateful for the advance notice that allowed them to set plans in place for dealing with the service disruption.

Companies were less willing to respond to WCI’s post-closure canvas, making it difficult to quantify the actual cost of the closure to shippers. A number of firms responded that the closure of McAlpine had little or no effect on their operations; however, a larger number of firms were affected and they frequently responded in multiple ways. The most common response was shipping ahead of the closure, which often meant changes in production schedules and/or stockpiling. Many companies shifted to another mode of transport, often at higher cost. A number of companies lost sales. Those of the 27 responding firms that provided cost information indicated cost increases of \$1,100,630 and lost sales of \$665,000 (see **Table 7**). In the post-closure canvas many respondents also expressed frustration with delays in funding the construction of McAlpine.

Table 8
WCI Telephone Canvass Results

	WCI Canvass	
	Responses	Added Costs
No / little effect	8	\$ -
Stockpiling	4	\$ 179,750
Mode shift	8	\$ 350,881
Waterway route shift	0	\$ -
Altered delivery / production schedule	12	\$ 525,000
Demurrage	2	\$ 10,000
Other costs	0	\$ 35,000
Lost sales	9	\$ 665,000
Total =		\$ 1,765,631

USACE Shipper and Carrier Surveys. The Corps selected 60 waterway shippers, accounting for 81 percent of total McAlpine traffic, for the formal shipper survey. Responses with varying degrees of information were received from 20 companies accounting for about 42 percent of total traffic. Respondents had a wide variety of reactions to the outage, ranging from no changes in procedures to altering production during the closure period. The most common response was to build stockpiles by advance shipment and wait for McAlpine traffic to clear. Most of the respondents felt that the closure was well handled, that they had received sufficient notification, and that they were able to adjust. One firm indicated that a longer closure could have resulted in permanent closure of their plant. Several respondents indicated that their experience with

McAlpine caused them re-consider how they operate by doing such things as increasing stockpiles and switching to all-overland modes. Shippers providing cost information in their survey responses reported additional costs and lost sales totaling \$2,617,671 (see **Table 8**). It should be noted that these additional costs represent only a partial accounting of total industry costs due to the closure of McAlpine. Many companies declined to participate in the survey, while other companies that did participate in the survey were unable to isolate and provide their added costs.

Table 9
Corps of Engineers Survey Results

	Corps Survey	
	Responses	Added Costs
No / little effect	6	\$ -
Stockpiling	6	\$ -
Mode shift	6	\$ 2,311,871
Waterway route shift	2	\$ -
Altered delivery / production schedule	3	\$ 10,000
Demurrage	1	\$ 220,000
Other costs	1	\$ 35,000
Lost sales	1	\$ 40,800
Vessel Delays	2	\$ 1,961,896
Total =		\$ 4,579,567

In addition to the shipper survey, a survey of the major carriers using the McAlpine facility was conducted. A total of 19 companies accounting for 50.2 million tons (96 percent) of McAlpine traffic were surveyed. Completed survey forms were received back from ten of the 19 companies, representing a response rate of 53 percent. These ten companies accounted for about 73 percent of the traffic through the McAlpine facility in 2002. Companies responding to the survey indicated that they stayed away from McAlpine once it was closed. They tied-up towboats and barges in fleeting areas or tried to operate elsewhere in the inland navigation system. Only two of the 10 responding towing companies indicated that they had any of their tows in queue waiting for the lock to reopen (see **Table 8**). Towing companies responding to the carrier survey reported idle or delayed equipment costs of \$1,981,000 (approximately \$19,000 of this total is accounted for in delay cost estimates prepared as part of the OMNI analysis presented above).

Summary of Canvas and Survey Results. The emergency closure of McAlpine Lock and Dam caused serious disruption to towing companies and the customers they serve. Towing companies responding to the Corps survey experienced traffic delays and idle equipment costs of \$2.0 million dollars. Shippers responding to the WCI canvas and Corps survey incurred \$3.5 million in additional costs and \$0.7 million in lost sales. In total, the adverse effects reported by survey respondents amounted to \$6.3 million (see **Table 9**).

Table 10
Summary of Closure Responses and Added Costs

	Responses	Total Added Costs
No / little effect	14	\$ -
Stockpiling	10	\$ 179,750
Mode shift	14	\$ 2,662,752
Waterway route shift	2	\$ -
Altered delivery / production schedule	15	\$ 535,000
Demurrage	3	\$ 230,000
Other costs	1	\$ 70,000
Lost sales	10	\$ 705,800
Vessel Delays	2	\$ 1,961,896
Total =		\$ 6,345,198

Note: Any double counting between surveys has been accounted for in the figures presented

Lessons Learned

This section summarizes what was learned from the McAlpine closure. The three main sources of information for this section are the OMNI data recorded at McAlpine, an After Action Report prepared by the Louisville District, and the shipper and carrier surveys prepared as part of this report.

Lessons Learned from OMNI Data. OMNI data shows that vessel arrivals during the closure, and therefore queue lengths, were much less than anyone anticipated. Prior to the closure, it was anticipated that the queue would grow to between 75 and 100 tows by time the chamber reopened. Instead, the queue grew to only 14 tows. This is most likely due to the long pre-closure notice given to the shippers and carriers. If another scheduled river closure occurs, there may not be a need for many of the actions that were taken to facilitate processing after the lock reopens.

OMNI data also shows anticipated delay reduction benefits from the concurrent closure of Markland L&D and Meldahl L&D were not realized. The explanation may be that the large port of Cincinnati lies between these two locks.

Lessons Learned from After Action Report. The After Action Report prepared for this event is included as Attachment 5. Each section of that report is summarized below.

- a) Underwater inspections. Due to the auxiliary chamber being out of service, annual underwater inspections were increased to semi-annually. In April 2004 cracking was observed. This cracking was confirmed under better conditions in

- May 2004. What went right? The semi-annual inspections identified the need to dewater the chamber before failure occurred. How will we improve? Investigate advanced underwater picture technology. Paint high stress areas white to better reveal cracking. Add audio to the video recordings. Investigate water clarification techniques near the camera. Investigate ways to clean inspection areas. Look at best practice methods in other Districts.
- b) Notify all affected parties in a timely manner. What went right? Louisville District Public Affairs took lead on information exchange to insure a consistent message. A web site was set-up with daily updates. Industry and other agency support were superb. What went wrong? There was uncertainty regarding the reopening time. How will we improve? Clearly state closure and reopening times.
 - c) US Coast Guard and Industry coordination should occur in a timely manner. What went right? Contacting the RIETF early resulted in wide information dissemination quickly. Working level issues were resolved early. Use of associations and email facilitated quick notification. Information packets provided clear guidance to the navigators. What went wrong? The information packet "Information Sheet" did not request all information needed for a commercial lockage. There were no clear guidelines for closing the RNA. Need to have shut down procedures, calling tree, and announcements. How will we improve? Hold coordination meetings with river associations before closures to ensure use of best practices and strengthen working relationships.
 - d) The closure should be planned in the most efficient manner. What went right? Effective planning and preparation were in place well before the closure. Assistance requests were filled with experienced enthusiastic personnel. How will we improve? Enhance working relationships with Contracting and Engineering elements and develop working relationships with other Districts.
 - e) The chamber should be dewatered in the most efficient manner. What went right? Pre-positioning of equipment contributed to an efficient dewatering. How will we improve? Continue to use an experienced in-house work force.
 - f) Miter gate repair equipment should be positioned in the most efficient manner. What went right? Permanent rigging on portable equipment made placement efficient. Fully stocked tools and equipment made work activities efficient. How will we improve? Rent additional personnel lifts. Place fans on miter gates to quickly dry dewatered areas to allow inspections. Provide guidance to personnel washing gates so critical areas can be inspected as soon as possible.
 - g) Miter gate repairs should be done most efficiently. What went right? Repairs were planned, staffed, and executed efficiently. PA and IM recorded repairs via pictures and video.
 - h) The chamber should be rewatered in an efficient manner. What went right? Rewatering was planned and executed efficiently. What went wrong? The chamber reopened 15 hours before the revised opening time. Tows waiting to lock downbound hampered repair fleet locking upbound. How will we improve? Determine reopening time with greater accuracy. Ensure tows waiting to lock do not interfere with departing repair fleet.

- i) Safety should be number one priority. What went right? Over 12,000 hours worked without a significant injury. What went wrong? Temporary guard rails were not in place during elevator erection. Personnel were not properly secured while working on maintenance bulkheads. Weight of scaffolding was not determined prior to lift. Scaffolding section was not secured properly to rigging. Portable bridge was not inspected annually as it should have been. How will we improve? Insure temporary guardrails are in place during any equipment placement. Develop safety harness tie off points while personnel are working atop maintenance bulkheads. Determine weight of all portable equipment and structures, and clearly stencil weight on same. Develop a means to secure scaffolding sections during rigging. Ensure annual inspection of portable bridge is conducted. Investigate use of flexible schedules during extended repair jobs.

Lessons Learned from Shipper and Carrier Surveys.

Despite receiving slightly more than two months notice, the emergency 11 day closure of McAlpine Lock and Dam caused serious disruptions to towing companies and the customers they serve. The adverse economic effects reported by respondents to the WCI canvas and the Corps survey totaled \$6.3 million. Companies responding to the canvas and shipper survey accounted for 27.4 million of the 52.7 million tons (52.0 percent) that moved through McAlpine in 2004. So while the responses could be called representative, they do not account for all private costs associated with this closure. Some of the important takeaways from the survey and telephone canvas are:

- Advance notification was a necessary condition to minimizing the adverse economic effects of the McAlpine closure. Both towing companies and their customers (the shippers) made effective use of the interval from 20 May until 8 August by making advance shipments of product and arranging for alternative transportation modes.
- Given a complete project closure, advanced shipment appears preferable to shifting to another transportation mode/route or loading tows and having them wait in queue. Shifting to another mode was the most costly option used by survey respondents.
- Though 60 days was ample notification for many companies, companies moving product long distances (some major companies were moving product from overseas) need more lead time (90 days or more) in order to accommodate advance shipments.
- The amount of advance notice needed to make shipments ahead of a project closure is related to the duration of the closure. In general, it takes a longer lead time to build the larger inventories required to keep production going during longer duration closures. Factors such as commodity availability and the length and complexity of the logistics supply chain affect the advance notice requirements of individual shippers.

- In instances where insufficient advance notification is received, shippers indicate that a difference in days of closure duration can make the difference between a plant slowing production and closing permanently.

Attachment 1

U.S. Coast Guard

Regulated Navigation Area Notice

DEPARTMENT OF HOMELAND SECURITY

Coast Guard

33 CFR Part 165

[CGD08-04-029]

RIN 1625-AA11

Regulated Navigation Area; Ohio River Mile Marker 531.5 to
Mile Marker 720.7

AGENCY: Coast Guard, DHS.

ACTION: Temporary Regulated Navigation Area.

SUMMARY: The Coast Guard is establishing a temporary regulated navigation area for all waters of the Ohio River from mile 531.5 to mile 720.7, extending the entire width of the waterway. This regulated navigation area is needed to control vessel operations within the specified area because of the hazards created by extreme waterway congestion resulting from the closure of the McAlpine Lock and Dam, located at mile 606.8, near Louisville, KY.

DATES: This rule is effective from 6 a.m. on August 8, 2004 until 6 p.m. on September 5, 2004.

ADDRESSES: Documents indicated in this preamble as being available in the docket, are part of docket [CGD08-04-029] and are available for inspection or copying at Commander, Eighth Coast Guard District (m), Hale Boggs Federal Bldg.,

500 Poydras Street, New Orleans, LA 70131 between 8 a.m. and 3:30 p.m., Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: Lieutenant (LT) Kevin Lynn, Project Manager for the Eighth Coast Guard District Commander, Hale Boggs Federal Bldg., 500 Poydras Street, New Orleans, LA 70130, telephone (504) 589-6271.

SUPPLEMENTARY INFORMATION:

Background and Purpose

The Main Chamber of the McAlpine Lock and Dam, located at mile 606.8 on the Ohio River, will be closed by the U.S. Army Corps of Engineers for emergency repairs. This closure is to commence at 6 a.m. on August 8, 2004, and is expected to last for approximately two weeks. The Auxiliary Chamber is currently being reconstructed and cannot be used as an alternate means to lock vessels through the McAlpine Lock and Dam. This will result in the accumulation of an unusual amount of towing vessels waiting to lock through the McAlpine Lock and Dam.

A regulated navigation area is needed to safeguard vessels and mariners from the hazards associated with extreme congestion in the vicinity of the McAlpine Lock and Dam during its closure and immediately following its re-opening. This regulated navigation area affects mainly towing vessels, however, there will be some impact on recreational vessel traffic. It is anticipated that many

towing vessels will desire to lock through the McAlpine Lock and Dam as soon as possible after re-opening, and this may result in many towing vessels maneuvering dangerously in order to improve their position and reduce the time spent waiting in line. This regulated navigation area will require all vessels entering into, departing from, or moving within the regulated area to contact the Commander, Eighth Coast Guard District or a designated representative prior to taking such action. The Captain of the Port Louisville is the designated representative for the Commander, Eighth Coast Guard District. Additionally, vessels desiring to enter into the regulated area for the purpose of locking through the McAlpine Lock and Dam must follow all orders and directions issued by the Captain of the Port Louisville.

Representatives from the maritime industry will be providing recommendations on vessel movements into or within the regulated navigation area; however, only the Captain of the Port Louisville will give vessel traffic management orders.

While the McAlpine Lock and Dam is closed, all recreational vessels will be permitted to operate within the regulated navigation area and do not have to contact the Captain of the Port Louisville. Once the McAlpine Lock and Dam is re-opened, recreational vessel traffic will not be allowed between mile 602.5 and 607.4, without first

obtaining permission from the Captain of the Port Louisville. This action is necessary to prevent hazardous situations associated with the complexities of moving large towing vessels through an extremely congested area.

Discussion of Rule

The Coast Guard is establishing a temporary regulated navigation area for all the waters of the Ohio River from mile 531.5 to mile 720.7, extending the entire width of the waterway. All vessels entering into, departing from, or moving within the regulated area must contact the Commander, Eighth Coast Guard District or a designated representative prior to taking such action. The Captain of the Port Louisville is the designated representative for the Commander, Eighth Coast Guard District. Vessels desiring to enter into the regulated area for the purpose of locking through the McAlpine Lock and Dam must follow all orders and directions issued by the Captain of the Port Louisville.

While the McAlpine Lock and Dam is closed, all recreational vessels will be permitted to operate within the regulated navigation area and do not have to contact the Captain of the Port Louisville. Once the McAlpine Lock and Dam is re-opened, recreational vessel traffic will not be allowed between mile 602.5 and 607.4, without first obtaining permission from the Captain of the Port Louisville. The Captain of the Port Louisville will inform

the public of the current status of the McAlpine Lock and Dam through broadcast notices to mariners.

The Captain of the Port Louisville may be reached on VHF-FM channels 14 or 13, or by telephone at (812) 288-1784. This regulation is effective from 6 a.m. on August 8, 2004 until 6 p.m. on September 5, 2004.

Regulatory Evaluation

This rule is not a "significant regulatory action" under section 3(f) of Executive Order 12866, Regulatory Planning and Review, and does not require an assessment of potential costs and benefits under section 6(a)(3) of that Order. The Office of Management and Budget has not reviewed it under that Order. It is not "significant" under the regulatory policies and procedures of the Department of Homeland Security (DHS).

We expect the economic impact of this rule to be so minimal that a full Regulatory Evaluation under the regulatory policies and procedures of DHS is unnecessary.

This regulated navigation area spans a distance of approximately 189 miles and will be effective for 29 days. Vessels are permitted to enter into, depart from, and move within the regulated navigation area provided they contact the Captain of the Port Louisville prior to taking such action. Vessels entering into the regulated navigation area for the purpose of conducting cargo operations at a

waterfront facility, which do not have to lock through the McAlpine Lock and Dam, are not expected to experience any delay. All recreational vessels will be allowed to enter into and move within the safety zone without having to obtain permission from the Captain of the Port Louisville, with the exception of those conditions listed in the DISCUSSION OF RULE section of this preamble. Finally, recreational vessels may use alternate launches in order to transit above or below the McAlpine Lock and Dam.

Small Entities

Under the Regulatory Flexibility Act (5 U.S.C. 601-612), we have considered whether this rule will have a significant economic impact on a substantial number of small entities. The term "small entities" comprises small businesses, not-for-profit organizations that are independently owned and operated and are not dominant in their fields, and governmental jurisdictions with populations of less than 50,000.

The Coast Guard certifies under 5 U.S.C. 605(b) that this rule will not have a significant economic impact on a substantial number of small entities.

This rule will affect the following entities, some of which may be small entities: the owners or operators of vessels intending to transit the waters of the Ohio River between mile 720.7 and mile 531.5, from 6 a.m. on August 8,

2004 until 6 p.m. on September 5, 2004. This rule will not have a significant economic impact on a substantial number of small entities for the reasons enumerated earlier in this preamble.

