

AD-A165 848 LOCK PERFORMANCE MONITORING SYSTEM USER'S MANUAL FOR
DATA ANALYSIS(U) CORPS OF ENGINEERS FORT BELVOIR VA
WATER RESOURCES SUPPORT CENTER M V FLEMING ET AL.

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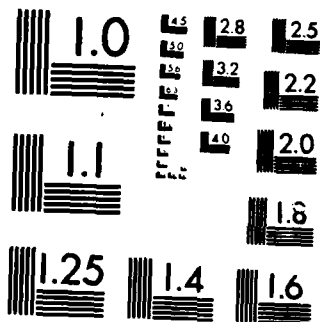
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**US Army Corps
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AD-A165 848

Lock Performance Monitoring System

User's Manual for Data Analysis

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Lock Performance Monitoring System User's Manual for Data Analysis provides instructions for using the analysis programs designed for using the Lock Performance Monitoring System (PMS) data. <i>Keywords: water, traffic, locks</i>		

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LOCK PERFORMANCE MONITORING SYSTEM

USER'S MANUAL FOR DATA ANALYSIS

By

Marilyn V. Fleming
Institute for Water Resources

Donna E. Wood
Engineer Automation Support Activity

and

Robert J. Goodwin
Engineer Automation Support Activity

U.S. Army Engineer
Institute for Water Resources
Casey Building
Fort Belvoir, Virginia 22060-5586

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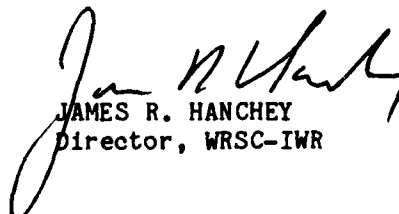
User Manual 85-UM-2

PREFACE

This report is a product of the Navigation Data Management and Applications Branch of the U.S. Army Engineer Institute for Water Resources (WRSC-IWR). It is intended to provide instruction in the analysis and processing of data for the lock Performance Monitoring System (PMS).

The study is managed by Mrs. Marilyn V. Fleming under the supervision of Mr. Francis M. Sharp, Chief of the WRSC-IWR Navigation Data Management and Applications Branch, and Dr. Lloyd G. Antle, Chief of the WRSC-IWR Navigation Division. The Office of the Chief of Engineers (OCE) sponsors are Mr. Henry W. Campbell, Jr., DAEN-CWO-M, and Mr. Robert M. Daniel, DAEN-CWP-D.

Comments and questions can be directed to Frank Sharp (202) 355-2240 or FTS 385-2240).


JAMES R. HANCHEY
Director, WRSC-IWR

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LOCK PERFORMANCE MONITORING SYSTEM
USER'S MANUAL FOR DATA ANALYSIS

TABLE OF CONTENTS

	<u>PAGE</u>
I. INTRODUCTION	1
A. Background of PMS	1
B. Overview and Uses of PMS (Figure 1)	1
C. Hardware and Software Requirements	1
D. Scope and Intent of Guide	3
II. THE PMS LIBRARY	3
A. Detail Data File (LCKAGE)	3
B. Summary Data File (SUMMRY)	4
C. Standards Data File (STNDRD)	4
III. PMS REPORTS	4
A. Report and Data Extraction Run Procedure	4
1. Batch Initiation	5
2. Interactive Initiation	5
B. The INFORM File	9
C. District Reporting Status CHART2 (Figure 2)	9
D. Interpreting Report Outputs	9
1. Errors	9
a. Improper Set-up	9
b. No Data Selected	9
c. Bad Data	9
2. Records Read and Selected	9
3. The Reports	11
a. Single Cut Lockages	11
b. Double Cut Lockages	11
c. Multi-Cut Lockages	11
d. Multiple Vessel Lockages	11
IV. COMMON PROBLEMS AND RESTRICTIONS	12
A. Indirect Access File Size	12
B. Reports Requiring Special Handling	12
C. PMS 3E and 3F	13
D. Time Limits	13
E. Data Selection for Summary Reports	13
F. Use of UT200 Emulator	13
V. SUMMARY	13

TABLE OF CONTENTS (Continued)

	<u>PAGE</u>
Appendix	
A PMS System Flowchart	15
B Sample Input Forms	21
C Record Layouts	25
D Valid District EROC Codes	69
E PMS Control and Option Commands	73
F Sample Report Outputs	85
G Detailed Report Descriptions	141
H PMS Look-up Tables	175
I Glossary of Terms	201
Table	
1 Sample Batch Initiation	6
2 Example Interactive Initiation	7
Figure	
1 PMS Overview	2
2 Sample of District Reporting Status, CHART2	10

LOCK PERFORMANCE MONITORING SYSTEM
USER'S MANUAL FOR DATA ANALYSIS

I. Introduction.

The Lock Performance Monitoring System (PMS) is a part of the Inland - Navigation Systems Analysis (INSA) program and encompasses the collection, editing, maintenance and analysis of data collected at all Corps-owned and operated locks. The data have been collected since March of 1975 and consist of information describing the traffic through the locks as well as the physical aspects of lockages.

A. Background of PMS.

Realizing that individual projects within the inland navigation system impact each other as well as the total U.S. transportation system, the Office of the Chief of Engineers (OCE), in 1970, established an OCE Task Group for Inland Waterways Systems Analysis. The following conclusions were reached by this group: systems analysis of the inland waterway was important to Corps planning, methods and models for such analyses should be developed and uniform and comprehensive data should be collected. These conclusions led to the development of an Inland Navigation Systems Coordination Group in 1973 which resulted in the INSA program. The Performance Monitoring System (PMS) was established to collect and display the requisite data.

B. Overview and Uses of PMS. (Figure 1)

PMS data are collected at the locks, edited by the districts and added to the Corps PMS library monthly. Monthly summary data, lock standards data and detailed lockage and vessel data are created each time the central library is updated. The data may be extracted from the library and processed through locally developed programs, any of the forty standard PMS report programs, the INSA computer models and programs, or may be used as input to special studies. Additionally, the data may be used by operations personnel to monitor the physical performance of their locks and by Corps planners to study or project the characteristics of traffic on specific segments of the waterway and predict the impact of system changes.

C. Hardware and Software Requirements.

The PMS programs are written in ANSI COBOL 5 and were designed to be run on the Control Data Corporation (CDC) NOS system on Control Data Corporation Cyber 175 hardware. The system makes use of 9 track, 6250 BPI tape drives. Although jobs may be initiated in either batch or interactive modes, they can only be executed in the batch environment. Jobs normally require 120 CP seconds and 100000 words of core to execute. The only output peripheral required is a line printer. The system makes use of no proprietary



software, but some tape handling and job control commands are unique to the CDC NOS system. The job set-ups in this document reflect this dependence and are specifically for use on the CDC NOS system.

D. Scope and Intent of Guide.

This User's Guide has been prepared in two parts to provide basic instruction for the collection, preparation and analysis of PMS data. The recording and editing of data are discussed in the User Manual for Data Collection and Editing. This Manual provides instruction for data analysis and contains formats for data preparation and formats for the final data files as well as descriptions and formats of the various program look-up tables and instructions for processing the PMS reports. The overall structure of the system, it's components and their relation to the system are explained. A system flowchart is contained in Appendix A. The Guide is not intended to provide detailed technical system documentation. Topics such as program algorithms, execution times and listings are not included.

II. The PMS Library

The PMS library consists of three data files used as input to the report programs: the detail lockage data file (LCKAGE), the summary data file (SUMMRY) and the standards information file (STNDRD). Monthly district master files added to the central library are run through a program which updates the library files and makes them accessible to all Corps users. The record content and layouts are shown in Appendix C. When jobs are processed using standard PMS procedures, required tapes, files and programs will automatically be retrieved and executed. Monthly data are added to the end of the tapes and files as they are received through an open and extend function and are not necessarily stored in chronological order. Every district has complete access to all data in the library. If data are needed for special applications, a complete list of the tapes in the central library and the associated VSN's may be obtained as follows:

For an interactive session enter:

```
"GET,TAPES/UN=CEW2PD." carriage return  
"COPY,TAPES." carriage return
```

For batch execution, the commands remain the same but must be preceded by the appropriate "Job" and "User" cards.

A. Detail Data File. (LCKAGE)

Records on the detail lockage data file contain the information collected for each lockage and vessel as well as current shift information. This file is stored on magnetic tape. Each district has one or more tapes in the library containing all the detailed information that has been copied to the library for that district. Generally, the data for each district reside on two tapes; one contains current and prior year information and the other contains historical information.

B. Summary Data File. (SUMMRY)

The summary information file is an indirect public access disk file under user id CEW2PD. This file consists of monthly summaries of selected data elements at each chamber by direction. As each district's data is processed, key information, aggregated by direction, is stored on the summary file, allowing frequently used data elements to be accessed as quickly and inexpensively as possible. Data for all districts reside on a single file and new data are appended to the end of the file as they are received.

C. Standards Data File. (STNDRD)

The standards information file contains a chamber by chamber accumulation of statistical data pertaining to lockage timing functions during a given month. There is an array for upbound performance and one for downbound performance. The major dimension of each array is lockage type and the minor dimension is lockage function (e.g., type of entry). The file contains data for all districts and is on a single magnetic tape. Additional monthly data are added to the tape as new data are made available to the PMS library.

III. PMS Reports.

A. Report and Data Extraction Run Procedure.

The simplest way to access PMS information is by producing one of the PMS standard reports or data extraction utilities. Appendix H contains sample outputs from all PMS reports as well as a brief description of each and an indication of computer resources required and the number of pages of printed output to expect. Report and data extraction runs may be created by either submitting a batch run or by interactively responding to questions concerning required outputs. In either case, the PMS creates a batch file containing the JCL and parameters needed to process the requested report.

Before processing, the following decisions must be made:

- o Which reports or data subsets are needed?
- o What range of data should be displayed or extracted (district and months)?
- o Is it necessary to increase memory or processing time limits?
- o Is it necessary to increase the priority or is it possible to lower it?
- o Where should the report output be directed? Will one copy be enough?
- o Would it be better to have the report printed or catalogued as a permanent file for subsequent use (e.g. downloading to a microcomputer)?
- o There is a PMS information file called the INFORM file which is an automatic part of every job. Is it necessary to see it?

When the procedure is executed, a file, named PMSDAYF, is catalogued on the user id under which the job was run. It can be checked to find out whether the procedure has executed and, if so, whether it executed properly. If data were extracted the resulting data file may be large; be sure to check this and proceed accordingly.

1. Batch Initiation

Table 1 is an example batch initiated report. Using Appendix E, decide which computer control statements and PMS parameters will be needed to produce the desired report or data file. Punch cards or create a card image job stream on disk and submit it. It is PMSEEXEC which actually creates the report or data file. It is necessary to know how to use the computer to make effective use of the batch approach.

2. Interactive Initiation

Table 2 is an example session for an interactively initiated report. Refer to Appendix E as necessary. While less computer knowledge is required, it is still necessary to be familiar with log on procedures. To initiate the run, log onto the computer terminal and enter the following:

```
GET,GENINT,TAPES,PARMOO1/UN=CEW2PD  
GENINT
```

The ensuing prompts will provide further instruction.

TABLE 1

Sample Batch Initiation

```
JOB,TO120,CM200000,P3.
USER,XXXXXX,YYYYYY,KOE
CHARGE,WWWWWW,PPP.
GET,GENFILE/UN=CEW2PD.
GENFILE.
SKIP,LBL1.
EXIT.
ENDIF,LBL1.
EXIT.
ENDIF,LBL1.
DAYFILE,GENDAY.
REPLACE,GENDAY.
end of file indicator
USER,XXXXXX,YYYYYY,KOE.
CHARGE,WWWWWW,PPP.
CURRENT MONTH IS 0584
DISTRICT H2
NO INFORM
REPORT FILE IS P24833
RUN PROGRAM 501P5P74
SELECT DATA FOR H2 FROM 0983 TO 0983
```

For this example:

- o No INFORM file will be saved.
- o The report will be written to a file named P24833 rather than printed.
- o The report to be produced is PMS 22 (commodity tonnage summary report).
- o The report will contain data on traffic using locks in the Louisville district in September 1983.
- o All other report processing options will be those defined by Appendix G as default.

Be sure the proper user name, password, charge and project codes are used in the two USER and CHARGE statements or the job will not run.

TABLE 2

Example Interactive Initiation

/GET,GENINT,TAPES,PARM001/UN=CEW2PD

/GENINT

THE FOLLOWING PROMPTS WILL QUERY YOU
FOR THE INFORMATION NECESSARY TO RUN
MOST OF THE PMS STANDARD REPORTS.
THE EXAMPLE AFTER EACH PROMPT GIVES THE
FORMAT OF YOUR RESPONSE AND IS FOLLOWED
BY A NUMBER WHICH INDICATES THE MAXIMUM
NUMBER OF CHARACTERS FOR THAT ENTRY.

THE INTERACTIVE PROMPTS BEGIN NOW !!

ENTER CDC USERNAME,PASSWORD (CEXXXX,PPPPPP[15])

? CEW2PD,PASWRD

ENTER CHARGE NUMBER,PROJECT (CEXXXXX,PPPPPP[23])

? CEW2ZZZ,PMSD

ENTER CURRENT MONTH AND YEAR (MMYY[4])

? 0584

ENTER DISTRICT CODE (XX [2])

? G3

RESPOND WITH Y OR N TO NEXT SERIES OF PROMPTS

DO YOU WANT A COPY OF THE INFORM FILE?? N

DO YOU WANT TO ONLY EXTRACT DATA, NO REPORT? N

DO YOU WANT REPORT SAVED AS A FILE,NOT PRINTED? Y

ENTER REPORT FILE NAME (MAX 7 CHAR)

? P22834

DO YOU WANT TO INCREASE THE TIME LIMIT? Y

ENTER TIME LIMIT IN MINUTES (NNNN [4])

? 0500

DO YOU NEED TO BYPASS THE HISTORICAL TAPES? N

DO YOU WANT EXPANDED COAST GUARD FILE(RPTS 16-20)? N

DO YOU WANT TO CHANGE THE PRIORITY (DEFAULT 3)? N

ENTER REPORT RUN NUMBER (I.E. PMS24 IS 76[2])

? 74

DO YOU WANT TO RUN ANOTHER REPORT IN THIS RUN? N

ENTER REPORT DISTRICT CODE (XX [2])

? H2

DO YOU WANT A SPECIFIC LOCK AND CHAMBER? N

ENTER STARTING MONTH AND YEAR OF DATA (MMYY [4])

? 1283

ENTER ENDING MONTH AND YEAR OF DATA (MMYY [4])

? 1283

DO YOU WANT TO SELECT ADDITIONAL DATA? N

WHEN SYSTEM PROMPT(/), APPEARS, TYPE IN

SUBMIT,PMSEXEC,E.

TABLE 2 Continued

THEN HIT A CARRIAGE RETURN, THIS WILL
RUN YOUR REPORT(S).

END OF INTERACTIVE SESSION
TT75, ASSIGNED TO ZZZZZOU.

/SUBMIT,PMSEEXEC,E

15.10.06. SUBMIT COMPLETE. JOBNAME IS AAQJBBK

For this example

- o User entries are underlined.
- o The INFORM file is not a part of the output.
- o The report is saved as a file and not printed. The file is named P22834.
- o The processing time limit is increased to 500 seconds.
- o The report produced is PMS22 (commodity tonnage report).
- o The report contains information on traffic using locks in the Louisville District in December of 1983.

Be sure to use the proper user id, password, charge and project codes.

The session will create a file named PMSEEXEC which must be submitted when the session is complete. It is PMSEEXEC which actually creates the report or data file.

B. The INFORM File.

Unless it is deliberately suppressed, the INFORM file will be printed each time a PMS edit, report or data extraction job is run. This file contains information on recent changes or additions to the PMS system and should be read periodically. The file may be printed without running the PMS edit or reports by accessing the file INFORM under CEW2PD and printing it (e.g., GET,INFORM/UN=CEW2PD
ROUTE,INFORM,DC=PR,UN=CEW201)

C. District Reporting Status, CHART2 (Figure 2)

The district reporting status chart (CHART2) shows for which months each reporting district has submitted data to the PMS central library. Refer to it to ensure that selected data are available.

D. Interpreting Report Outputs.

1. Errors. When a report run does not work, the reason could be that the initial run was set up improperly, that specified data could not be found, that the data contained zeroes or letters in fields where it should not or the job was not given enough time and memory to execute.

a. Improper Set-up. When the job is improperly set up, the report output file will contain only an explanation of the errors in the set up of the initial deck. Correct this and re-run.

b. No Data Selected. Before running a report, make sure the data you are going to extract are on the central library and determine whether to select the "bypass historic tapes option." The extraction program will search for specified data, but the run will terminate if no matches are found. Since the search portion of a run is generally the most expensive, this situation should be avoided. If there is a question as to whether certain data are on the library or if data that should be there apparently are not, contact the PMS coordinator at either the Engineer Automated Support Activity (EASA) or the Navigation Division of the Institute for Water Resources.

c. Bad Data. This problem usually causes the job to terminate when the report program tries to perform an arithmetic operation with alphabetic data or divide by zero. Although the PMS edit checks for these conditions and prints error messages when they occur, it does not prevent them from being written to the final monthly transaction file and entered in the library. If a report cannot be run because of bad data, either redesign "SELECT DATA" parameters or have the month containing the data removed from the central library or contact the PMS Coordinator at EASA for help.

2. Records Read and Selected. These messages tell how many records were searched and how many of those searched satisfied the criteria specified on "SELECT DATA" statements. There may be several of these messages; they

STATUS OF DISTRICTS REPORTING PHS DATA AS OF 03 AUGUST 1984

FOR THE PERIOD OF 1976 THROUGH 1983

I = INACTIVE

	1976	1977	1978	1979	1980	1981	1982	1983	
JFNNHLLJASND08JFNNHLLJASND08JFNNHLLJASND08JFNNHLLJASND08JFNNHLLJASND08									
B2	X	X	X	X	X	X	X	X	NEW ORLEANS
B3	X	X	X	X	X	X	X	X	ST. LOUIS
B4	X	X	X	X	X	X	X	X	BUICKSBURG
E3	X	X	X	X	X	X	X	X	NEW YORK
E4	X	X	X	X	X	X	X	X	NEW YORK
F1	X	X	X	X	X	X	X	X	BUICKSBURG
F2	X	X	X	X	X	X	X	X	CHICAGO
F3	X	X	X	X	X	X	X	X	DETROIT
F4	X	X	X	X	X	X	X	X	DETROIT
F6	X	X	X	X	X	X	X	X	DETROIT
G2	X	X	X	X	X	X	X	X	DETROIT
G3	X	X	X	X	X	X	X	X	DETROIT
H1	X	X	X	X	X	X	X	X	DETROIT
H2	X	X	X	X	X	X	X	X	DETROIT
H3	X	X	X	X	X	X	X	X	DETROIT
H4	X	X	X	X	X	X	X	X	DETROIT
K3	X	X	X	X	X	X	X	X	DETROIT
K5	X	X	X	X	X	X	X	X	DETROIT
K6	X	X	X	X	X	X	X	X	DETROIT
K7	X	X	X	X	X	X	X	X	DETROIT
L2	X	X	X	X	X	X	X	X	DETROIT
M3	X	X	X	X	X	X	X	X	DETROIT
M4	X	X	X	X	X	X	X	X	DETROIT
M5	X	X	X	X	X	X	X	X	DETROIT

STATUS OF DISTRICTS REPORTING PHS DATA AS OF 03 AUGUST 1984

FOR THE PERIOD OF 1984 THROUGH 1992

I = INACTIVE

	1984	1985	1986	1987	1988	1989	1990	1991	1992	
JFNNHLLJASND08JFNNHLLJASND08JFNNHLLJASND08JFNNHLLJASND08JFNNHLLJASND08										
B2	X	X	X	X	X	X	X	X	X	NEW ORLEANS
B3	X	X	X	X	X	X	X	X	X	ST. LOUIS
B4	X	X	X	X	X	X	X	X	X	BUICKSBURG
E3	X	X	X	X	X	X	X	X	X	NEW YORK
E4	X	X	X	X	X	X	X	X	X	NEW YORK
F1	X	X	X	X	X	X	X	X	X	BUICKSBURG
F2	X	X	X	X	X	X	X	X	X	CHICAGO
F3	X	X	X	X	X	X	X	X	X	DETROIT
F4	X	X	X	X	X	X	X	X	X	DETROIT
F6	X	X	X	X	X	X	X	X	X	DETROIT
G2	X	X	X	X	X	X	X	X	X	DETROIT
G3	X	X	X	X	X	X	X	X	X	DETROIT
H1	X	X	X	X	X	X	X	X	X	DETROIT
H2	X	X	X	X	X	X	X	X	X	DETROIT
H3	X	X	X	X	X	X	X	X	X	DETROIT
H4	X	X	X	X	X	X	X	X	X	DETROIT
K3	X	X	X	X	X	X	X	X	X	DETROIT
K5	X	X	X	X	X	X	X	X	X	DETROIT
K6	X	X	X	X	X	X	X	X	X	DETROIT
K7	X	X	X	X	X	X	X	X	X	DETROIT
L2	X	X	X	X	X	X	X	X	X	DETROIT
M3	X	X	X	X	X	X	X	X	X	DETROIT
M4	X	X	X	X	X	X	X	X	X	DETROIT
M5	X	X	X	X	X	X	X	X	X	DETROIT

Figure 2 - Sample of District Reporting Status CHART2.

occur each time a file is searched. A given report may require a search of the detail, summary, standards or temporary files created during the run.

3. The Reports. The reports produced by the PMS Reporting System fall into four categories: chamber reports, commodity reports, tow transit analysis reports and summary reports. A description of some common computations follows; a detailed explanation of output components for each report is in Appendix G.

Three terms require special note: vessel operation time, lock operation time, and processing time. The time represented by each of these terms depends upon whether a lockage is single-cut, double-cut, multi-cut, or multi-vessel, and, in the case of multi-vessel, whether the computation is performed for a vessel oriented report (e.g., tow transit) or a lock oriented report (e.g., chamber and summary reports).

a. Single-cut Lockages. For single-cut lockages, vessel operation time is the sum of the approach, entry, and exit times. Lock operation time is the chambering time, and processing time is the sum of vessel operation time plus lock operation time.

b. Double-cut Lockages. For double-cut lockages, vessel operation time is the sum of the approach, entry, and exit times of the first cut plus the approach, entry, and exit times of the second cut. Lock operation time is the sum of the chambering time of the first cut, the chambering time of the second cut, time between cuts, and turnback time. Processing time is the sum of vessel operation time plus lock operation time.

c. Multi-cut Lockages. Since only the first cut and the last cut are recorded, vessel operation time is a multiple of the average time required by the first and last cuts. The sum of the approach, entry, and exit times of the first and last cuts is divided by two, and the result is multiplied by the number of cuts in the lockage. Lock operation time is computed from the sum of all the component times minus the computed vessel operation time. That is, lock operation time is the sum of the approach, entry, exit, and chambering times of the first and last cuts, plus the time between cuts, plus the turnback time, minus the computed vessel operation time. Note that the computed vessel operation time is greater than the sum of the approach, entry, and exit times of the first and last cuts. Thus, this method allocates the time between cuts proportionally to vessel and lock operations, both of which occur during the time between cuts. Processing time, again, is the sum of vessel operation time plus lock operation time.

d. Multiple Vessel Lockages. For multiple vessel lockages, the vessel operation, lock operation, and processing times recorded can be interpreted in two different ways. A multiple vessel lockage is recorded separately for each vessel served. From the standpoint of individual vessels, the various times spent in a lockage cycle are those calculated as previously stated. The sum for n vessels, likewise, is the sum of the n recordings of

the lockage. From the standpoint of lock utilization, however, the sum of the n recordings of a multiple vessel lockage is far in excess of the actual time spent. For this aspect of reporting, therefore, the operating times for multiple vessel lockages are derived from the differences between the latest stop times and the earliest start times among all the vessels served by the lockage. In summary, as far as lock utilization is concerned:

Vessel operation time is:

(latest end of entry - earliest start of lockage) + (latest end of lockage - earliest start of exit).

