



US Army Corps  
of Engineers

Great Lakes & Ohio River Division

*USACE Planning Center of Expertise Inland Navigation*

# *Inland Waterways – Simulation of Dual Chamber Project Arrival Rates Under Main Chamber Closure Situations*

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# **WATERWAY ANALYSIS MODEL (WAM)**

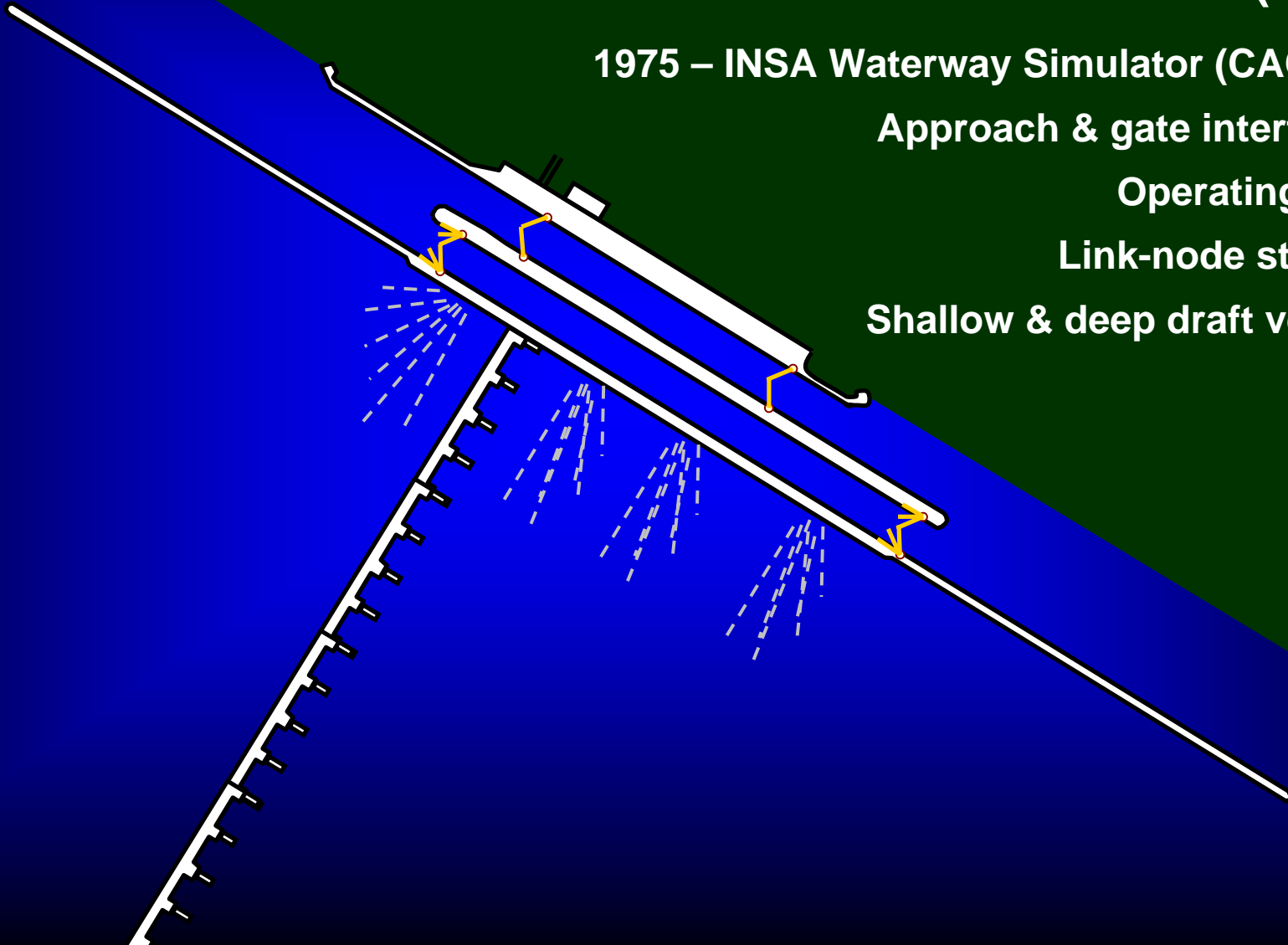
**1975 – INSA Waterway Simulator (CACI, Inc.)**