If you are a small business entity and are significantly affected by this regulation please contact LT Kevin Lynn, Commander, Eighth Coast Guard District, at (504) 589-6271.

Assistance for Small Entities

Under section 213(a) of the Small Business Regulatory Enforcement Fairness Act of 1996 (Public Law 104-121), we offered to assist small entities in understanding the rule so they could better evaluate its effects on them and participate in the rulemaking process. Small businesses may send comments on the actions of Federal employees who enforce, or otherwise determine compliance with, Federal regulations to the Small Business and Agriculture Regulatory Enforcement Ombudsman and the Regional Small Business Regulatory Fairness Boards. The Ombudsman evaluates these actions annually and rates each agency's responsiveness to small business. If you wish to comment on actions by employees of the Coast Guard, call 1-888-REG-FAIR (1-888-734-3247).

Collection of Information

This rule calls for no new collection of information

under the Paperwork Reduction Act of 1995 (44 U.S.C. 3501-3520).

Federalism

A rule has implications for federalism under Executive Order 13132, Federalism, if it has a substantial direct effect on State or local governments and would either preempt State law or impose a substantial direct cost of compliance on them. We have analyzed this rule under that Order and have determined that it does not have implications for federalism.

Unfunded Mandates Reform Act

The Unfunded Mandates Reform Act of 1995 (2 U.S.C. 1531-1538) requires Federal agencies to assess the effects of their discretionary regulatory actions. In particular, the Act addresses actions that may result in the expenditure by a State, local, or tribal government, in the aggregate, or by the private sector of \$100,000,000 or more in any one year. Though this rule will not result in such expenditure, we do discuss the effects of this rule elsewhere in this preamble.

Taking of Private Property

This rule will not effect a taking of private property or otherwise have taking implications under Executive Order 12630, Governmental Actions and Interference with Constitutionally Protected Property Rights.

Civil Justice Reform

This rule meets applicable standards in sections 3(a) and 3(b)(2) of Executive Order 12988, Civil Justice Reform, to minimize litigation, eliminate ambiguity, and reduce burden.

Protection of Children

We have analyzed this rule under Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks. This rule is not an economically significant rule and would not create an environmental risk to health or risk to safety that might disproportionately affect children.

Indian Tribal Governments

This rule does not have tribal implications under Executive Order 13175, Consultation and Coordination with Indian Tribal Governments, because it would not have a substantial direct effect on one or more Indian tribes, on the relationship between the Federal Government and Indian tribes, or on the distribution of power and responsibilities between the Federal Government and Indian tribes.

Energy Effects

We have analyzed this rule under Executive Order 13211, Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use. We have determined that it is not a "significant energy action" under that

Order because it is not a "significant regulatory action" under Executive Order 12866 and is not likely to have a significant adverse effect on the supply, distribution, or use of energy. The Administrator of the Office of Information and Regulatory Affairs has not designated it as a significant energy action. Therefore, it does not require a Statement of Energy Effects under Executive Order 13211.

Environment

We have analyzed this rule under Commandant Instruction M16475.1D, which guides the Coast Guard in complying with the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321-4370f), and have concluded that there are no factors in this case that would limit the use of a categorical exclusion under section 2.B.2 of the Instruction. Therefore, this rule is categorically excluded, under figure 2-1, paragraph (34) (g), of the Instruction, from further environmental documentation because this rule is not expected to result in any significant adverse environmental impact as described in the National Environmental Policy Act of 1969 (NEPA).

A final "Environmental Analysis Check List" and a final "Categorical Exclusion Determination" are available in the docket where indicated under ADDRESSES.

List of Subjects in 33 CFR Part 165

Harbors, Marine safety, Navigation (water), Reporting and recordkeeping requirements, Security measures, Waterways.

For the reasons discussed in the preamble, the Coast Guard proposes to amend 33 CFR part 165 as follows:

PART 165--REGULATED NAVIGATION AREAS AND LIMITED ACCESS AREAS

1. The authority citation for part 165 continues to read as follows:

Authority: 33 U.S.C. 1226, 1231; 46 U.S.C. Chapter 701; 50 U.S.C. 191, 195; 33 CFR 1.05-1(g), 6.04-1, 6.04-6, and 160.5; Pub. L. 107-295, 116 Stat. 2064; Department of Homeland Security Delegation No. 0170.1

2. A new temporary § 165.T08-034 is added to read as follows:

§ 165.T08-034 Regulated Navigation Area; Ohio River Mile Marker 531.5 to Mile Marker 720.7.

(a) Location. The following area is a regulated navigation area: all waters of Ohio River from mile 720.7 to mile 531.5, extending the entire width of the waterway.

(b) Effective date. This section is effective from 6 a.m. on August 8, 2004 until 6 p.m. on September 5, 2004.

(c) Regulations. (1) In accordance with the general regulations in §165.13 of this part, the following applies:

(i) All vessels entering into, departing from, or moving within the regulated area must contact the Commander, Eighth Coast Guard District or a designated representative prior to taking such action. The Captain of the Port Louisville is the designated representative for the Commander, Eighth Coast Guard District.

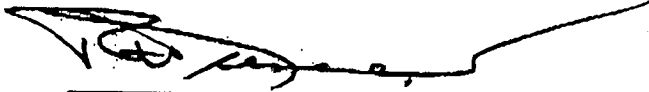
(ii) Vessels desiring to enter into the regulated area for the purpose of locking through the McAlpine Lock and Dam must follow all orders and directions issued by the Captain of the Port Louisville.

(iii) While the McAlpine Lock and Dam is closed, all recreational vessels will be permitted within the regulated navigation area and do not have to contact the Captain of the Port Louisville. Once the McAlpine Lock and Dam is reopened, recreational vessel traffic will not be allowed between mile 602.5 and 607.4, without first obtaining permission from the Captain of the Port Louisville. The Captain of the Port Louisville will inform the public of the current status of the McAlpine Lock and Dam through broadcast notice to mariners.

(2) The Captain of the Port Louisville may be reached on VHF-FM channels 14 or 13, or by telephone at (812) 288-1784.

(3) Deviation from this section is prohibited unless specifically authorized by the Commander, Eighth Coast Guard District or the Captain of the Port Louisville.

Dated: AUG 5 2004



R. F. DUNCAN
Rear Admiral, U.S. Coast Guard
Commander, Eighth Coast Guard District

Attachment 2

Redacted Transcript of May 27, 2004

Industry, Corps, Coast Guard Meeting

Louisville, Kentucky

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TEMPORARY CLOSURE OF MCALPINE LOCK

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U.S. ARMY CORPS OF ENGINEERS MEETING

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MAY 27, 2004

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LOUISVILLE, KENTUCKY

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2 INGRAM-1: Good afternoon. I'm \$\$
3 \$\$ with Ingram Barge Company and then I'm also
4 chairman of RIETF. I want to welcome everybody to
5 our meeting this afternoon. I want to thank the
6 Corps for inviting us here, unfortunately to address
7 an issue that obviously has gotten everybody's
8 attention. And as I mentioned to somebody earlier,
9 I think the thing to be noted is that normally
10 meetings involving outages would have involved
11 probably a fairly small group and I believe, and I'm
12 pleased to see, that we probably have a lot of
13 customers that are represented here.
14 So what I would like to do is let
15 everybody get a sense of who is in fact attending
16 this meeting. We'll just sort of go around the room
17 and ask you if you would give your name and your
18 affiliation with a company or organization. And
19 \$\$, I would ask to start with you.

20 ACBL1: Okay. \$\$\$\$ with

21 ACBL.

22 ACE2: \$\$ \$\$, Chief of
23 Operations for the Louisville Corps of Engineers.

24 ACE3: \$\$ \$\$, the deputy district

25 engineering in Louisville.

3

1 GUARD1: Commander \$\$\$,

2 Captain of the Port here in Louisville with the

3 Coast Guard.

4 AEP1: \$\$\$, AEP MEMCO.

5 MEMCO1: I'm \$\$\$ with

6 MEMCO.

7 PROGRESS1: \$\$\$ with

8 Progress Energy.

9 INGRAM2: \$\$\$, Ingram Barge

10 Company.

11 GLOBAL1: \$\$\$ with Global

12 Material.

13 AEP2: \$\$\$\$ with AEP.

14 B & H 1: \$\$\$ with B & H Towing.

15 ACBL4: \$\$\$\$, ACBL.

16 LYONDELL1: \$\$\$, Lyondell

17 Chemical.

18 BAYER1: \$\$\$, Bayer

19 Corporation.

20 KIRBY1: \$\$\$, Kirby Inland.

21 TECO1: \$\$\$ with TECO

22 Barge Line.

23 MULZER1: \$\$\$, Mulzer

24 Crushed Stone.

25 GALLATIN1: \$\$\$\$, Gallatin Steel

4

1 Company.

2 ORMET1: \$\$\$\$, ORMET

3 Corporation.

4 CENTURY1: \$\$ \$\$, Century Aluminum.

5 MARATHON1: \$\$ \$\$, Marathon

6 Ashland.

7 MARATHON2: \$\$ \$\$, Marathon

8 Ashland.

9 COAL1: \$\$ \$\$ with Madison Coal

10 & Supply.

11 S & M1: \$\$ \$\$, S & M

12 Transportation.

13 CONSOLIDATED1: \$\$ \$\$, Consolidated

14 Grand Barge Company.

15 WESTERN1: \$\$ \$\$, Western Kentucky

16 Navigation.

17 ACBL3: \$\$ \$\$, ACBL.

18 ACBL4: \$\$ \$\$, ACBL.

19 HOLCIM1: \$\$\$ of Holcim.

20 YAGER1: \$\$ \$\$, Yager Materials.

21 KLEYERHAEUSER1: \$\$ \$\$, Kleyerhaeuser.

22 EX1: Lt. CDR \$\$ \$\$,

23 Executive Officer, USCG, MSO Louisville.

24 GUARD 2: I'm Lt. CDR \$\$\$

25 with the Coast Guard safety office in Louisville.

1 BROWN1: \$\$\$\$, Brown

2 Corporation.

3 LG&E1: \$\$\$\$, LG&E

4 Energy.

5 METALS1: \$\$\$\$, River Metals and

6 Recycling.

7 ACBL2: \$\$\$\$, ACBL,

8 retired.

9 B & H2: \$\$\$\$, with B & H

10 Towing.

11 ACE4: \$\$\$\$, Corps of

12 Engineers.

13 ACE5: \$ \$ \$ \$, Corps of

14 Engineers, Ohio River division.

15 COE1: \$\$\$\$, chief of

16 operations.

17 CINERGY1: \$\$\$\$, Cinergy.

18 CROUNSE2: \$ \$ \$ \$, Crouse

19 Corporation.

20 LG&E2: \$ \$ \$ \$, LG&E.

21 ACE6: \$ \$ \$ \$, Corps of Engineers.

22 ACE7: \$\$\$\$, Corps of

23 Engineers.

24 station1: \$\$\$\$, Louisville

25 district, Louisville repair station.

1 COE1: \$\$\$\$, Corps of

2 Engineers.

3 SUPES1: \$\$\$\$.

4 ACE8: \$\$\$\$, Economics

5 Branch, Corps of Engineers.

6 INGRAM 3: \$\$\$\$, Ingram Barge

7 Company.

8 FALL1: \$ \$ \$, Fall City

9 Towing & Ride.

10 CEMEX1: \$ \$ \$, CEMEX.

11 ACE9: \$ \$ \$, Corps of

12 Engineers.

13 ACE3: \$ \$ \$, Corps of Engineers.

14 ACE10: \$ \$ \$, Corps of Engineers.

15 ACE11: \$\$\$\$, Corps of

16 Engineers.

17 ACE12: \$\$\$\$, Corps of

18 Engineers.

19 ACE13: And I'm \$\$\$with

20 Louisville District Operations, Corps of Engineers.

21 INGRAM-1: Thank you. I could hear most

22 of those, but we've got a little bit of a roar here

23 and I hope with the system that we have, everybody

24 will be able to hear. What I would like to do is

25 ask \$\$\$\$ sort of to act as moderator for

1 this event. Again, this is a RIETF meeting and it
2 is closed to the media. I think we've had at least
3 one individual identify themselves as such and
4 probably will like to catch somebody after our
5 meeting and we'll try to accommodate them. But I've
6 asked \$\$\$\$ if he would serve in that
7 capacity and he will introduce our Corps
8 presentation and set some ground rules. Thank you.
9 ACBL1: Thank you, \$\$\$. Just to
10 kind of kick off, I think the event here we're going
11 to be discussing today is -- and I think back over
12 the years is kind of one of those worst fears you
13 hope never happens. And I'm sure that Colonel
14 \$\$ will discuss this, but for the benefit of
15 some of you in here, let me -- and I was involved
16 from some of the planning processes early on,
17 working with the Corps as they were getting ready to
18 get this project authorized. But as I recall, some
19 of the discussion back in those days was before we
20 initiate construction and take the 600 foot lock out
21 of service, the 600-foot lock, we had to go in --
22 the Corps had to go in and rehab the 1200 foot lock
23 and -- oh, by the way, once that was done, then
24 Congress -- the recommendation going forward to
25 Congress was that we were going to have to

1 appropriate money in such amounts that permitted the
2 execution and construction of this project in four
3 to five years so as to permit the -- to have the new
4 lock up and running before one would have to go back
5 in the 1200 foot lock to do maintenance.

6 Well, as we all know in industry, that we
7 have been dealing with the lack of funding for a
8 number of years. McAlpine has never been funded to
9 the level it should have. It's gone through two
10 years of where the contractor has had to self-fund
11 and/or threaten to pull off the job. So, you know,
12 part of these issues or kind of the making of some
13 of the issues that we're all dealing with the
14 Federal budget. So everybody needs to kind of
15 understand from a context how we got to where we are
16 today.

17 And so I think there's going to be a
18 number of challenges associated with this closure
19 and I have shared a number of the thoughts with the
20 folks at the Corps in terms of some of the things
21 that we're going to have to address. One is where
22 do we queue all the boats that are waiting.

23 Secondly, should we and -- should we consider some
24 sort of priority once it's reopened if there are
25 plants that are needing a product that prevents

1 shutdown. I don't know how we work through that,
2 but that's probably something that RIETF needs to
3 address going forward, if that is done.
4 Secondly, and something that I've talked
5 to Commander \$\$ about, is what do we do with
6 CDC type cargos considering homeland security type
7 situation. What do we do with those? Do we give
8 those type products priority to get them moving.
9 And so there's a whole host of issues that
10 we'll need an address and some of it will probably
11 have to be done later with the work group, that
12 certainly I would be happy to participate in as well
13 as some of my colleagues here that are senior
14 members in the marine industry. I would ask them to
15 participate as well.
16 So with that, I would like to introduce
17 Colonel \$\$, the district engineer. The
18 colonel has a presentation that's going to be
19 discussing where we are and how we got there and
20 where we're going. Colonel?
21 ACE1: Thanks, \$\$, I
22 certainly appreciate the task force setting this
23 thing up for us today. Glad to see -- glad to get
24 to see a good turn out because I think this is quite
25 a unique occurrence and event. Unfortunately, it

1 had to occur on such short notice. As I go through
2 this, I think you'll see that we were heading
3 towards having a closure at some point regardless,
4 it's just the timing is really unfortunate at this
5 point.

6 I'm going to start off with a brief
7 discussion. If you flip next -- and I'll sort of go
8 through quickly just where we're going. We're going
9 to start off with a project overview, talk a little
10 bit about why the closure is necessary now, the
11 scope of work we're going to undertake at the locks
12 there. Then also spend the majority of our time at
13 the end of the presentation talking about the
14 concerns and challenges that we're going to face
15 here together.

16 I will add that we are making a record of
17 these proceedings. We do have a recorder up front
18 and we'll make that record available and probably
19 eventually get it posted to our web site as well.

20 Next slide. There is our project
21 overview. As you can tell, a fairly recent photo.
22 As you all well know, we have one of the lock
23 chambers out there, the auxiliary chamber, and the L
24 300 footer are gone and new construction underway to
25 create a new 1200-foot chamber.

1 Next slide. The lock chamber and the 1200
2 footer that we're looking at is quite old, built in
3 the '60s. A lot of significant wear and tear. The
4 gates of interest are most similar to the gates that
5 you see at Greenup and at Markland in design and
6 construction. In 1991, we did get authorization to
7 begin the construction of the new lock chamber, the
8 new 1200 foot chamber, and it's going to be built at
9 the location of the old 600 footer.

10 Next slide. This option was chosen, as
11 you can see there, basis of cost, benefits, the
12 project economics and after considerable
13 consultation with industry as well. The estimated
14 construction time when we started this thing off was
15 thought to be six years and we would be four years
16 without an auxiliary chamber.

17 Next slide. And as I mentioned just a few
18 seconds ago, this was a plan that we coordinated and
19 was supported by industry. And as part of this
20 effort, it led to the construction and the fielding
21 of the gate lifter crane and the creation of some
22 auxiliary gates that we have stored in the LRS area
23 in McAlpine now.