Lock operation time is:

(latest start of exit - earliest end of entry) + any turnbacks.

Processing time, again, is vessel operation time plus lock operation time.

IV. Common Problems and Restrictions

A. Indirect Access File Size.

A part of most PMS computer jobs is to retrieve a subset of information from larger central library data files and store it on temporary or permanent local files. Because the teleprocessing system limits the size of the local files, it is possible that jobs will fail to execute because file size limits are exceeded. Should this happen, use the interactive initiation routine (GENINT-see Section III) to create the "PMSEEXEC" job that would create the needed output. Before submitting it, edit it so that direct access (e.g. DEFINE, ATTACH rather than REPLACE, SAVE, GET) files are created.

B. Reports Requiring Special Handling.

There are forty standard reports in PMS. Thirty-eight can be generated by following the instructions in part III. Two reports, PMS20 and PMS25 must be requested by phoning the PMS coordinator at the Engineer Automation Support Activity (EASA).

PMS20 requires the tow company name. Spelling of owner names in the Coast Guard vessel file is not consistent; therefore, the same company may appear with a variety of spellings (e.g., B&B Towing or B and B Towing). The search is on vessel name and exact name matching is required, so special intervention and processing is necessary to ensure accurate reporting. PMS25 requires the structuring of a special parameter file for locks to be compared. Do not try to run these reports without contacting EASA; there will be no report output.

C. PMS 3E and 3F.

Although they are described as separate reports, PMS 3E and 3F cannot be run independently.

D. Time Limits.

The reports may be run for any number of locks, chambers, months, or districts as long as the PRU limit or time limits are not exceeded (default time limit is 120). When processing large volumes of data or running PMS17 through PMS20, a "TIME LIMIT" parameter card should be added to the standard deck setup, see Appendix E.

E. Data Selection For Summary Reports.

PMS22, PMS23, and PMS24 do not permit as wide a flexibility in the selection of data to be reported as other reports. These reports assume the user's primary interest is year to date information; only one select data card is processed (the first) and only the month and year identifying the end of data is considered. The ending month is used for the current month information and the data for January through the current month is aggregated and used for the year to date totals. Totals will, naturally, not contain information for any months missing between January and the ending month, but if any months are missing, a message on the output will so indicate. Be sure data processed matches that expected. Do not try to use an ending month for data not yet on the file (e.g., ask for December when the data extends only through July) as this will cause the extraction of no data and an abnormal job termination.

F. Use of UT200 Emulators.

Remote Job Entry (RJE) printer costs can be reduced by thirty to forty percent by using the HASP protocol rather than the UT200. If large volumes of data are expected, this can result in substantial savings. Also, sometimes there is a character conversion problem with the UT200 protocol and some "special characters" may not be represented properly. In addition, special procedures may be required to receive punched cards. It is recommended that the HASP protocol be used whenever possible.

V. Summary

The PMS system is made up of an editing and a reporting function. Data must be carefully edited before being added to the central library as the removal of bad data is a major undertaking. Reports, and extracted data files containing data from any or all districts, are accessible to all PMS users and may be extracted conventionally, as input in INSA programs or for use in specially developed applications. The data have been collected since 1975 and have been designed to provide a basis for the comprehensive analysis of use of the Nation's inland navigation system.

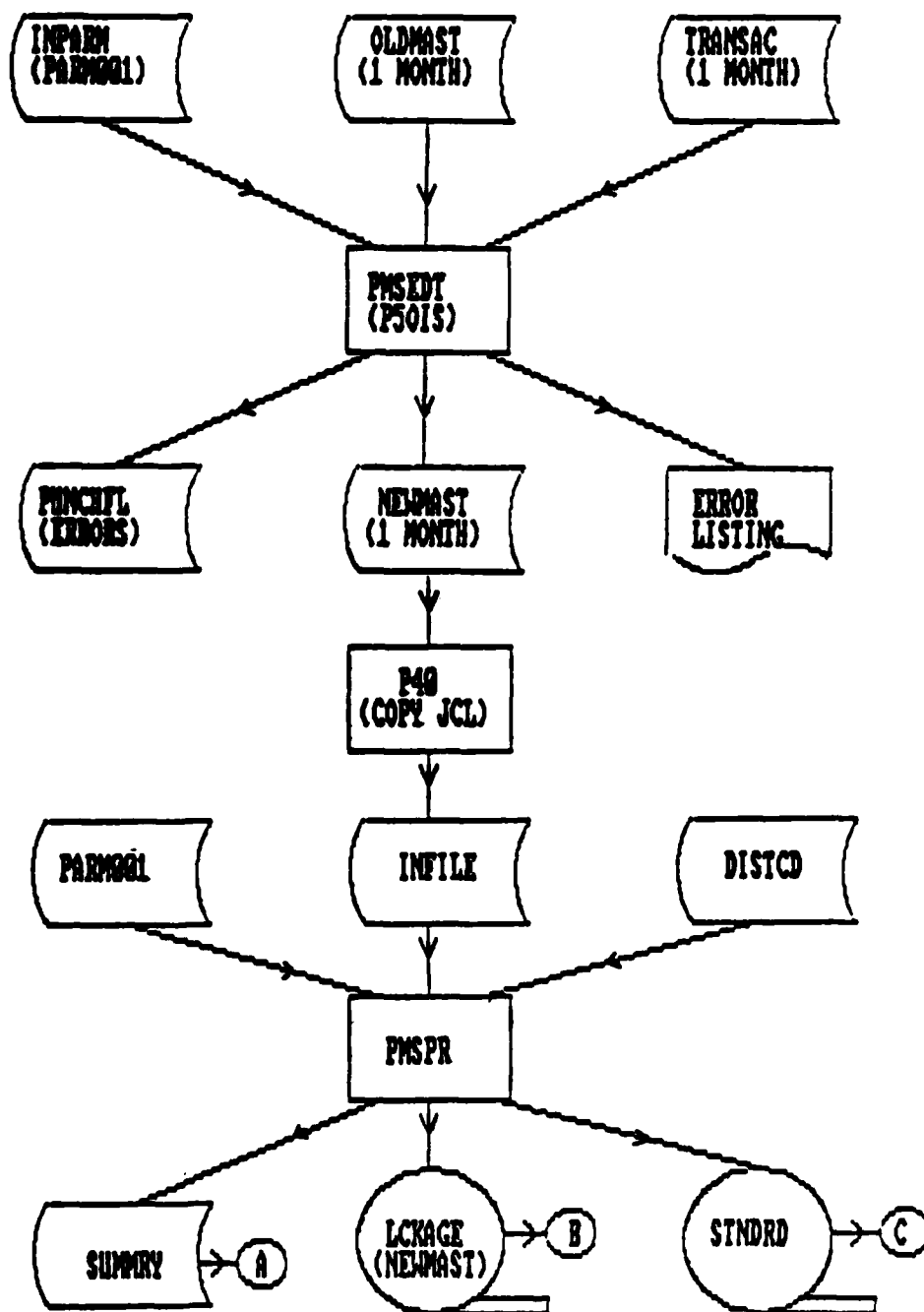
Appendix A

PMS

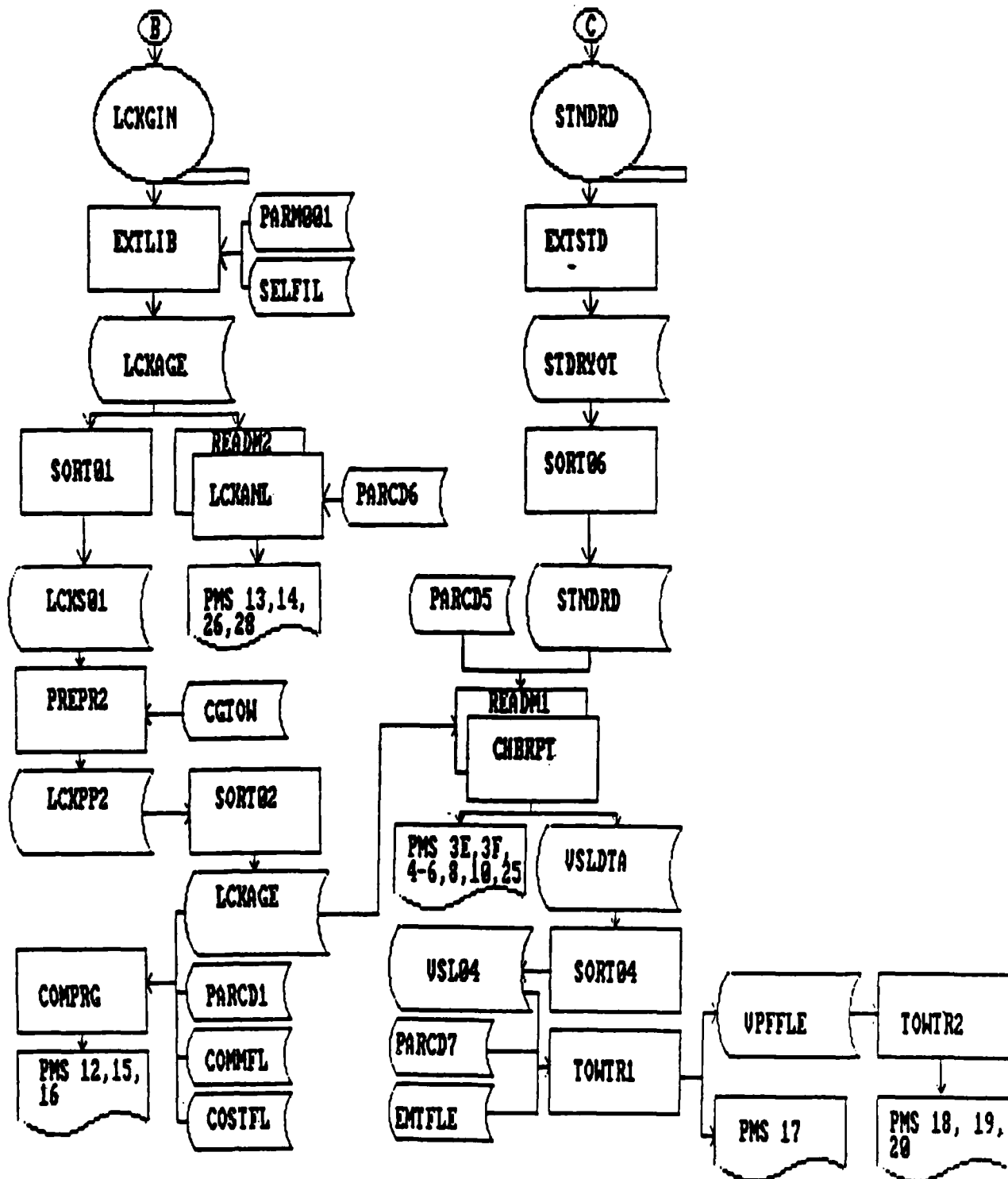
System Flowchart

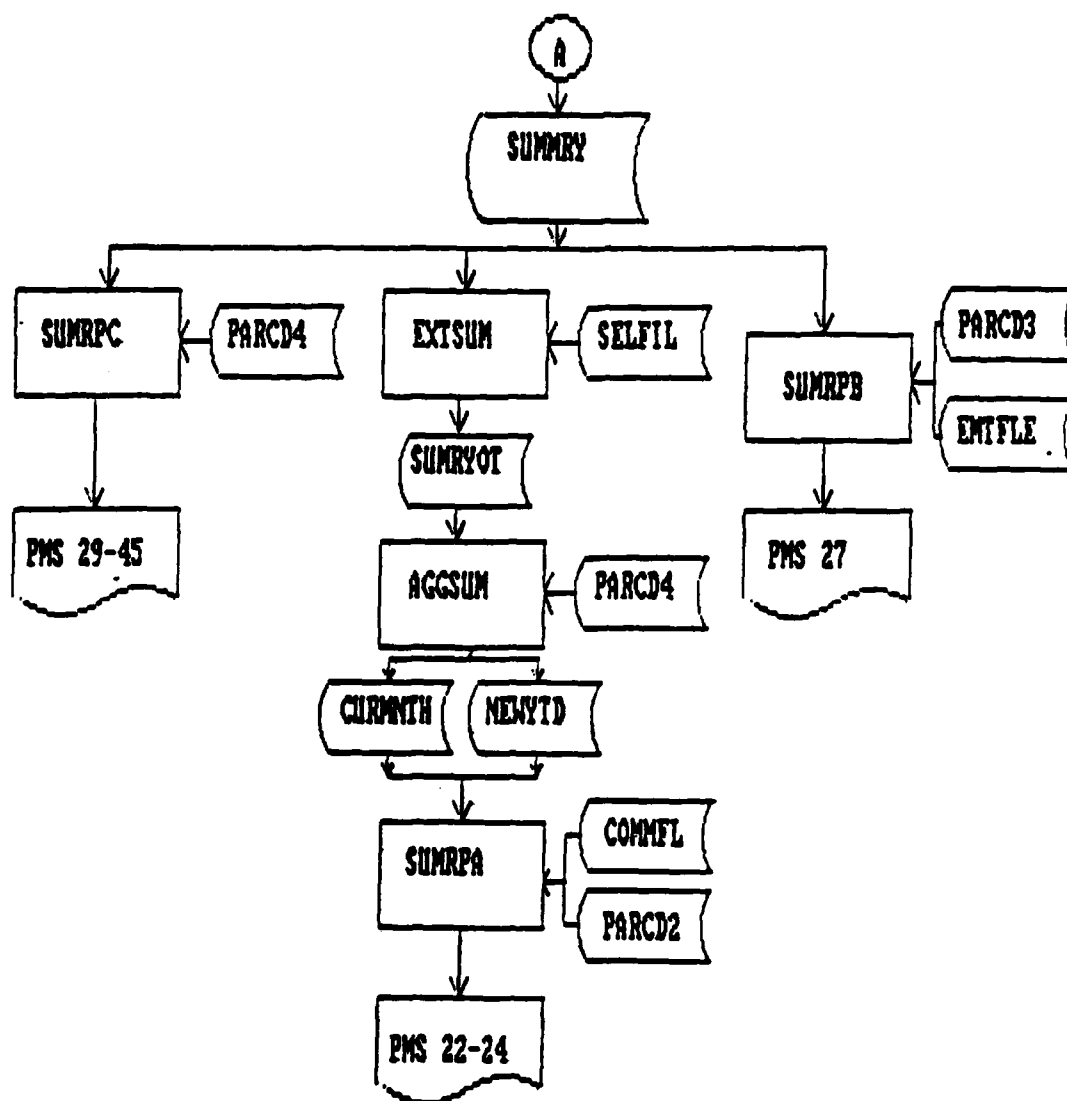
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Lock Performance Monitoring System
System Flowchart



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APPENDIX B

Sample Input Forms

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FIVE LOGS CONSTITUTING THE WATERWAY TRAFFIC REPORT

DEPARTMENT OF THE ARMY
WATERWAY TRAFFIC REPORT - SHIPT LOG
(ER : 130-3-429 and EP 130-3-418)

REQUIREMENT CONTROL
S' SYMBOL
DAEN-CVE-8

ITEMS REQUIRED FOR ALL SHIPT LOGS AT MAIN AND AUXILIARY CHAMBERS

Line Number	Dist. Mile	Star Code

Report Number

Date		
Month	Day	Year

Veto	
Major	Minor

ITEMS REQUIRED ONLY AT SHIPT CHANGES FOR MAIN AND AUXILIARY CHAMBERS

TIME ADDED (Check only)

SHIPT NUMBER (Check only)

1 ☐ DAY 2 ☐ DAY 3 ☐ DAY 4 ☐ DAY 5 ☐ DAY 6 ☐ DAY 7 ☐ DAY 8 ☐ DAY 9 ☐ DAY 10 ☐ DAY 11 ☐ DAY 12 ☐ DAY 13 ☐ DAY 14 ☐ DAY 15 ☐ DAY 16 ☐ DAY 17 ☐ DAY 18 ☐ DAY 19 ☐ DAY 20 ☐ DAY 21 ☐ DAY 22 ☐ DAY 23 ☐ DAY 24 ☐ DAY 25 ☐ DAY 26 ☐ DAY 27 ☐ DAY 28 ☐ DAY 29 ☐ DAY 30 ☐ DAY 31 ☐ DAY 32 ☐ DAY 33 ☐ DAY 34 ☐ DAY 35 ☐ DAY 36 ☐ DAY 37 ☐ DAY 38 ☐ DAY 39 ☐ DAY 40 ☐ DAY 41 ☐ DAY 42 ☐ DAY 43 ☐ DAY 44 ☐ DAY 45 ☐ DAY 46 ☐ DAY 47 ☐ DAY 48 ☐ DAY 49 ☐ DAY 50 ☐ DAY 51 ☐ DAY 52 ☐ DAY 53 ☐ DAY 54 ☐ DAY 55 ☐ DAY 56 ☐ DAY 57 ☐ DAY 58 ☐ DAY 59 ☐ DAY 60 ☐ DAY 61 ☐ DAY 62 ☐ DAY 63 ☐ DAY 64 ☐ DAY 65 ☐ DAY 66 ☐ DAY 67 ☐ DAY 68 ☐ DAY 69 ☐ DAY 70 ☐ DAY 71 ☐ DAY 72 ☐ DAY 73 ☐ DAY 74 ☐ DAY 75 ☐ DAY 76 ☐ DAY 77 ☐ DAY 78 ☐ DAY 79 ☐ DAY 80 ☐ DAY 81 ☐ DAY 82 ☐ DAY 83 ☐ DAY 84 ☐ DAY 85 ☐ DAY 86 ☐ DAY 87 ☐ DAY 88 ☐ DAY 89 ☐ DAY 90 ☐ DAY 91 ☐ DAY 92 ☐ DAY 93 ☐ DAY 94 ☐ DAY 95 ☐ DAY 96 ☐ DAY 97 ☐ DAY 98 ☐ DAY 99 ☐ DAY 100 ☐ DAY 101 ☐ DAY 102 ☐ DAY 103 ☐ DAY 104 ☐ DAY 105 ☐ DAY 106 ☐ DAY 107 ☐ DAY 108 ☐ DAY 109 ☐ DAY 110 ☐ DAY 111 ☐ DAY 112 ☐ DAY 113 ☐ DAY 114 ☐ DAY 115 ☐ DAY 116 ☐ DAY 117 ☐ DAY 118 ☐ DAY 119 ☐ DAY 120 ☐ DAY 121 ☐ DAY 122 ☐ DAY 123 ☐ DAY 124 ☐ DAY 125 ☐ DAY 126 ☐ DAY 127 ☐ DAY 128 ☐ DAY 129 ☐ DAY 130 ☐ DAY 131 ☐ DAY 132 ☐ DAY 133 ☐ DAY 134 ☐ DAY 135 ☐ DAY 136 ☐ DAY 137 ☐ DAY 138 ☐ DAY 139 ☐ DAY 140 ☐ DAY 141 ☐ DAY 142 ☐ DAY 143 ☐ DAY 144 ☐ DAY 145 ☐ DAY 146 ☐ DAY 147 ☐ DAY 148 ☐ DAY 149 ☐ DAY 150 ☐ DAY 151 ☐ DAY 152 ☐ DAY 153 ☐ DAY 154 ☐ DAY 155 ☐ DAY 156 ☐ DAY 157 ☐ DAY 158 ☐ DAY 159 ☐ DAY 160 ☐ DAY 161 ☐ DAY 162 ☐ DAY 163 ☐ DAY 164 ☐ DAY 165 ☐ DAY 166 ☐ DAY 167 ☐ DAY 168 ☐ DAY 169 ☐ DAY 170 ☐ DAY 171 ☐ DAY 172 ☐ DAY 173 ☐ DAY 174 ☐ DAY 175 ☐ DAY 176 ☐ DAY 177 ☐ DAY 178 ☐ DAY 179 ☐ DAY 180 ☐ DAY 181 ☐ DAY 182 ☐ DAY 183 ☐ DAY 184 ☐ DAY 185 ☐ DAY 186 ☐ DAY 187 ☐ DAY 188 ☐ DAY 189 ☐ DAY 190 ☐ DAY 191 ☐ DAY 192 ☐ DAY 193 ☐ DAY 194 ☐ DAY 195 ☐ DAY 196 ☐ DAY 197 ☐ DAY 198 ☐ DAY 199 ☐ DAY 200 ☐ DAY 201 ☐ DAY 202 ☐ DAY 203 ☐ DAY 204 ☐ DAY 205 ☐ DAY 206 ☐ DAY 207 ☐ DAY 208 ☐ DAY 209 ☐ DAY 210 ☐ DAY 211 ☐ DAY 212 ☐ DAY 213 ☐ DAY 214 ☐ DAY 215 ☐ DAY 216 ☐ DAY 217 ☐ DAY 218 ☐ DAY 219 ☐ DAY 220 ☐ DAY 221 ☐ DAY 222 ☐ DAY 223 ☐ DAY 224 ☐ DAY 225 ☐ DAY 226 ☐ DAY 227 ☐ DAY 228 ☐ DAY 229 ☐ DAY 230 ☐ DAY 231 ☐ DAY 232 ☐ DAY 233 ☐ DAY 234 ☐ DAY 235 ☐ DAY 236 ☐ DAY 237 ☐ DAY 238 ☐ DAY 239 ☐ DAY 240 ☐ DAY 241 ☐ DAY 242 ☐ DAY 243 ☐ DAY 244 ☐ DAY 245 ☐ DAY 246 ☐ DAY 247 ☐ DAY 248 ☐ DAY 249 ☐ DAY 250 ☐ DAY 251 ☐ DAY 252 ☐ DAY 253 ☐ DAY 254 ☐ DAY 255 ☐ DAY 256 ☐ DAY 257 ☐ DAY 258 ☐ DAY 259 ☐ DAY 260 ☐ DAY 261 ☐ DAY 262 ☐ DAY 263 ☐ DAY 264 ☐ DAY 265 ☐ DAY 266 ☐ DAY 267 ☐ DAY 268 ☐ DAY 269 ☐ DAY 270 ☐ DAY 271 ☐ DAY 272 ☐ DAY 273 ☐ DAY 274 ☐ DAY 275 ☐ DAY 276 ☐ DAY 277 ☐ DAY 278 ☐ DAY 279 ☐ DAY 280 ☐ DAY 281 ☐ DAY 282 ☐ DAY 283 ☐ DAY 284 ☐ DAY 285 ☐ DAY 286 ☐ DAY 287 ☐ DAY 288 ☐ DAY 289 ☐ DAY 290 ☐ DAY 291 ☐ DAY 292 ☐ DAY 293 ☐ DAY 294 ☐ DAY 295 ☐ DAY 296 ☐ DAY 297 ☐ DAY 298 ☐ DAY 299 ☐ DAY 300 ☐ DAY 301 ☐ DAY 302 ☐ DAY 303 ☐ DAY 304 ☐ DAY 305 ☐ DAY 306 ☐ DAY 307

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1819 E OF 117 Ave NW
 (ER 1130.8-450 and EP 1130.3-418)