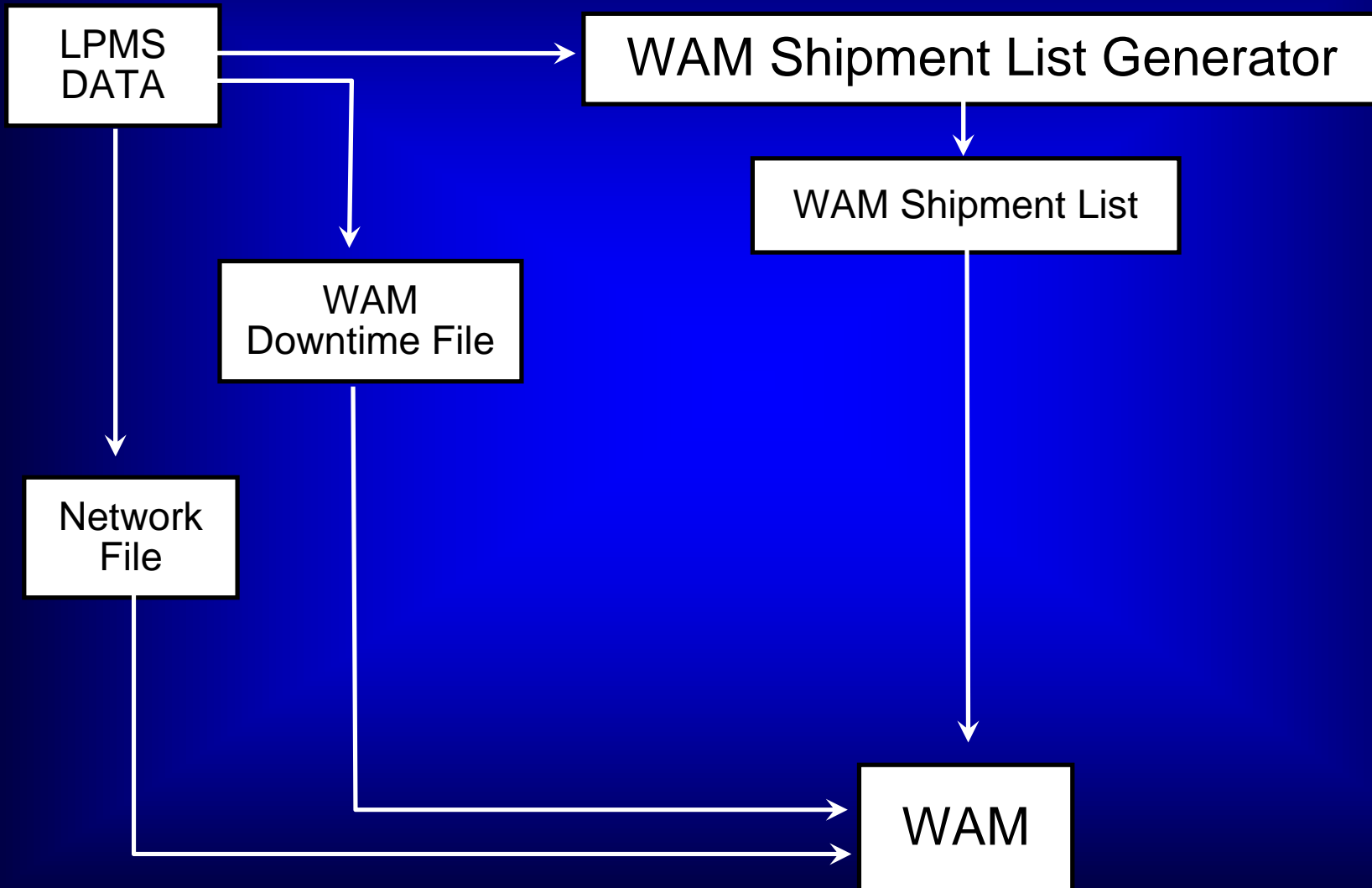
**Approach & gate interference**

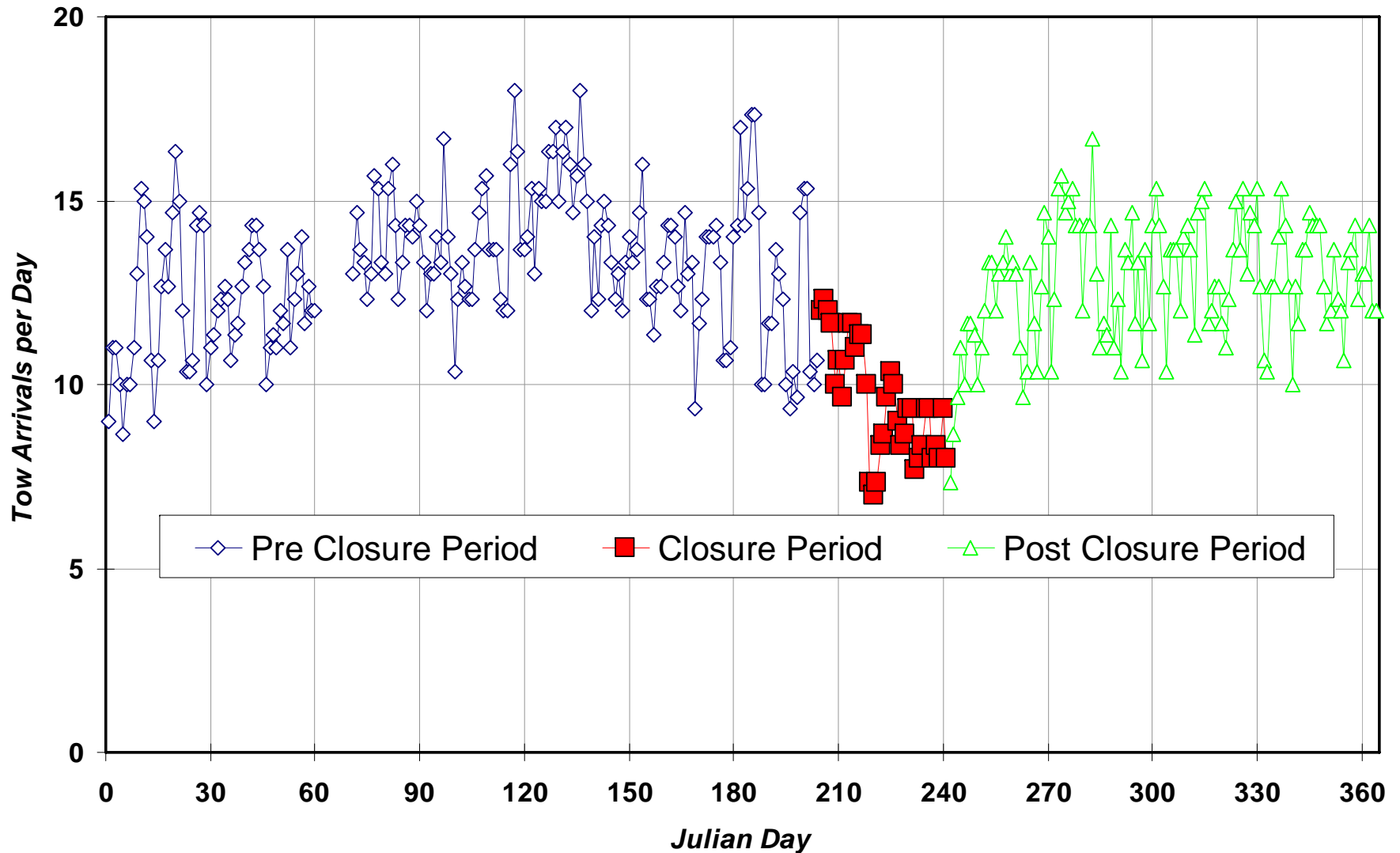
**Operating policy**