24 1997, we did mention -- I think you heard
25 earlier we did have an outage there of thirty days

1 plus to rehab the facility there. I did major
2 maintenance and did at that time included extensive
3 gate repairs. 1999, we went back in for a shorter
4 period, about two weeks, to go back in and make some
5 minor repairs and it was the last dewatering before
6 we awarded the coffer dam contract and began
7 construction of the new lock.

8 Next slide. Then May of 2000, as you can
9 see there, we awarded the construction contract. At
10 that time, we thought that it would be 2006, 2007
11 when we got the new lock completed and in operation.

12 In December of 2000 we started receiving the new
13 miter gates. As you can see there -- at that time,
14 when they were delivered in 2000, they came in
15 sections and had to be assembled down on site at
16 LRS. In 2002 also, the gate lifter crane was
17 basically complete and in January of 2001, the
18 auxiliary chamber was permanently taken out and
19 we're now, as you can tell, we're in the fourth year
20 of the closure of that lock chamber.

21 Next slide. We've seen several slips in
22 the construction schedule. I know -- you've already
23 heard a couple of the reasons why that occurred. We
24 just -- we've not been able to achieve optimal
25 funding on the project along the way and as a

1 result, the construction period is extended. We've
2 had a great contractor out there helping us out and
3 done a great job for us. And he has over the last
4 couple of years been put in a position where he's
5 actually -- he's funded the project for a couple of
6 months for us along the way. We continued to make
7 progress. We're still working and those of you who
8 can get out there after we're wrapped up, you'll see
9 a great project underway down there.

10 I did have a couple of problems, one is
11 the funding and the other is tying in to the
12 existing lock. And that has a lot to do more than
13 just tying in to the lock with the coffer dam, it
14 also has to do with some anchorages we had to put in
15 to the old lock structure because we had water on
16 one side and none on the other in changing
17 conditions.

18 The lock completion is significantly
19 different now because of the funding constraints and
20 some minor construction challenges. Now we're
21 looking at completion in 2008 if we have optimal
22 funding. And if we have projected and what we
23 really truly expect to see as funding, it's going to
24 be 2011 or so before we get that new lock completed.

25 Greenup and Markland. And I mentioned

1 earlier, these gates at McAlpine are most similar to
2 these two locks and the gates there. And what we've
3 seen at those two facilities is continuing problems
4 with the gates, where you see cracks appear and you
5 need pretty steady maintenance and repair. The fact
6 that we are up at Markland, we're dewatering up
7 there on an annual basis, looking at the gates and
8 repairing the cracks that appear. And what we're
9 looking at in general at McAlpine is given the
10 extended construction schedule, we were going to
11 have to go at least nine years there from major
12 maintenance to major maintenance and that was just
13 not prudent, it was just too long given what we were
14 seeing at Greenup and at Markland.

15 What we did do is led to more frequent
16 dives. We were going down every six months, taking
17 a look at the gates. I guess about a month ago we
18 noticed a pretty significant crack that raised sort
19 of a concern with us. We went back down a few weeks
20 ago and saw that thing and got really concerned that
21 the cracks were quite significant that we were
22 seeing down there. Given the fact that that big
23 change over such a short period of time and our
24 history that we saw at Greenup and also at Markland,
25 it motivated us and we're now of the opinion that

1 emergency repairs to this facility are necessary.
2 I think the first time I said out in the
3 public was a couple weeks ago down at the Evansville
4 Propeller Club that we were starting to seriously
5 consider an outage in the fall of '05. And I know
6 I've discussed that with a few of you present here
7 today that we were starting to think that that was
8 going to be a necessity, to do that in the fall of
9 '05. It puts us in the middle of the construction
10 cycle more or less at McAlpine and we thought we
11 might be able to go from there to end of
12 construction without having to go back in again.
13 Like I said, we kept diving on the
14 structure. May of '04, we see some significant
15 cracks. We'll talk about that a little bit more in
16 some of the following slides. But at that point, we
17 were convinced that we had to go in and do something
18 quickly.
19 And again, I may have already talked about
20 these. Just to give you a little graphic reference,
21 though, we're talking about the lower gates on the
22 north side, on the Indiana side, the river side of
23 the lock chamber. That gate in particular -- and
24 I'll point out in just a few minutes exactly where
25 we're talking about these cracks exist.

1 Our challenge is two things, we're very
2 concerned about a failure of the structure which
3 would mean a long and significant outage, and I
4 don't think anyone wants that. Our real desire, to
5 be repaired quickly. Now, there's two things that
6 stand in our way on that, one is river conditions.
7 The river being where it's at today, we could not
8 repair that structure today given the stage in the
9 river. So we really and truly need low water
10 conditions to be able to do that. The earliest we
11 could get in there is probably two to four weeks.
12 That has a lot to do with mobilizing and
13 demobilizing the fleet and getting them down there
14 and getting some of the parts, those kind of things.
15 And quite honestly, on the tail end of
16 this, we have very limited flexibility as well.
17 We're going to listen to your input in a bit, but on
18 the tail end, we've got another structure down river
19 at lock and dam fifty-two that we're really
20 concerned about as well. Both those things need to
21 be repaired and both of them need low water
22 conditions to be able to do that work. And as you
23 can tell, sometimes I get ahead of myself. I've
24 already talked about lock and dam fifty-two.
25 But again, our big concern is twofold,

1 one, the imminent failure -- river conditions are
2 out there and we need good river conditions to be
3 able to do the work. And we are very concerned
4 about a catastrophic failure at that structure.
5 We're going to continue to dive on this structure.
6 We're going to go down every two weeks and make
7 sure, observe. We do not want a catastrophic
8 failure of that gate down there that's going to put
9 us out for a long time if we have that. And the --
10 if the divers go down and they find something, there
11 is a possibility we could have an immediate closure.
12 And I think the message from that should
13 be is that everyone -- excuse me. Everyone should
14 be trying to change how they're doing business.
15 Don't wait until the end of July to be trying to
16 move and stock pile product. These cracks are
17 pretty serious and if we determine that a failure is
18 imminent, we're going to move quickly and make sure
19 that doesn't happen and repair that structure. So
20 keep that in mind and plan accordingly and try to
21 move things forward as much as you can.
22 All right. If you will use the pointer
23 there for me. What we found is that down in the
24 bottom corner there as you can see, is the panel.
25 It's the hinge point on the gate. A lot of the

1 stress is concentrated there. These gates weigh
2 about two hundred and fifty tons. You get a lot of
3 stress on the steel in those corners and you get a
4 couple of brakes. You get breaks that occur around
5 the pintle itself and then out away from it. On the
6 flange and along the web, you'll see some cracks.
7 We have seen some cracks there as well. Tough spot
8 because where those cracks are showing up there is a
9 high stress concentrations and a high likelihood of
10 a failure if those cracks continue to propagate
11 along the way.

12 Just to point out a couple of the points
13 there so we may talk about them a bit later on, is
14 you'll hear me use the term quoin blocks and miter
15 blocks. And also the anchorages. And I'm going to
16 comment in a few minutes about using the gate lifter
17 and why there is more time required to do that on
18 this structure at this point.

19 This is just a blowup of the cutout on
20 that corner. And what you see there is the pintle
21 again, if you point that out for me. And show them
22 where the cracks that we see -- cracking there and
23 also on the flange, on the bottom girder.

24 This slide, I'll tell you the main thing
25 I'm trying to get across in this slide. This

1 structure is very complicated in this corner,
2 there's a lot of steel, a lot of stiffeners. Not a
3 significant space. We have contemplated the idea of
4 using under water welding to get at this structure.

5 Our confidence level is pretty low that we could
6 deal with this because it's very confined spaces.

7 Visibility is very poor in that murky water. And

8 the other thing is, it's really a complicated
9 structure down there and it would be very difficult
10 to make sure we've identified and corrected ever
11 crack that we can see.

12 All right. And hopefully, you get to

13 see -- this is a video of one of the cracks. This
14 is the crack that's on the girder where the angle
15 came down to the girder away from the -- away from
16 the corner there at the hinge. As you can see, the
17 crack is -- you can see visibly the crack -- the
18 crack itself runs from about the edge of the flange
19 down to the web. That's about six-inches. That
20 piece of steel is about one-inch thick. So it's a
21 significant piece of structure that's cracked right
22 there.

23 All right. What do we have to do in two

24 weeks. We have to mobilize down there, dewater the
25 chamber. We've got to clean the pieces and parts

1 off, identify and find all those cracks. Given our
2 experience at Greenup and also at Markland, we would
3 expect that there's probably more cracks there than
4 what we're seeing now. We're just seeing the big
5 ones.

6 We're going to confirm -- as I said, to
7 confirm the repair method, we've got a couple of
8 things we're going to do. One is just simply
9 welding back these cracks, the other one is to
10 actually try to reinforce and place some plate steel
11 across the joints to stiffen those up and we'll be
12 ready to demobilize and go.

13 Now, that's not all we're going to do, of
14 course. While we've got this thing dewatered, we'll
15 have the entire repair station down there, or the
16 majority of it, and we're going to do a lot of other
17 things along the way. And as you can see, we're
18 planning on working around the clock, no days off,
19 while it's closed. The critical welds that we're
20 undertaking to repair those cracks, we're going to
21 work on those continuously, no breaks, from daylight
22 to dark until we're done.

23 The gate change out. At this point, the
24 gate change out capability, using the gate lifter
25 and the spare gates, is primarily an insurance

1 policy. You'll see later -- and I get ahead of
2 myself again. It looks like -- we firmly believe we
3 can be in and out of here in around fourteen days.
4 Take fourteen days to come and go. And to change
5 these gates out takes significantly longer. I know
6 there's consider -- we've already fielded numerous
7 questions asking why does it take so long to change
8 them out. And that's because the gates that were in
9 there need to be retrofitted to be able to
10 accommodate that quick change.
11 About the quickest we would actually
12 change a set of gates anyway is about fifteen days,
13 if it was optimal conditions. And we don't have
14 that here. The mitering and quoin blocks we pointed
15 out a while ago have to be changed, the anchorages
16 on the -- well, just laymen's terms, the hinges have
17 got to be altered as well. And until that's done,
18 you can't really accommodate these gates on quick
19 change out. And as you recall from the time
20 earlier, we actually got these gate structures late
21 in the process and did not have an opportunity to
22 retrofit the structure.
23 And quite honestly, when we started this
24 process based on construction time and how long we
25 thought we would take to complete the lock chamber

1 and the conditions of the locks, we did not
2 anticipate a need to go back in and do what we're
3 talking about doing here in August. And again,
4 we're evolving and as we get an opportunity, we're
5 changing the -- all the gates up and down the Ohio
6 to a quick change out capability and completely
7 modifying the structure to make sure we can do that
8 in a timely way.

9 Again, I got ahead of myself a bit. The
10 bottom line is, we think we can repair the gate in
11 place quicker, fourteen days versus thirty plus. It
12 could be as many as forty-five to try to change
13 those gates out at this point. Our contingency plan
14 obviously is, if we got in there and the structure
15 was in such poor shape, which we don't see at this
16 point, the contingency plan is to replace the gates.
17 The obvious thing is repairing the gates in place
18 is -- the obvious advantage is a much shorter closer
19 length. The con is we're still -- the down side is
20 we're still vulnerable. We still could have some
21 fatigue problems on those gates, could have to go
22 back in and do some work on those again. Just the
23 simple length of time it may take to complete this
24 structure out to 2011 and put it in operation, that
25 alone, you obviously account seven years. Our

1 normal cycle is five and on these structures, we're
2 working on them much more frequently than that on
3 Markland and Greenup. So it's always possible we
4 would have to go back in there again.

5 All right. And this is just basically a
6 list of things that we wanted to try to talk about.

7 And I've got a great group of folks up here and some
8 in the front, some in the back, and we've got the
9 Coast Guard to try to handle some of these issues.

10 We're going to save on the -- we're going to talk
11 about the impacts to the waterway users that the
12 customers -- at the end of the thing. Perhaps we'll
13 address some of the concerns along the way as we
14 progress. Now, we would certainly like to hear from
15 you any of the -- any of your concerns and the
16 impacts that you're going to have on your business.

17 All right. Right off the bat, closure
18 dates. Right now, we're looking at the 3rd through
19 the 16th. We've had comments and input from several
20 customers and users regarding that. I've tried to
21 touch base on some of our key concerns. Primarily
22 about those is, we're very worried about the
23 structure, we would rather do it sooner rather than
24 later. Any flexibility we have about moving later
25 is tempered by the fact that this structure and lock

1 and dam fifty-two both need to be -- have work done
2 to them this year. And the further we push this
3 back, the more at risk we put fifty-two and the bear
4 traps down there as well, because of high water
5 later in the season.

6 I know one of the concerns that we've
7 heard is the timing of the Cannelton closure, the
8 1200 footer down there. It's currently scheduled
9 for 7 through 24. And just as a question, I want to
10 know -- and we all would like to know what's the
11 impact and the adverse affect to traffic on the
12 river in doing that given the fact that we're going
13 to have to close the only -- the lock at McAlpine in
14 early August.

15 So with that, I would love to have your
16 all's input. If you would -- we've got a
17 microphone, \$\$\$. If you would, make sure you hand
18 that around. And if you've got any input and
19 comments that you would like to offer to us as
20 questions, anything along those lines, if you would
21 just state your name and who you're with so we can
22 make sure we get that for the record. Thanks.

23 Anyone got any questions? \$\$\$?

24 ACBL1: My name is \$\$\$\$

25 with ACBL. Colonel, a couple of questions. One is

1 the length of time to change the gate. Say if you
2 were only changing the lower gates, is that the
3 thirty day or does the thirty day contemplate upper
4 and lower?

5 ACE1: The thirty, forty-five
6 days is lower gates only. It would take longer,
7 maybe as many as sixty, to change upper and lower.

8 ACBL1: Okay. I guess the other
9 question is in terms of a manpower loading
10 situation. If we're talking about lunch and breaks
11 and everything, you know, in a fifteen day period,
12 if it was manpower loaded such that you constantly
13 had somebody welding on cracks, it's conceivable
14 that, you know, we can even save a day maybe off the
15 closure. I guess what I would offer to you, one, is
16 do you have sufficient personnel to manpower load,
17 to minimize the length of closure, and if not, I
18 would offer to you industry capability if it were
19 needed to supplement the work force there if it can
20 be dealt with under some contracting mechanism.

21 ACE1: \$\$, we certainly
22 appreciate that offer. You've always been very
23 supportive and we appreciate that now. Quite
24 honestly, we're planning on keeping welders active
25 on this thing twenty-four hours a day, basically,

1 from start to finish. And the critical action
2 that's going on is in those specific locations --
3 and quite honestly, we think we've got enough
4 welders at this time to concentrate on those and
5 keep those working nonstop, twenty-four hours a day.

6 The problem is, there's just not physically enough
7 space around those cracks that we know about to get
8 anybody else in there to keep the work going.

9 In reference to your question about the
10 gates earlier, I wanted to offer something else,
11 too. The reference to changing out the upper and
12 lower gates, I would say that one of the things we
13 have a concern about is if we went in and changed
14 the upper and lower gates, we would have no safety
15 valve as well, there would be no back-up if there
16 was an accident, if someone hit the gates. The
17 river at that point would be down for a long period
18 of time. So we want to -- we would not be inclined
19 to try and replace both upper and lower sets of
20 gates, we would like to have a back-up set, two
21 gates at a minimum.

22 AEP2: I'm \$\$\$\$with AP MEMCO.

23 Saying that you could possibly mobilize within a
24 couple of weeks, could you do this emergency repair
25 of McAlpine coinciding with the closure at Markland

1 on 6-17 through 16?

2 ACE1: Well, for one thing,

3 the Markland closure is coming up immediately. The

4 problem we've got right now on the river is we

5 couldn't work out there. One of the conditions I

6 mentioned was the stage on the river. And right

7 now, the river is about six feet higher than we

8 could possibly dam off the structure to be able to

9 work on. So we're going to have to get the river to

10 fall out before we could do that. And even if we

11 had that, at this time of year the risk is pretty

12 significant that we could get a rise in the river.

13 \$\$ keeps telling me there's always a June rise on

14 the Ohio out here. But our concern would be that at

15 this time of year, there's always a potential the

16 river could come up and run us off the job and

17 extend the outage even longer. So our preference

18 would be to push it out a little bit further to make

19 sure we had low water conditions.

20 AEP2: Well, what were you out with

21 the two to four weeks you talked about a few minutes

22 ago then?

23 ACE1: That's the earliest we

24 could get back out there to get started on the

25 thing.