LOCKAGE LOG

STALL OR INTERFERENCE									
FORM COLUMNS 1-19 SEE NOTE									
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100
101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130
131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150
151	152	153	154	155	156	157	158	159	160
161	162	163	164	165	166	167	168	169	170
171	172	173	174	175	176	177	178	179	180
181	182	183	184	185	186	187	188	189	190
191	192	193	194	195	196	197	198	199	200
201	202	203	204	205	206	207	208	209	210
211	212	213	214	215	216	217	218	219	220
221	222	223	224	225	226	227	228	229	230
231	232	233	234	235	236	237	238	239	240
241	242	243	244	245	246	247	248	249	250
251	252	253	254	255	256	257	258	259	260
261	262	263	264	265	266	267	268	269	270
271	272	273	274	275	276	277	278	279	280
281	282	283	284	285	286	287	288	289	290
291	292	293	294	295	296	297	298	299	300
301	302	303	304	305	306	307	308	309	310
311	312	313	314	315	316	317	318	319	320
321	322	323	324	325	326	327	328	329	330
331	332	333	334	335	336	337	338	339	340
341	342	343	344	345	346	347	348	349	350
351	352	353	354	355	356	357	358	359	360
361	362	363	364	365	366	367	368	369	370
371	372	373	374	375	376	377	378	379	380
381	382	383	384	385	386	387	388	389	390
391	392	393	394	395	396	397	398	399	400
401	402	403	404	405	406	407	408	409	410
411	412	413	414	415	416	417	418	419	420
421	422	423	424						

Appendix C
Record Layouts

CGTOW

File Name: CGTOW

Number of Record Types: One

File Description: Tow boats and Coast Guard Vessel number, vessel name,
type, horsepower and owner name

Record Length: 265 Characters

Field	Variable	Description	Size	Picture	Units	Position
1	VESS-NUMBER	Vessel Number	6	X(6)		1 - 6
2	FILLER		1	X		7
3	VESS-NAME	Vessel Name	32	X(32)		8 - 39
4	FILLER		5	X(5)		40 - 44
5	VESS-TYPE	Vessel Type	3	XXX		45 - 47
6	FILLER		28	X(28)		48 - 75
7	VESS-HP	Vessel Horsepower	5	99999		76 - 80
8	VESS-OWNER	Vessel Owner	33	X(33)		81 - 113
9	FILLER		152	X(152)		114 - 265

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COMMFL

File Name: COMMFL

Record of Number Types: One

File Description: Valid PMS Commodity Codes and their Names

Record Length: 80 Characters

Field	Variable	Description	Size	Picture	Units	Position
1	C-CODE	Commodity Code	2	99		1 - 2
2	C-NAME	Commodity Name	30	X(30)		3 - 32
3	Filler		48	X(48)		33 - 80

COSTFL

File Name: COSTFL

Number of Record Types: Two

File Description: Barge and Tow Operation Costs

Record Type: One - Tow Operating Cost

Record Description: Hourly cost of tow operation according to horsepower
range

Record Length: 80 Characters

Field	Variable	Description	Size	Picture	Units	Position
1	COST HP-RANGE	0 - 500	8	999999V99	Dollars	1 - 8
2	COST HP-RANGE	501 - 1000	8	999999V99	Dollars	9 - 16
3	COST HP-RANGE	1001 - 1500	8	999999V99	Dollars	17 - 24
4	COST HP-RANGE	1501 - 2000	8	999999V99	Dollars	25 - 32
5	COST HP-RANGE	2001 - 3000	8	999999V99	Dollars	33 - 40
6	COST HP-RANGE	3001 - 4000	8	999999V99	Dollars	41 - 48
7	COST HP-RANGE	4001 - 5000	8	999999V99	Dollars	49 - 56
8	COST HP-RANGE	5001 - 7000	8	999999V99	Dollars	57 - 64
9	COST HP-RANGE	7001 - 9000	8	999999V99	Dollars	65 - 72
10	COST HP-RANGE	9000 - up	8	999999V99	Dollars	73 - 80

COSTFL

File Name: COSTFL

Number of Record Types: Two

File Description: Barge and Tow Operation Costs

Record Type: Two - Barge Operating Cost

Record Description: Hourly cost of tow operation according to horsepower
range

Record Length: 80 Characters

Field	Variable	Description	Size	Picture	Units	Position
1	CD-CODE	Card Code (Value=B)	1	X		1
2	B-TYPE	Barge Type	1	X		2
3	B-COST	Barge Cost	8	9(6)V99	Dollars	3 - 10
4	FILLER		70	X(70)		11 - 80

DISTCD

File Name: DISTCD

Number of Record Types: One

File Description: Tells whether monthly data are in new (one 718 character record) or old(five 132 character records) format.

Record length: 80 characters

<u>Field</u>	<u>Variable</u>	<u>Description</u>	<u>Size</u>	<u>Picture</u>	<u>Units</u>	<u>Position</u>
1	CD-DISTCD	District code	2	XX		1 - 2
2	LOCKAGE-DATA	Lockage data	3	XXX		3 - 5

EMTFLE

File Name: EMTFLE

Number of Record Types: One

File Description: Distance between locks, both directions

Record Length: 80 characters

Field	Variable	Description	Size	Picture	Units	Position
1	EMT-FROM-RIVCD	From river code	2	XX		1 - 2
2	EMT-FROM-LOCK	From lock code	2	99		3 - 4
3	EMT-MOR	Mileage on river of from river/ lock	4	9(4)		5 - 8
4	EMT-TO-LOCK	To river code	2	XX		9 - 10
5	EMT-TO-LOCK	To lock code	2	99		11 - 12
6	EMT-MBL	Number of miles	4	9(4)	mi.	13 - 16
7	EMT-DIR	Direction of travel (1=up, 2=down)	1	9		17
8	FILLER		3	XXX		18 - 20
9	FILLER		60	X(60)		21 - 80

LCKGIN

File Name: LCKGIN, LCKAGE

Number record types: Two

File description: For all locks in each district, description of lock
and record of lock operation and traffic

Record type: One

Record description: Lock and chamber description, one per chamber.

Record size: 156

Field	Variable	Description	Size	Picture	Units	Position
1	ID-REC-TYPE	Record type	1	9		1
2	ID-FILL		2	XX		2-3
3	ID-LOCK	Lock number	2	99		4-5
4	ID-CHAMB	Chamber number	1	9		6
5	ID-SEQ	Sequence number	4	9999		7-10
6	ID-RIVCD	River code	2	XX		11-12
7	ID-DISTCD	District code	4	XXXX		13-16
8	ID-DIVCD	Division code	4	XXXX		17-20
9	ID-RIVERNAME	River name	23	X(23)		21-43
10	ID-LOCKNAME	Lock name	30	X(30)		44-73
11	ID-NO-CHBRS	Number of chambers	1	9		74
12	ID-LENGTH	Length of lock	4	9999	ft	75-78
13	ID-WIDTH	Width of lock	3	999	ft	79-81
14	ID-MO	Month of data	2	99	mo	82-83
15	ID-DA	Day of data	2	99	day	84-85
16	ID-YR	Year of data	2-	99	yr	86-87
17	ID-HTM	Hours in the month	6	999999	min	88-93
18	ID-FILLER		63	X(63)		94-156

LCKGIN

Page 1 of 6

File Name: LCKGIN, LCKAGE

Number record types: Two

File description: For all locks in each district, description of locks
and record of locks operation and traffic

Record type: Two

Record description: Detail, shift, lockage and vessel data, one per
lockage log.

Record size: Variable depending on number of barge sets, up to 718
characters.

Field	Variable	Description	Size	Picture	Units	Position
LR-ID						
1	LR-REC-TYPE	Record type key	1	9		1
2	FILLER		1	X		2
3	FILLER		1	X		3
4	LR-LOCK	Lock number	2	99		4-5
5	LR-CHAMB	Chamber number	1	X		6
6	LR-SEQ	Sequence number	4	9999		7-10
7	LR-RIVCD	River code	2	XX		11-12
8	LR-DISTCD	District code	4	XXXX		13-16
LR1A						
9	LR-MO-SHFT	Month of shift	2	99	mo	17-18
10	LR-DA-SHFT	Day of shift	2	99	day	19-20
11	LR-YR-SHFT	Year of shift	2	99	yr	21-22
12	LR-BEG-SHFT	Beginning time of shift	4	9999	24 hr clock	23-26
13	LR-TZ-STD	Time zone and standard	1	9		27
14	LR-SHFT-NO	Shift number	1	9		28

Field	Variable	Description	Size	Picture	Units	Position
15	LR-NO-PERS	Number of personnel	2	99		29-30
16	LR-UP-GGE	Upper gauge	6	999.99	ft.in	31-36
17	LR-LR-GGE	Lower gauge	6	999.99	ft.in	37-42
18	LR-WD-DIR	Wind direction	1	X		43
19	LR-WD-VEL	Wind velocity	1	X		44
20	LR-UP-CRT	Up current	1	X		45
21	LR-DN-CRT	Down current	1	X		46
22	LR-WTHR-CND	Weather condition	1	X		47
23	LR-WTHR-SEV	Weather severity	1	X		48
24	LR-SURF-CND	Surface condition	1	X		49
25	LR-SURF-SEV	Surface severity	1	X		50
26	LR-VSL-NO	Vessel number	7	X(7)		51-57
27	LR-VSL-HP	Vessel horsepower	5	9(5)		58-62
28	LR-VSL-NAME	Vessel name	32	X(32)		63-94
29	LE-VSL-OWNER	Vessel owner	33	X(33)		95-127
LR1B						
30	LR-DIR	Direction of lockage	1	9		128
31	LR-NO-CUTS	Number of cuts	2	99		129-130
32	LR-LCKG-TYPE	Lockage type	2	99		131-132
33	LR-VSL-TYPE	Vessel type	1	X		133
34	LR-NO-LT	Number of light boats	2	99		134-135
35	LR-NO-REC	Number of recreational craft	2	99		136-137
36	LR-NO-PSGR	Number of passengers	4	9999		138-141

Field	Variable	Description	Size	Picture	Units	Position
37	LR-ENTRY-TYPE	Entry type	1	9		142
38	LR-EXIT-TYPE	Exit type	1	9		143
39	LR-MO-ARRV	Month of arrival	2	99		144-145
40	LR-DA-ARRV	Day of arrival	2	99	day	146-147
41	LR-TM-ARRV	Time of arrival	4	9999	24 hr clock	148-151
42	LR-SOL-1-HR	Start of lockage (1st cut)	2	99	hr	152-153
43	LR-SOL-1-MIN	Start of lockage (1st cut)	2	99	min	154-155
44	LR-BOS-1-HR	Bow over sill (1st cut)	2	99	hr	156-157
45	LR-BOS-1-MIN	Bow over sill (1st cut)	2	99	min	158-159
46	LR-EOE-1-HR	End of entry (1st cut)	2	99	hr	160-161
47	LR-EOE-1-MIN	End of entry (1st cut)	2	99	min	162-163
48	LR-SOE-1-HR	Start of exit (1st cut)	2	99	hr	164-165
49	LR-SOE-1-MIN	Start of exit (1st cut)	2	99	min	166-167
50	LR-EOL-1-HR	End of lockage (1st cut)	2	99	hr	168-169
51	LR-EOL-1-MIN	End of lockage (1st cut)	2	99	min	170-171
52	LR-SOL-2	Start of lockage (2nd cut)	4	9999	24 hr clock	172-175
53	LR-BOS-2	Bow over sill (2nd cut)	4	9999	24 hr clock	176-179
54	LR-EOE-2	End of entry (2nd cut)	4	9999	24 hr clock	180-183

Field	Variable	Description	Size	Picture	Units	Position
55	LR-SOE-2	Start of exit (2nd cut)	4	9999	24 hr clock	184-187
56	LR-EOL-2	End of lockage (2nd cut)	4	9999	24 hr clock	188-191
57	LR-IDLE-TM	Idle time	5	99999	min	192-196
58	LR-WAIT-TM	Wait time	5	99999	min	197-201
59	LR-TM-BTWEN- CUTS	Time between cuts	5	99999	min	202-206
LR2						
60	LR-APPR-TM1	Approach time (1st cut)	3	999	min	207-209
61	LR-ENTRY-TM1	Entry time (1st cut)	3	999	min	210-212
62	LR-CHMBR-TM1	Chambering time (1st cut)	3	999	min	213-215
63	LR-EXIT-TM1	Exit time (1st cut)	3	999	min	216-218
64	LR-APPR-TM2	Approach time (2nd cut)	3	999	min	219-221
65	LR-ENTRY-TM2	Entry time (2nd cut)	3	999	min	222-224
66	Lk-CHMBR-TM2	Chambering time (2nd cut)	3	999	min	225-227
67	LR-EXIT-TM2	Exit time (2nd cut)	3	999	min	228-230
68	Lk-TRNBCK- TM	Turnback time	3	999	min	231-233
69	LR-NO-TBS-TL	Number of turnbacks this lockage	2	99		234-235
70	LR-TOT-TRNBCK	Total turnbacks	2	99		236-237
71	LR-NO-MTS	Number of empties	2	99		238-239
72	LR-LNTH-STL	Length of stall	5	99999		240-244

Field	Variable	Description	Size	Picture	Units	Position
73	LR-MOB-STL	Month begin stall	2	99	mo	245-246
74	LR-DAB-STL	Day begin stall	2	99	day	247-248
75	LR-TMB-STL-HR	Time begin stall	2	99	hr	249-250
76	LR-TMB-STL-MIN	Time begin stall	2	99	min	251-252
77	LR-MOE-STL	Month end stall	2	99	mo	253-254
78	LR-DAE-STIL	Day end stall	2	99	day	255-256
79	LR-TME-STL-HR	Time end stall	2	99	hr	257-258
80	LR-TME-STL-MIN	Time end stall	2	99	min	259-260
81	LR-STALL-CD	Stall code	1	X		261
82	LR-TCW-LNGTH	Tow length	4	9999	ft	262-265
83	LR-TCW-WIDTH	Tow width	3	999	ft	266-268
84	LR-DRAFT-FT	Draft	2	99	ft	269-270
85	LR-DRAFT-IN	Draft	2	99	in	271-272
86	LR-LD-BRGS	Loaded barges	2	99		273-274
87	LR-MT-BRGS	Empty barges	2	99		275-276
88	LR-STOP-CD	Stop code	1	X		277
89	LR-SPACO-1	Special assist code (1)	1	X		278
90	LR-SPACO-2	Special assist code (2)	1	X		279
91	LR-PRM-VSNO	Prime vessel number	7	9(7)		280-286
92	LR-LL-NO-PSG	Number of passengers	3	999		287-289
93	LR-NO-BRG-SETS	Number of barge sets	2	99		290-291
94	LR-NO-VSL-SETS	Number of vessel sets	2	99		292-293
LR-REST						
95	LR-TOT-TNG	Total tonnage	6	9(6)	tons	294-299

Field	Variable	Description	Size	Picture	Units	Position
96	LR-AVESN1	Assisting vessel(1)	7	9(7)		300-306
97	LR-AVESN2	Assisting vessel(2)	7	9(7)		307-313
98	LR-AVESN3	Assisting vessel(3)	7	9(7)		314-320
99	LR-AVESN4	Assisting vessel(4)	7	9(7)		321-327
100	LR-AVESN5	Assisting vessel(5)	7	9(7)		328-334
101	LR-AVESN6	Assisting vessel(6)	7	9(7)		335-341
102	LR-KART	Vessel assist code	2	99		342-343

LR-VSL-LCK-CP-TM

103	LR-VSL-OP	Vessel operation time (SOL to EOE + SOE to EOL)	6	9(6)	min	344-349
104	LR-LCK-OP	Lock operation time (EOE to SOE + turn-back time)	6	9(6)	min	350-355

LR-RX

105	LR-VSL-LOG-TYPE	Vessel log type 3102c or 3102d	1	X		356
106	LR-KR	Filler	2	XX		357-358
107	LR-KL	Filler	2	99		359-360
108	LR-SUB	Barge set table size	6	9(6)		361-366

LR-BARGE TABLES (occurs up to 22 times)

109	LR-BRG-TYPE	Barge type (1)	1	X		367
110	LR-BRG-NUM	Barge number (1)	7	9(7)		368-374
111	LR-COM-CD	Commodity code (1)	2	99		375-376
112	LR-HAZ-CD	Hazard code (1)	1	9		377
113	LR-TONS	Commodity tons (1)	5	9(5)		378-382

109 to 113 REPEAT FORMAT AS ILLUSTRATED BY FIELD NUMBERS 114-218 383-718

File Name: MASTER, INFILE

Number record types: One

File description: Shift, lockage and vessel data from PMS edit

Record length: 929 characters

Field	Variable	Description	Size	Picture	Units	Position
1	FILLER		3	XXX		1-3
2	II-LOCKX1	1st character of lock number	1	X		4
3	II-LOCKX2	2nd character of lock number	1	X		5
4	II-CHAMB	Chamber number	1	9		6
5	II-SEQ	Sequence number	4	XXXX		7-10
6	IIRIVCD	River code	2	XX		11-12
7	IIDISTCD	District code	4	XXXX		13-16
8	LI-MO-SHFT	Month of shift	2	99	mo	17-18
9	'I-DA-SHFT	Day of shift	2	99	day	19-20
10	LI-YR-SHFT	Year of shift	2	99	yr	21-22
11	LI-BER-SHFT	Beginning time of shift	4	9999	24 hr clock	23-26
12	LI-TZ-STD	Time zone and standard	1	9		27
13	LI-SHFT-NO	Shift number	1	9		28
14	LI-NO-PERS	Number of personnel	2	99		29-30
15	FILLER		1	X		31
16	LI-UP-GGE	Upper gauge	5	999V99	ft	32-36

Field	Variable	Description	Size	Picture	Units	Position
17	FILLER		1	X		37
18	LI-LR-GGE	Lower gauge	5	999V99	ft	38-42
19	LI-WD-DIR	Wind direction	1	X		43
20	LI-WD-VEL	Wind velocity	1	X		44
21	LI-UP-CRT	Up current	1	X		45
22	LI-DN-CRT	Down current	1	X		46
23	LI-WTHR-CND	Weather condition	1	X		47
24	LI-WTHR-SEV	Weather severity	1	X		48
25	LI-SURF-CND	Surface condition	1	X		49
26	LI-SURF-SEV	Surface severity	1	X		50
27	LI-VSL-NO	Vessel number	7	X(7)		51-57
28	LI-VSL-HP	Vessel horsepower	5	9(5)		58-62
29	FILLER		65	X(65)		63-127
30	LI-DIR	Direction of lockage	1	9		128
31	LI-NO-CUTS	Number of cuts	2	99		129-130
32	LI-LCKG-TYPE	Lockage type	2	99		131-132
33	LI-VSL-TYPE	Vessel type	1	X		133
34	LI-NO-LT	Number of light boats	2	99		134-135
35	LI-NO-REC	Number of recre- ational craft	2	99		136-137
36	FILLER					
37	LI-NO-PSGR	Number of passen- gers	4	9999		138-141
38	LI-ENTRY-TYPE	Entry type	1	9		142
39	LI-EXIT-TYPE	Exit type	1	9		143

Field	Variable	Description	Size	Picture	Units	Position
40	LI-MO-ARRV	Month of arrival	2	99		144-145
41	LI-DA-ARRV	Day of arrival	2	99	day	146-147
42	LI-HR-ARRV	Time of arrival	2	99	hr	148-149
43	LI-MN-ARRV	Time of arrival	2	99	min	150-151
44	LI-SOL-1-HR	Start of lockage (1st cut)	2	99	hr	152-153
45	LI-SOL-1-MIN	Start of lockage (1st cut)	2	99	min	154-155
46	LI-BOS-1-HR	Bow over sill (1st cut)	2	99	hr	156-157
47	LI-BOS-1-MIN	Bow over sill (1st cut)	2	99	min	158-159
48	LI-EOE-1-HR	End of entry (1st cut)	2	99	hr	160-161
49	LI-EOE-1-MIN	End of entry (1st cut)	2	99	min	162-163
50	LI-SOE-1-HR	Start of exit (1st cut)	2	99	hr	164-165
51	LI-SOE-1-MIN	Start of exit (1st cut)	2	99	min	166-167
52	LI-EOL-1-HR	End of lockage (1st cut)	2	99	hr	168-169
53	LI-EOL-1-MIN	End of lockage (1st cut)	2	99	min	170-171
54	LI-SOL-2	Start of lockage (2nd cut)	4	9999	hr/min	172-175
55	LI-BOS-2	Bow over sill (2nd cut)	4	9999	hr/min	176-179
56	LI-EOE-2	End of entry (2nd cut)	4	9999	hr/min	180-183
57	LI-SOE-2	Start of exit (2nd cut)	4	9999	hr/min	184-187

Field	Variable	Description	Size	Picture	Units	Position
58	LI-EOL-2	End of lockage (2nd cut)	4	9999	hr/min	188-191
59	LI-IDLE-TM	Idle time	5	99999	min	192-196
60	LI-WAIT-TM	Wait time	5	99999	min	197-201
61	LI-TM-BTWEN- CUTS	Time between cuts	5	99999	min	202-206
LI2-NUM8						
62	LI-APPR-TM1	Approach time (1st cut)	3	999	min	207-209
63	LI-ENTRY-TM1	Entry time (1st cut)	3	999	min	210-212
64	LI-CHMBR-TM1	Chambering time (1st cut)	3	999	min	213-215
65	LI-EXIT-TM1	Exit time (1st cut)	3	999	min	216-218
66	LI-APPR-TM2	Approach time (2nd cut)	3	999	min	219-221
67	LI-ENTRY-TM2	Entry time (2nd cut)	3	999	min	222-224
68	LI-CHMBR-TM2	Chambering time (2nd cut)	3	999	min	225-227
69	LI-EXIT-TM2	Exit time (2nd cut)	3	999	min	228-230
70	LI-TRNBACK- TM	Turnback time	3	999	min	231-233
71	LI-NO-TBS-TL	Number of turnbacks this lockage	2	99		234-235
72	LI-TOT-TRNBCK	Total turnbacks	2	99		236-237
73	LI-NO-MTS	Number of empties	2	99		238-239
74	LI-LNTH-STL	Length of stall	5	9999	min	240-244

Field	Variable	Description	Size	Picture	Units	Position
75	LI-MOB-STL	Month begin stall	2	99	mo	245-246
76	LI-DAB-STL	Day begin stall	2	99	day	247-248
77	LI-TMB-STL	Time begin stall	4	9999	hr/min	249-252
78	LI-MOE-STL	Month end stall	2	99	mo	253-254
79	LI-DAE-STL	Day end stall	2	99	day	255-256
80	LI-TME-STL	Time end stall	4	9999		257-260
81	LI-STALL-CD	Stall code	1	X		261
82	LI-TOW-LNGTH	Tow length	4	9999	ft	262-265
83	LI-TOW-WIDTH	Tow width	3	999	ft	266-268
84	LI-DRAFT-FT	Draft	2	99	ft	269-270
85	LI-DRAFT-IN	Draft	2	99	in	271-272
86	LI-LD-BRGS	Loaded barges	2	99		273-274
87	LI-MT-BRGS	Empty Barges	2	99		275-276
88	LI-STOP-CD	Stop code	1	X		277
89	LI-SPACO-1	Special assist code (1)	1	X		278
90	LI-SPACO-2	Special assist code (2)	1	X		279
91	LI-PRM-VSNO	Prime vessel number	7	9(7)		280-286
92	LI-LL-NO-PSG	Number of passen- gers (lockage log)	3	999		287-289
93	LI-NO-BRG- SETS	Number of barge sets	2	99		290-291
94	LI-NO-VSL- SETS	Number of vessel sets	2	99		292-293
95	LI-TOT-TNG	Total tonnage	6	9(6)	tons	294-299
96	LI-AVESN1	Assisting vessel(1)	7	9(7)		300-306

Field	Variable	Description	Size	Picture	Units	Position
97	LI-AVESN2	Assisting vessel(2)	7	9(7)		307-313
98	LI-AVESN3	Assisting vessel(3)	7	9(7)		314-320
99	LI-AVESN4	Assisting vessel(4)	7	9(7)		321-327
100	LI-AVESN5	Assisting vessel(5)	7	9(7)		328-334
101	LI-AVESN6	Assisting vessel(6)	7	9(7)		335-341
102	LI-KART	Vessel assist code	2	99		342-343
103	FILLER		12	X(12)		344-355
104	LI-VSL-LOG TYPE	Vessel log type (short or long; 3102c or 3102d)	1	X		356
105	LI-SHFT-LOG-	Shift log indicator	4	XXXX		357-360
106	LI-SUB	Barge set table size	6	9(6)		361-366

BARGE-DATA (Occurs up to 22 times)

107	LI-BRG-TYP1	Barge type code (1)	1	X		367
108	LI-BRG-NUM 1	Barge number (1)	7	9(7)		368-374
109	LI-COMM-CD1	Commodity code (1)	2	99		375-376
110	LI-HAZ-CD1	Hazard code (1)	1	9		377
111	LI-COMM-TON1	Commodity tons (1)	5	9(5)	tons	378-382
112-148	REPEAT FORMAT FOR ITEMS 107-111 FOR UP TO 22 BARGE SETS					383-718
149	FILLER		211	X(11)		719-929

File Name: PARM001

Number of Record Types: Three

File Description: Lock ID, physical characteristics and timing function
ranges by entire/exit

Record Type: 1, identified by 006 in field 4

Record Description: Lock identification, there is one record per lock.