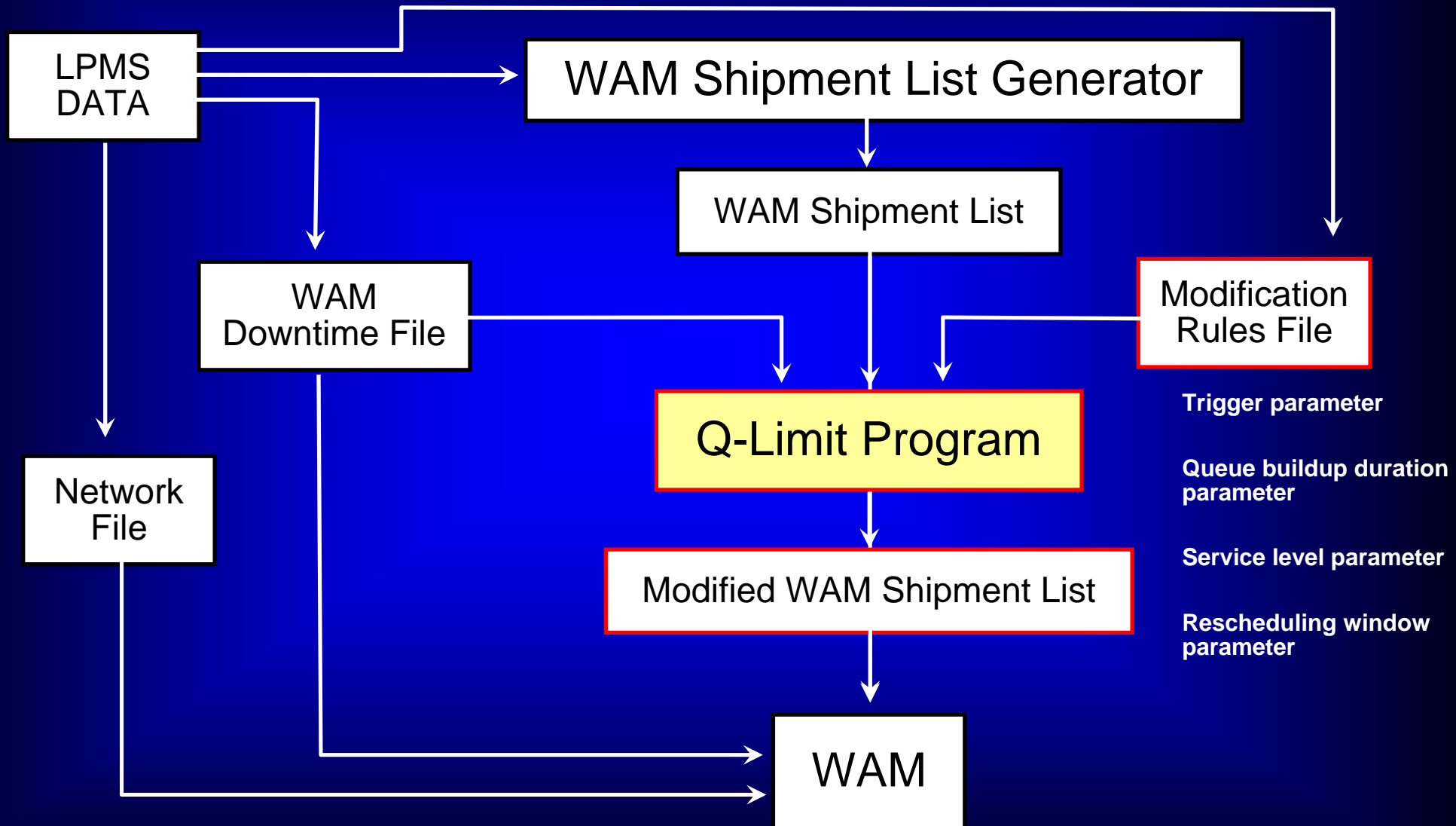
**Link-node structure**

**Shallow & deep draft versions**



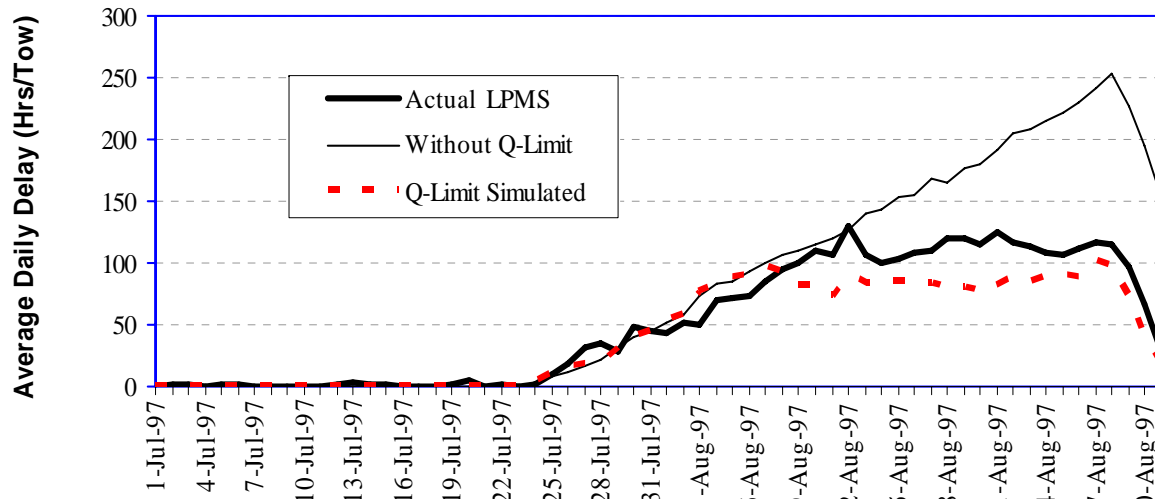