1 AEP2: What are your predictions on
2 river levels now, could they accommodate a June 7
3 closure at McAlpine?
4 ACE1: I don't -- I gave up
5 trying to predict river levels a long time ago.
6 ACE2: \$\$ \$\$, chief of
7 operations, Louisville. There is multiple
8 constraints on trying to do a concurrent Markland
9 and a concurrent McAlpine closer. One is just the
10 pure planning for the job. The Colonel mentioned
11 that at McAlpine we're going to fabricate plates and
12 try to strengthen those gates. I can't get those
13 plates fabricated in ten days. We've got to have
14 some time to mobilize on McAlpine. That's got to
15 coincide with the right water conditions. We are
16 going to be mobilizing for Markland at the close of
17 Memorial Day weekend and headed up there. You all
18 have already been notified that we're going to close
19 the main chamber of Markland.
20 Meldahl is scheduled now to be closed at
21 the same time. So we could be screwing up
22 somebody's shipping schedules if we decided to do
23 something different at Markland, push it out a
24 little bit to get a coincidental closure with
25 McAlpine. I just don't think it's doable. The two

1 to four weeks is -- if we had favorable river
2 conditions today and we decided that we had to do an
3 immediate closure down there -- what the colonel is
4 saying is we think it's going to be two to four
5 weeks to get in there and start that job, if we had
6 favorable river conditions today. And we might have
7 to go in there without some of that plating that we
8 want to put in terms of reinforcement. So when we
9 say we want to do it earlier, we would like to do it
10 earlier than August 3rd. We don't want to do it on
11 June 7th because we're not ready to do it. But
12 between June 15 and August 3rd, somewhere in that
13 time frame, if there were no constraints on you all
14 in terms of notice, we would like to do it. If we
15 had favorable river -- we would love to substitute
16 for the Cannelton closure now scheduled in July.
17 FROM THE FLOOR: You said that Meldahl is
18 now scheduled to go concurrent with Markland?
19 ACE2: Yes. \$\$\$\$ is back
20 here, chief of operations and division. He has
21 discussed with Huntington their Meldahl main chamber
22 closure, which was scheduled for June 7th through
23 July 2nd, I think. Is that the correct date?
24 COE1: June 21 through July 16, I
25 have.

1 ACE1: Bob, would you identify

2 yourself and repeat that, please?

3 COE1: \$\$\$\$ from division --

4 operation and division. We coordinated with

5 Huntington to make the situation better. And

6 Huntington told us it was scheduled to go from the

7 7th of June to the 2nd of July and will now coincide

8 with the Markland closure, which goes on 7 June to

9 16 June, okay. Hopefully that will help. That

10 means that we won't have that extra two weeks of

11 closure at Meldahl at the 1200 foot chamber.

12 FROM THE FLOOR: Okay, that helps.

13 ACE1: The other thing, I

14 think that we had on our mind too was, quite

15 honestly, we were pretty concerned that a couple of

16 weeks' notice probably wasn't enough for all the

17 users out there either along the way. And

18 especially given it the total closure at McAlpine,

19 that seemed like a pretty abrupt move to make in two

20 to four weeks.

21 ACE2: To tell you the truth, we

22 have not considered in the last week moving that

23 closure up as early as June simply because we felt

24 like you needed more notice than that to adjust to a

25 river closure. That was the last alternative that

1 would have been on our mind.

2 ACBL2: Colonel, \$\$\$\$ with

3 ACBL. My understanding of the time frame for the

4 closure would be the fourteen days for the repair of

5 the gates, or up to thirty to forty-five days for

6 change out of the lower gates. Instead of the --

7 every two week dive inspection, is there any

8 opportunity for the Corps to dewater that main

9 chamber now and make the assessment whether or not

10 the gates would in fact have to be changed out and

11 whether possibly extend the closure when it actually

12 happens?

13 ACE1: And I'll let these guys

14 jump in and tell me if I'm wrong, but I think it

15 takes about three to four days -- and we would have

16 to mobilize, get three or four days, dewater the

17 lock, do the inspection. You have to clean off the

18 metal surfaces, those kinds of things. There are a

19 lot of details that go along with that that I was

20 omitting along the way. So I think at best, you're

21 still talking about four to five days just to get a

22 lock at it. And then at that point, you've got to

23 re-water; take the structure back out, the bulk

24 heads. So it turns into -- you know, the bulk of

25 that time would be spent watering and -- dewatering

1 and re-watering the lock chamber.

2 INGRAM-1: \$\$ \$\$ with Ingram Barge.

3 Regarding your point up here about the timing on

4 Cannelton, is the question, can that be either

5 simultaneously conducted with the closure for

6 McAlpine or is it a case where it could be pushed

7 even to next year? What is the point here?

8 ACE2: The question is, should it be

9 eliminated. Is it going to cause you enough

10 problems in trying to get your movements upbound and

11 down bound through McAlpine that we should abandon

12 that closure and take it off the schedule

13 completely, which we're prepared to consider.

14 INGRAM-1: I don't think there's any

15 question that the timing of that, as it pushes up

16 against within a matter of a couple of weeks or so,

17 the closure of McAlpine, that at a minimum -- I

18 guess we probably could live with it if it were

19 simultaneous with the McAlpine closure, but

20 certainly that risk -- I think I'm speaking for

21 everybody, though, we would much prefer if this

22 could be pushed out to next year. Anybody disagree

23 with that?

24 ACE1: I think that's one of

25 those things like the welding, having seen no

1 disagreement there, yada, yada for the reporter.

2 AEP2: \$\$\$\$ again with AEP MEMCO.

3 I want to get back to this, how soon do you think

4 you could do the closure at McAlpine? You said two

5 to four weeks up there, I'm just trying to

6 understand how quickly you could really do it, \$\$.

7 I mean, if we all said sooner was better, how soon

8 could we do it?

9 ACE2: I've asked you for four weeks

10 and favorable river conditions.

11 AEP2: So if you eliminate Cannelton,

12 you could maybe start on it the last week of June,

13 if we had favorable river conditions?

14 ACE2: (MOVES HEAD UP AND DOWN.)

15 ACE1: And we have talked

16 about that quite a bit.

17 AEP2: And what does history show

18 about river conditions late June?

19 ACE2: Unfavorable. Statistically

20 less favorable than mid July. Statistically less

21 favorable than late July. Statistically less

22 favorable than early August. The further we go from

23 June to early November, the more favorable the river

24 conditions are. And that's pretty much from here to

25 Cannelton.

1 CENTURY1: I'm \$\$ \$\$ with Century

2 Aluminum. We have a continuous operation at

3 Rangeland, West Virginia that without the feed

4 stock, we'll shut and would not reopen, given the

5 cost of starting that facility. About seven hundred

6 employees, three hundred retirees at this point.

7 That's our northern most plant. The feed stock that

8 we use along with our metal aluminum is called

9 Alumina, and it's in tight supply world wide, as a

10 matter of fact it's selling at two-and-a-half times

11 what it sold at a year ago. We can't surge and pull

12 ahead very quickly. In our instance, the longer we

13 can put this off, the better, understanding that you

14 do need to get it fixed. So for us, if we were down

15 in June, it would be catastrophic.

16 ORMET1: Ms. \$\$ with Ormet

17 Corporation. It's impossible to mobilize the supply

18 in that time frame. \$\$'s supply, what he's talking

19 about, is at least thirty days away from that lock

20 right now, even if we were in a position to put

21 enough on the river to basically cover a three-week

22 time frame. First, we have to have our suppliers

23 basically mobilize their supply in order to get the

24 time frame to start moving the product into the

25 river and through the position. If you close that

1 lock, with even a two-week notice, we still have no
2 potential to get the material up the river and
3 through that lock before we would then have -- be
4 out of material. So the longer we have, the more
5 notice we have -- you know, basically, ninety days
6 notice would even be better, because it would give
7 our suppliers a chance to get material to us.

8 ACE1: And I guess you sort of
9 answered the question I have, is how much time do
10 you need?

11 ORMET1: The longer the better.

12 ACE1: The longer the better.

13 Now, I mentioned earlier, if you didn't pick up on
14 it, we think our window of opportunity is no more
15 than a couple of weeks later. We feel like we're
16 really putting ourselves at risk on another very
17 important maintenance job down the river to stretch
18 that out two weeks. But that's the kind of input we
19 we're looking for here today, is to try to make sure
20 we understood what the impacts were.

21 Ormet1: Well, we have the same number
22 of employees that \$\$ has. We have at least a
23 thousand hourly employees between two facilities and
24 if we put both that and a rolling mill in danger,
25 \$\$'s plant produces product for the U.S. government

1 that they basically need for planes for the
2 materials for the war efforts. So, I mean, this
3 puts the government at risk also for critical
4 materials.

5 ACE1: Thank you.

6 BAYER1: My name is \$\$ \$\$ with
7 Bayer Corporation in Pittsburgh. We have a
8 manufacturing plant in South Charleston, West
9 Virginia. Key raw material will be dock side and
10 we're a hundred percent dependent on that product
11 for manufacture of polypropylene glycol. About
12 ninety plus percent of the content of polypropylene
13 glycol is propylene oxide. We are one
14 hundred percent dependent on the river for this
15 supply. We have no other mode of transportation
16 other than barge. Propylene oxide is also tight
17 around the world at this time and it would take us
18 at least until August to build up sufficient
19 inventories of both raw materials and finished goods
20 to get through the fourteen-day outage. Anything
21 beyond the fourteen days, we feel would be -- would
22 have a significant impact on our company resulting
23 in millions of dollars of loss for us, shut down of
24 dozens of industries, including key manufacturing
25 companies in the U.S. and the American automotive

1 industry. That industry, we are a key supplier to
2 that and that is an industry that does not have any
3 wide spots in the line to absorb any hiccups in the
4 supply chain.

5 ACE1: Thank you.

6 LYONDELL1: I'm \$\$\$ with
7 Lyondell Chemical and we supply Bayer with their
8 propylene oxide. We're also the owner and operator
9 of the barges that carry that material from our
10 facilities back to U.S. Gulf. We do have a limited
11 amount of these barges. They are specialized. We
12 have fourteen barges in service. So it is going to
13 be important not only before the closure on the
14 loaded barges coming up from the U.S. gulf, but also
15 getting barges back south, back to our plants to
16 reload the empties. So we are in a situation where
17 we have a limited amount of equipment to move this
18 material up from West Virginia. So -- I think \$\$
19 mentioned -- started maybe one of the questions that
20 we have, will there be any prioritization for
21 equipment that is dedicated and needed to keep lines
22 open?

23 ACE1: Yeah, I think we've
24 got -- one of the next slides popping up here in
25 just a second when we get beyond this topic

1 addresses that. I think between the task force and
2 the Coast Guard, we're hoping maybe we could piece
3 together some system to be able to prioritize and do
4 that. But I would like to follow up. You mentioned
5 at least early August. Is there a specific target
6 date that you have that you have to have that you
7 believe you need to ship that product up and have
8 enough on hand to keep operating?

9 BAYER1: From our perspective,
10 because of the tight inventories and strong demand,
11 in primarily the U.S. automotive industry these
12 days, a lot of products across the board, we could
13 use every day we can get beyond the August 3rd if we
14 could. That's still not to say we would be in good
15 shape. But we're saying the more time we have, the
16 better shape we'll be in.

17 ACE1: Thank you. Anyone
18 else?

19 INGRAM2: \$\$ \$\$ with Ingram Barge
20 Company. You're projecting a two-week closure,
21 regardless of when you start, but what I wonder is
22 based on the experience we had last year with
23 Greenup, is there any reasonable probability that we
24 might get beyond the two weeks? And if so, if there
25 is risk there, how early on in the repair process

1 are you going to know that and be able to make that

2 call?

3 ACE1: I'll take the last part

4 because I know that answer pretty definitively. I

5 asked that question specifically a little bit

6 earlier. I think that we're going to be about three

7 to four days in the process before we can

8 definitively know how long that's going to take.

9 Our confidence level is real high, but I'm going to

10 let \$\$ and \$\$ field that question. But I think

11 somewhere around three to four days in because we've

12 got to get dewatered, cleaned off, like I mentioned

13 earlier, expose the cracks and get a chance to

14 inspect the gate and make a decision on how long

15 that's going to take.

16 ACE13: I'm \$\$\$\$with the Corps

17 of Engineers. And actually, the colonel is right

18 and that's what we advised, after we get the mud

19 cleaned off, the water pumped out, it takes you

20 three to four days depending on how things go to

21 really check things out. One of the things we could

22 do if we did get in there and found a real bad

23 situation, we would have several options at that

24 time. We wouldn't necessarily have to go straight

25 into a long closure if perhaps there would be a way

1 to make some emergency repairs, regroup and
2 re-prepare. We don't think that's going to happen,
3 but I would think at that point, when we get further
4 along, we would have some options there. I don't
5 think the odds of running into something so terrible
6 that we couldn't, at worst, maybe patch it up, get
7 out and re-prepare to go in and make a gate change.
8 That would probably be the type of approach you want
9 to consider. And I think the odds of anything
10 beyond that would be slim.

11 ACE1: And what he's talking
12 about there is have a short outage, make some
13 repairs, put the system back in operation and turn
14 the spigot back on river traffic and look for an
15 opportunity to go back and do repairs at a later
16 date.

17 ACE2: Rick, you want to stick your
18 neck out with \$\$on that one?

19 COE1: Not really.

20 ACE2: I think that's what you've
21 got to recognize, we don't know what we don't know.
22 Greenup's situation -- Greenup had not been
23 dewatered for a long time. I'm not sure what kind
24 of dive inspections they had. \$\$may know the
25 story better than I do. Suffice it to say, they

1 were surprised when they saw the extent of damage
2 and that surprise is what contributed to that
3 lengthy closure. We think our chances of surprise
4 are less, but there are no guarantees. And so I
5 think I stuck his neck out as far as I would want
6 to stick it. We're going to be three days into the
7 job and we will give you -- we will know then what
8 we've got. Our intent is we will work no longer
9 than fourteen days. We believe the critical repairs
10 can get done in fourteen days. There may be more
11 work we could do if we stayed fifteen days or
12 sixteen days. We have no intention of doing that.
13 Nice-to-do stuff will not be done. Only that
14 critical to assure we don't have a catastrophic
15 failure is what we're going to do in fourteen days.
16 The other side of that equation is, we might get out
17 earlier than fourteen days. We're trying to give
18 you worst case. We're going to do everything
19 possible to get out earlier than fourteen days
20 because we know one day and two days, in the case of
21 Bayer, in the case of the aluminum plants, is life
22 or death, economically. That's where we're heading.
23 ORMET1: You answered my question,
24 basically, on what risk factor you would put on
25 whether the expected repairs to last longer than

1 fourteen days because preparing for a fourteen-day
2 outage is one thing, preparing for a -- we would go
3 to a completely different type of system, or have
4 to, either to shut down parts of the plant or else
5 to try transloading if anything took any longer
6 length. So it will be also important that we would
7 have communication just as soon as the repairs
8 started and as soon as you knew. Because if it did
9 look like it was going to take longer, we would need
10 to mobilize and do something different.

11 ACE1: Understand. And one of
12 the things we're going to do is maintain a web page
13 that would keep updates so that you can get
14 basically instantaneous information. And as we
15 start this process, we will absolutely post that and
16 distribute information as well. We could probably
17 do that through the notices as well, notices of
18 navigation. So we'll do both things.

19 CENTURY1: One question I have not
20 directly related to the exposure here. I'm going to
21 go back and face our management, face employees and
22 they're all concerned. We've already talked with
23 the plant up there. You know, as a company, we go
24 through and have preventive maintenance schedules
25 and that type of a thing. Can you explain a little

1 bit about the scheduling here and how these things
2 crept up. Metal fatigue doesn't really happen in two
3 or four weeks. How often is there other exposures
4 that we may not see out there on the river that's
5 going to impact us at a different point?
6 ACE1: Well, again, all these
7 gates up and down the river are a little bit
8 different design. When you look up at Greenup and
9 Markland and McAlpine, those gates are pretty much
10 similar design -- Meldahl, I'm sorry. All of them
11 are basically the same design for the structure
12 itself. We've seen problems with all those along
13 the way. We dewater and check the gates at Markland
14 every year and take a look at those. Started doing
15 that two or three years ago, \$\$, something like
16 that? We take a look at them every year because we
17 see serious cracking. We can't do that at this
18 point at McAlpine. So that's one of the issues.
19 The normal schedule on these things is dewater once
20 every five years. Right now, we're going to be
21 diving every couple of weeks to take a look at this
22 thing. Keep in mind, a lot of these structures were
23 put in place in the '60s and that time frame so
24 they're getting old. You know, we're starting to
25 see problems on the gates on all those structure

1 now.

2 ACE2: I would like to add a little

3 thing on there. We're in a funding constraint on

4 preventive maintenance. I have a set of gates at

5 Markland, which I should have replaced three years

6 ago based on the engineering finite element analysis

7 of risk of failure of those gates. They're now

8 three years on borrowed time. I have had an

9 approved report at the Washington level in the

10 neighborhood of twelve to fifteen million dollars to

11 replace gates at Markland's main chambers as part of

12 approved major rehab. I can't get that in the

13 budget. I can't get that in appropriation.

14 So I'm beyond doing what we all might

15 consider the normal routine preventive maintenance

16 and then replacement cycle on a lot of our major

17 components on our locks because of funding

18 constraints. We're now doing an annual dewatering

19 on Markland. That's our preventive maintenance, is

20 to totally dewater the lock and patch up the gates.

21 That's not a good preventive maintenance program,

22 but that's where we are.