Record Length: 80 characters

<u>Field</u>	<u>Variable</u>	<u>Description</u>	<u>Size</u>	<u>Picture</u>	<u>Units</u>	<u>Position</u>
1	N/A	district	2	XX		1 - 2
2	N/A	lock	2	XX		3 - 4
3	N/A	chamber	1	X		5 - 5
4	N/A	record ID	3	XXX		6 - 8
5	LID-RIVER-CODE	River code	2	XX		9 - 10
6	FILLER		2	XX		11 - 12
7	LID-RIVER-NAME	river name	23	X(23)		13 - 35
8	LID-LOCK-NAME	lock name	30	X(30)		36 - 65
9	LID-NO-CHAMB	number of chambers	1	X		66 - 66
10	LID-CHAMB-LENGTH	chamber length	4	9(4)		67 - 70
11	LID-CHAMB-WIDTH	chamber width	4	9(4)		71 - 74
12	LID-DRAFT	draft	3	9(3)		75 - 77
13	LID-LOG-TYPE	lockage log type	1	X		78 - 78
14	FILLER		2	XX		79 - 80

File Name: PARM001

Number of Record Types: Three

File Description: Lock ID, physical characteristics and timing function
ranges by entry/exit type within lockage type.

Record Type: 2, identified by 007 in field 4

Record Description: Lock characteristics, there is one record per lock

Record Length: 54 characters

<u>Field</u>	<u>Variable</u>	<u>Description</u>	<u>Size</u>	<u>Picture</u>	<u>Units</u>	<u>Position</u>
1	N/A	district	2	XX		1 - 2
2	N/A	lock	2	XX		3 - 4
3	N/A	chamber	1	X		5 - 5
4	N/A	record ID	3	XXX		6 - 8
5	LC-TIME-ZONE1	time zone	1	X		9 - 9
6	LC-TIME-ZONE2	time zone	1	X		10 - 10
7	FILLER		1	X		11 - 11
8	LC-UP-GGE-MIN	upper guage min.	5	X(5)		12 - 16
9	FILLER		1	X		17 - 17
10	LC-UP-GGE-MAX	upper guage max.	5	X(5)		18 - 22
11	LC-BEGIN-SHIFT 1	first shift starting time	4	9(4)		23 - 26
12	LC-BEGIN-SHIFT 2	second shift starting time	4	9(4)		27 - 30
13	LC-BEGIN-SHIFT 3	third shift starting time	4	9(4)		31 - 34
14	FILLER		1	X		35 - 35
15	LC-LR-GGE-MIN	lower guage min.	5	X(5)		36 - 40
16	FILLER		1	X		41 - 41
17	LC-LR-GGE-MAX	lower guage max.	5	X(5)		42 - 46
18	LC-MAX-NO-PERS	maximum number operators	2	99		47 - 48
19	LC-MAX-WAIT	maximum wait time	6	9(6)		49 - 54
20	FILLER		26	X(26)		55 - 80

File Name: PARM001

Number of Record Types: Three

File Description: Lock ID, physical characteristics, timing functions

Record Type: 3, identified as 031 to 041 in field 3 according to lockage type

Record Description: Timing Functions by entry/exit type, there is one record for each of 11 lockage types

Record Length: 80 characters

<u>Field</u>	<u>Variable</u>	<u>Description</u>	<u>Size</u>	<u>Picture</u>	<u>Units</u>	<u>Position</u>
1	HLD-DIS	district	2	XX		1 - 2
2	HLD-LC	lock/chamber	3	XXX		3 - 5
3	HLD-LIMITS-KEY	record id	3	XXX		6 - 8
4	HLD-APP-FL4-MIN	approach fly min.	4	9(4)	min	9 - 12
5	HLD-APP-EXH-MIN	approach exchange minimum	4	9(4)	min	13 - 16
6	HLD-APP-TRN-MIN	approach turnback minimum	4	9(4)	min	17 - 20
7	HLD-ENTRY-MIN	entry minimum	4	9(4)	min	21 - 24
8	HLD-CHAMBER-MIN	chamber minimum	4	9(4)	min	25 - 28
9	HLD-EXT-FLY-MIN	exit fly minimum	4	9(4)	min	29 - 32
10	HLD-EXT-EXH-MIN	exit exchange min.	4	9(4)	min	33 - 36
11	HLD-EXT-TRN-MIN	exit turnback min.	4	9(4)	min	37 - 40
12	HLD-APP-FLY-MAX	approach fly max.	4	9(4)	min	41 - 44
13	HLD-APP-EXH-MAX	approach exchange maximum	4	9(4)	min	45 - 48
14	HLD-APP-TRN-MAX	approach turnback maximum	4	9(4)	min	49 - 52
15	HLD-ENTRY-MAX	entry maximum	4	9(4)	min	53 - 56
16	HLD-CHAMBER-MAX	chamber maximum	4	9(4)	min	57 - 60
17	HLD-EXT-FLY-MAX	exit fly maximum	4	9(4)	min	61 - 64
18	HLD-EXT-EXH-MAX	exit exchange max.	4	9(4)	min	65 - 68
19	HLD-EXT-TRN-MAX	exit turnback max.	4	9(4)	min	69 - 72
20	FILLER		8	X(8)	min	73 - 80

File Name: SELCARD

Number of Record Types: One

File Description: Starting and ending lock, chamber and sequence numbers for selected dumps from monthly master file. If multiple selection records are used, they must be in ascending order.

Record length: 14 characters

<u>FIELD</u>	<u>DESCRIPTION</u>	<u>SIZE</u>	<u>TYPE DATA</u>	<u>POSITION</u>
1	Starting lock	2	N	1 - 2
2	Starting chamber	1	N	3
3	Starting record number	4	N	4 - 7
4	Ending lock	2	N	8 - 9
5	Ending chamber	1	N	10
6	Ending record number	4	N	11 - 14

STNDRD

File Name: STNDRD

Number of Record Types: Two

File Description: Statistics for lock timing events

Record Type: One

Record Description: Statistics for upbound lockages (monthly)

Record length: 1812 characters

<u>Field</u>	<u>Variable</u>	<u>Description</u>	<u>Size</u>	<u>Picture</u>	<u>Units</u>	<u>Position</u>
STD1-ID-DATA						
1	ST1-TYPE	Record Type	1	9		1
2	ST1-YR	Year of data	2	99.	yr	2 - 3
3	ST1-MO	Month of data	2	99.	mo	4 - 5
4	ST1-DISTCD	District code	4	X(4)		6 - 9
5	ST1-RIVCD	River Code	2	X(2)		10 - 11
6	ST1-LOCKNO	Lock Number	2	99.		12 - 13
7	ST1-CHAMENO	Chamber number	1	9.		14
8	ST1-DIRECTION	Direction	1	9.		15

STANDARDS-TRIPS-UP

U-STD-TYPES (occurs 14 times, once for each lockage type, see Table 1)

Approach-Fly

9	U-NO	Total number of occurrences	4	9(4)		16 - 19
10	U-TM	Sum of the times	4	9(4)	min.	20 - 23
11	U-TMSQ	Sum of the times ²	8	9(8)	min.	24 - 31

Approach-Exchange

12	U-NO	Total number of occurrences	4	9(4)		32 - 35
13	U-TM	Sum of the times	4	9(4)	min.	36 - 39
14	U-TMSQ	Sum of the times ²	8	9(8)	min.	40 - 47

STNDRD

<u>Field</u>	<u>Variable</u>	<u>Description</u>	<u>Size</u>	<u>Picture</u>	<u>Units</u>	<u>Position</u>
Approach-Turnback						
15	U-NO	Total number of occurrences	4	9(4)		48 - 51
16	U-TM	Sum of the times	4	9(4)	min.	52 - 55
17	U-TMSQ	Sum of the times ²	8	9(8)	min.	56 - 63
Enter Chamber						
18	U-NO	Total number of occurrences	4	9(4)		64 - 67
19	U-TM	Sum of the times	4	9(4)	min.	68 - 71
20	U-TMSQ	Sum of the times ²	8	9(8)	min.	72 - 79
Chambering						
21	U-NO	Total number of occurrences	4	9(4)		80 - 83
22	U-TM	Sum of the times	4	9(4)	min.	84 - 87
23	U-TMSQ	Sum of the times	8	9(8)	min.	88 - 95
Exit-Fly						
24	U-NO	Total number of occurrences	4	9(4)		96 - 99
25	U-TM	Sum of the times	4	9(4)	min.	100 - 103
26	U-TMSQ	Sum of the times ²	8	9(8)	min.	104 - 111
Exit-Exchange						
27	U-NO	Total number of occurrences	4	9(4)		112 - 115
28	U-TM	Sum of the times	4	9(4)	min.	116 - 119
29	U-TMSQ	Sum of the times ²	8	9(8)	min.	120-127
Exit-Turnback						
30	U-NO	Total number of occurrences	4	9(4)		128 - 131

STNDRD

<u>Field</u>	<u>Variable</u>	<u>Description</u>	<u>Size</u>	<u>Picture</u>	<u>Units</u>	<u>Position</u>
31	U-TM	Sum of the times	4	9(4)	min.	132 - 135
32	U-TMSQ	Sum of the times ²	8	9(8)	min.	136 - 143
33- 344	TABLE 1					144 - 1807
345	Filler	Value Zeroes	5	X(5)		1808 - 1812

STNDRD

File Name: STNDRD

Number of Record Types: Two

File Description: Statistics for lock timing events

Record Type: Two

Record Description: Statistics for downbound lockages (monthly)

Record Length: 1812 characters

Record layout identical to that for file STNDRD, record type one, except data are for downbound direction.

SUMMARY

File Name: SUMMARY

Number of record types: Two

File description: Monthly summary of activity at each lock and chamber

Record type: One

Record description: Lockage and vessel summary information

Record length: 336 characters

<u>Field</u>	<u>Variable</u>	<u>Description</u>	<u>Size</u>	<u>Picture</u>	<u>Units</u>	<u>Position</u>
S1-ID-DATA						
1	S1-TYPE	Record type key	1	X		1
2	S1-DISTCD	District code	4	XXXX		2 - 5
3	S1-RIVCD	River code	2	XX		6 - 7
4	S1-LOCK	Lock Number	2	99		8 - 9
5	S1-CHAMB	Chamber number	1	9		10
6	S1-LOCKNAME	Lock name	30	X(30)		11 - 40
7	S1-RIVERNAME	River name	23	X(23)		41 - 63
8	S1-SIZE	Maximum length of lock	6	9(6)	ft.	64 - 69
9	S1-LIFT	Maximum draft	6	9(6)	ft.	70 - 75
10	S1-TZ-STD	Time Zone & standard	1	9		76
11	S1-YR	Year of data	2	99	mo.	77 - 78
12	S1-MO	Month of data	2	99	mo.	79 - 80
13	FILLER		16	X(16)		81 - 96
S1-UP-TOTALS						
14	S1U-LCKAGES	Total lockages	6	9(6)		97 - 102
15	S1U-TOWS	Total tows	6	9(6)		103 - 108
16	S1U-BRGS-MT	Total barges, empty	6	9(6)		109 - 114
17	S1U-BRGS-LD	Total barges, loaded	6	9(6)		115 - 120

SUMMARY

<u>Field</u>	<u>Variable</u>	<u>Description</u>	<u>Size</u>	<u>Picture</u>	<u>Units</u>	<u>Position</u>
18	S1U-VESELS	Total vessels	6	9(6)		121 - 126
19	S1U-REC-CRAFT	Total recreational vessels	6	9(6)		127 - 132
20	S1U-IDLE-TM	Total idle time	6	9(6)	min	133 - 138
21	S1U-TBTWNCTS	Total time between cut	6	9(6)	min	139 - 144
22	S1U-STALLS	Total stalls	6	9(6)		145 - 150
23	S1U-INTRF	Total interferences	6	9(6)		151 - 156
24	S1U-STL-TM	Total stall time	6	9(6)	min	157 - 162
25	S1U-PROC-TM-TOW	Processing time (tows)	6	9(6)	min	163 - 168
26	S1U-PROC-TM	All processing time (all)	6	9(6)	min	169 - 174
27	S1U-AVATL-TM	Available lock time	6	9(6)	min	175 - 180
28	S1U-NO-DELAYS	Total number delays	6	9(6)		181 - 186
29	S1U-DELAY-TM	Total delay time	6	9(6)	min	187 - 192
30	S1U-MAX-DELAY	Maximum delay time	6	9(6)	min	193 - 198
31	S1U-TRNBACK-TM	Turnback time	6	9(6)	min	199 - 204
32	S1U-DEL-TOWS	Total Delayed tows	6	9(6)		205 - 210
33	S1U-DEL-TM-TOWS	Total delay time, tows	6	9(6)	min	211 - 216
S1-DN-TOTALS						
34	S1D-LCKAGES	Total lockages	6	9(6)		217 - 222
35	S1D-TOWS	Total tows	6	9(6)		223 - 228
36	S1D-BRGS-MT	Total barges, empty	6	9(6)		229 - 234
37	S1D-BRGS-LD	Total barges, loaded	6	9(6)		235 - 240
38	S1D-VESELS	Total vessels	6	9(6)		241 - 246
39	S1D-REC-CRAFT	Total recreational vessels	6	9(6)		247 - 252

SUMMARY

<u>Field</u>	<u>Variable</u>	<u>Description</u>	<u>Size</u>	<u>Picture</u>	<u>Units</u>	<u>Position</u>
40	S1D-IDLE-TM	Total idle time	6	9(6)	min	253 - 258
41	S1D-TBTW-NCTS	Total time between cuts	6	9(6)	min	259 - 264
42	S1D-STALLS	Total stalls	6	9(6)		265 - 270
43	S1D-INTRF	Total interferences	6	9(6)		271 - 276
44	S1D-STL-TM	Total stall time	6	9(6)	min	277 - 282
45	S1D-PROC-TM-TOW	Processing time (tows)	6	9(6)	min	283 - 288
46	S1D-PROC-TM-ALL	Processing time (all)	6	9(6)	min	289 - 294
47	S1D-AVAIL-TM	Available lock time	6	9(6)	min	295 - 300
48	S1D-NO-DELAYS	Total number delays	6	9(6)		301 - 307
49	S1D-DELAY-TM	Total delay time	6	9(6)	min	308 - 312
50	S1D-MAX-DELAY	Maximum delay time	6	9(6)	min	313 - 318
51	S1D-TRNBACK-TM	Turnback time	6	9(6)	min	319 - 324
52	S1D-DEL-TOWS	Total delayed tows	6	9(6)		325 - 330
53	S1D-DEL-TM-TOWS	Total delay time, tows	6	9(6)	min	331 - 336

SUMMARY

File name: SUMMARY

Number of Record Types: Two

File Description: Monthly summary of activity at each lock and chamber

Record type: Two

Record description: Commodity summary information

Record Length: 336 characters

<u>Field</u>	<u>Variable</u>	<u>Description</u>	<u>Size</u>	<u>Picture</u>	<u>Units</u>	<u>Position</u>
S1-ID-DATA						
1	S2-TYPE	Record type key	1	9		1
2	S2-DISTCD	District code	4	XXX		2 - 5
3	S2-RIVCD	River code	2	XX		6 - 7
4	S2-LOCK	Lock number	2	99		8 - 9
5	S2-CHAMB	Chamber number	1	9		10
S2-TABLES						
6	S2-COMM	Community code	2	99		11 - 12
7	S2-DIR	Direction code	1	9		13
8	S2-TONS	Commodity tonnage	9	9(9)	tons	14 - 22
9-80	REPEAT FORMAT AS ILLUSTRATED BY FIELD NUMBER 6 to 80 24 MORE TIMES					
81	S2-YR	Year of data	2	99	yr.	311 - 312
82	S2-MO	Month of data	2	00	mo.	313 - 314
83	S2-FILLER		22	X(22)		315 - 336

TRANSAC

File Name: TRANSAC

Number of Record types: Six

File description: Monthly input shift, lockage and vessel data

Record Type: One

Record Description: Shift data from form ENG 3102a. There is one record type per transaction.

Record Length: 80 characters

FIELD	DESCRIPTION	SIZE	TYPE DATA	POSITION
1	Lock	2	N	1 - 2
2	Chamber	1	N	3
3	Record Number	4	N	4 - 7
4	Card code	1	N	8
5	River code	2	A	9 - 10
6	Month	2	N	11 - 12
7	Day	2	N	13 - 14
8	Year	2	N	15 - 16
9	Time	4	N	17 - 20
10	Time Zone	1	A	21
11	Shift	1	N	22
12	Number Personnel	2	N	23 - 24
13	Upper Guage	5	N	25 - 29
14	Lower Guage	5	N	30 - 34
15	Wind: Direction	1	N	35
16	Velocity	1	N	36
17	Current: Upper	1	N	37

TRANSAC

FIELD	DESCRIPTION	SIZE	TYPE DATA	POSITION
18	Lower	1	N	38
19	Weather: Condition	1	N	39
20	Severity	1	N	40
21	Surface: Type	1	N	41
22	Severity	1	N	42
23	FILLER	37	A	43 - 79
24	Transaction Code	1	A	80

TRANSAC

File Name: TRANSAC

Number of Record Types: Six

File Description: Monthly input shift, lockage and vessel data

Record Type: Two

Record Description: Lockage data from form ENG 3102b. There is one record type per transaction.

Record Length: 80 characters

FIELD	DESCRIPTION	SIZE	TYPE DATA	POSITION
1	Lock	2	N	1 - 2
2	Chamber	1	N	3
3	Sequence	4	N	4 - 7
4	Card Code	1	N	8
5	Vessel Number	7	N	9 - 15
6	Direction	1	N	16
7	Number of Cuts	2	N	17 - 18
8	Lockage Type	1	A	19
9	Vessel Type	1	A	20
10	Number Lightboats	2	N	21 - 22
11	Number Rec Craft	2	N	23 - 24
12	Number Passengers	4	N	25 - 28
13	Entry Type	1	A	29
14	Exit Type	1	A	30
15	Month Arrival	2	N	31 - 32
16	Day Arrival	2	N	33 - 34
17	Time Arrival	4	N	35 - 38

TRANSAC

FIELD	DESCRIPTION	SIZE	TYPE DATA	POSITION
18	Start of Lockage 1	4	N	39 - 42
19	Bow Over Sill 1	4	N	43 - 46
20	End of Entry 1	4	N	47 - 50
21	Start of Exit 1	4	N	51 - 54
22	End of Lockage 1	4	N	55 - 58
23	Start of Lockage 2	4	N	59 - 62
24	Bow Over Sill 2	4	N	63 - 66
25	End of Entry 2	4	N	67 - 70
26	Start of Exit 2	4	N	71 - 74
27	End of Lockage 2	4	N	75 - 78
28	FILLER	1	A	79
29	Transaction Code	1	A	80

TRANSAC

File Name: TRANSAC

Number of Record Types: Six

File Description: Monthly input shift, lockage and vessel data

Record Type: Three

Record Description: Vessel data from form ENG 3102b or 3102c.

Record Length: 80 characters

FIELD	DESCRIPTION	SIZE	TYPE DATA	POSITION
1	Lock	2	N	1 - 2
2	Chamber	1	N	3
3	Sequence	4	N	4 - 7
4	Card Code	1	N	8
5	Vessel Number	7	N	9 - 15
6	Assisting Vessel #	7	N	16 - 22
7	Length	4	N	23 - 26
8	Width	3	N	27 - 29
9	Draft Feet	2	N	30 - 31
10	Draft Inches	2	N	32 - 33
11	Number loaded barges	2	N	34 - 35
12	Number empty barges	2	N	36 - 37
13	Stop code	1	A	38
14	Special assist #1	1	A	39
15	Special assist #2	1	A	40
16	Number passenger	4	N	41 - 44
17	Month begin stall	2	N	45 - 46
18	Day begin stall	2	N	47 - 48

TRANSAC

FIELD	DESCRIPTION	SIZE	TYPE DATA	POSITION
19	Time begin stall	4	N	49 - 52
20	Month end stall	2	N	53 - 54
21	Day end stall	2	N	55 - 56
22	Time end stall	4	N	57 - 60
23	Stall code	1	A	61
24	FILLER	18	A	62 - 79
25	Transaction code	1	A	80

TRANSAC**File Name: TRANSAC****Number of Record Types: Six****File Description: Monthly input shift, lockage and vessel data****Record Type: Four**

Record Description: Barge data from form ENG 3102c. Use as many card type fours as required to report information for up to 22 barge sets. There may be up to five record type four's for each record type three in the transaction. Record type four is never used when there is a record type five.

Record Length: 80 characters

<u>FIELD</u>	<u>DESCRIPTION</u>	<u>SIZE</u>	<u>TYPE DATA</u>	<u>POSITION</u>
1	Lock	2	N	1 - 2
2	Chamber	1	N	3
3	Sequence	4	N	4 - 7
4	Card code	1	N	8
5	Vessel number	7	N	9 - 15
	Filler			16
6	Type barge set 1	1	A	17
7	Number barge set 1	2	N	18 - 19
8	Commodity barge set 1	2	N	20 - 21
9	Tonnage barge set 1	5	N	22 - 26
	Filler			27
10	Type barge set 2	1	A	28
11	Number barge set 2	2	N	29 - 30
12	Commodity barge set 2	2	N	31 - 32
13	Tonnage barge set 2	5	N	33 - 37
	Filler			38
14	Type barge set 3	1	A	39
15	Number barge set 3	2	N	40 - 41

TRANSAC

FIELD	DESCRIPTION	SIZE	TYPE DATA	POSITION
16	Commodity barge set 3	2	N	42 - 43
17	Tonnage barge set 3	5	N	44 - 48
	Filler			49
18	Type barge set 4	1	A	50
19	Number barge set 4	2	N	51 - 52
20	Commodity barge set 4	2	N	53 - 54
21	Tonnage barge set 4	5	N	55 - 59
	Filler			60
22	Type barge set 5	1	A	61
23	Number barge set 5	2	N	62 - 63
24	Commodity barge set 5	2	N	64 - 65
25	Tonnage barge set 5	5	N	66 - 70
26	FILLER	9		71 - 79
27	Transaction code	1	A	80

TRANSAC

File Name: TRANSAC

Number of Record Types: Six

File Description: Monthly input shift, lockage and vessel data

Record Type: Five

Record Description: Barge data from form ENG 3102d. Use as many card type fives as required to report data for up to 22 barges. There may be up to six record type fives per each record type three. Record type five is never used when there is a record type four.