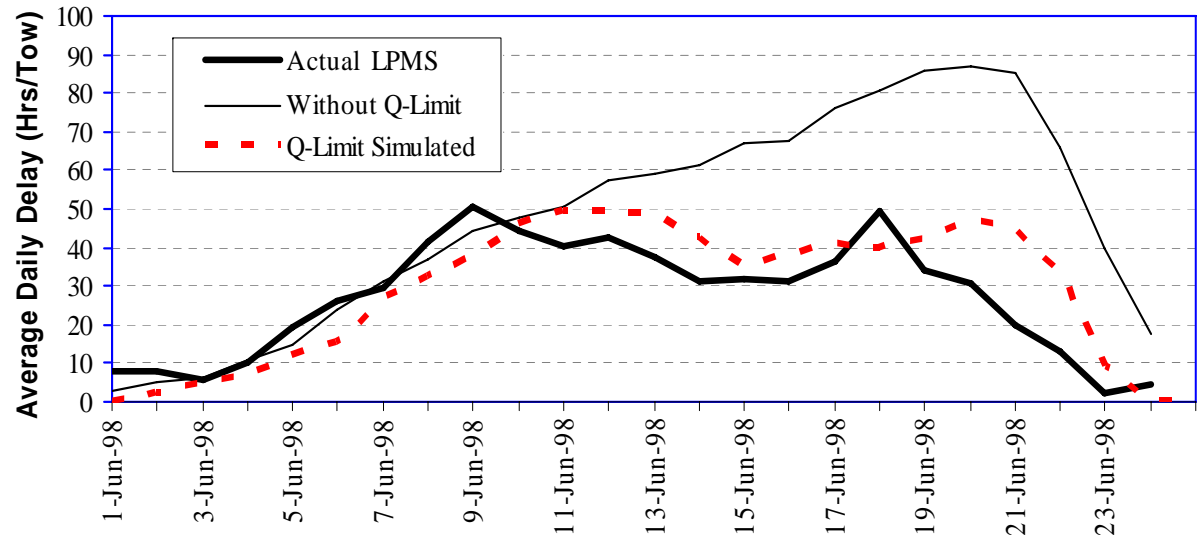


### McAlpine L/D, July-Aug 1997 Closure



Source: Actual data from Lock Performance Monitoring System (LPMS). Simulated data based on six simulation runs assuming 1997 traffic level, 1992 fleet characteristics and 1997-98 component times.