23 So in answer to the preventive maintenance

24 thing, where we've got good components that are

25 subject to good preventive maintenance and we have

1 auxiliary locks that function, we've got a regular
2 preventive maintenance program. You don't see this
3 issue at Newburgh, you don't see it at Smithland,
4 you don't see it at Myers, and so on. You see it at
5 lock and dam fifty-two. I've got a main chamber
6 down there that was designed for a twenty-five year
7 project life in 1970 something. You were there. It
8 was a temporary 1200 foot chamber we put back in the
9 late '60s at lock and dam fifty-two. We're now in
10 2004 and Olmsted is still not done. Am I doing
11 preventive maintenance at lock and dam fifty-two?
12 Yeah. But it's a strange use of the term, I guess.
13 AEP2: This is \$\$\$\$\$. If the
14 intent is to build stockpiles prior to this
15 McAlpine closing and the two main chamber shutdowns
16 at Markland and Meldahl aren't going to assist in
17 that, what's the possibility of moving those
18 closures behind or after the McAlpine to give us an
19 opportunity to build those stock piles that these
20 folks are talking about? That's certainly going to
21 impede building any stockpiles when we're going to
22 have two to three days of delays at each of those
23 locks.
24 ACE1: I'm talking about on
25 our end, as far as the impact on 52. At 52, we

1 really can't go down and do that work at this point,

2 the river --

3 ACE2: He's talking about the

4 concurrent closure --

5 AEP2: I'm talking about Markland and

6 Meldahl, moving those after McAlpine if the intent

7 is to leave enough time to build stock piles.

8 ACE2: First, you're not going to

9 have delays at both locks. The purpose of closing

10 them concurrently is you're going to have a delay on

11 one end of Meldahl, you're going to have a delay on

12 the other end at Markland. In between, it doesn't

13 make any difference whether you run the auxiliary

14 locks, you're going to have normal passage, no

15 delays. So it would be like one lock closed.

16 What are the odds of doing that? It's

17 May 27th, they're scheduled to close on June 7th.

18 That's a pretty big disruption on two major

19 maintenance jobs. A big waste of government

20 resources. I know that's not the most important

21 thing. How would we effectively utilize government

22 resources for what we were going to do there. We

23 will probably have a lot of idle plant equipment and

24 materials. I don't know what Huntington's schedule

25 is so I don't know what it would do to them on

1 Meldahl at the other end of the McAlpine closure.
2 What it would do to us is, we feel like we have to
3 do Markland this year.
4 So it would force us to substitute
5 Markland for lock and dam 52. One might ask a fair
6 question, get somebody else to do lock and dam 52.
7 There is one bear trap valve in the United States
8 that I know of operable. There is one repair crew
9 in the United States that I know of that knows how
10 to repair a bear trap valve. It is a 1929
11 technology. It requires a pretty good skill set and
12 the right set of people and equipment to repair it.
13 So I don't view it as a practical alternative to go
14 to contract forces, or even to go to Nashville
15 district or somewhere else and get resources and ask
16 them to do that bear trap job. So it just gets
17 pretty complicated.
18 I hope that June 16th to August 3rd is
19 when we're going to see that uptake in traffic. And
20 if we remove Cannelton from the schedule, you should
21 have pretty free open river conditions from
22 Cannelton through Meldahl.
23 Again, I don't know what Huntington --
24 what else Huntington has going on in that time
25 frame. I think \$\$ has a full schedule back there

1 that he can share with us. I would rather not try

2 to do it, I guess is the straight answer to your

3 question.

4 INGRAM2: Again, \$\$ \$\$ with

5 Ingram. We talked earlier about Cannelton being

6 pushed off perhaps until next year, but I wonder if

7 an opposing idea might be the possibility of doing

8 it at the same time as McAlpine. The closure of the

9 main chamber at Cannelton is probably going to be of

10 minimal effect if the river at Louisville is going

11 to be closed. So I wonder if in the long run

12 whether that's a better situation for the industry.

13 ACE1: That's something we

14 would certainly consider doing. One of the things

15 with the closure of Cannelton, the seriousness of

16 the repair effort is not the same in Cannelton as

17 we're looking at McAlpine. So investing in

18 resources, that's something we have to weigh as

19 well, whether we can better use those resources

20 there as somewhere else.

21 ACE13: I would just like to add on

22 that, within the Louisville district, we wouldn't

23 have the repair crew, the hardware, and the fleet to

24 do both of those at the same time. It could

25 potentially be done on a regional level, going into

1 something from Huntington, Pittsburgh. Personally,

2 I don't know how that would impact their schedule.

3 What we're looking at now on the short notice, I

4 think the idea of just canceling the Cannelton job

5 until next year would be more favorable to us unless

6 we demobilize other resources quickly.

7 ACE1: Anyone else got

8 anything? Flip to the next slide, please.

9 DELTA1: \$\$ \$\$ with Delta Queen

10 Steamboat Company. What is the latest that you would

11 consider closing the river, pushing it beyond the

12 August 3rd date?

13 ACE1: I think the very latest

14 that we could delay this thing is -- and you all

15 jump in if I'm off base. But I think it's two

16 weeks. That's the absolute latest we think we could

17 delay it.

18 DELTA1: August 17th as opposed to --

19 ACE1: Right. And basically

20 that removes -- from scheduling, that removes all

21 our float -- no float time at all on our next job

22 down at lock and dam 52.

23 DELTA1: When will you make the

24 decision?

25 ACE1: Probably in pretty

1 short order. After our meeting here, probably in
2 the next day or two we'll finalize that decision.

3 CONSOLIDATED1: \$\$ \$\$ with

4 Consolidated Crane & Barge. If you push that back
5 to like August 18th, we're still looking at fourteen
6 days being down, correct?

7 ACE1: That's correct, it

8 would still be fourteen days.

9 CONSOLIDATED1: And something really major,
10 it could be up to forty-five days, is that right?

11 ACE1: If it were really

12 major, it would be up to forty-five days.

13 CONSOLIDATED1: Then you're looking from --
14 from Cincinnati to Louisville, like fourteen
15 different grain facilities and that's about the time
16 that the grain should be moving.

17 ACE1: Okay, thanks.

18 CROUNSE1: \$\$ \$\$ with Crouse

19 Corporation. Just curious on -- I missed one
20 question there on the Cannelton. Is it possible to
21 do that concurrently with McAlpine?

22 ACE1: It's possible, but not

23 with the resources that we have on hand. Again,
24 that's something we haven't really planned to try to
25 do because we don't have the resources internally.

1 That's something we would have to do some more
2 significant planning on to see if that's possible to
3 do.

4 CROUNSE1: I see. How serious are the
5 Cannelton repairs, is that any problem?

6 ACE1: They're not very
7 serious. It's not the same scope of work at all
8 that we're talking about here. The Cannelton
9 closure is part of a regular preventive maintenance
10 dewatering cycle, five-year cycle. The only real
11 problems we have at Cannelton right now that affect
12 you are mooring bits, and we were going to replace
13 some of the mooring bits in Cannelton and then do a
14 regular dewatering inspection and do what we do
15 normally during a dewatering inspection, which is
16 bring everything back up to as new as we can get it.
17 Typical of what we do at every 1200 foot chamber
18 every, I think five years. No known critical
19 problems.

20 CROUNSE1: If this leads to increased
21 shipping prior to the McAlpine outage, is there any
22 increase in cycle time at the lock right now due to
23 the cracks in the bearing?

24 ACE2: At McAlpine, sure, every
25 cycle is more stress.

1 CROUNSE1: But is it a longer period of

2 time?

3 ACE1: It's a small impact.

4 We are trying to move the gates themselves a little

5 slower, but to fill an empty -- coming from Ron,

6 it's pretty much the same. But we are trying to

7 move the gates a little bit slower as we open and

8 close the gate structure itself.

9 CROUNSE1: So the longer you put the

10 outage off, the more likely you're going to have a

11 failure?

12 ACE1: That's correct.

13 CROUNSE1: How many days is it going to

14 take from there to catastrophic dates?

15 ACE1: That's a hard thing to

16 guess. It could be sixty days or so.

17 ACE2: Tell me the mode of failure.

18 If it pops off the pintle and is still standing,

19 it's not laying on the sill, then the Shreve will

20 come in, extract it, put new gate leaf or leaves in,

21 then we're in that forty-five day situation. Crash

22 it on the sill, and the salvage operation takes a

23 while, just adds time to it. We don't want to see a

24 catastrophic failure because we never know what the

25 mode of failure is. Put a tow boat in the chamber,

1 then have it collapse, send a tow out with the flow,
2 with the gate, find the gate down in New Albany
3 somewhere, you know, pick your apocalypse if you
4 want.

5 CROUNSE1: I hear your very latest you
6 would want to put this closure off is August 30, is
7 that right?

8 ACE2: That's right.

9 ACBL1: \$\$ and Colonel, a
10 question. From the stressing of the gate, is the
11 stressing and the potential increasing of the number
12 of cracks or the magnitude of the cracks, is that
13 being driven by the head loading on the gate or it
14 being driven by the number of times the gates are
15 opened and closed or is it a combination thereof?
16 And what I'm getting to is if it's a combination of
17 opening and closing it or placing it under head,
18 more times of head during the lock cycle process is,
19 is can we minimize the number of lockages and it
20 would be heresy if it got in the press, but could we
21 eliminate recreational boaters going through it?

22 ACE1: As far as recreational
23 boaters, that's something we hadn't contemplated or
24 given any thought to. I would have to get back to
25 you on that one. I think the loading, we talked

1 about that earlier. The loading is very complex in
2 that corner. So I think you see both things
3 happening. It's the head load that you see on the
4 structure itself when it's got a hydraulic load on
5 it from the water and it's also when it moves, you
6 see a loading as well. So I think it's a little bit
7 of both. It's a very complex loading in that
8 corner. And the occasional bump and grind that it
9 gets from a tow in there is problematic as well.

10 CROUNSE2: \$\$ \$\$ with Crouse

11 Corporation. You said you didn't want to push the
12 McAlpine back by two weeks. What happens if you get
13 into McAlpine and you get into the forty-five day,
14 what does that do to fifty-two at that point?

15 ACE1: It puts that work down

16 here at risk. I guess that's the obvious answer
17 there. And we just have to make a risk-based
18 decision and -- but the complete closure, if we had
19 a complete outage up at McAlpine, we would pursue
20 that work.

21 ACBL1: I could address a little of

22 the lock and dam 52. If we got on that time frame
23 and the job got longer, that job would have to be
24 cancelled for this year. So the bear trap repairs
25 rely on very low water and -- for a significant

1 period of time, a couple of months. So we would
2 have to cancel that, basically. And I might mention
3 what the risk is. We haven't really explained bear
4 trap repair at 52. But the three bear trap leads
5 are used to regulate pool. And to a large extent,
6 to counteract and be adjusted quickly for the
7 peaking floats that come out of Barkley and Kentucky
8 dams. So if we have problems with those rusting
9 out, we have a potential that one of them may not
10 raise under pressure like it's supposed to. And at
11 which case, in a low-flow scenario, it could
12 contribute to losing that pool down there. So the
13 potential impact there could be significant.

14 ACE1: Anyone else got a
15 question? All right. The next slide we've got --
16 could you kill the lights, please? Queue
17 management. From the simple engineering
18 perspective, we deal on a first come first serve
19 basis. Lock personnel base that on arrival. As you
20 see there, it's all viewable. That question is,
21 should there be other alternatives considered in
22 pursuing how we manage that queue.

23 The next slide is a related topic. Is
24 well -- queue and after reopening, how do we do
25 that. Like I said, from our point of view, we do

1 first come first serve. If the industry and the
2 users, you know, would like to propose a different
3 solution, we're certainly open to that. We're open
4 to suggestion. I've talked to Commander \$\$ a
5 couple of times about having his assistance in
6 facilitating that effort as well. Has anyone got
7 any input or comment?

8 ORMET1: My question would center
9 around what type of delay are you anticipating or
10 what kind of queuing problems? You know, are we
11 going to have product loaded waiting there to go
12 through gates in anticipation -- will Louisville
13 barge companies do that and, I guess I'm addressing
14 that to ACBL and Ingram -- and have materials
15 stacked up behind and ready to go in case they don't
16 get done in time?

17 FROM THE FLOOR: As with any of these kind
18 of closures, we would have cargos, try to get them
19 on queue as soon as possible, be in a position to
20 move, as the locks open as well as any of these guys
21 would, Ingram or MEMCO or anybody else. We'll be in
22 queue and ready to move as soon as -- the moment the
23 lock is ready for operation. I guess one of the
24 questions that the Colonel asked is do you use
25 traditional first come first serve or do you use

1 multiple one-way lockages. And my response to that
2 is based on a lot of the queuing theory things that
3 the industry has looked at over the years and worked
4 with the Corps, we have found that multiple one-day
5 lockage permits us to move more cargos through the
6 lock. However, in this particular situation, as it
7 relates to priorities -- and I haven't even gotten
8 to the issue whether certain cargos get priority.
9 But certainly, if the demand is up river, you may
10 want to consider, you know, locking upbound first if
11 that's where the critical demand is. Maybe you
12 lock, you know, twelve up upbound if that's where
13 the demand is. And that's where I hear the demand
14 being expressed by the alumina folks as well as the
15 chemical folks in that market sector.
16 Now, there may be other demands, but I
17 think that's something that we will all have to
18 work -- try to work out as best we can. But I think
19 the big question here is from a community
20 standpoint, do we want all the tows sitting in the
21 middle of the recreational -- this Louisville pool
22 up here that are waiting to go southbound, do you
23 want all of them sitting here at twelve mile,
24 six-mile island, where you have all the recreational
25 boaters here, do we want to kind of string those

1 out? The industry will have enough advance notice
2 to know when the lock is going to resume and those
3 boats that may hold up further up river, while
4 they're still on the queue list will maintain their
5 queue position as they move, or someone in traffic
6 control, so to speak, directed them down to be here
7 at a certain time to go through the lock. We should
8 be able to forecast and project that kind of traffic
9 control situation that we would work with the Coast
10 Guard and others to try to manage jointly in this
11 whole process. So -- but yes, I think everybody
12 would be prepared and ready to go as soon as they
13 said.

14 ORMET1: Sir, my next question is
15 going to be -- after that one is then what kind of
16 anticipated backlog do you expect to have then?
17 Because I really can't judge from just my own
18 plant's needs how many -- you know, are we looking
19 at a week delay, are we looking at a, you know, a
20 logjam, or are we looking at normal flow within two
21 to three days? I just don't know what normal -- not
22 being familiar with your end of the business, but
23 how much -- how many tows could be backed up.

24 ACBL1: Let me comment. The last
25 time the lock was closed, I think we got up to

1 fifty-eight, sixty plus hours lock delay, maybe
2 seventy-two. Do you remember? Somewhere in that
3 range. Of course that was with a 600 foot lock
4 being available, we got up to about seventy-two
5 hours delay. It took us -- once the main chamber
6 opened up, it took the industry about two-and-a-half
7 or three days, I think, to clear out that queue that
8 was waiting. For those of you that remember, that's
9 kind of what I remember, it was about two-and-a-half
10 to three days to clear up the queue. So if you've
11 got the river completely closed, it may take a week
12 to clear the queue out.

13 ORMET1: So you're telling us, a
14 minimum time frame for -- if we're going to put
15 supply in place, we need to look at least one
16 week in addition to the actual down time of the
17 lock.

18 FROM THE FLOOR: Well, whoever is first in
19 line is going to move first.

20 ACBL1: If we've got aluminae in a
21 tow or Ingram's got aluminae in a tow and we
22 collectively say well, those are going to be
23 priority cargos, maybe they go through the first day
24 as opposed to being the last day. Or if I've got a
25 boat that has commodity X in it, it's number two and

1 the boat that has the aluminae is in queue number
2 twenty-eight, I may swap positions with boat number
3 two to put in on through. Because each company's
4 got the latitude to decide who they want -- which of
5 their boats they want to lock given the priority
6 that that company possesses on the lump queue sheet.

7 ORMET1: But if everyone thinks their
8 cargo is the most important --

9 ACBL1: That's going to be a
10 difficult issue, as I mentioned earlier, and I
11 think, you know, we'll have to work collectively to
12 try to figure out what should be the ground rules
13 for determining the priorities. And I'm sure we'll
14 probably, as we work with the Corps and the Coast
15 Guard on this, it's not going to be an easy task.

16 BAYER1: This is \$\$ \$\$ with
17 Bayer Corporation again. We would suggest that the
18 Ingrams consider as ground rules two key issues.
19 One is transportation risk management and the other
20 is the commercial impact and plants that are facing
21 shutdown situations. Those being the key factors
22 used in managing the queue. Transportation risk,
23 certainly you have cargos that are more hazardous
24 than others, that you don't really want them to be
25 lingering around any longer than you have to, versus

1 some of the dry bulk that moves up and down the
2 river. The other one is plant shutdown. If an
3 industry makes a case that they're facing a plant
4 shutdown, that certainly should be taken into
5 consideration.