Record Length: 80 characters

FIELD	DESCRIPTION	SIZE	TYPE DATA	POSITION
1	Lock	2	N	1 - 2
2	Chamber	1	N	3
3	Sequence	4	N	4 - 7
4	Card code	1	N	8
5	Vessel number	7	N	9 - 15
6	Barge number 1	7	N	16 - 22
7	Barge type 1	1	A	23
8	Commodity 1	2	N	24 - 25
9	Hazard 1	1	A	26
10	Tonnage 2	5	N	27 - 31
11	Barge number 2	7	N	32 - 38
12	Barge type 2	1	A	39
13	Commodity 2	2	N	40 - 41
14	Hazard 2	1	A	42
15	Tonnage 2	5	N	43 - 47
16	Barge number 3	7	N	48 - 54
17	Barge type 3	1	A	55
18	Commodity 3	2	N	56 - 57

TRANSAC

FIELD	DESCRIPTION	SIZE	TYPE DATA	POSITION
19	Hazard 3	1	A	58
20	Tonnage 3	5	N	59 - 63
21	Barge number 4	7	N	64 - 70
22	Barge type 4	1	A	71
23	Commodity 4	2	N	72 - 73
24	Hazard 4	1	A	74
25	Tonnage 4	5	N	75 - 79
26	Transaction code	1	A	80

File Name: TRANSAC

Number of Record Types: Six

File Description: monthly input shift, lockage and vessel data

Record Type: Six

Record Description: Lightboat data from form 3102d. There is one record type six per transaction. Record type six is only used when there is a record type five.

Record Length: 80 characters

FIELD	DESCRIPTION	SIZE	TYPE DATA	POSITION
1	Lock	2	N	1 - 2
2	Chamber	1	N	3
3	Sequence	4	N	4 - 7
4	Vessel number	7	N	8 - 14
5	Vessel number 1st lightboat	7	N	15 - 21
6	Vessel number 2nd lightboat	7	N	22 - 28
7	Vessel number 3rd lightboat	7	N	29 - 35
8	Vessel number 4th lightboat	7	N	36 - 42
9	Vessel number 5th lightboat	7	N	43 - 49
10	Vessel number 6th lightboat	7	N	50 - 56
11	FILLER	23	A	57 - 79
12	Transaction code	1	A	80

Appendix D

Valid District EROC Codes

Appendix D

<u>EROC</u>	<u>DISTRICT NAME</u>	<u>DIVISION NAME</u>
B1	Memphis District	Lower Miss Valley Div
B2	New Orleans District	Lower Miss Valley Div
B3	St. Louis District	Lower Miss Valley Div
B4	Vicksburg District	Lower Miss Valley Div
C1	Kansas City District	Missouri River Div
C2	Omaha District	Missouri River Div
D0	Division Office, NED	New England Div
E0	Division Office, NAD	North Atlantic Div
E1	Baltimore District	North Atlantic Div
E2	New England District	North Atlantic Div
E3	New York District	North Atlantic Div
E4	Norfolk District	North Atlantic Div
E5	Philadelphia District	North Atlantic Div
F0	Division Office, NCD	North Central Div
F1	Buffalo District	North Central Div
F2	Chicago District	North Central Div
F3	Detroit District	North Central Div
F4	Rock Island District	North Central Div
F5	St. Paul District	North Central Div
FB	Constr Engr Res Lab	Const Engr Res Lab
G1	Alaska District	North Pacific Div
G2	Portland District	North Pacific Div
G3	Seattle District	North Pacific Div
G4	Walla Walla District	North Pacific Div
H0	Division Office, ORD	Ohio River Div
H1	Huntington District	Ohio River Div
H2	Louisville District	Ohio River Div
H3	Nashville District	Ohio River Div
H4	Pittsburg District	Ohio River Div
J0	Division Office, POD	Pacific Ocean Div
K0	Division Office, SAD	South Atlantic Div
K2	Charleston District	South Atlantic Div
K3	Jacksonville District	South Atlantic Div
K5	Mobile District	South Atlantic Div
K6	Savannah District	South Atlantic Div
K7	Wilmington District	South Atlantic Div
L1	Los Angeles District	South Pacific Div
L2	Sacramento District	South Pacific Div
L3	San Francisco District	South Pacific Div
M1	Albuquerque District	Southwestern Div
M2	Fort Worth District	Southwestern Div
M3	Galveston District	Southwestern Div
M4	Little Rock District	Southwestern Div
M5	Tulsa District	Southwestern Div
P0	Middle East Div	Middle East Div
P5	Engr Auto Supp Activity	Engr Auto Supp Activity

EROCDISTRICT NAMEDIVISION NAME

R0 Waterway Exp Station
R1 Coastal Engr Res Center
R2 Board of Engrs for R&H
R3 Cold Regions Res Eng Lab
R9 Water Rsrce Supp Center
S0 OCE Baltimore
Z1 Appalachin Reg Comm
Z4 Unapportioned (Unreserve)
Z5 Unalloted Apportionment
Z6 National Park Service
Z7 Transportation Dept

Waterway Exp Station
Coastal Engr Res Center
Board of Engrs for R&H
Cold Regions Res Eng Lab
Water Rsrce Supp Center
OCE Baltimore
Appalachin Reg Comm
OCE - Acct # 931
OCE - Acct # 932
National Park Service
Transportation Dept

Appendix E
PMS Control and Option Commands

PMS CONTROL AND OPTION COMMANDS

1. Batch Submission

The control cards for running the PMS programs are a combination of CDC job control language and english-like user supplied parameter cards. All cards begin in card column one and must be punched exactly as seen below.

<u>Card</u>	<u>Remarks</u>
PMSJOB,T0120,CM200000,P3. ^{1,2,3}	The job card sets the priority, core and time limits for the job. In this example, the core size is 200000 decimal words. The priority is 3 and the time is 120 units.
USER,XXXXXX,YYYYYY,KOE ^{1,2,3}	The user card identifies the user number XXXXXX, the password, YYYYYY, and the family.
CHARGE,WWWWW,PPP ^{1,2,3}	The charge card identifies the charge number, WWWWWW, and the project name, PPP.
GET,GENFILE/UN=CEW2PD ^{1,2,3}	This makes the JCL generating program and two necessary data files for execution "local."
GENFILE ^{1,2,3}	Causes the loading and execution of GENJCL and creates as output a local file called PMSEEXEC. This local JCL file is automatically passed to the batch processor for execution with the day file for direction to the user's high-speed printer. Query dayfile for job name of report.
END OF RECORD ^{1,2,3}	This is the end of record mark; the appropriate format must be selected as follows: 7/8/9 multipunch or /EOR (precede PMSJOB card with /JOB card) or issue "WEOR" XEDIT command to put in EOR at terminal.

- 1 JCL
- 2 Edit Run
- 3 Report Run

PREVIOUS PAGE
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<u>Card</u>	<u>Remarks</u>
USER,XXXXXX,YYYYYY,KOE. ^{2,3}	This is the first of the user supplied parameter cards. This card supplies the user number and password to the system. The XXXXXX represents the user number, the YYYYYY the password for the report run to be created and submitted. This is a mandatory card.
CHARGE,WWWWWW,PPP. ^{2,3}	This second user supplied parameter card is also mandatory. This card supplies the system with the charge number and project name for billing. WWWWWW represents the user's charge number and the PPP represents the appropriate project name.
CURRENT MONTH IS MMY ^{2,3}	This also is a mandatory card. When used with reports, it supplies a date for the "SELECT DATA" card if that card is invalid or missing.
DISTRICT XX district name ^{2,3}	The last of the mandatory cards, this entry supplies the EROC code and supplies a default district for the reports in the event of an invalid or missing "SELECT DATA" card. The XX is to be replaced by the proper EROC code.
TIME LIMIT NNN ^{2,3}	Modifies the default time limit of 0120 units. This option should be used with reports 17, 18, 19, 21 at all times or with any report processing large volumes of data. The N's may be replaced by any 4 digits; check maximum allowed on your CDC account.
INCREASE MEMORY TO ZZZZZ ^{2,3}	Where ZZZZZ is the amount of memory, the default is 200000 which is enough for most runs.
RUN STACK WITH PRIORITY N ^{2,3}	This card alters the priority of the job to be run. The priorities are 6, 4, 3, 2, 1 respectively, with 3 as the default. Six is the highest priority job.

- 1 JCL
- 2 Edit Run
- 3 Report Run

<u>Card</u>	<u>Remarks</u>
DIRECT OUTPUT TO OUR BULK TERMINAL (COPE ETC) USER ID:AAAAAA ^{2,3}	This option is used to send printed or punched output to a user name other than the account the job was run from. Typically this account is the RJE account for the district desiring the report. The AAAAAA is replaced with the desired user number (e.g., CEW2RJ).
NO INFORM ^{2,3}	Suppresses printing of the messages file.
DO NOT PUNCH ERROR CARDS ²	For the edit/update, this option suppresses default card punching at users site of transactions found to be in error. This card must be used if the job is processed with the UT200 protocol.
BACKUP 1 CYCLE BEFORE STARTING EDIT ²	For the edit/update, this card allows user to go back one iteration of a current months data for processing. It is to be used where inadvertent damage to the master may be repaired by going to the previous good version, the backup.
RESTART THE MONTH WITH THE CURRENT TRANSACTIONS AS THE INITIAL MASTER FILE ²	For the edit/update, this card is to be used in the event the current master is hopelessly wrong and starting anew from the beginning is the easiest solution. Beware! Use of the option destroys all previous master and backup files.
DO NOT LIST ERROR CARDS ²	For the edit/update, this option suppresses default printing of card images for transactions found to be in error at the user's site.
ADDITIONAL TRANSACTIONS ARE LOCATED IN FILE FFFFFF ²	This option allows a user-created card image disk file to be used as input to the edit/update. The "F's" are to be replaced with the appropriate file name.

1 JCL
2 Edit Run
3 Report Run

<u>Card</u>	<u>Remarks</u>
IGNORE OLD ERROR FILE ²	In the edit/update, when corrections to the master file are not to be made through the error file, this option must be used to prevent the uncorrected data on the error file from updating the master.
GIVE LIST OF ALL INPUT CARDS SUBMITTED IN THIS UPDATE ²	This option generates a listing, sorted by lock and record number, of all cards submitted in an update.
ALL COAST GUARD ³	Allows access to expanded Coast Guard file with all vessel types for reports 16, 17, 17B, 18, 19, 20. Default is Coast Guard file with tows only.
EXTRACTED OUTPUT FILE IS FFFFFFFF ³	FFFFFFF is the name of the file where extracted data is to be saved.
REPORT FILE IS FFFFFFFF ³	FFFFFFF is the name of the file the report is saved under.
BYPASS HISTORICAL TAPES ³	Data is arranged on two tapes, current and historical. The current year and the previous complete calendar year are on the current tape (e.g. current tape = 1983 and 1984). All other data is on a historical tape, GENFILE will get the correct tape based on the year selected except when the calendar year has changed and a district does not have all the previous year's data in the central library. To select the current tape instead of the default historical tape insert this card. Remember, once all of the previous year's data is in the central library you will want the default, current tape, for the current year's data or the previous year. (e.g. The current calendar year is 1957; district Z does not have all 1983 data in central library and so uses "BYPASS" to get 1982 data from current tape; district X has all 1983 data in central library and does not use "BYPASS" card since 1982 data will be

1 JCL
2 Edit Run
3 Report Run

Card

Remarks

RUN PROGRAM 501P5P99 VERSION A^{2,3}

on historical tape). Also, you cannot cross calendar years on a single select card. (i.e. select....1182 to 0283) instead use multiple select cards (i.e. select....1182 to 1282 and select 0183 to 0283).

This card specifies that some specific report be run. It causes the GENJCL program to generate the job control language and parameter cards to execute the appropriate program. The last two digits of the sample (99) should be replaced with the appropriate program number. (See Table G-1)

SELECT DATA FOR XX FROM M1Y1 TO M2Y2³

or

SELECT DATA FOR XX FROM M1Y1 TO M2Y2 for LKC³

This card specifies the district and dates of data to be reported. The XX is to be replaced with the appropriate EROC code; M1Y1 is the beginning month and year of the data; M2Y2 is the ending month and year of the data. Using the optional form shown in the second example allows the extraction of data from a single chamber. In most cases, multiple select data cards may be used. The exceptions are PMS 22, 23 and 24. The PMS lock code should replace LK and the chamber code should replace C. Lock and chamber code must both be specified.

- 1 JCL
- 2 Edit Run
- 3 Report Run

2. Interactive Submission

The following information on format and content is in addition to the self-explanatory prompts in the GENINT procedure. Within each prompt is (1) the response format including required punctuation and (2) maximum number of characters permitted for the entry.

1) USERNAME, PASSWORD (CEXXXX, PPPPPP [15])

This is your CDC username and password. If you enter this item incorrectly you will be logged off when the job is submitted.

2) CHARGE NUMBER, PROJECT (CEXXXXX, PPP [23])

This is your CDC charge number and project. This entry has a maximum of twenty-three characters. Depending on the length of your charge number (including the comma), the balance of characters can be used for the project. If this item is entered incorrectly you will be logged off when the job is submitted.

3) CURRENT MONTH AND YEAR (MMYY [4])

This is the present calendar month and year in a numeric format. The months should be entered as 01 to 12. (e.g. 0284, not 284)

4) DISTRICT CODE (XX [2])

This is your district's code. See Appendix F for a list of valid entries.

The next series of prompts require a Y(yes) or N(no) response. Some prompts will query for additional information after a Y response. Any entry other than Y or N will be treated as an N entry.

5) INFORM FILE - A yes will cause the printing of PMS message file (including sample run decks, utilities, upgrades and modifications) along with your other output.

6) EXTRACT DATA ONLY - This option, used with report program numbers XL, XS and XT, allows the data selected to be saved to a file name of your choice under your account. (Be sure not to exceed your CDC username file size limits). This is useful when a district has local programs it wants to execute using PMS data.

7) REPORT SAVED - This option will save any report to a file name of your choosing under your CDC username. You may then download the information to a micro for use with word processing, graphics and spreadsheet software. The report is saved, including headers, just as it would be printed. (Be sure you do not exceed the file size limits on your CDC username.)

8) DIRECT OUTPUT - This sends output to be printed to a username other than the one specified on the user card. It is useful when a district maintains a username for retrieval of remote jobs (RJE). If the username is entered incorrectly, the job will be lost! This is for single copy output.

9) TWO COPIES OF OUTPUT - This option allows the disposition of an additional copy of the report. Enter username where second copy is to be sent. An incorrect username will cause that copy to be lost.

10) INCREASE TIME LIMIT - When large reports or ranges of data are processed, you may need to increase the time limit to avoid losing output with an "Account Block SBU Limit" error. This is a numeric entry. Default is 0120 and the maximum is the limit on your CDC username.

11) BYPASS HISTORICAL TAPES - Data is arranged on two tapes, current and historical. Normally, the current year and the previous complete calendar year are on the "current" tape (e.g. 1983 and 1984) and all other data are on a historical tape. GENINT will get the correct tape based on the year selected except when the calendar year has changed and a district does not have all the previous year's data in the central library. To select the current tape instead of the default historical tape, respond "Y" to the prompt (e.g. current calendar year = 84, but district Z does not have all 1983 data in central library so the current tape for District Z has 82 and 83. Since 82 would normally be on historic tape, it is necessary to tell the program to bypass the historic tape when processing for Z. District X has all 1983 data in Central Library; do not use "Bypass" since 1982 data will be on the historical tape).

12) EXPANDED COAST GUARD FILE - The Coast Guard file is used to supply vessel names, owner names and horsepower for reports 17-21. It is maintained in two versions, "Tows Only" and the expanded version with all vessel types included. Use of the expanded file will increase processing time and costs.

13) PRIORITY (X [1]) - Self-explanatory.

14) REPORT NUMBER (XX [2])

This is the run number or letter pair identifying each report. See table G-1 for listing of reports and their run identifiers.

15) RUN ANOTHER REPORT, SAME RUN - You may process a maximum of 50 reports in one run. Keep in mind, CDC username and system limits, amount of output, and restrictions for some PMS reports.

16) REPORT DISTRICT CODE See Appendix F for list of valid codes.

17) SPECIFIC LOCK & CHAMBER - See Appendix J for list of valid codes. Be sure to include a card for each chamber of the lock.

18) STARTING/ENDING MONTH & YEAR (MMYY [4])

Format is numeric with months from 01 to 12 and year not before 75.

19) ADDITIONAL DATA IN THIS RUN - Respond "Y" to select auxiliary chamber of lock, new lock or different dates. For PMS reports 22, 23, and 24 the response should be "N".

Table E-1

PMS Report Identifiers

<u>Card</u>	<u>Invoked Activity</u>
RUN PROGRAM 501P5P40 VERSION A	Copy files to central library.
RUN PROGRAM 501P5050 VERSION A	Causes the execution of the edit/update program.
RUN PROGRAM 501P5PXL	Causes the extractions of detail lockage data as specified in the "SELECT DATA" card and the replacing of this data as an indirect access file named by the "EXTRACTED OUTPUT FILE" option under the username the job was charged to. The output file is likely to be large.
RUN PROGRAM 501P5PXS	Causes the extraction of summary data as specified in the "SELECT DATA" card and the replacement of this data as an indirect access file named by the "EXTRACTED OUTPUT FILE" option under the username where the job was charged.
RUN PROGRAM 501P5PXT	Causes the extraction of standard data as specified on the "SELECT DATA" card and the replacement of this data as an indirect access file named by the "EXTRACTED OUTPUT FILE" option under the username where the job was charged.
RUN PROGRAM 501P5PLC	Runs Lockop program from central library data
RUN PROGRAM 501P5PLM	Runs Lockop from edit master file on your account
RUN PROGRAM 501P5P54 VERSION A	PMS3E, Lock Analysis Report PMS3F, Lock Analysis Report
RUN PROGRAM 501P5P57 VERSION A	PMS 4, Stall Analysis Report
RUN PROGRAM 501P5P58 VERSION A	PMS 5, Vessel Frequency Analysis Report
RUN PROGRAM 501P5P59 VERSION A	PMS 6, Lock Utilization Analysis Report
RUN PROGRAM 501P5P61 VERSION A	PMS 8, Exceptional Performance Events Report

<u>Card</u>	<u>Invoked Activity</u>
RUN PROGRAM 501P5P62 VERSION A	PMS 10, Exceptional Performance Summary Report
RUN PROGRAM 501P5P64 VERSION A	PMS 12, Commodity Barge Type Report
RUN PROGRAM 501P5P65 VERSION A	PMS 13, Arrival Frequency Analysis Report
RUN PROGRAM 501P5P66 VERSION A	PMS 14, Inter-Arrival Distribution Report
RUN PROGRAM 501P5P67 VERSION A	PMS 15, Delay Time Frequency Analysis Report
RUN PROGRAM 501P5P68 VERSION A	PMS 16, Horsepower Frequency Report
RUN PROGRAM 501P5P69 VERSION A*	PMS 17, Tow Transit Analysis Detailed Vessel Report
RUN PROGRAM 501P5P69 VERSION B	PMS 17, Modified to Report Barge Commodity and Tonnage
RUN PROGRAM 501P5P70 VERSION A	PMS 18, Tow Transit Analysis Detailed Lock Report
RUN PROGRAM 501P5P71 VERSION A	PMS 19, Tow Transit Analysis Summary Report
RUN PROGRAM 501P5P72 VERSION A*	PMS 20, Detailed Tow Company Analysis
RUN PROGRAM 501P5P74 VERSION A**	PMS 22, Corps of Engineers Lock Tonnage Report
RUN PROGRAM 501P5P75 VERSION A**	PMS 23, Corps of Engineers Lockage Report
RUN PROGRAM 501P5P76 VERSION A**	PMS 24, Lock Utilization Summary Report
RUN PROGRAM 501P5P77 VERSION A	PMS 25, Lock Performance Summary Report
RUN PROGRAM 501P5P78 VERSION A	PMS 26, Lock Delay Summary Graph
RUN PROGRAM 501P5P79 VERSION A	PMS 27, Lock Service Summary Graph
RUN PROGRAM 501P5P80 VERSION A	PMS 28, Lock Queue Summary Graph
RUN PROGRAM 501P5P81 VERSION A	PMS 29, Tows Processed

* Must contact PMS Coordinator at EASA to run.

** Will ignore all except first "SELECT DATA" card and ignore "FROM MMY", extracting all data from 1 January to the "TO MMY" month and year.

<u>Card</u>	<u>Invoked Activity</u>
RUN PROGRAM 501P5P82 VERSION A	PMS 30, Kilotons Processed
RUN PROGRAM 501P5P83 VERSION A	PMS 31, Percent Utilization
RUN PROGRAM 501P5P84 VERSION A	PMS 32, Total Barges Processed
RUN PROGRAM 501P5P85 VERSION A	PMS 33, Percent Empty Barges Processed
RUN PROGRAM 501P5P86 VERSION A	PMS 34, Total Delay Time
RUN PROGRAM 501P5P87 VERSION A	PMS 35, Average Delay Time
RUN PROGRAM 501P5P88 VERSION A	PMS 36, Barges Per Hour of Tow Process Time
RUN PROGRAM 501P5P89 VERSION A	PMS 37, Tons Per Minute of Tow Processing Time
RUN PROGRAM 501P5P90 VERSION A	PMS 38, Kilotons Per Tow
RUN PROGRAM 501P5P91 VERSION A	PMS 39, Kilotons Per Lockage
RUN PROGRAM 501P5P92 VERSION A	PMS 40, Tows Per Day
RUN PROGRAM 501P5P93 VERSION A	PMS 41, Kilotons Per Day
RUN PROGRAM 501P5P94 VERSION A	PMS 42, Barges Per Day
RUN PROGRAM 501P5P95 VERSION A	PMS 43, Barges Per Tow
RUN PROGRAM 501P5P96 VERSION A	PMS 44, Other Vessels Per Tow Lockage
RUN PROGRAM 501P5P97 VERSION A	PMS 45, Average Processing Time Per Tow

Appendix F

Sample Report Outputs

Report Descriptions

<u>REPORT</u>	<u>REPORT DESCRIPTION</u>	<u>NO. OF PAGES¹ IN REPORT</u>	<u>PAGE</u>
PMS 3E & 3F	Lock Analysis Report - Time Distribution on Approach, Entry and Exit Type	64	9C
PMS 4	Stall Analysis Report - Stall and Inter- ference Events by Type of Stall	2	92
PMS 5	Vessel Frequency Analysis Report - Upbound, Downbound and Total Average Times by Vessel Type	2	93
PMS 6	Lock Utilization Analysis Report - Chamber Utilization by Operation Type in Hours	2	94
PMS 8	Exceptional Performance Events Report - Upbound, Downbound Performance Range Poorer to Better than Normal by Lockage Element	320	95
PMS 10	Exceptional Performance Summary Report - Upbound and Downbound by Lockage Element	8	99
PMS 12 ⁴	Commodity Barge Type Report - Upbound, Downbound and Totals by Commodity	6	101
PMS 13	Arrival Frequency Analysis Report - Upbound, Downbound and Totals by Vessel Types and Arrivals by Day	90	102
PMS 14	Inter-arrival Distribution Report - Tow, Other Vessel and Total Arrivals by Day	30	105
PMS 15	Delay Time Frequency Analysis Report - Time Loss and Dollar Loss by Main Chamber	4	108
PMS 16 ⁴	Horsepower Frequency Distribution Report - Upbound, Downbound, and Total Tows by Barge Type and Horsepower	36	109
PMS 17 ⁴	Tow Transit Analysis Detailed Vessel Report - Analysis of Vessel Travel from Lock to Lock	191	110
PMS 17B ⁴	- Reports Barge, Commodity Tonnage	191	111