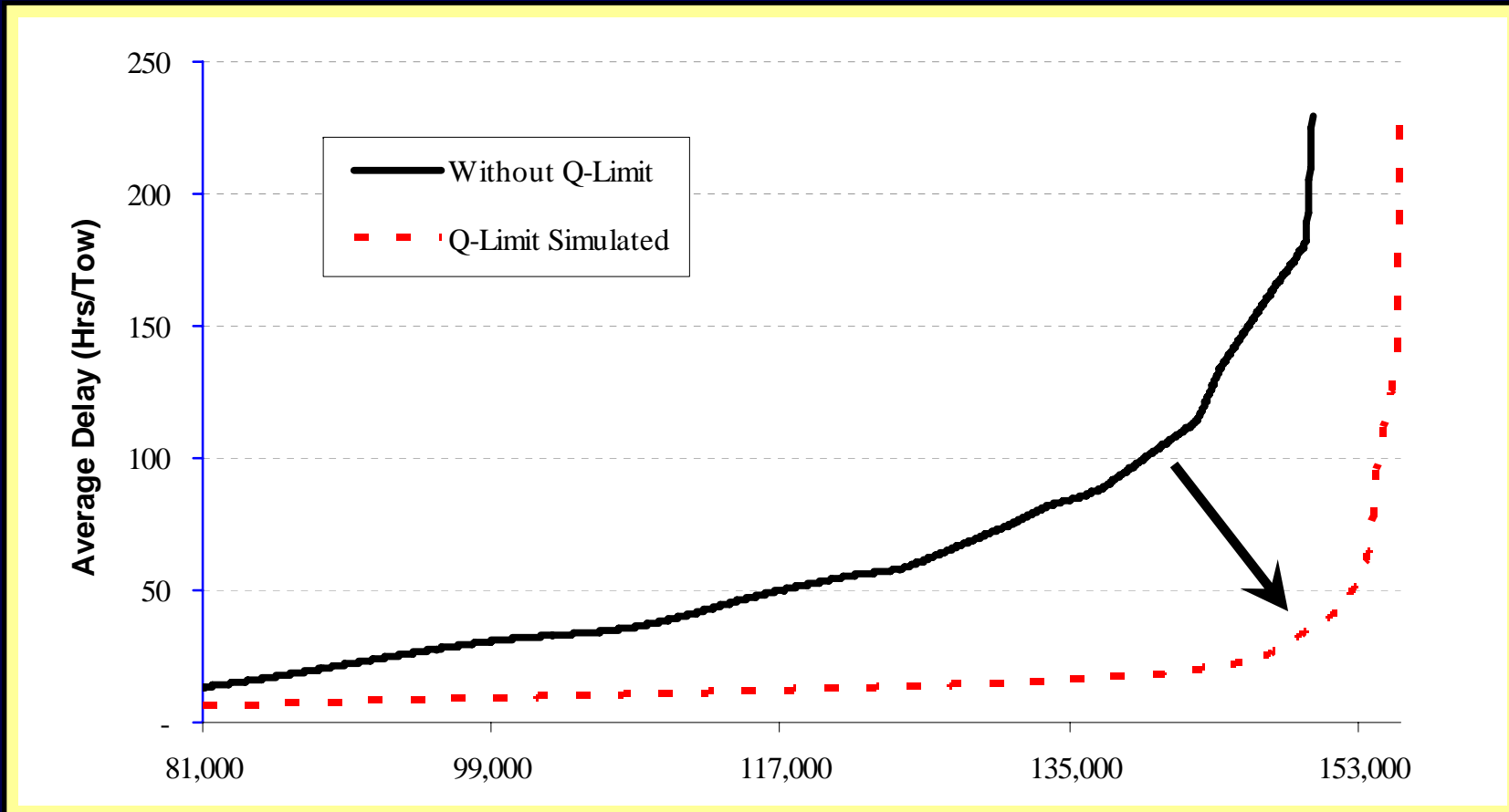
### Greenup L/D, June 1998 Closure



Source: Actual data from Lock Performance Monitoring System (LPMS). Simulated data based on six simulation runs assuming 1998 traffic level, 1992 fleet characteristics and 1997-98 component times.



### J. T. Myers L/D with a 45-day main chamber closure



Curves developed from six simulations of 20 different utilization levels. Assuming 1992 fleet characteristics and 1997-98 component times.



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## **Q-Limit Program**

More realistic simulation results when closures occur.