6 ACE1: As you can see, that's
7 one of the topics we had there for a little bit
8 later, but I know that the Coast Guard is concerned
9 about those same safe options.

10 GUARD1: \$\$ \$\$ from the
11 Coast Guard. One of the things we can do is we can
12 develop a matrix and give a score card based on -- I
13 just wrote down a few things -- criticality to the
14 nation. If it's a particular product, it's of
15 national interest. Storage capacity. If you have
16 zero storage capacity at your plant. Maybe you
17 might get a ten out of a hundred. You know, just
18 some kind of a matrix so that we can come up with a
19 score card that everyone agrees on that says, okay,
20 if you have a single source, if you have like one
21 place that you get your product from, that might be
22 worth a little more. And come up with a
23 collective -- maybe run it through one of the towing
24 safety advisory committees or the American Waterways
25 or come up with some kind of a work group that would

1 do that. That would be my suggestion. To come up
2 with a scoring matrix that we could all agree upon.
3 And base it on many factors, not just one, but
4 multiple factors that would all contribute to that.
5 ACE1: And that's why it
6 certainly says -- I think we need to, at this point,
7 address that issue one way or the other. I think
8 between the river industries and the Coast Guard, in
9 particular -- and we're certainly willing to
10 participate. But we're primarily in the execution
11 mode after decision making. But I think it would be
12 worthwhile to put together a work group of some form
13 to be able to try to recreate that matrix or some
14 mechanism to determine priorities or agree to
15 disagree and not having any priorities.
16 ACE2: Of course, I think under the
17 1899 River and Harbor Act, a passenger carrying
18 overnight passenger vessels have priority on the
19 system. So I guess the Delta Queen and the
20 Mississippi Queen will be at the head of the line if
21 they, in fact, still have a cruise. But beyond
22 that, that's all we have governing our -- who we
23 lock through, other than a first come first serve.
24 Government vessels and passenger carrying vessels.
25 So I think it is incumbent upon the industry group

1 and the Coast Guard to decide how you want to manage
2 that queue. I think one thing you have to consider
3 is in managing that queue, do not slow transit down.
4 You could easily get yourself in a position where
5 somebody says okay, I've got priority in the queue,
6 but it's going to take me four hours to get to the
7 place in the line I need to be. So we've got to
8 have as fast a lock as we can have.

9 TECO1: This is \$\$ \$\$ with

10 TECO Barge Line. I just have a question or a point
11 of clarification. We talked about queue management.
12 We're talking about queue management after McAlpine
13 reopens, we're not talking about any queue
14 management leading up to the closure, as we're each
15 working towards building stock piles for our
16 customers.

17 ACE1: That's correct.

18 ACE2: And that's a great point.

19 And let me tell you, we are going to have some tough
20 calls to make when August 3rd comes and you tell me
21 I've got the most critical load in the United
22 States, and it's Midnight, and I can't get there
23 until 2:00 a.m. and I say I've got to dewater that
24 lock starting at Midnight. That also is going to
25 have to be part of your group. You are going to

1 have to cut this off and everybody is going to have
2 to recognize there will be a date certain when that
3 chamber has to be flooded.

4 ACE1: Just as a general

5 comment -- and I know we have the great lock master
6 sitting back there, too. See, somewhere between
7 fourteen and twenty tows a day, does that sound
8 about right? So, I mean, if they were continuing to
9 show at the arrival point at that rate, that gives
10 you a scope of -- an idea about what kind of queue
11 you're looking at, maximum.

12 ACE2: Right.

13 ACE1: And the other thing is,
14 it takes forty-five minutes to an hour, roughly, to
15 cycle through at the chamber. Anyone else? So
16 Commander \$\$ and -- and who would be
17 interested in setting up this river --

18 INGRAM1: Again, this is \$\$ \$\$.

19 And \$\$and I and a few others have had some
20 discussion about this and this is probably too big
21 of a group to try to work these kind of rules out.
22 And obviously, there can be great debate on what
23 constitutes an emergency need, what high priority
24 is. So probably very soon, we'll probably try to put
25 a working group together. We may look to some

1 outside resource also to help manage that process.

2 So, I guess unless we --

3 FROM THE FLOOR: We've done this a lot of

4 times.

5 INGRAM1: Yeah, we have done this

6 before, maybe not to this magnitude. Certainly when

7 we go back to mill price before its day, that we had

8 issues with grain with significant closures late in

9 the summer. And to a lesser degree when we've had

10 McAlpine down before and had these pretty

11 significant delays. But it's interesting while

12 certainly some see the value of delay, from a grain

13 harvest perspective the longer it goes, it does

14 begin to impact that. So these are all things that

15 have to be taken into consideration. There are

16 critical issues from a homeland security

17 perspective. So it will be a challenge. And maybe

18 what we should do -- and I'll ask maybe at the table

19 back here -- those -- and we may have to limit the

20 number of participants that we have. But ask if you

21 would be interested in participating with a working

22 group, if you would leave your name back here at the

23 table and we'll again -- or maybe it's just a

24 matter -- you don't have to give all the

25 information, because we'll have it from when you

1 signed in. But we'll be soon getting back with you
2 and establish a way to get started on this.
3 ACE1: Thank you. Here's
4 another one that Commander \$\$ and the folks
5 in the Coast Guard are here about. And given that
6 we could end up with a long queue and a lot of
7 vessels along the river, along the river bank, we
8 certainly expect a lot of complaints. I think
9 probably the Coast Guard will end up fielding the
10 vast majority of those one way or the other. But
11 that's something to be concerned about along the way
12 as well.

13 ACBL1: Are all of the mooring
14 buoys that were strategically located in McAlpine
15 and Captain's Pool, are they all in service? Those
16 would be locations where boats could stack, you
17 know, two or three or four wide in those areas and
18 hang off. And that way, it would minimize the
19 impact or conflict with homeowners and recreational
20 boaters, so to speak.

21 GUARD1: We could get a survey of
22 what buoys are out there. We could look at the
23 service of those emergency buoys that are above all
24 the locks and dams. But this one, we're just going
25 to have to deal with in terms of -- I would imagine

1 these things are going to be flected from here to
2 Madison and from down bound all the way to Tell City,
3 as we back up these barges all along the river.

4 ACE1: So we'll make it a
5 point of following up and getting that information
6 back out and we'll post that on the web site as
7 well. Thanks Commander \$\$.

8 ACBL3: \$\$ \$\$, ACBL. What might
9 help with the complaints is letting the public know
10 what's going on. Is there any plans to -- I think
11 if you're a homeowner, and you know this is
12 happening, why its happening, the best, are there
13 any plans to communicate to the public on this.

14 ACE1: We are. We're planning
15 on expanding our media releases and including
16 propeller clubs and some other activities and the
17 media along the river itself. So yes, we're
18 planning on doing that. We haven't done it yet
19 because we wanted to have an opportunity to have
20 these discussions with industry first.

21 INGRAM1: Of course, it goes without
22 saying that we'll probably need to remind our crews
23 that if we are in people's back yards, let's not use
24 the bull horns, let's try to make sure that we're
25 the least disruptive as we can be. Sometimes we

1 don't do all that we can. So just a reminder that
2 yes, we'll need to ask for the indulgence of those
3 people that live on the bank. So we're going to
4 have to ask our crews to recognize, too, that we are
5 an intrusion.

6 CROUNSE3: \$\$\$\$, Crouse

7 Corporation. And I don't disagree with what \$\$
8 said at all, but I think this also may give us an
9 opportunity to educate what the waterway is. I know
10 we all know that, but I think it also gives us an
11 opportunity because every newspaper up and down the
12 river and all the news media will be looking at this
13 as a story and they might contact many of us. I
14 think that might be an opportunity to talk about how
15 critical this waterway system is. How all this
16 tonnage sitting out in their backyards could be on
17 the highways, on the railways, causing a lot more
18 congestion.

19 I think that might be the silver lining
20 here, both from a PR standpoint and a political
21 action standpoint, that we should not be in this
22 thing. This lock should be finished, it should have
23 been funded. We shouldn't be in the same thing in
24 lock 52. And I know we're gearing up in an effort
25 within the beltway to try to make up this. We have

1 lost a lot of ground the last few years when we
2 haven't had the funding. I hope no one loses sight
3 of the big picture. And we're going to have to deal
4 with the big picture because they're going to see
5 the towboats in the backyard and see all the -- we
6 need to define the big picture.

7 INGRAM1: If I could just follow up to
8 that. This again is \$\$ \$\$\$. I'm pleased to
9 see so many shippers or customers here because I
10 think in the past as a towing industry, sometimes we
11 have been tainted to a degree much like the Corps,
12 as though we have some vested interest corporately
13 in these particular infrastructure, and therefore
14 what we really need are those that can speak to the
15 number of jobs in a specific community. We're
16 basically -- we have a fairly small industry and
17 we're certainly very spread out, and it's sometimes
18 difficult to make our voice heard. And the last
19 thing I think that we want is to further accuse the
20 Corps of its failures when we recognize their budget
21 has continually gone down, its declined, and their
22 mission has been broadened and it's a very difficult
23 situation to be in.
24 So as \$\$said, I think we need to
25 capture the true impact of this and these stories

1 that I hear and dollar wise and talking about it in
2 terms of plant closures and how many jobs, can
3 hopefully help us do a much better job around the
4 beltway, getting the story made that, you know,
5 we've got to address these infrastructure issues.

6 Believe me; I've been around enough of these
7 structures, I know the Corps. Go talk to a lock
8 master and he's going to cry until you do about his
9 lack of funding to do what really needs to be done.

10 So again, that's a good point to be made.

11 B & H 1: \$\$\$ with B & H Towing.

12 What we need our customers doing is understanding
13 that if we're to get the funding to complete
14 McAlpine, then we could eliminate a lot of these
15 problems, if we had that funding. But we can't --
16 when we're paying half the bill, we still can't get
17 the government to pay their half.

18 ACE1: Thank you. You made an
19 excellent point. We'll make sure that when we get
20 our press releases out there, that we get the most
21 positive impact from those releases as possible.

22 That's an excellent point. Anyone else? Next
23 slide.

24 This is one I know that we talked about
25 briefly before. Commander \$\$, have you got

1 anything else that -- you reference security and the
2 tows. And certainly hazardous cargo shipments we're
3 talking about along the way. Anything else?

4 GUARD1: This is \$\$\$

5 again with the Coast Guard. There's a lot of
6 problems that if we're at a higher maritime security
7 threat level, that's just going to be an incredible
8 thing to deal with, especially if all of the vessels
9 have to implement a security plan, a higher
10 standard, they're standing around waiting in queues.

11 It's going to be a challenge for us. That's
12 something that we're going to have to address,
13 that's something we're going to have to deal with.
14 We can propose and we can try to bring and increase
15 our patrols in both the lower and the upper pools as
16 we try to watch out for those -- for anything. But
17 industry will still have to provide security for
18 their barges while they're laid up in these fleeting
19 rings. They may have to look at maybe possibly
20 changing some of the fleeting area on a temporary
21 basis. I mean, there's a lot of other avenues that
22 we'll have to open some other doors and maybe
23 consider some temporary hazardous cargo fleeting
24 areas, give them a temporary alternate security kind
25 of thing. So a lot of issues, but I think we can

1 kind of walk our way through them.
2 One of the things I would suggest, like
3 for example for some of the chemical industries, is
4 if we do have a work group, you could bring in some
5 of these chemical transportation advisory committees
6 and use them as your voice for -- in making sure
7 that a representative or maybe somebody from T-Sap
8 or -- just to try to minimize the number of
9 different corporations that are part of this
10 prioritization might be something to consider.

11 ACE1: Anyone else have
12 anything? Pete, would you give me the next slide
13 there, please? All right. We hit this one pretty
14 hard. Give you another opportunity if you've got
15 anything else you would like to offer as far as
16 impacts to the customers, end users, the navigation
17 industry itself. Anyone got anything else, any
18 other concerns you would like to put forward?

19 (NO RESPONSE FROM THE FLOOR.)

20 ACE1: Okay, thanks. We
21 definitely need to designate POCs. We mentioned
22 earlier that one of the things we're definitely
23 going to do is we'll keep everyone informed with
24 notices of navigation. We're also going to keep our
25 web site hot and keep the latest and greatest up on

1 there. As far as the Corps is concerned, the points
2 of contact for the Corps of Engineers, it's going to
3 be \$\$\$ up front -- if you would, just one
4 last time there at least, Pete, if you would, make
5 sure they get to see you. And also, \$\$\$,
6 who is in the back. And these are the two points of
7 contact and points of entry.

8 One of the things you're going to see on
9 our web site is there is an opportunity to post
10 questions and concerns related to the outage and the
11 effort underway, the maintenance effort. I
12 encourage you all and anyone else that has an
13 interest, pass the message along. We would like to
14 make -- when it comes time to make a decision, we're
15 going to stay with 3 to 16 and we would like to have
16 as much information as possible to make a good
17 decision.

18 It's not necessary to do that now, but
19 from the industry side, we would like that same kind
20 of feedback from who you would like for us to
21 interface with industry as well. Like I said, we'll
22 do as much as we can to keep our web site and those
23 kind of things up-to-date and get notices out, but
24 we would like to have a navigation interest and I
25 think Commander \$\$, we'll deal directly with

1 you all right there in the Federal building.

2 I think you probably will be getting the

3 complaints whether you want them or not, I would

4 suspect, Commander \$\$.

5 GUARD1: I would think my

6 replacement will.

7 ACE13: I did want to mention also --

8 and you hit on the idea of the impact and getting

9 the word out of what this is doing. We get people

10 asking us well, what is this doing to the towing

11 industry. To tell the truth, I don't know exactly

12 what it is. I know it's bad. But, you know, if you

13 could have someone from AWO or something that when

14 our public affairs or I get a call from a newspaper

15 saying what's the scoop of the industry, we can give

16 them a number and say here's the person that can

17 answer that question.

18 ACE1: And it's okay if it's

19 multiple folks as well. Our PA can certainly deal

20 with more than one POC for issues like that.

21 ACBL1: Well, one of the things you

22 might want to consider is your planning folks that

23 estimate benefits, navigation benefits. Certainly

24 that's -- those are the same benefits that are used

25 to justify the project. And so for every -- you

1 could have a running account. For every tow that's
2 being delayed an hour, it's X number of dollars and
3 as of this date, it's Y impact to the industry.

4 And -- so that -- you know, that way we don't have
5 six or eight different numbers floating around, we
6 have one value for a tow that's waiting on going
7 out.

8 ACE1: Okay. That's a very
9 good point and we will certainly take that on.
10 We've got someone here from our planning staff now
11 and we will take that on and make sure we get that
12 up on the web site as well so we're all speaking
13 with a common voice. New slide.

14 ACE13: I just want to say, I don't
15 have the details on this. \$\$ mentioned it first
16 from planning, there's some efforts being made. I
17 don't know if \$\$ would be able to speak to any
18 details or what work is being done at the MAP center
19 or not, but that's in motion right now, trying to
20 assess that. But also your idea of posting and
21 keeping an awareness status as it's going on is an
22 excellent thing to go along with that.

23 ACE1: And we do intend to
24 monitor and track the impacts as closely as
25 possible. And again, that's why we would like for

1 everyone that's impacted to post something on the
2 web site and tell us what your projected impacts are
3 and we'll try to do the best we can to track the
4 real impacts we see in the queue and those kind of
5 things. Anybody got any remaining questions or
6 comments?

7 INGRAM1: I reluctantly do this, but
8 until such time as we've had our working group
9 established, I will sort of agree to be a POC for
10 industry. And \$\$, if that would be acceptable to
11 you until such time as we actually have a committee
12 established. So I would hope that this meeting has
13 probably answered at least the initial questions.
14 And we'll have a little bit of time here now to put
15 our working group together. And then once that's
16 done, we may well have some other POCs.

17 FROM THE FLOOR: Can you give everybody
18 your phone number?

19 ACE1: We'll -- in very short
20 order here, we'll try to close this out this week.
21 So if you can give us -- anybody's got any more
22 input in reference closures, we've got a pretty good
23 record of what the impacts are from here today. If
24 anyone else has got anything or there are other
25 customers, other end users, we would love to get

1 those and encourage you to do that as quickly as
2 possible because we're going to try to make a quick
3 decision here about the timing so everyone has to
4 plan as far in advance as possible.

5 ORMET1: Is -- when I'm leaving today,
6 would it be the right assumption that basically you
7 are going to try and leave the outage to August to
8 give us enough time to deal with supplies, is that
9 correct?

10 ACE1: That's correct. Right
11 now we're planning on still 3 through 16 as the
12 outage and trying to the give everyone as much time
13 as possible to get their supplies built up.

14 ORMET1: Okay.

15 ACE1: Anyone else got
16 anything?

17 ACBL1: I would say that after
18 we've had a chance to meet, we probably ought to
19 reassemble, certainly with the industry, the Corps
20 and the Coast Guard, to map out some of the issues
21 and to further update. And certainly we can use our
22 mailing and our web base to get the word out to the
23 industry folks. Secondly, the sign-in sheet that
24 people have here that have, you know, customer
25 E-mails, we can certainly add them to the web base

1 to make sure they get the latest information as it
2 becomes available. And so I would hope that we
3 ought to be able to, from an industry standpoint,
4 come to some understanding within a two-week period
5 of time and then start planning, planning the
6 process as it -- in preparing for the closure.