1 Data for one month at two locks in the New Orleans District

4 Distribution restricted to Corps personnel

<u>REPORT</u>	<u>REPORT DESCRIPTION</u>	<u>NO. OF PAGES¹ IN REPORT</u>	<u>PAGE</u>
PMS 18 ⁴	Tow Transit Analysis Detailed Lock Report - Upbound and Downbound Vessel Travel by Lock	33	112
PMS 19	Tow Transit Analysis Summary Report - Upbound and Downbound Vessel Travel Statistics by Lock	2	113
PMS 20 ^{2,4}	Detailed Tow Company Analysis	13	114
PMS 22 ⁴	Corps of Engineers Lock Tonnage Report - Upbound, Downbound Tonnage by River, Lock, and Commodity Monthly/Ytd.	2	115
PMS 23	Corps of Engineers Lockage Report Number of Tows and Tow Delay Time by River, Lock and Chamber Monthly/Ytd.	1	116
PMS 24	Lock Utilization Summary Report - Summary by Lock	1	117
PMS 25	Lock Performance Summary Report	13	118
PMS 26	Lock Delay Summary Graph - Two Graphs: Average Delay Upbound in Hours Average Delay Downbound in Hours	2	119
PMS 27	Lock Service Summary Graph - Four Part Graph Including Total Barge Tonnage (Ktons), number tows Processed, Avg Delay Time (Hrs) and number of Recreational Vessels by River	1	121
PMS 28	Lock Que Summary Graph - Three Graphs: Average Number of Tows in Que by Time of Day in Hours Upbound, Downbound, and Total	2	122
PMS 29	Summary Graphic Report - Tows Processed by Chamber, Lock and River	1	124
PMS 30	Summary Graphic Report - Ktons Processed by Chamber, Lock and River	1	125

-
- 1 Data for one month at two locks in the New Orleans District
 - 2 Run for only one company
 - 3 There will be one page per company
 - 4 Distribution restricted to Corps personnel

<u>REPORT</u>	<u>REPORT DESCRIPTION</u>	<u>NO. OF PAGES¹ IN REPORT</u>	<u>PAGE</u>
PMS 31	Summary Graphic Report - Percent Util- ization by Chamber, Lock and River	1	126
PMS 32	Summary Graphic Report - Total Barges by Chamber, Lock and River	1	127
PMS 33	Summary Graphic Report - Percent of Empty Barges by Chamber, Lock and River	1	128
PMS 34	Summary Graphic Report - Total Delay Hours by Chamber, Lock and River	1	129
PMS 35	Summary Graphic Report - Average Delay Minutes by Chamber, Lock and River	1	130
PMS 36	Summary Graphic Report - Barge Per Hour of Tow Processing Time by Chamber, Lock and River	1	131
PMS 37	Summary Graphic Report - Tons Per Minutes of Tow Processing Time by Chamber, Lock and River	1	132
PMS 38	Summary Graphic Report - Ktons Per Tow by Chamber, Lock and River	1	133
PMS 39	Summary Graphic Report - Ktons per Lockage by Chamber, Lock and River	1	134
PMS 40	Summary Graphic Report - Tows Per Day by Chamber, Lock and River	1	135
PMS 41	Summary Graphic Report - Ktons Per Day by Chamber, Lock and River	1	136
PMS 42	Summary Graphic Report - Barges Per Day by Chamber, Lock and River	1	137
PMS 43	Summary Graphic Report - Barges Per Tow by Chamber, Lock and River	1	138
PMS 44	Summary Graphic Report - Other Vessels Per Tow by Chamber, Lock and River	1	139
PMS 45	Summary Graphic Report, Average Processing Per Tow in Hours by Chamber, Lock and River	1	140

1 Data for one month at two locks in the New Orleans District

B2
GULF INIRACOASTAL
LOCK CODE: 01

LOCK ANALYSIS REPORT
PORT ALLEN LOCK
MARCH 1981

PMS: 3E
PAGE: 1
RUN DATE: 01/03/83
TIME: 0752

(CHAMBER: 01)

FLY APPROACH TIME DISTRIBUTION

		FREQUENCY ANALYSIS (NUMBER OF VESSELS)																	
		TIME INTERVALS (MINUTES)																	
LOCKAGE TYPE	DIR	01-04	05-08	09-12	13-16	17-20	21-24	25-28	29-32	33-36	37-40	41-44	45-48	49-UP	TOTAL	AVG	TIME		
SINGLE TOW	UP	0	17	9	18	9	0	3	1	1	1	0	0	0	59	13			
	DOWN	0	11	18	10	6	7	3	1	3	1	0	0	0	60	15			
	BOTH	0	28	27	28	15	7	6	2	4	2	0	0	0	119	14			
DOUBLE	UP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	DOWN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	BOTH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
MULTI-CUT>2	UP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	DOWN	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
	BOTH	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			

		PERCENT ANALYSIS																	
		TIME INTERVALS (MINUTES)																	
LOCKAGE TYPE	DIR	01-04	05-08	09-12	13-16	17-20	21-24	25-28	29-32	33-36	37-40	41-44	45-48	49-UP	TOTAL				
SINGLE TOW	UP	0	28	15	30	15	0	5	1	1	1	0	0	0	96				
	DOWN	0	18	30	16	10	11	5	1	5	1	0	0	0	97				
	BOTH	0	23	22	23	12	5	5	1	3	1	0	0	0	95				
DOUBLE	UP	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
	DOWN	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
	BOTH	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
MULTI-CUT>2	UP	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
	DOWN	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
	BOTH	0	0	0	0	0	0	0	0	0	0	0	0	0	0				

D2
GULF INTRACOASTAL
LOCK CODE: 01

LOCK ANALYSIS REPORT
PORT ALLEN LOCK
MARCH 1981

PMS: 3F
PAGE: 1
RUN DATE: 01/03/83
TIME: 0752

(CHAMBER: 01)

TURNBACK TIME DISTRIBUTION				WAITING TIME DISTRIBUTION			
TIME(MIN)	UP	DOWN	BOTH	TIME(MIN)	UP	DOWN	BOTH
01-02	00	00	00	001-005	22	25	47
03-04	00	00	00	006-010	32	32	64
05-07	00	01	00	011-015	29	20	49
08-10	12	12	24	016-020	28	29	57
11-13	13	19	32	021-025	20	24	44
14-16	21	13	34	026-030	19	14	33
17-19	04	06	10	031-035	11	08	19
20-22	04	02	06	036-040	10	17	27
23-25	04	00	04	041-045	08	09	17
26-28	00	00	00	046-050	07	07	14
29-31	00	00	00	051-055	09	09	18
32-34	00	00	00	056-060	13	08	21
35-37	00	00	00	061-070	10	21	31
38-40	00	00	00	071-080	14	08	22
41-43	00	00	00	081-090	09	09	18
44-46	00	00	00	091-100	08	09	17
47-49	00	00	00	101-110	08	07	15
50-52	00	00	00	111-120	06	07	13
53-55	00	00	00	121-130	06	05	11
56-58	00	00	00	131-140	04	09	13
59-UP	02	00	02	141-150	08	03	11
TOTAL	60	53	113	151-160	03	02	05
AVG TIME	16	13	15	161-170	04	05	09
				171-180	04	02	06
				181-190	02	01	03
				191-200	01	02	03
				201-210	02	02	04
				211-220	00	03	03
				221-230	02	00	02
				231-240	00	01	01
				241-250	00	03	03
				251-260	00	00	00
				261-270	02	00	02
				271-280	01	01	02
				281-290	01	01	02
				291-300	01	00	01
				301-310	06	03	09
				311-320	02	01	03
				321-330	02	00	02
				331-340	00	00	00
				341-350	00	00	00
				351-360	00	00	00
				361-370	00	00	00
				371-380	00	00	00
				381-390	00	00	00
				391-400	00	00	00
				401-410	00	00	00
				411-420	00	00	00
				421-430	00	00	00
				431-440	00	00	00
				441-450	00	00	00
				451-460	00	00	00
				461-470	00	00	00
				471-480	00	00	00
				481-490	00	00	00
				491-500	00	00	00
				501-510	00	00	00
				511-520	00	00	00
				521-530	00	00	00
				531-540	00	00	00
				541-550	00	00	00
				551-560	00	00	00
				561-570	00	00	00
				571-580	00	00	00
				581-590	00	00	00
				591-600	00	00	00
				601-UP	00	00	00
				TOTAL	314	307	621
				AVG TIME	66	60	63

92
GULF INTRACOASTAL
LOCK CODE: 01

S T A L L A N A L Y S I S R E P O R T PORT ALLEN LOCK MARCH 1981

PMS: 4
PAGE: 1
RUN DATE: 01/03/83
TIME: 0752

(CHAMBER: 01)

TYPE OF STALL--				STALL EVENTS				INTERFERENCE EVENTS				
CODE	DESCRIPTION	NUMBER OF EVENTS	PERCENT OF EVENTS	TOTAL TIME HRS:MM	PERCENT OF TOTAL TIME	AVERAGE TIME STALLED HRS:MM	MINIMUM TIME STALLED HRS:MM	MAXIMUM TIME STALLED HRS:MM	STANDARD DEVIATION HRS:MM	NUMBER OF EVENTS	PERCENT OF EVENTS	PERCENT OF TOTAL LOCKAGES
A	FOG	0	0.00	0:00	0.00	0:00	0:00	0:00	0:00	0	0.00	0.00
B	RAIN	0	0.00	0:00	0.00	0:00	0:00	0:00	0:00	0	0.00	0.00
C	SLEET/HAIL	0	0.00	0:00	0.00	0:00	0:00	0:00	0:00	0	0.00	0.00
D	SNOW	0	0.00	0:00	0.00	0:00	0:00	0:00	0:00	0	0.00	0.00
E	WIND	0	0.00	0:00	0.00	0:00	0:00	0:00	0:00	0	0.00	0.00
F	UNKNOWN	0	0.00	0:00	0.00	0:00	0:00	0:00	0:00	0	0.00	0.00
G	UNKNOWN	0	0.00	0:00	0.00	0:00	0:00	0:00	0:00	0	0.00	0.00
H	ICE	0	0.00	0:00	0.00	0:00	0:00	0:00	0:00	0	0.00	0.00
I	CURRENT	0	0.00	0:00	0.00	0:00	0:00	0:00	0:00	0	0.00	0.00
J	FLOOD	0	0.00	0:00	0.00	0:00	0:00	0:00	0:00	0	0.00	0.00
K	VSL INTRF	1	6.25	0:40	7.51	0:40	0:40	0:40	0:00	1	19.99	0.17
L	TON BRKDN	2	12.50	0:59	11.09	0:29	0:20	0:39	0:00	0	0.00	0.00
M	TON STAFF	1	6.25	0:36	7.14	0:38	0:00	0:00	0:00	0	0.00	0.00
N	UNKNOWN	0	0.00	0:00	0.00	0:00	0:00	0:00	0:00	0	0.00	0.00
O	UNKNOWN	0	0.00	0:00	0.00	0:00	0:00	0:00	0:00	0	0.00	0.00
P	UNKNOWN	0	0.00	0:00	0.00	0:00	0:00	0:00	0:00	0	0.00	0.00
Q	DEBRIS	1	6.25	0:22	4.13	0:22	0:22	0:22	0:00	0	0.00	0.00
R	LOCK MAL	1	6.25	0:35	6.57	0:35	0:00	0:00	0:00	0	0.00	0.00
S	LOCK STAFF	0	0.00	0:00	0.00	0:00	0:00	0:00	0:00	2	39.99	0.35
T	TESTING	0	0.00	0:00	0.00	0:00	0:00	0:00	0:00	0	0.00	0.00
U	UNKNOWN	0	0.00	0:00	0.00	0:00	0:00	0:00	0:00	0	0.00	0.00
V	UNKNOWN	0	0.00	0:00	0.00	0:00	0:00	0:00	0:00	0	0.00	0.00
W	COLLISION	3	18.75	1:50	20.67	0:36	0:00	0:00	0:00	0	0.00	0.00
X	BRIDGE	4	25.00	1:34	17.66	0:23	0:14	0:00	0:00	2	39.99	0.35
Y	DETAINED	0	0.00	0:00	0.00	0:00	0:00	0:00	0:00	0	0.00	0.00
Z	OTHER	3	18.75	2:14	25.18	0:44	0:14	1:00	0:26	0	0.00	0.00
TOTAL		16	100.00	8:52	100.00	0:33	0:14	1:00	0:14	5	100.00	0.87

32

GULF INTRACOASTAL
LOCK CODE: 02

VESSEL FREQUENCY ANALYSIS REPORT

BAYOU SORREL LOCK
MARCH 1981

PMS: 5

PAGE: 2

RUN DATE: 01/03/83
TIME: 0752

(CHAMBER: 01)

--TYPE VESSEL--	--UPBOUND--				--DOWNBOUND--				--TOTAL--			
	NUMBER VESSELS	-AVERAGE (MINUTES) PROCSNG	WAIT	PASSNGR COUNT	NUMBER VESSELS	-AVERAGE (MINUTES) PROCSNG	WAIT	PASSNGR COUNT	NUMBER VESSELS	-AVERAGE (MINUTES) PROCSNG	WAIT	PASSNGR COUNT
TOTAL	425	28	35	34	414	28	40	39	839	28	38	73
PASSENGER BOATS	347	31	42	34	338	31	48	39	685	31	45	73
RECREATIONAL	0	0	0	0	1	20	0	0	1	20	0	0
CARGO VESSELS	0	0	0	0	0	0	0	0	0	0	0	0
U.S. GOVT TONS	0	0	0	0	0	0	0	0	0	0	0	0
U.S. GOVT OTHER	0	0	0	0	0	0	0	0	0	0	0	0
COMM FISHING	0	0	0	0	0	0	0	0	0	0	0	0
OTHER	0	0	0	0	0	0	0	0	0	0	0	0
LIGHTBOATS	49	20	8	0	49	19	10	0	98	20	0	0
LIGHTBOATS(WITH OTHER VESSELS)	29	NA	NA	0	26	NA	NA	0	55	NA	NA	0
RECREATION(WITH OTHER VESSELS)	0	NA	NA	0	0	NA	NA	0	0	NA	NA	0

B2
GULF INTRACOASTAL
LOCK CODE: 01

LOCK UTILIZATION ANALYSIS REPORT
PORT ALLEN LOCK
MARCH 1981

PMS: 6
PAGE: 1
RUN DATE: 01/04/83
TIME: 0608

(CHAMBER: 01)

OPERATION	CHAMBER UTILIZATION				NUMBER OF LOCKAGES			
	UPBOUND HOURS	UPBOUND % TOTAL	DOWNBOUND HOURS	DOWNBOUND % TOTAL	TOTAL HOURS	TOTAL % TOTAL	UPBOUND COUNT	UPBOUND % TOTAL
VESSEL	175.7	23.6	176.1	23.7	351.8	47.3	336	97.7
COMMERCIAL	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0
RECREATIONAL	0.7	0.1	0.7	0.1	1.4	0.2	8	2.3
GOVERNMENT	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0
OTHER	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0
MIXED	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0
ALL	176.4	23.7	176.8	23.8	353.2	47.5	344	100.0
LOCK	82.5	11.1	76.8	10.3	159.3	21.4	327	98.2
COMMERCIAL VESSELS	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0
RECREATIONAL VESSELS	0.8	0.1	0.8	0.1	1.6	0.2	6	1.8
GOVERNMENT VESSELS	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0
OTHER VESSELS	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0
MIXED VESSELS	0.0	0.0	0.0	0.0	0.0	0.0	0	0.0
ALL VESSELS	83.3	11.2	77.6	10.4	160.9	21.6	333	100.0
STALLED					8.9	1.2		
OPEN PASS	0.0	0.0	0.0	0.0	0.0	0.0		
IDLE					186.7	25.1		
TOTAL	259.7	34.9	254.4	34.2	709.7	95.4		

B2
GULF INTRACOASTAL
LOCK CODE: 01

EXCEPTIONAL PERFORMANCE EVENTS REPORT
PORT ALLEN LOCK
MARCH 1981

PMS: 8
PAGE: 1
RUN DATE: 01/04/83
TIME: 0608

(CHAMBER: 01)

PERFORMANCE POORER THAN NORMAL (UPBOUND)

-----LOCKAGE ELEMENT-----										LOCKAGE TYPE-----										TOTAL													
LIMITS										KNOCK- JACK- MULTI- NAVIG OPEN OTHER BARGED																							
-SINGLE CUT-										OUT KNIFE PLE PASS PASS MIN MAX MIN MAX MIN MAX																							
APPROACH (FLY)										MIN MAX MIN MAX MIN MAX MIN MAX MIN MAX MIN MAX																							
LOCKAGES CONSIDERED-										59										11										70			
NO. OF EXCEPTIONAL LOCKAGES										6										3										9			
% BY LOCKAGE TYPE										10.17										27.27										.00			
% OF TOTAL LOCKAGES										8.57										4.29										.00			
TOTAL EXCESS TIME (HRS:MIN)										:59										:08										:00			
% OF TOTAL ELEMENT TIME										7.30										4.40										.00			
% OF TOTAL PROCESSING TIME										1.98										1.22										.00			
% OF AVAILABLE LOCK TIME										.13										.02										.00			
AVG EXCESS TIME-EXC LKGS(HRS:MM)										:09										:02										:00			
AVG EXCESS TIME-ALL LKGS(HRS:MM)										:01										:00										:00			
MINIMUM EXCEPTION (HRS:MM)										:05										:02										:00			
MAXIMUM EXCEPTION (HRS:MM)										:20										:03										:00			
STANDARD DEVIATION (HRS:MM)										:06										:00										:00			
UNIDENTIFIED LOCKAGE TYPE -																																	

B2
GULF INTRACOASTAL
LOCK CODE: 01

EXCEPTIONAL PERFORMANCE EVENTS REPORT
PORT ALLEN LOCK
MARCH 1981

PMS: 8
PAGE: 5
RUN DATE: 01/04/83
TIME: 0608

(CHAMBER: 01)

PERFORMANCE POORER THAN NORMAL (UPBOUND)

-----LOCKAGE ELEMENT-----										LOCKAGE TYPE												TOTAL										
LIMITS										STRGHT		SETOVR		KNOCK- OUT		JACK- KNIFE		MULTI- PLE		NAVIG PASS		OPEN PASS		OTHER STRGHT		BARGED TRANS		TOTAL				
										MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX			
-SINGLE CUT-										7	15	0	0	0	0	0	0	4	14	0	0	0	0	0	0	0	0	0	0	0	0	0
LOCKAGES CONSIDERED-										206								106												312		
NO. OF EXCEPTIONAL LOCKAGES										26								20										46				
% BY LOCKAGE TYPE										12.62		.00	.00	.00	.00	.00	.00	18.87		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	14.74		
% OF TOTAL LOCKAGES										8.33		.00	.00	.00	.00	.00	.00	6.41		.00	.00	.00	.00	.00	.00	.00	.00	.00	14.74			
TOTAL EXCESS TIME (HRS:MIN)										2:12		.00	.00	.00	.00	.00	.00	1:23		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	3:35		
% OF TOTAL ELEMENT TIME										5.66		.00	.00	.00	.00	.00	.00	7.86		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	6.34		
% OF TOTAL PROCESSING TIME										1.19		.00	.00	.00	.00	.00	.00	1.20		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.20	
% OF AVAILABLE LOCK TIME										.30		.00	.00	.00	.00	.00	.00	.19		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.48	
AVG EXCESS TIME-EXC LKGS(HRS:MN)										105		.00	.00	.00	.00	.00	.00	104		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	109		
AVG EXCESS TIME-ALL LKGS(HRS:MN)										100		.00	.00	.00	.00	.00	.00	100		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	100	
MINIMUM EXCEPTION (HRS:MN)										101		.00	.00	.00	.00	.00	.00	101		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	100	
MAXIMUM EXCEPTION (HRS:MN)										15		.00	.00	.00	.00	.00	.00	21		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	100
STANDARD DEVIATION (HRS:MN)										103		.00	.00	.00	.00	.00	.00	105		.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	100
UNIDENTIFIED LOCKAGE TYPE -																														0		

B2
GULF INTRACOASTAL
LOCK CODE: 01

EXCEPTIONAL PERFORMANCE EVENTS REPORT
PORT ALLEN LOCK
MARCH 1981

PMS: 8
PAGE: 5
RUN DATE: 01/04/83
TIME: 0608

(CHAMBER: 01)

PERFORMANCE POORER THAN NORMAL (UPBOUND)

LOCKAGE ELEMENT		STIRGT		SETOVR		KNOCK- OUT		JACK- KNIFE		MULTI- PLE		LOCKAGE TYPE		OPEN		OTHER		BARGED		TOTAL	
MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX
11	17	0	0	0	0	0	0	0	0	11	31	0	0	0	0	0	0	0	0	0	0
LIMITS																					
-SINGLE CUT-																					
CHAMBERING																					
LOCKAGES CONSIDERED-																					
NO. OF EXCEPTIONAL LOCKAGES																					
% BY LOCKAGE TYPE																					
TOTAL EXCESS TIME (HRS:MIN)																					
% OF TOTAL ELEMENT TIME																					
% OF TOTAL PROCESSING TIME																					
% OF AVAILABLE LOCK TIME																					
AVG EXCESS TIME-EXC LKGS(HRS:MN)																					
AVG EXCESS TIME-ALL LKGS(HRS:MN)																					
MINIMUM EXCEPTION (HRS:MN)																					
MAXIMUM EXCEPTION (HRS:MN)																					
STANDARD DEVIATION (HRS:MN)																					
UNIDENTIFIED LOCKAGE TYPE -																					

B2
GULF INTRACOASTAL
LOCK CODE: 01

EXCEPTIONAL

PERFORMANCE
PORT ALLEN LOCK
MARCH 1981

EVENTS REPORT

PMS: 8
PAGE: 6
RUN DATE: 01/04/83
TIME: 0608

(CHAMBER: 01)

PERFORMANCE POORER THAN NORMAL (UPBOUND)

LOCKAGE ELEMENT		STRGHT		SETOVR		KNOCK- OUT		JACK- KNIFE		MULTI- PLE		LOCKAGE TYPE		OTHER		BARGED		TOTAL	
MIN MAX		MIN MAX		MIN MAX		MIN MAX		MIN MAX		MIN MAX		MIN MAX		MIN MAX		MIN MAX		MIN MAX	
6	14	0	0	0	0	0	0	0	0	7	19	0	0	0	0	0	0	0	0
53		12		2		65		8											
11.32	9.23	16.67	3.08	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	12.31	12.31
7.09	1.42	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	6.98	1.42
.09	.06	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.11	.11
AVG EXCESS TIME-EXC LKGS(HRS:MN)	AVG EXCESS TIME-ALL LKGS(HRS:MN)	AVG EXCESS TIME-EXC LKGS(HRS:MN)	AVG EXCESS TIME-ALL LKGS(HRS:MN)	AVG EXCESS TIME-EXC LKGS(HRS:MN)	AVG EXCESS TIME-ALL LKGS(HRS:MN)	AVG EXCESS TIME-EXC LKGS(HRS:MN)	AVG EXCESS TIME-ALL LKGS(HRS:MN)	AVG EXCESS TIME-EXC LKGS(HRS:MN)	AVG EXCESS TIME-ALL LKGS(HRS:MN)	AVG EXCESS TIME-EXC LKGS(HRS:MN)	AVG EXCESS TIME-ALL LKGS(HRS:MN)	AVG EXCESS TIME-EXC LKGS(HRS:MN)	AVG EXCESS TIME-ALL LKGS(HRS:MN)	AVG EXCESS TIME-EXC LKGS(HRS:MN)	AVG EXCESS TIME-ALL LKGS(HRS:MN)	AVG EXCESS TIME-EXC LKGS(HRS:MN)	AVG EXCESS TIME-ALL LKGS(HRS:MN)	AVG EXCESS TIME-EXC LKGS(HRS:MN)	AVG EXCESS TIME-ALL LKGS(HRS:MN)
100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
MINIMUM EXCEPTION (HRS:MN)	MINIMUM EXCEPTION (HRS:MN)	MINIMUM EXCEPTION (HRS:MN)	MINIMUM EXCEPTION (HRS:MN)	MINIMUM EXCEPTION (HRS:MN)	MINIMUM EXCEPTION (HRS:MN)	MINIMUM EXCEPTION (HRS:MN)	MINIMUM EXCEPTION (HRS:MN)	MINIMUM EXCEPTION (HRS:MN)	MINIMUM EXCEPTION (HRS:MN)	MINIMUM EXCEPTION (HRS:MN)	MINIMUM EXCEPTION (HRS:MN)	MINIMUM EXCEPTION (HRS:MN)	MINIMUM EXCEPTION (HRS:MN)	MINIMUM EXCEPTION (HRS:MN)	MINIMUM EXCEPTION (HRS:MN)	MINIMUM EXCEPTION (HRS:MN)	MINIMUM EXCEPTION (HRS:MN)	MINIMUM EXCEPTION (HRS:MN)	MINIMUM EXCEPTION (HRS:MN)
113	104	107	102	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
STANDARD DEVIATION (HRS:MN)	STANDARD DEVIATION (HRS:MN)	STANDARD DEVIATION (HRS:MN)	STANDARD DEVIATION (HRS:MN)	STANDARD DEVIATION (HRS:MN)	STANDARD DEVIATION (HRS:MN)	STANDARD DEVIATION (HRS:MN)	STANDARD DEVIATION (HRS:MN)	STANDARD DEVIATION (HRS:MN)	STANDARD DEVIATION (HRS:MN)	STANDARD DEVIATION (HRS:MN)	STANDARD DEVIATION (HRS:MN)	STANDARD DEVIATION (HRS:MN)	STANDARD DEVIATION (HRS:MN)	STANDARD DEVIATION (HRS:MN)	STANDARD DEVIATION (HRS:MN)	STANDARD DEVIATION (HRS:MN)	STANDARD DEVIATION (HRS:MN)	STANDARD DEVIATION (HRS:MN)	STANDARD DEVIATION (HRS:MN)
104	104	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
UNIDENTIFIED LOCKAGE TYPE -																			

SINGLE CUT-

EXIT AND CLEAR (FLY)

LOCKAGES CONSIDERED-

NO. OF EXCEPTIONAL LOCKAGES
% BY LOCKAGE TYPE
% OF TOTAL LOCKAGES
TOTAL EXCESS TIME (HRS:MIN)
% OF TOTAL ELEMENT TIME
% OF TOTAL PROCESSING TIME
% OF AVAILABLE LOCK TIME
AVG EXCESS TIME-EXC LKGS(HRS:MN)
AVG EXCESS TIME-ALL LKGS(HRS:MN)
MINIMUM EXCEPTION (HRS:MN)
MAXIMUM EXCEPTION (HRS:MN)
STANDARD DEVIATION (HRS:MN)
UNIDENTIFIED LOCKAGE TYPE -

AD-A165 848

LOCK PERFORMANCE MONITORING SYSTEM USER'S MANUAL FOR
DATA ANALYSIS(U) CORPS OF ENGINEERS FORT BELVOIR VA
WATER RESOURCES SUPPORT CENTER M V FLENNING ET AL.