7 ACE1: Thanks. And we're
8 going to be using that same list to make sure that
9 our POCs, \$\$and \$\$, get that information out as
10 well. We'll use that information as well. Anyone
11 else got anything? First, thanks a lot for setting
12 this up. I greatly appreciate it. You know, this
13 is something that we felt very -- we thought long
14 and hard about and this has been on our mind for a
15 while. Tell you the truth, to some extent, I told
16 Commander \$\$, I thought we were going to be
17 doing this next year after I was gone, but it's
18 funny how things work out. We appreciate your
19 participation, we value your input. We continue to
20 work forward along the way. Don't hesitate to make
21 contact with us, use our web page. We'll do our
22 best to answer your questions as quickly as
23 possible. Thanks for setting this up. And the last
24 thing we've got, \$\$, is you're prepared to host a
25 visit over there, right, at McAlpine after we wrap

1 up here?

2 ACE3: Anybody got a general idea how

3 many?

4 ACE1: How many folks are

5 interested in going over to see the McAlpine lock

6 project? Five or six, it looks like, \$\$\$. Can you

7 handle
that?

8 ACE3: Up to twenty is not a problem.

9 ACE1: Okay. Well, if anyone

10 is interested, touch base with \$\$\$ right

11 afterwards. There's going to be a real passel of

12 activity over at McAlpine lock later this summer

13 with the lock construction and the dewater lock

14 maintenance. And probably across the way we'll be

15 doing a little bank stabilization, too. So we'll

16 really be busy out there this summer.

17 ACE3: They have directions on hand

18 out back here how to get to the McAlpine locks. We

19 do have security checkpoints, they will ask. I

20 will notify them to identify yourself with this

21 group and that you're here to see me and that --

22 they will ask to open your trunk and glove box.

23 They don't disturb anything, it's just a visual

24 inspection.

25 ACBL1: Just one last thing. For

1 those of you -- we have reporters here early on and
2 we ask the reporters that this was kind of a closed
3 meeting, but we would be available. So anyone that
4 would like to speak with the reporters, they're
5 probably outside waiting. Or if you just want to
6 kind of duck out, that's up to you. But I'm sure
7 they'll probably want to buttonhole the Colonel and
8 the Commander and anybody here in the industry.
9 They'll probably want some comment about the
10 proceedings that took place here today. So if
11 you -- it's optional to anybody, whatever your
12 pleasure. I just wanted to alert you ahead of time.
13 Thanks.

14 ACE1: Thank you. If there's
15 nothing else that concludes the meeting. Thanks a
16 lot for your participation.

17 (MEETING ADJOURNED.)

18

19

20

21

22

23

24

25

Attachment 3

River Industry Executive Task Force

Prioritization Procedures

River Industry Executive Task Force (RIETF) Announces Program to Establish Priority Lockage of Critical Cargoes on Reopening of McAlpine Lock.

With the announced emergency closure of McAlpine Lock on August 9th for a two week period, immediate concerns were raised by towing companies and their customers that critical shortages for certain cargoes would develop.

To minimize the potential impact of the closure the towing industry through RIETF working in partnership with the Corps (USACE) and Coast Guard, has established a McAlpine Que Management Team that is creating a command center with special lock processing procedures to insure orderly, safe and efficient movement of tows in the que area and through the lock on the reopening. It is anticipated it will take 5 to 7 days to completely clear the locking backlog.

For those cargoes that are considered critical a special priority lockage may be justified. To qualify for such status, the cargo must be so critical that the customer will suffer a material plant/process slowdown or shutdown if product is not received within 5-7 days of reopening of the lock. To apply for such special designation, first assure that your barge/tow will in fact be caught in the que prior to 24 hours before the lock reopening. The towing company or vessel must provide the name of the product (customer) owner and a person/phone number to contact to the command center. If this information is known prior to the lock closure and startup of the command center, you can direct this information or questions to Scott Noble at (615) 298-7578 (office), (615) 417-9364 (cell) or email at nobles@ingrambarge.com.

Attachment 4

**Information Package Given
To Every Vessel Entering the
Regulated Navigation Area
During August 2004 McAlpine Closure**

Contents

1. Instructions (read first)
2. Information Sheet
3. McAlpine Reopening Locking Process
4. Priority Lockage (attached to # 3)
5. CDC / Red Flag Exclusion Zones
6. 2 River Charts

McAlpine Lock Closure

“INFO PACKET”

Open Immediately

READ FIRST

McAlpine Lock Closure

You are now entering the (RNA) *Regulated Navigation Area* for the McAlpine closure. The RNA is a controlled area for towing vessels between Markland and Cannelton Locks. A “Command Center” has been set-up, under the authority of the US Coast Guard, to control the movement of vessels in the RNA. It is important that you follow the instructions below.

YOU MUST call the “Command Center” prior to entering the RNA @ (812) 288-1784. The Command Center will provide you with a Queue number. (Queue # is not the same as the locking order)

- ◆ **If unable to contact the Command Center due to poor phone service, notify the lock personnel at either Cannelton or Markland Locks. Request that they pass-on your time of departure to the Command Center.**
- ◆ **If you are still unable to contact either the lock or the Command Center, contact the US Coast Guard, Group Ohio Valley via VHF.**

After departure of the lock and once in the RNA please follow the below steps:

- 1) Fill out the “information sheet” as soon as possible
- 2) Call or Fax “information sheet” into the Command Center
[Fax number (812) 288-1745]
- 3) Read the McAlpine Locking Process. It is very important that these instructions are followed. Be advised that there is a “staging area” that you must not enter until permission is given.
- 4) The McAlpine Command Center will monitor and direct traffic on channel 14.
- 5) Other information---
E-Mail address for the McAlpine Command Center ---
mcalpine.command@acbl.net

McAlpine Reopening Locking Process

Background

The only existing lock chamber at the McAlpine Lock, mile 607 Ohio River will be closed to all traffic during a repair project August 9 – 22, 2004. A significant queue of waiting vessels and tows is expected to develop on each side of this facility. Due to the significant impact that this closure and the resultant delays will have on the inland towing industry, it is imperative that upon reopening of the chamber, waiting traffic is passed through McAlpine in a safe, timely, expeditious and efficient manner.

Scope

The Coast Guard, Army Corps of Engineers and Towing Industry have established a McAlpine Queue Management Committee. Among other things this committee is tasked with the operation of the McAlpine Command Center. This Command Center, staffed 24/7 by licensed pilothouse personnel and government agency representatives will coordinate traffic throughout the closure and reopening period.

McAlpine Command Center

Phone – (812) 288-1784

VHF channel 14

Email – mc Alpine.command@acbl.net

Fax – (812) 288-1745

General Guidelines

1. Following the closure of the chamber, all traffic arriving to wait turn will be required to contact the McAlpine Command Center. A Regulated Navigation Area (RNA) will exist from Markland to Cannelton locks. The McAlpine Command Center will control movement of traffic in the RNA under the authority of the Coast Guard.
2. Once a definite date and time for reopening is established, the Command Center will begin advising tows to position or stage for lockage.
3. During the closure period the Queue List will be broadcast on VHF channel 14 daily at 0900 and again at 1500 Eastern Time.
4. Tows in queue are required to monitor VHF channel 13/16 and cell phone at all times. Failure to answer a call from the Command Center could result in loss of position in queue.

5. Tows in queue must have sufficient crew as to make the lock or make emergency response (minimum one licensed pilot within the scope of the 12 hour rule, and two deckhands). The towboat must be of sufficient horsepower to maneuver and lock the tow it is in charge of.
6. If possible, in order to keep traffic flowing, do not enter the chamber in questionable weather if unable to shove out.
7. In order to expedite the locking process, recreational vessels may at times be locked with commercial tows, provided that agreements and safeguards as set forth in the “Blue Book” are met. Otherwise, gathered recreational vessels will be locked at the end of each queue.

Specific Guidelines

- **Staging Areas**

The following staging areas are restricted to vessels positioning for lockage. No tow waiting turn should hold in these staging areas unless directed to proceed there by the Command Center.

Upstream – The primary staging area for downbound tows is from Ohio River mile 602.5 down to McAlpine lock at mile 607. The extended staging area will include Six Mile Island.

Downstream – The primary staging area for upbound tows will extend from mile 610.5 up to McAlpine lock at mile 607.

(See attachment for details of Staging Areas)

- **Engines**

Main engines must be warmed up and running 6 hours prior to anticipated time of lockage. Any vessel not ready to move when called by the Command Center could lose turn in queue.

- **Advancement of Queue**

The Command Center will coordinate and monitor the progress as the queue advances. Vessels waiting should make an orderly and timely advance in position as the queue moves. As a group locks, the next group in that direction should begin positioning. Except when changing the

direction of lockage, as one tow shoves into the chamber the next in line is expected to immediately follow onto the wall.

- **Priority**

Decisions on priority lockage will be made in advance by a committee of executive level industry representatives. (See enclosed **RIETF** letter)

- **Tow Building in Queue**

Additions to or drops from tow while in queue will be permissible on a limited basis and by permission of the Command Center. No tow work will be performed within 24 hours of anticipated locking time.

- **Overage Tows**

No overage tows will be allowed during the operation of the Command Center.

- **Turning**

The accepted industry practice of “turning” tows will be allowed, subject to the approval of the Command Center and providing that no delay is incurred in the locking process.

- **Swapping Position in Queue**

With the permission of the Command Center, only “like” tows may swap position in queue. Larger tows of 9 or more barges may only swap with other larger tows. Smaller tows of less than 9 may swap position with other small tows. No swapping of positions will be allowed within 24 hours of anticipated locking time.

- **Combining of Small Tows**

To expedite the process whenever possible and with permission of the Command Center and the owning or operating company, smaller tows may be locked together.

While it is very important that traffic move in a timely and efficient manner, as always, safety is of paramount importance. Extreme caution is urged while approaching and transiting the McAlpine facility. Cooperation from all involved is very much appreciated.

River Industry Executive Task Force (RIETF) Announces Program to Establish Priority Lockage of Critical Cargoes on Reopening of McAlpine Lock.

With the announced emergency closure of McAlpine Lock on August 9th for a two week period, immediate concerns were raised by towing companies and their customers that critical shortages for certain cargoes would develop.

To minimize the potential impact of the closure the towing industry through RIETF working in partnership with the Corps (USACE) and Coast Guard, has established a McAlpine Que Management Team that is creating a command center with special lock processing procedures to insure orderly, safe and efficient movement of tows in the que area and through the lock on the reopening. It is anticipated it will take 5 to 7 days to completely clear the locking backlog.

For those cargoes that are considered critical a special priority lockage may be justified. To qualify for such status, the cargo must be so critical that the customer will suffer a material plant/process slowdown or shutdown if product is not received within 5-7 days of reopening of the lock. To apply for such special designation, first assure that your barge/tow will in fact be caught in the que prior to 24 hours before the lock reopening. The towing company or vessel must provide the name of the product (customer) owner and a person/phone number to contact to the command center. If this information is known prior to the lock closure and startup of the command center, you can direct this information or questions to Scott Noble at (615) 298-7578 (office), (615) 417-9364 (cell) or email at nobles@ingrambarge.com.

CDC/Red Flag Exclusion Zones
 (for tows mooring during McAlpine Lock Closure)

Community	River Miles
Vevay	536-540
Carrolton	543-548
Madison	557-561
Bethlehem	573-577
Westport	579-583
Louisville Metro Area**	592-617 (**Does not apply to established regulated fleeting areas)
* Louisville Water Intake (12 mile Island)	*No mooring by any vessel 595.6-593.5
* Louisville Water Intake (Zorn Avenue)	*No mooring by any vessel 600.6-599.8
West Point/New Boston	628-635
Maukport	646-650
New Amsterdam	654-658
Leavenworth	662-666
Alton	677-681
Derby	690-694
Rome/Stevensport	699-703
Cloverport	709-713

Staging

1. 610.5 - 602.0

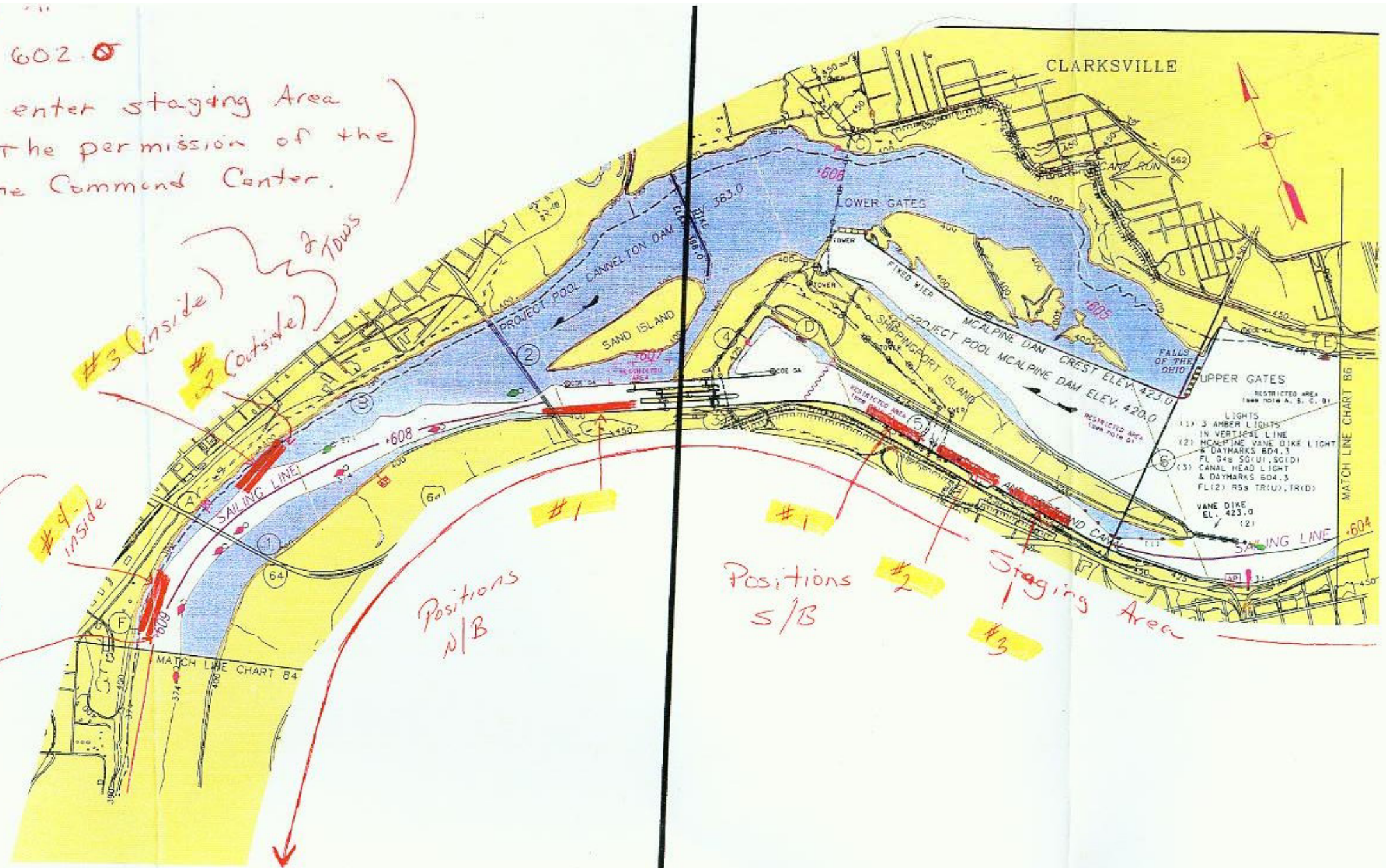
(Do not enter staging Area without the permission of the McAlpine Command Center.)

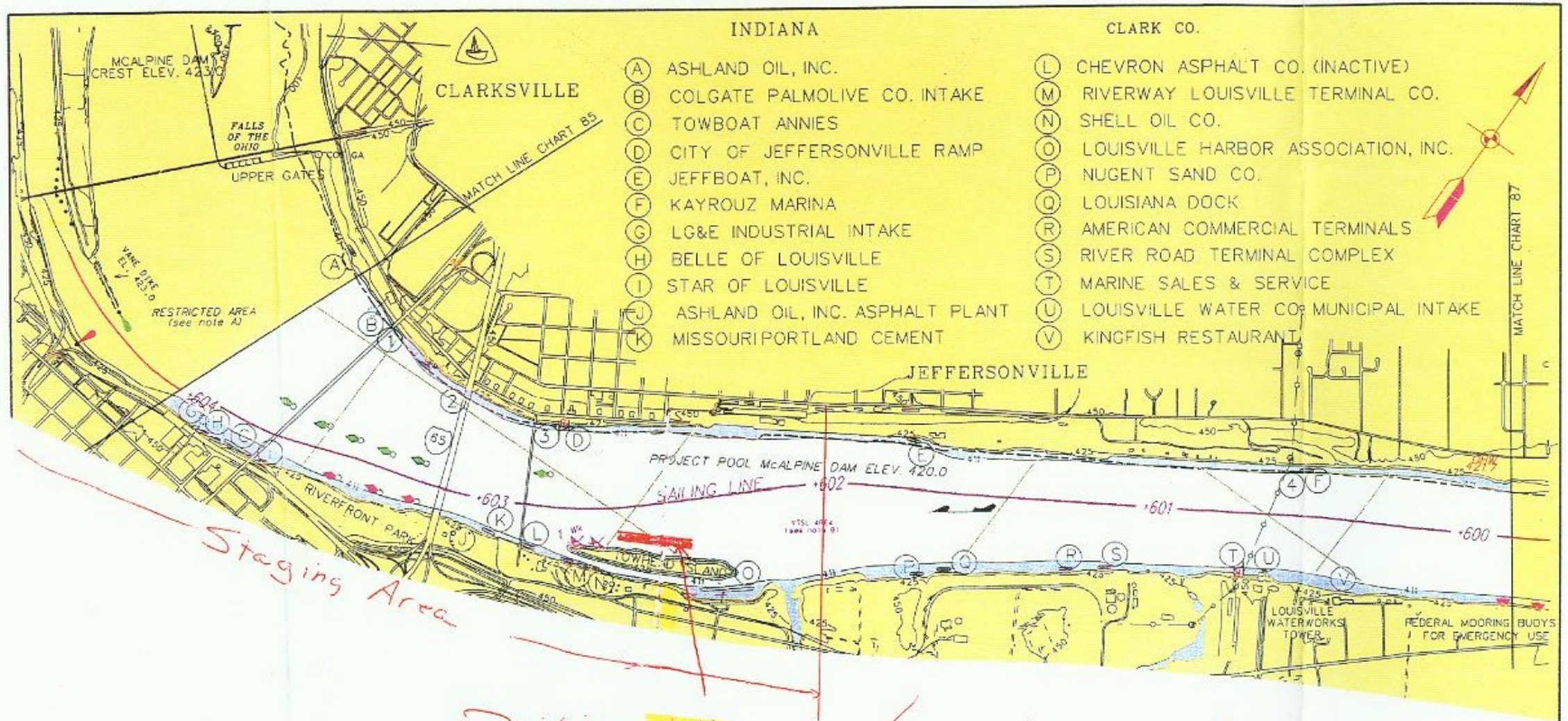
#3 (inside) 2 Tows
#2 (outside)
2 Tows
#4 inside
#5 outside

Positions N/B

Positions S/B

Staging Area





Staging Area

Position #4
S/B

Staging Area
mi 610.5 - 602.0

Do not enter staging area
without the permission of the McAlpine
Command Center

Attachment 5

After Action Report

For McAlpine Lock Closure

9-19 August 2004



DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, LOUISVILLE
CORPS OF ENGINEERS
P. O. BOX 59
LOUISVILLE, KENTUCKY 40201-0059
<http://www.lrl.usace.army.mil/>

CELRL-OP-L (11-33b)

7 October 2004

MEMORANDUM FOR RECORD

SUBJECT: After Action Report (AAR) for McAlpine Lock Closure, 9-19 August 2004, Ohio River Mile (ORM) 606.8, Louisville, Kentucky

1. McAlpine Lock is located in Louisville, Kentucky, 606.8 river miles downstream from Pittsburgh, PA. In 2002, 52.5 million tons of commerce was shipped through McAlpine Lock. These shipments had a combined value over \$11.6 billion. Of the 19.2 million tons of coal moving through McAlpine Lock, over 14 million tons were delivered to some 30 power plants in an eight state region. McAlpine Lock passed 10.8 million tons of iron and steel, 5.4 million tons of petroleum products and 5.3 million tons chemicals. Current traffic forecasts for 2020 range between 69 and 82 million tons.
2. The existing 110' by 1200' lock chamber was completed in 1961. In January 2001, the 1920's era 110' by 600' auxiliary chamber (as well as an inoperative 56' by 360' lock chamber) were taken out of service to allow for construction of a cofferdam, demolition of the chambers, and subsequent construction of a 110' by 1200' secondary chamber. Only the existing 110' by 1200' lock chamber has been in operation since the closure. In April 2004, cracking was observed along the bottom girder of the lower miter gate leaves in the lock chamber. The lock chamber was closed at 0715 on 9 August 2004 for unscheduled maintenance and opened at 1615 on 19 August 2004, three days and eight hours ahead of schedule.
3. Participants of the AAR were:

Name	Organization	Role during Dewatering
Bill Browning	Operations Division, McAlpine Lock	Lockmaster
John Cheek	Operations Division, Locks and Dams Project Office	Assistant Operations Manager
Marty Clegg	Operations Division, Louisville Repair Station	Repair Station Superintendent
Jay Davis	Operations Division, Locks and Dams Project Office	Assistant Operations Manager
Pete Frick	Operations Division, Locks and Dams Project Office	Operations Manager
Chaz Gauld	Operations Division, Louisville Repair Station	Safety Officer
Lloyd Harlow	Operations Division, Louisville Repair Station	Floating Plant Chief
David Hawkins	Engineering Division, Structures Section	Structural Engineer
Brian Holcomb	Operations Division, Maintenance Section	Project Engineer
Tracey Keel	Operations Division, Maintenance Section	Project Engineer
Tom Lake	U.S.Coast Guard, Marine Safety Office Louisville	Vessel Management
Rick Lewis	Operations Division, Maintenance Section	Maintenance Section Chief
Rick Morgan	Operations Division, Louisville Repair Station	Repair Station Chief
Chris Primm	American Commercial Barge Lines	Queue Management Chair
Kevin Vessels	Operations Division, Maintenance Section	Engineering Technician
Ross Woodbury	Operations Division, Maintenance Section	Safety Officer
Greg Werncke	Engineering Division, Structures Section	Structural Engineer

4. Following are the results of the AAR:

- a. What was supposed to happen? Underwater inspections should be performed to assess the structural condition of an operational lock and dam.

What happened? In January 2001, the auxiliary chamber was taken out of service to allow for placement of a cofferdam and subsequent demolition of the auxiliary chamber. This left only one chamber at an Ohio River main stem lock. Annual underwater inspections were increased to semi-annual to monitor the condition of the

main chamber. In April 2004, cracking was observed along the bottom girder of the lower miter gate leaves. In May 2004, a more thorough inspection was performed under better visibility to confirm and video tape cracking. Upon review of video, discussions with the diver (an engineer), Operations Division maintenance engineers, and Engineering Division structural engineers determined that the location, number, and magnitude of cracking observed warranted dewatering of the chamber and repairing the miter gate leaves. Bi-weekly underwater inspections were begun to monitor condition and continued to closure.

What went right? Semi-annual underwater inspections identified the need to dewater the chamber and repair the miter gate leaves before failure or non-repairable damage occurred.

How will we improve the way we do it next time? Investigate advanced underwater picture technology to better detect cracking. Paint known high stress areas with white paint to better see cracking. Incorporate audio with video recording. Investigate clarification of water techniques around camera. Investigate combination scraper/vacuum/pressure washer to clean inspection areas. Query best practice inspection methods of other Districts.

- b. What was supposed to happen? Notification of all affected interests should occur in a timely manner.

What happened? Quick notification of the need to dewater the lock chamber was made to the local Congressional office, the River Industry Executive Task Force (RIETF), inland river associations, and the U.S. Coast Guard (USCG). Early notification was needed due to their need for significant planning – stockpiling of materials, developing alternate routes, positioning of vessels, and vessel traffic management to name a few, and the USCG's need to develop plans to address safety and security issues. RIETF coordinated a public meeting on 27 May 2004 in Louisville, KY to discuss the closure. During the meeting, a list of volunteers willing to serve as members of closure teams was developed.

What went right? Information was communicated via news releases, public meetings, and web sites to ensure rapid, wide dissemination. The Louisville District Public Affairs Office (PAO) was lead on information exchange to ensure a consistent message was delivered. Industry and other Agencies support was superb. PAO maintained a website with daily (or more frequent if warranted) progress updates, updated pictures, contact numbers, and frequently asked questions to keep all interests informed.

What went wrong? There was uncertainty about the scheduled opening time as stated in the navigation notice and press release.

How will we improve the way we do it next time? Clearly state closure and opening dates and times.

- c. What was supposed to happen? USCG and Industry coordination efforts should occur in a timely manner.

What happened? As this was an unprecedented total closure of the Ohio River, USCG-and Industry-lead teams coordinated vessel management and recommended changes to closure dates to minimize the impact to all affected users (if miter gate condition allowed).

During a RIETF led meeting on 8 June 2004, three critical needs were identified: (1) the need to reschedule the closure to minimize the affect to all users, (2) the formation of a queue management team, and (3) the means to address priority lockages after re-opening. The lock closure was delayed six days to allow for additional shipments of time sensitive cargoes and passenger vessel transits. There was discussion to delay the closure two weeks, but a delay of that length would place a greater burden on grain movements and other critical repairs.

The queue management team consisted of Industry, USCG, and USACE representatives. Meetings were held on 16 June, 30 June, 20 July, and 12 August 2004. During these meetings, the following needs were determined: (1) Establishment of a command center to monitor vessel movement before, during, and after the closure. The command center was staffed by two licensed Industry and one USCG representative. (2) Information packets. Information packets were handed to arriving vessels at the locks upstream and downstream of McAlpine Lock. See information packet embedded below. (3) The need for a Regulated Navigation Area (RNA). This was a

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USCG action that regulated vessel movements and staging areas, determined certain dangerous cargo (CDC) exclusion zones, and determined safety zones for recreational vessels. See RNA embedded below.



McAlpine Closure
Information Packet.doc



McAlpine Closure
RNA 2004.pdf

What went right? Contacting RIETF early allowed for broad dissemination in a quick manner. The request for volunteers to staff working groups offered during the first meeting allowed for working level issues to be resolved early. Use of associations and electronic mailings allowed for quick notification to affected Interests. Information packets provided clear guidance to vessel operators.

What went wrong? There was not enough information requested on the information packet "information sheet". This sheet should include every item needed for a commercial vessel lockage. There were no clear guidelines to close the RNA. Need to have shut down procedures, calling tree, and announcements.

How will we improve the way we do it next time? Hold coordination meetings with river associations before closures to ensure use of best practices and strengthen working relationships.

d. What was supposed to happen? The closure should be planned in the most efficient manner.

What happened? Every step of the job was planned and SOPs were reviewed for efficiency and effectiveness with the clear focus of repairing the miter gates to structural soundness in the shortest time possible. Two non-overlapping twelve hour shifts were used to meet this plan. A Multiple Award Task Order Contract (MATOC) was in place to allow for quick fabrication of repair components. Contracting Division (CT) support allowed for timely procurement of all requested materiel. Engineering Division (ED) support was superb. Structures Section rapid design of reinforcing plates allowed for Operations Division (OP) welding sequence comments to be incorporated into final design. Structures Section also provided structural engineers for crack evaluation and repair methodology and provided maximum pool elevation levels for safe working conditions behind bulkheads. A contingency plan was developed if the existing miter gate leaves could not be repaired in place. This plan was coordinated using a separate project engineer from the dewatering. Regional requests for experienced welders from other Districts and experienced Louisville District lock and dam personnel were fulfilled ensuring a knowledgeable work force at all levels. Additional equipment was rented to ensure repairs at each miter gate leaf could be performed independently. A second project engineer was assigned to second shift to ensure no interruptions in work. A second safety officer was assigned to second shift to assist work force.

What went right? Effective planning and preparation SOPs, MATOC, and long term working relationships with CT and ED were in place. A solid contingency plan was in place well before the closure. Regional and local assistance requests were filled with experienced, enthusiastic volunteers with one goal in mind – get the job done safely, perform quality work, and finish on time.

How will we improve the way we do it next time? Enhance working relationships with CT and ED and develop working relationship with other District elements.

e. What was supposed to happen? The chamber should be dewatered in the most efficient manner.

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What happened? The chamber was dewatered efficiently due to pre-positioning of ancillary barges and heavy lift crane SHREVE, separate dive stations established at upper and lower maintenance bulkheads, pre-approved dive plans, pre-positioning of dewatering pumps, fully staffed in-house dive teams assigned to both shifts, and staffing of experienced in-house personnel.

What went right? Pre-positioning of equipment contributed to an efficient dewatering.

How will we improve the way we do it next time? Continue to use an experienced in-house work force.

f. What was supposed to happen? Miter gate repair equipment should be positioned in the most efficient manner.

What happened? Equipment used to support miter gate repairs (mobile cranes, welding banks, air compressors, etc.) were positioned on the lock walls before the closure.

What went right? Permanent rigging on portable equipment made placement efficient. Use of fully stocked tool sheds and portable pneumatic and electric distribution centers made subsequent work activities efficient.

What went wrong? An additional personnel lift at each miter gate leaf would have increased efficiency. Fans to dry miter gate leaves would have sped the drying to allow for quicker inspection. The washing process occasionally hindered the welding process.

How will we improve the way we do it next time? Rent additional personnel lifts. Place fans on miter gates to dry quickly to allow for detailed inspections. Provide additional guidance to personnel washing miter gates so critical areas can be inspected as soon as possible.

g. What was supposed to happen? Repairs to the miter gate leaves should be performed in the most efficient manner.

What happened? The repairs progressed efficiently because the welding sequence on the reinforcement plates was pre-determined and indicated on the plates, newly hired intermittent welders performed test welds so level of experience could be determined, overall high quality and enthusiasm of welders, color coding of repair method, and identification of all cracks before structural engineer examination. The repairs were completed ahead of schedule due to favorable weather conditions and an experience well-focused work force.

What went right? Repairs were planned, staffed, and executed efficiently. PAO and Information Management (IM) personnel recorded the closure via digital pictures and videos.

How will we improve the way we do it next time? Investigate new pintle castings to replace existing castings (bolt-on vice welded connection). This has regional implications. The lift reinforcing added to McAlpine and Markland's miter gate leaves was designed for a "one time" lift. This does not allow for the flexibility to remove a leaf for maintenance. Investigate additional reinforcement to allow for repeated lifts of McAlpine and Markland miter gate leaves. Apply web stiffeners to like-designed miter gates (Markland). Investigate rain shelters to protect welding areas on miter gates.

h. What was supposed to happen? The chamber should be rewatered in the most efficient manner.

What happened? The chamber was rewatered efficiently due to preplanning.

What went right? Rewatering was planned and executed efficiently.

What went wrong? The lock chamber was opened 15 hours before announced revised opening time. Tows waiting to lock downbound hampered repair fleet locking upbound.

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How will we improve the way we do it next time? Notify Interests sooner if a change to the opening time is believed to occur. Pin down opening time with better accuracy. Ensure tows waiting for lockage do not hamper departure of repair fleet.

- i. What was supposed to happen? Safety should be the number one priority.

What happened? A safe working environment was provided by a work force that was safety conscience, a safety officer was dedicated and assigned to both shifts, safe access was expanded decreasing the likelihood of injury, inspection of rental equipment was performed well in advance of acceptance, and access to job site was limited to essential personnel only.

What went right? There were no significant injuries with over 12,000 individual hours worked during the closure.

What went wrong? Temporary guard rails were not in place during elevator erection, personnel were not secured properly while working atop maintenance bulkheads, weight of scaffolding section was not determined prior to lift, scaffolding section was not secured prior to rigging, and annual inspection of portable bridge was not performed.

How will we improve the way we do it next time? Ensure temporary guard rails are in place during any equipment placement. Develop safety harness tie off points while personnel are working atop maintenance bulkheads. Determine weight of all portable equipment and structures and clearly stencil weight on portable equipment and structure. Develop a means to secure scaffolding sections during rigging. Ensure annual inspection of portable bridge is performed. Investigate use of flexible work schedules during extended repair jobs.

/s/

JOHN D. CHEEK, P.E.
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Locks and Dams Project Office



The NETS research program is developing a series of practical tools and techniques that can be used by Corps navigation planners across the country to develop consistent, accurate, useful and comparable information regarding the likely impact of proposed changes to navigation infrastructure or systems.

The centerpiece of these efforts will be a suite of simulation models. This suite will include:

- A model for forecasting **international and domestic traffic flows** and how they may be affected by project improvements.
- A **regional traffic routing model** that will identify the annual quantities of commodities coming from various origin points and the routes used to satisfy forecasted demand at each destination.
- A **microscopic event model** that will generate routes for individual shipments from commodity origin to destination in order to evaluate non-structural and reliability measures.

As these models and other tools are finalized they will be available on the NETS web site:

<http://www.corpsnets.us/toolbox.cfm>

The NETS bookshelf contains the NETS body of knowledge in the form of final reports, models, and policy guidance. Documents are posted as they become available and can be accessed here:

<http://www.corpsnets.us/bookshelf.cfm>