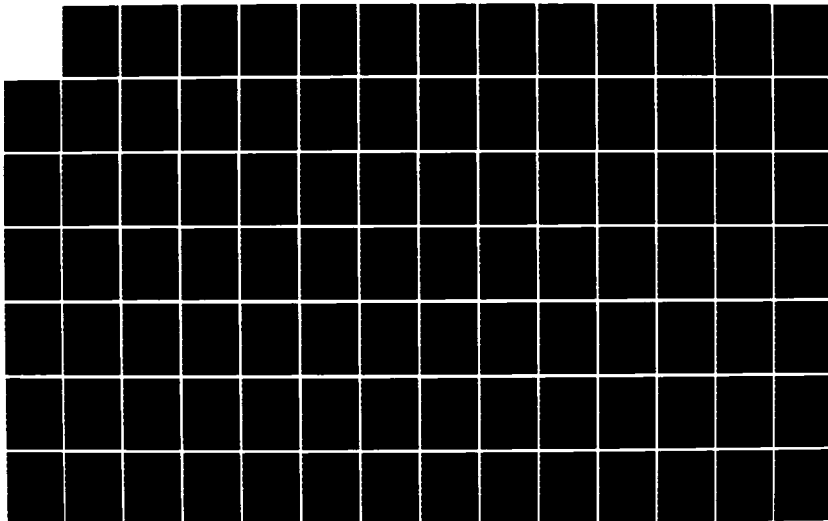
2/3

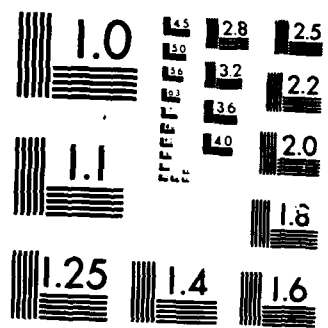
UNCLASSIFIED

NOV 85 WRSC-85-UM-2

F/G 13/2

NL





MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS 1010-A

B2
GULF INTRACOASTAL
LOCK CODE: 01

EXCEPTIONAL

PERFORMANCE
PORT ALLEN LOCK
MARCH 1981

SUMMARY

REPORT

PMS: 10
PAGE: 1
RUN DATE: 01/04/83
TIME: 0608

(CHAMBER: 01)

UPBOUND

-LOCKAGE ELEMENT-	NUMBER LOCKAGES CONSIDERED	NUMBER OF EXCEPTIONAL LOCKAGES	PERCENT OF TOTAL LOCKAGES	TOTAL EXCESS TIME HRS:MN	-AVERAGE EXCESS TIME- EXCEPTIONAL LOCKAGES		-PERCENTAGE OF TOTAL TIME-- THIS TIME PROCESSING AVAILABLE SEGMENT	
					HRS:MN	LOCKAGES	TIME	LOCK TIME
-SINGLE CUT-								
POORER THAN NORMAL								
APPROACH	312	43	13.78	05:56	00:08	00:01	7.53	1.98
ENTRY	312	46	14.74	03:35	00:05	00:01	6.34	1.20
CHAMBERING	312	44	14.10	04:26	00:06	00:01	5.09	1.48
EXIT AND CLEAR	312	45	14.42	04:52	00:06	00:01	8.01	1.62
BETTER THAN NORMAL								
APPROACH	312	32	10.26	00:58	00:02	00:00	1.23	.32
ENTRY	312	30	9.62	00:57	00:02	00:00	1.68	.13
CHAMBERING	312	34	10.90	00:45	00:01	00:00	.86	.10
EXIT AND CLEAR	312	27	8.65	00:38	00:01	00:00	1.04	.09
-DOUBLE-CUT (1ST CUT)-								
POORER THAN NORMAL								
APPROACH	0	0	.00	00:00	00:00	00:00	.00	.00
ENTRY	0	0	.00	00:00	00:00	00:00	.00	.00
CHAMBERING	0	0	.00	00:00	00:00	00:00	.00	.00
EXIT AND CLEAR	0	0	.00	00:00	00:00	00:00	.00	.00
BETTER THAN NORMAL								
APPROACH	0	0	.00	00:00	00:00	00:00	.00	.00
ENTRY	0	0	.00	00:00	00:00	00:00	.00	.00
CHAMBERING	0	0	.00	00:00	00:00	00:00	.00	.00
EXIT AND CLEAR	0	0	.00	00:00	00:00	00:00	.00	.00
-DOUBLE-CUT (2ND CUT)-								
POORER THAN NORMAL								
APPROACH	0	0	.00	00:00	00:00	00:00	.00	.00
ENTRY	0	0	.00	00:00	00:00	00:00	.00	.00
CHAMBERING	0	0	.00	00:00	00:00	00:00	.00	.00
EXIT AND CLEAR	0	0	.00	00:00	00:00	00:00	.00	.00
BETTER THAN NORMAL								
APPROACH	0	0	.00	00:00	00:00	00:00	.00	.00
ENTRY	0	0	.00	00:00	00:00	00:00	.00	.00
CHAMBERING	0	0	.00	00:00	00:00	00:00	.00	.00
EXIT AND CLEAR	0	0	.00	00:00	00:00	00:00	.00	.00

B2
GULF INTRACOASTAL
LOCK CODE: 01

EXCEPTIONAL

PERFORMANCE
PORT ALLEN LOCK
MARCH 1981

SUMMARY

REPORT

PMS: 10

PAGE: 2

RUN DATE: 01/04/83
TIME: 0608

(CHAMBER: 01)

UPBOUND

-LOCKAGE ELEMENT-	NUMBER LOCKAGES CONSIDERED	NUMBER OF EXCEPTIONAL LOCKAGES	PERCENT OF TOTAL LOCKAGES	TOTAL EXCESS TIME HRS:MM	-AVERAGE EXCESS TIME- EXCEPTIONAL LOCKAGES		-PERCENTAGE OF TOTAL TIME-- THIS TIME PROCESSING AVAILABLE SEGMENT	
					HRS:MM	LOCKES	TIME	LOCK TIME
-MULTI-CUT (1ST CUT)-								
POORER THAN NORMAL								
APPROACH	0	0	.00	00:00	00:00	00:00	.00	.00
ENTRY	0	0	.00	00:00	00:00	00:00	.00	.00
CHAMBERING	0	0	.00	00:00	00:00	00:00	.00	.00
EXIT AND CLEAR	0	0	.00	00:00	00:00	00:00	.00	.00
BETTER THAN NORMAL								
APPROACH	0	0	.00	00:00	00:00	00:00	.00	.00
ENTRY	0	0	.00	00:00	00:00	00:00	.00	.00
CHAMBERING	0	0	.00	00:00	00:00	00:00	.00	.00
EXIT AND CLEAR	0	0	.00	00:00	00:00	00:00	.00	.00
-MULTI-CUT (LAST CUT)-								
POORER THAN NORMAL								
APPROACH	0	0	.00	00:00	00:00	00:00	.00	.00
ENTRY	0	0	.00	00:00	00:00	00:00	.00	.00
CHAMBERING	0	0	.00	00:00	00:00	00:00	.00	.00
EXIT AND CLEAR	0	0	.00	00:00	00:00	00:00	.00	.00
BETTER THAN NORMAL								
APPROACH	0	0	.00	00:00	00:00	00:00	.00	.00
ENTRY	0	0	.00	00:00	00:00	00:00	.00	.00
CHAMBERING	0	0	.00	00:00	00:00	00:00	.00	.00
EXIT AND CLEAR	0	0	.00	00:00	00:00	00:00	.00	.00

GULF INTRACOASTAL
LOCK CODE: 01

COMMODITY - BARGE TYPE REPORT
LOCK 2 DAM 01
MARCH 1981

PMS: 12
PAGE: 1
RUN DATE: 01/04/83
TIME: 0553

PORT ALLEN LOCK
UPBOUND

COMMODITY-

CARGO TYPE																	
PRODUCT		SMALL	BRG	REG/LNG	BG	SUPER	BRG	INTEGRATED	SEA-B/LASH	MOTORIZED	CARGO	VSL.	TANKER	VSL.	OTHER	TOTAL	
TYPE		NO.	KTONS	NO.	KTONS	NO.	KTONS	NO.	KTONS	NO.	KTONS	NO.	KTONS	NO.	KTONS	NO.	
01	EMPTY																
	QUANTITY	1	0	222	0	3	0	44	0	30	0	0	0	0	87	0	
	% BY BRG	3	0	57.4	0	8	0	11.4	0	7.8	0	0	0	22.5	0	387	
	% BY CMD	100.0	0	48.5	0	42.9	0	22.3	0	100.0	0	0	0	41.0	0	0	
10	COAL																
	QUANTITY	0	0	8	11	0	0	0	0	0	0	0	0	0	0	11	
	% BY BRG	0	0	100.0	100.0	0	0	0	0	0	0	0	0	0	0	100.0	
	% BY CMD	0	0	1.7	3.5	0	0	0	0	0	0	0	0	0	0	1.1	
11	COAL AND LIGNITE																
	QUANTITY	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	
	% BY BRG	0	0	100.0	100.0	0	0	0	0	0	0	0	0	0	0	100.0	
	% BY CMD	0	0	2	3	0	0	0	0	0	0	0	0	0	0	1	
20	PETROLEUM PRODUCTS NEC																
	QUANTITY	0	0	5	7	0	0	7	14	0	0	0	0	0	20	32	
	% BY BRG	0	0	15.6	9.7	0	0	21.9	19.4	0	0	0	0	0	62.5	70.8	
	% BY CMD	0	0	1.1	2.2	0	0	3.6	3.9	0	0	0	0	0	9.4	15.7	
21	CRUDE PETROLEUM																
	QUANTITY	0	0	1	1	0	0	15	43	0	0	0	0	0	4	9	
	% BY BRG	0	0	5.0	1.9	0	0	75.0	81.1	0	0	0	0	20.0	17.0	100.0	
	% BY CMD	0	0	2	3	0	0	7.6	12.0	0	0	0	0	1.9	2.8	2.2	
22	GASOLINE																
	QUANTITY	0	0	0	0	0	0	8	20	0	0	0	0	6	52	14	
	% BY BRG	0	0	0	0	0	0	57.1	27.8	0	0	0	0	42.9	72.2	100.0	
	% BY CMD	0	0	0	0	0	0	4.1	5.6	0	0	0	0	2.8	16.0	1.5	
23	JET FUEL & KEROSENE																
	QUANTITY	0	0	0	0	0	0	3	6	0	0	0	0	5	23	8	
	% BY BRG	0	0	0	0	0	0	37.5	20.7	0	0	0	0	62.5	79.3	100.0	
	% BY CMD	0	0	0	0	0	0	1.5	1.7	0	0	0	0	2.4	7.1	.9	
24	DISTILLATE FUEL OIL																
	QUANTITY	0	0	0	0	0	0	8	22	0	0	0	0	10	25	18	
	% BY BRG	0	0	0	0	0	0	44.4	46.8	0	0	0	0	55.6	53.2	100.0	
	% BY CMD	0	0	0	0	0	0	4.1	6.1	0	0	0	0	4.7	7.7	2.0	
25	RESIDUAL FUEL OIL																
	QUANTITY	0	0	1	1	0	0	6	19	0	0	0	0	5	11	12	
	% BY BRG	0	0	8.3	3.2	0	0	50.0	61.3	0	0	0	0	41.7	35.5	100.0	
	% BY CMD	0	0	2	3	0	0	3.0	5.3	0	0	0	0	2.4	3.4	1.3	
26	COKE, PETROLEUM PITCHES																
	QUANTITY	0	0	16	23	0	0	28	64	0	0	0	0	16	44	60	
	% BY BRG	0	0	26.7	17.6	0	0	46.7	48.9	0	0	0	0	26.7	33.6	100.1	
	% BY CMD	0	0	3.5	7.3	0	0	14.2	17.8	0	0	0	0	7.5	13.6	6.6	
30	CHEMICALS & CHEM PROD NEC																
	QUANTITY	0	0	25	32	0	0	39	68	0	0	0	0	20	31	84	
	% BY BRG	0	0	29.8	24.4	0	0	46.4	51.9	0	0	0	0	23.8	23.7	100.0	
	% BY CMD	0	0	5.5	10.1	0	0	19.8	18.9	0	0	0	0	9.4	9.6	9.3	

GULF INTRACOASTAL
LOCK CODE: 01

ARRIVAL FREQUENCY ANALYSIS REPORT
PORT ALLEN LOCK
MARCH 1981
UPBOUND

PMS: 13
PAGE: 1
RUN DATE: 01/04/83
TIME: 0611

VESSEL ARRIVALS (BY DAY)	(TOWS & CARGO CARRYING VESSELS) TIME OF DAY (HOUR INCREMENTS)																									
	DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	TOTAL
SUNDAY	01																									
ARRIVALS																										
% BY HOUR																										
% BY DAY																										
% BY HOUR & DAY																										
MONDAY	02																									
ARRIVALS																										
% BY HOUR																										
% BY DAY																										
% BY HOUR & DAY																										
TUESDAY	03																									
ARRIVALS																										
% BY HOUR																										
% BY DAY																										
% BY HOUR & DAY																										
WEDNESDAY	04																									
ARRIVALS																										
% BY HOUR																										
% BY DAY																										
% BY HOUR & DAY																										
THURSDAY	05																									
ARRIVALS																										
% BY HOUR																										
% BY DAY																										
% BY HOUR & DAY																										
FRIDAY	06																									
ARRIVALS																										
% BY HOUR																										
% BY DAY																										
% BY HOUR & DAY																										
SATURDAY	07																									
ARRIVALS																										
% BY HOUR																										
% BY DAY																										
% BY HOUR & DAY																										

PMS: 13
PAGE: 6
RUN DATE: 01/04/83
TIME: 0611

GULF INTRACOASTAL
LOCK CODE: 01

ARRIVAL FREQUENCY ANALYSIS REPORT

PORT ALLEN LOCK
MARCH 1981
UPBOUND

VESSEL
-ARRIVALS--
(BY DAY)

(RECREATIONAL VESSELS)

DATE 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 TOTAL

SUNDAY 01

ARRIVALS
% BY HOUR
% BY DAY
% BY HOUR & DAY

MONDAY 02

ARRIVALS
% BY HOUR
% BY DAY
% BY HOUR & DAY

TUESDAY 03

ARRIVALS
% BY HOUR
% BY DAY
% BY HOUR & DAY

WEDNESDAY 04

ARRIVALS
% BY HOUR
% BY DAY
% BY HOUR & DAY

THURSDAY 05

ARRIVALS
% BY HOUR
% BY DAY
% BY HOUR & DAY

FRIDAY 06

ARRIVALS
% BY HOUR
% BY DAY
% BY HOUR & DAY

SATURDAY 07

ARRIVALS
% BY HOUR
% BY DAY
% BY HOUR & DAY

PMS: 13
PAGE: 11
RUN DATE: 01/04/83
TIME: 0611

GULF INTRACOASTAL
LOCK CODE: 01

ARRIVAL FREQUENCY ANALYSIS REPORT
PORT ALLEN LOCK
MARCH 1981
UPBOUND

VESSEL
--ARRIVALS--
(BY DAY)

DATE 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 TOTAL

(LIGHTBOATS)

SUNDAY 01

ARRIVALS
% BY HOUR
% BY DAY
% BY HOUR & DAY

1
100
33
1

MONDAY 02

ARRIVALS
% BY HOUR
% BY DAY
% BY HOUR & DAY

1
50
50
1

2
100
3
3

TUESDAY 03

ARRIVALS
% BY HOUR
% BY DAY
% BY HOUR & DAY

1
100
50
1

1
100
1
1

WEDNESDAY 04

ARRIVALS
% BY HOUR
% BY DAY
% BY HOUR & DAY

1
100
25
1

1
100
1
1

THURSDAY 05

ARRIVALS
% BY HOUR
% BY DAY
% BY HOUR & DAY

2
66
50
3

1
33
50
1

3
99
5
5

FRIDAY 06

ARRIVALS
% BY HOUR
% BY DAY
% BY HOUR & DAY

1
50
33
1

1
50
33
1

2
100
3
3

SATURDAY 07

ARRIVALS
% BY HOUR
% BY DAY
% BY HOUR & DAY

1
50
50
1

1
50
25
1

2
100
3
3

PMS: 14
PAGE: 1
RUN DATE: 01/04/83
TIME: 0611

GULF INTRACOASTAL
LOCK CODE: 01 INTER - ARRIVAL DISTRIBUTION REPORT
PORT ALLEN LOCK
MARCH 1981
(TOWS)

VESSEL ARRIVALS (BY DAY)		TIME INTERVALS																								AVG RATE ARR TOT (MN)
		MINUTES						HOURS																		
D	A	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
SUNDAY	01	2	1	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ARRIVALS		14	7	7	21	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
% ARRIVING		2	3	4	7	8	9	9	10	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
CUM. ARR.		14	14	21	28	33	39	42	46	53	57	64	71	78	86	92	99	106	113	120	127	134	141	148	155	162
CUM. % ARR.		100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
MONDAY	02	2	2	1	3	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ARRIVALS		13	13	6	20	13	10	10	11	12	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
% ARRIVING		2	4	5	8	10	10	11	12	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
CUM. ARR.		13	26	33	53	66	73	80	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86	86
CUM. % ARR.		100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
TUESDAY	03	3	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ARRIVALS		10	10	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
% ARRIVING		3	6	9	10	11	12	13	15	17	19	20	23	24	24	26	26	27	27	27	27	27	27	27	27	27
CUM. ARR.		10	21	32	35	39	42	46	53	60	67	71	82	85	85	92	92	96	96	96	96	96	96	96	96	96
CUM. % ARR.		100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
WEDNESDAY	04	1	2	2	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ARRIVALS		5	10	10	15	5	9	11	12	13	15	16	14	15	17	19	19	19	20	20	20	20	20	20	20	20
% ARRIVING		1	3	5	8	8	9	11	12	13	15	16	14	15	17	19	95	95	100	100	100	100	100	100	100	100
CUM. ARR.		5	15	25	40	40	45	55	60	65	70	70	70	75	85	95	95	95	100	100	100	100	100	100	100	100
CUM. % ARR.		100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
THURSDAY	05	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
ARRIVALS		10	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
% ARRIVING		1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
CUM. ARR.		10	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
CUM. % ARR.		100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
FRIDAY	06	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
ARRIVALS		7	7	28	14	14	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
% ARRIVING		1	2	6	8	8	10	11	12	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13	13
CUM. ARR.		7	14	42	57	57	71	78	85	92	92	92	92	92	92	92	92	92	92	92	92	92	92	92	92	92
CUM. % ARR.		100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
SATURDAY	07	2	1	2	1	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
ARRIVALS		11	5	11	17	5	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
% ARRIVING		2	3	5	6	9	10	12	12	14	15	15	16	16	16	17	17	17	17	17	17	17	17	17	17	17
CUM. ARR.		11	17	29	35	52	58	70	82	88	88	88	94	94	94	100	100	100	100	100	100	100	100	100	100	100
CUM. % ARR.		100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

RUN DATE: 01/04/83
 TIME: 0611

PMS: 14
PAGE: 6
RUN DATE:
TIME: 0611

מסלולי הרכבת

100 100
100 100

5
100 5
100

393
99
100

2
100 2
2
100 100

6
99
100

100 100 100 100

100 100 100 100

PMS: 14
PAGE: 11
RUN DATE: 01/04/83
TIME: 0611

GULF INTRACOASTAL LOCK CODE: 01 INTER-ARRIVAL DISTRIBUTION REPORT PORT ALLEN LOCK MARCH 1981 (ALL VESSELS)

VESSEL --ARRIVALS-- (BY DAY)	TIME INTERVALS												AUG RATE ARR (MM)														
	MINUTES						HOURS																				
	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	UP	TOT
SUNDAY																											
ARRIVALS	2	1	1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
% ARRIVING	13	6	6	20	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
CUMM. ARR.	2	2	3	4	7	8	9	9	10	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11
CUMM. % ARR.	13	13	20	26	46	53	60	66	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73	73
MONDAY																											
ARRIVALS	5	2	1	3	1	2	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
% ARRIVING	25	10	5	15	5	10	5	10	5	10	5	10	5	10	5	10	5	10	5	10	5	10	5	10	5	10	5
CUMM. ARR.	5	7	8	11	12	14	14	15	17	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
CUMM. % ARR.	25	35	40	55	60	70	70	75	85	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90
TUESDAY																											
ARRIVALS	4	3	3	1	2	1	2	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3	1
% ARRIVING	12	9	9	3	6	3	6	9	3	9	3	9	3	9	3	9	3	9	3	9	3	9	3	9	3	9	3
CUMM. ARR.	4	7	10	11	13	14	15	17	19	22	23	26	27	27	29	29	30	30	30	30	30	30	30	30	30	30	30
CUMM. % ARR.	12	22	32	35	41	45	48	54	61	70	74	83	87	87	93	93	96	96	96	96	96	96	96	96	96	96	96
WEDNESDAY																											
ARRIVALS	1	2	2	4	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1
% ARRIVING	4	9	9	18	4	9	4	9	4	9	4	9	4	9	4	9	4	9	4	9	4	9	4	9	4	9	4
CUMM. ARR.	1	3	5	9	9	10	12	13	15	16	16	17	17	19	21	21	21	21	21	21	21	21	21	21	21	21	21
CUMM. % ARR.	4	13	22	40	40	45	54	59	68	72	72	77	86	93	95	95	95	95	95	95	95	95	95	95	95	95	95
THURSDAY																											
ARRIVALS	2	2	2		2	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2	3	2
% ARRIVING	12	12	12		12	18	12	18	12	18	12	18	12	18	12	18	12	18	12	18	12	18	12	18	12	18	12
CUMM. ARR.	2	4	6	6	8	8	11	13	13	13	13	15	15	16	16	16	16	16	16	16	16	16	16	16	16	16	16
CUMM. % ARR.	12	25	37	37	50	50	68	81	81	81	81	93	93	100	100	100	100	100	100	100	100	100	100	100	100	100	100
FRIDAY																											
ARRIVALS	2	1	4		2	3	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
% ARRIVING	11	5	22		11	16	5	5	11	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
CUMM. ARR.	2	3	7	7	9	12	13	14	16	16	16	16	16	17	18	18	18	18	18	18	18	18	18	18	18	18	18
CUMM. % ARR.	11	16	38	38	50	66	72	77	88	88	88	93	94	100	100	100	100	100	100	100	100	100	100	100	100	100	100
SATURDAY																											
ARRIVALS	2	1	2	1	3	2	4	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1
% ARRIVING	9	4	9	4	14	9	19	9	4	9	9	20	20	20	21	21	21	21	21	21	21	21	21	21	21	21	21
CUMM. ARR.	2	3	5	6	9	11	15	15	17	18	18	20	20	20	21	21	21	21	21	21	21	21	21	21	21	21	21
CUMM. % ARR.	9	14	23	28	42	52	71	71	80	85	85	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95

PMS: 15
PAGE: 2
RUN DATE: 01/04/83
TIME: 0553

GULF INTRACOASTAL
LOCK CODE: 01
DELAY TIME FREQUENCY ANALYSIS REPORT
LOCK & DAM 01
MARCH 1981

DOLLAR LOSS (DOLLARS) FROM 10	NUMBER OF TOW	TIME DELAY	MAIN CHAMBER		
			DOLLAR LOSSES	% OF TOWS	% OF LOSS
0	533	362	26561	86.2	46.4
200	63	164	17691	10.2	30.9
400	14	62	6506	2.3	11.4
600	4	23	2805	.6	4.9
800	3	16	2641	.5	4.6
1000	1	5	1090	.2	1.9
1200	0	0	0	.0	.0
1400	0	0	0	.0	.0
1600	0	0	0	.0	.0
1800	0	0	0	.0	.0
2000	0	0	0	.0	.0
UP	0	0	0	.0	.0
TOTAL	618	633	57294	100.0	100.0

DOLLAR LOSS (DOLLARS) FROM 10	NUMBER OF TOW	TIME DELAY	TOTAL		
			DOLLAR LOSSES	% OF TOWS	% OF LOSS
0	533	362	26561	86.2	46.4
200	63	164	17691	10.2	30.9
400	14	62	6506	2.3	11.4
600	4	23	2805	.6	4.9
800	3	16	2641	.5	4.6
1000	1	5	1090	.2	1.9
1200	0	0	0	.0	.0
1400	0	0	0	.0	.0
1600	0	0	0	.0	.0
1800	0	0	0	.0	.0
2000	0	0	0	.0	.0
UP	0	0	0	.0	.0
TOTAL	618	633	57294	100.0	100.0

GULF INT. TASTAL
LOCK CODE 01

HORSEPOWER FREQUENCY DISTRIBUTION REPORT

PM5: 16
PAGE: 01/04/83
RUN DATE: 01/04/83
TIME: 0553

LOCK & DAM 01
MARCH 1981
PORT ALLEN LOCK

BARGE TYPE REGULAR/LONG JUMBO BARGE
DOWNBOUND

HORSEPOWER (CLASS)	BARGES PER TOW										KILO-TONS PER TOW									
	1	2	3	4	5-6	7-8	9-10	11-	13	14	17UP TOT	EMPTY	0-2	3-5	6-8	9-11	12-	14	17	20-23
0 500	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
501 1000	0	25	23	14	3	0	0	0	0	0	0	65	17	19	25	4	0	0	0	0
1001 1500	0	6	4	6	2	0	0	0	0	0	0	18	4	4	10	0	0	0	0	0
1501 2000	0	4	3	4	2	0	0	0	0	0	0	13	4	5	4	0	0	0	0	0
2001 3000	0	0	0	1	1	0	0	0	0	0	0	2	0	1	1	0	0	0	0	0
3001 4000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4001 5000	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
5001 7000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7001 9000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9001 UP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	36	30	25	9	0	0	0	0	0	0	100	26	29	41	4	0	0	0	0

HORSEPOWER (CLASS)	PERCENT OF TOWS IN HORSEPOWER CLASS										PERCENT OF TOWS IN BARGES PER TOW AND KILO-TONS PER TOW CLASS									
	1	2	3	4	5-6	7-8	9-10	11-	13	14	17UP TOT	EMPTY	0-2	3-5	6-8	9-11	12-	14	17	20-23
0 500	0	100	0	0	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0
501 1000	0	38	35	21	4	0	0	0	0	0	0	100	26	29	38	6	0	0	0	0
1001 1500	0	33	22	33	11	0	0	0	0	0	0	99	22	22	55	0	0	0	0	0
1501 2000	0	30	23	30	15	0	0	0	0	0	0	100	30	38	30	0	0	0	0	0
2001 3000	0	0	0	50	50	0	0	0	0	0	0	100	0	50	50	0	0	0	0	0
3001 4000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4001 5000	0	0	0	0	100	0	0	0	0	0	0	100	0	100	0	0	0	0	0	0
5001 7000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7001 9000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9001 UP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

HORSEPOWER (CLASS)	PERCENT OF TOWS IN BARGES PER TOW AND KILO-TONS PER TOW CLASS										PERCENT OF TOWS IN BARGES PER TOW AND KILO-TONS PER TOW CLASS									
	1	2	3	4	5-6	7-8	9-10	11-	13	14	17UP TOT	EMPTY	0-2	3-5	6-8	9-11	12-	14	17	20-23
0 500	0	2	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
501 1000	0	69	76	56	33	0	0	0	0	0	0	65	65	61	100	0	0	0	0	0
1001 1500	0	16	13	24	22	0	0	0	0	0	0	15	13	24	0	0	0	0	0	0
1501 2000	0	11	10	16	22	0	0	0	0	0	0	15	17	9	0	0	0	0	0	0
2001 3000	0	0	0	4	11	0	0	0	0	0	0	0	3	2	0	0	0	0	0	0
3001 4000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4001 5000	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0
5001 7000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7001 9000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9001 UP	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

NOTE: 109 TOWS NOT INCLUDED-UNABLE TO DETERMINE HORSEPOWER.

PMS: 17
PAGE: 1
RUN DATE: 01/04/83
TIME: 0621

TOW TRANSPORT ANALYSIS DETAILED VESSEL REPORT MARCH 1981

VESSEL		D T		S		BARGES		CARGO		TRAVEL		EFF.		ARRIVAL		WAIT		LOKAG		STALL		TRANSIT		EXCEPTIONAL		PERFORMANCE		
(LOCK CODE)		TO		R P		LD MT		TONS		TIME		HDWY		DA/NO		TIME		T C		CD		TIME		(HR)		(HR)		
FROM										(HR)		(MPH)		HR:MN		(HR)		P T		(HR)		(HR)		(HR)		(HR)		
0209600	GI02	2 Y	1 0	50	01/03	15:15	0.00	09	1	0.25	0.25	0.25	0.25	01/03	15:15	0.00	09	1	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
0000	GI02	2 Y	0 1	0	02/03	10:55	0.83	09	1	0.25	1.08	0.83	0.83	02/03	10:55	0.83	09	1	0.25	1.08	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
0000	GI02	1 Y	1 0	300	02/03	16:10	0.00	09	1	0.33	0.33	0.33	0.33	02/03	16:10	0.00	09	1	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33
0000	GI02	2 Y	0 1	0	02/03	18:45	0.00	09	1	0.33	0.33	0.33	0.33	02/03	18:45	0.00	09	1	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33
0000	GI02	2 Y	1 0	50	04/03	1:40	0.00	09	1	0.33	0.33	0.33	0.33	04/03	1:40	0.00	09	1	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33
0000	GI02	1 Y	0 1	0	04/03	17:35	0.08	09	1	0.33	0.41	0.08	0.41	04/03	17:35	0.08	09	1	0.33	0.41	0.08	0.41	0.08	0.41	0.08	0.41	0.08	0.41
0000	GI02	2 Y	1 0	300	05/03	23:00	0.00	09	1	0.25	0.25	0.25	0.25	05/03	23:00	0.00	09	1	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
0000	GI02	1 Y	1 0	300	06/03	15:00	0.00	09	1	0.33	0.33	0.33	0.33	06/03	15:00	0.00	09	1	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33	0.33
0000	GI02	2 Y	1 0	200	08/03	22:50	0.25	09	1	0.33	0.58	0.25	0.58	08/03	22:50	0.25	09	1	0.33	0.58	0.25	0.58	0.25	0.58	0.25	0.58	0.25	0.58
0000	GI02	1 Y	1 0	300	10/03	10:50	1.83	09	1	0.25	2.08	1.83	2.08	10/03	10:50	1.83	09	1	0.25	2.08	1.83	2.08	1.83	2.08	1.83	2.08	1.83	2.08
0000	GI02	2 Y	1 0	300	24/03	12:15	0.08	01	1	0.41	0.50	0.08	0.50	24/03	12:15	0.08	01	1	0.41	0.50	0.08	0.50	0.08	0.50	0.08	0.50	0.08	0.50
0000	GI02	1 Y	1 0	150	30/03	1:00	0.41	01	1	0.41	0.83	0.41	0.83	30/03	1:00	0.41	01	1	0.41	0.83	0.41	0.83	0.41	0.83	0.41	0.83	0.41	0.83
0000	GI02	2 Y	1 1	300	30/03	19:20	0.33	01	1	0.50	0.83	0.33	0.83	30/03	19:20	0.33	01	1	0.50	0.83	0.33	0.83	0.33	0.83	0.33	0.83	0.33	0.83
0228817	GI02	2 N	2 0	100	01/03	15:25	0.08	09	1	0.25	0.33	0.08	0.33	01/03	15:25	0.08	09	1	0.25	0.33	0.08	0.33	0.08	0.33	0.08	0.33	0.08	0.33
0000	GI02	2 Y	1 0	10	17/03	20:05	0.00	01	1	0.41	0.41	0.00	0.41	17/03	20:05	0.00	01	1	0.41	0.41	0.00	0.41	0.00	0.41	0.00	0.41	0.00	0.41
0256376	GI02	2 Y	1 0	300	31/03	23:00	0.00	01	1	0.33	0.33	0.00	0.33	31/03	23:00	0.00	01	1	0.33	0.33	0.00	0.33	0.00	0.33	0.00	0.33	0.00	0.33
0000	GI02	2 Y	1 0	300	27/03	20:35	3.83	02	2	0.83	4.66	3.83	4.66	27/03	20:35	3.83	02	2	0.83	4.66	3.83	4.66	3.83	4.66	3.83	4.66	3.83	4.66
0258775	GI02	2 Y	3 0	7000	04/03	9:15	0.00	09	1	0.33	0.33	0.00	0.33	04/03	9:15	0.00	09	1	0.33	0.33	0.00	0.33	0.00	0.33	0.00	0.33	0.00	0.33
0000	GI02	2 N	0 3	0	01/03	12:25	0.00	09	1	0.33	0.33	0.00	0.33	01/03	12:25	0.00	09	1	0.33	0.33	0.00	0.33	0.00	0.33	0.00	0.33	0.00	0.33
0261238	GI02	2 Y	1 0	100	01/03	16:15	0.00	09	1	0.25	0.25	0.00	0.25	01/03	16:15	0.00	09	1	0.25	0.25	0.00	0.25	0.00	0.25	0.00	0.25	0.00	0.25
0000	GI02	2 N	1 0	500	20/03	14:05	0.08	01	1	0.58	0.66	0.08	0.66	20/03	14:05	0.08	01	1	0.58	0.66	0.08	0.66	0.08	0.66	0.08	0.66	0.08	0.66
0263084	GI02	1 Y	1 0	100	01/03	12:25	0.00	09	1	0.33	0.33	0.00	0.33	01/03	12:25	0.00	09	1	0.33	0.33	0.00	0.33	0.00	0.33	0.00	0.33	0.00	0.33
0000	GI02	2 Y	1 0	300	01/03	16:15	0.00	09	1	0.25	0.25	0.00	0.25	01/03	16:15	0.00	09	1	0.25	0.25	0.00	0.25	0.00	0.25	0.00	0.25	0.00	0.25
0000	GI02	2 N	1 0	500	20/03	14:05	0.08	01	1	0.58	0.66	0.08	0.66	20/03	14:05	0.08	01	1	0.58	0.66	0.08	0.66	0.08	0.66	0.08	0.66	0.08	0.66
0264609	GI01	1 N	3 1	4500	23/03	5:05	3.08	07	1	0.91	4.00	3.08	4.00	23/03	5:05	3.08	07	1	0.91	4.00	3.08	4.00	3.08	4.00	3.08	4.00	3.08	4.00
0000	GI02	1 Y	0 1	0	06/03	10:10	0.16	09	1	0.16	0.33	0.16	0.33	06/03	10:10	0.16	09	1	0.16	0.33	0.16	0.33	0.16	0.33	0.16	0.33	0.16	0.33
0266195	GI02	1 Y	0 1	0	09/03	21:00	0.00	09	1	0.33	0.33	0.00	0.33	09/03	21:00	0.00	09	1	0.33	0.33	0.00	0.33	0.00	0.33	0.00	0.33	0.00	0.33
0000	GI02	1 Y	5 0	7000	10/03	8:20	0.58	07	1	0.88	1.46	0.58	1.46	10/03	8:20	0.58	07	1	0.88	1.46	0.58	1.46	0.58	1.46	0.58	1.46	0.58	1.46
0267160	GI01	1 Y	5 0	7100	27/03	19:00	0.16	01	1	0.75	0.91	0.16	0.91	27/03	19:00	0.16	01	1	0.75	0.91	0.16	0.91	0.16	0.91	0.16	0.91	0.16	0.91
0000	GI02	2 Y	0 5	0	28/03	3:00	0.25	02	2	0.83	1.08	0.25	1.08	28/03	3:00	0.25	02	2	0.83	1.08	0.25	1.08	0.25	1.08	0.25	1.08	0.25	1.08
0000	GI01	2 Y	0 5	0																								
0000	GI02	2 Y	0 5	0																								

PMS: 178
 PAGE: 1
 RUN DATE: 06/25/84
 TIME: 655

TOW TRANSIT ANALYSIS
 DETAILED VESSEL REPORT
 1981

VESSEL (LOCK CODE) FROM	TO	D T R P LD MT	S I O BARGES	CARGO TONS	COMMODITY CODE	BARGE TYPE	VESSEL TYPE	ARRIVAL DA/MO HR:MN	WAIT		T C P T	LUNAG TIME	PROCS T C P T	ASSISTING NUMBER	VESSEL NAME
									HR	MIN		HR	MIN		
0000	G101	1 N 3 1		4500	55	J	T	23/03 5:05	3.08	07	1	0.91			
				1500	55	J									
				1500	55	J									
0267160															
0000	G101	2 Y 0 0		7100	30	J	L	07/03 10:35	0.08	10	1	0.33			
0000	G101	1 Y 5 0		1400	30	J	T	10/03 8:20	0.58	07	1	0.88		562776	MISTER DUFRENE
				1400	30	J									
				1400	30	J									
				1400	30	J									
				1500	31	J									
0000	G101	2 Y 0 5		0	01	J	T	27/03 19:00	0.16	01	1	0.75		60P212	LES LIMESTONE
				0	01	J									
				0	01	J									
				0	01	J									
				0	01	J									
0277276															
0000	G101	2 Y 0 0		0			P	23/03 12:05	1.00	10	1	0.33			
0278067															
0000	G101	2 N 2 0		475	20	Z	T	26/03 23:00	0.41	07	1	1.00			
				125	20	Z									
				350											
0280352															
0000	G101	2 N 2 0		2808	51	J	T	30/03 11:05	0.41	07	1	1.25			
				1400	51	J									
				1408											
0000	G101	2 Y 0 3		0	01	J	T	17/03 1:25	0.66	01	1	0.66			
				0	01	J									
				0	01	J									
				0	01	J									

PMS: 18
PAGE: 18
RUN DATE: 01/04/83
TIME: 0626

TOW TRANSIT ANALYSIS DETAILED LOCK REPORT MARCH 1981

UPBOUND

LOCK CODES-- (VESSEL NAME) TO FROM	S	O	P	LD	MT	BARGES	CARGO TONS	TRAVEL TIME (HR)	EFF. HDWY (MPH)	ARRIVAL-- DA/NO HR:MR	WAIT TIME (HR)	LOKAG PROCS T C TIME P Y (HR)	STALL- CD TIME (HR)	TRANSIT TIME (HR)	APRCH ENTRY (HR)	CHAMB EXIT/CL (HR)	PERFORMANCE- (HR)
0631457	Y	0	1			0				25/03 00:25	0.08	01	1 0.41	0.50			-01
0632405	N	1	1			1500				22/03 13:35	1.08	07	1 0.50	1.58			-01
0656789	Y	1	0			1800				24/03 20:35	0.50	07	1 0.41	0.91			
0675678	N	1	0			3000				13/03 13:40	2.41	07	1 0.50	2.91			-06
9999999	N	0	1			0				04/03 16:05	0.00	09	1 0.33	0.33			-01
9999999	Y	0	1			0				27/03 09:35	1.25	01	1 0.58	1.63			-01
9999999	Y	1	0			100				28/03 01:40	0.41	01	1 0.58	1.00			-01
9999999	Y	0	1			0				28/03 14:50	1.25	07	1 0.75	2.00			-01
AVERAGE						2782		1.0	1.0		0.68		0.04	1.19	-01	-01	-01
GI01																	
MISS PAM	N	3	0			4100		4.8	5.7	09/03 21:50	0.00	09	1 0.33	0.33			-01
OPA	Y	2	0			2800				11/03 18:00	0.66	07	1 0.91	1.58	-01	-03	-06
ENDEAVOUR	N	3	1			4200				26/03 05:20	0.46	02	2 1.08	1.55	+01	+01	-01
GILDA SHURDEN	Y	2	0			7000		3.0	9.0	22/03 22:40	0.41	01	1 0.58	1.00			-01
BILLY WAXLER	N	0	4			0				19/03 20:35	0.50	02	2 0.83	1.33			-01
WM BARNES	N	0	3			0		4.5	6.1	06/03 16:05	0.00	09	1 0.33	0.33			-01
L W SWEET	N	0	3			0		4.6	6.0	08/03 01:10	0.00	09	1 0.33	0.33			-01
FRANK B DURANT	Y	5	0			12000				18/03 11:00	0.08	02	2 0.41	0.50	+03	+05	+05
THOMAS W HINES	N	3	0			7400		4.8	5.7	04/03 07:30	0.00	09	1 0.41	0.41	-01	-01	-01
BILLY BREUER	Y	0	3			0				05/03 10:00	0.00	09	1 0.50	0.50	-10	-06	-01
BILLY BREWER	Y	0	3			0				11/03 04:00	0.00	01	1 0.58	0.58			-01
BILLY BREWER	N	0	3			0				17/03 06:30	0.91	01	1 0.50	1.41			-01
BILLY BREWER	Y	0	4			0				25/03 11:40	0.16	02	2 0.78	0.95			-01
R I BRUBAKER	Y	3	1			4200				17/03 05:15	1.00	02	2 0.91	1.91	-03	-03	-01
ALLIANCE BARON	N	0	4			0		4.5	6.2	02/03 16:25	0.08	09	1 0.41	0.50	-01	-01	-01
DIXIE STAR	N	0	3			0		4.3	6.5	07/03 08:20	0.00	09	1 0.33	0.33	-01	-01	-01
0267160	Y	0	5			0				28/03 03:00	0.25	02	2 0.83	1.08	-06	-06	-01
HENDERSON BARTON	N	3	0			5600		3.7	7.4	21/03 06:30	0.08	01	1 0.75	0.83			-01
CYPRESS	Y	1	4			1200				27/03 16:25	3.50	02	2 0.83	4.33	-06	-15	-01
KEYSTONE	Y	1	4			1400				10/03 19:00	3.25	02	2 0.83	4.08	-06	-06	-01
CHEMICAL COURIER	Y	2	0			3600				19/03 00:10	0.50	01	1 0.58	1.08	-01	-01	-01
JOHN M	Y	2	0			485				02/03 11:00	0.50	09	1 0.25	0.75			-01
JOHN M	N	2	0			660		5.0	5.5	09/03 20:25	0.00	09	1 0.33	0.33	-01	-05	-06
JOHN M	Y	2	0			487				18/03 11:30	0.75	07	1 1.00	1.75	-01	-03	-06
JOHN M	Y	2	0			525				27/03 04:45	0.08	07	1 0.58	0.66	-01	-03	-06
ELIZABETH ANN	Y	5	0			10000				14/03 14:50	3.50	02	2 1.00	4.50	-06	-03	-06

PMS: 19
 PAGE: 1
 RUN DATE: 01/04/83
 TIME: 0626

TOW TRANSIT ANALYSIS
 SUMMARY REPORT
 MARCH 1981

		(TIME=AVERAGE TIME)					
		UPBOUND VESSELS				STDEV	
EFF.	TRAVEL	WAIT	PROC	STALL	TRANSIT	NO.	TV+TR
HDQY	TIME	TIME	TIME	TIME	TIME	VSL.	(HR)
(MPH)	(HR)	(HR)	(HR)	(HR)	(HR)		
GI01	248.92	1.13	.66	.00	1.79	24	+91.55
GI02	5.61	1.11	.96	.01	2.08	237	+3.10
0000	1.0	.97	.93	.01	1.90	76	+0.00
0000	1.0	.68	.51	.04	1.19	326	+0.00

-LOCK CODES-

DISTRICT: B2

CORPS OF ENGINEERS
LOCK TONNAGE REPORT
MARCH 1981

PMS :22
PAGE: 1
RUN DATE: 06/20/84
TIME:0847

RIVER NAME	LOCK NAME	COMMODITY	---UPBOUND TONNAGE--- (KTONS) FOR MONTH YR TO DATE	--DOWNBOUND TONNAGE-- (KTONS) FOR MONTH YR TO DATE
GULF INTRACOASTAL	PORT ALLEN LOCK	EMPTY		
		COAL NEC		
		COAL AND LIGNITE		
		PETROLEUM PRODUCTS NEC		
		CRUDE PETROLEUM		
		GASOLINE		
		JET FUEL & KEROSENE		
		DISTILLATE FUEL OIL		
		RESIDUAL FUEL OIL		
		COKE, PETROLEUM PITCHES		
		CHEMICALS & CHEM PROD N		
		ORGANIC INDUSTRIAL CHEM		
		SYNTHETICS		
		DRUGS SOAP PAINTS DETER		
		INORGANIC INDUSTRIAL CH		
		NITROGENOUS FERTILIZERS		
		POTASSIC FERTILIZERS		
		PHOSPHATIC FERTILIZERS		
		OTHER BASIC CHEMICALS		
		OTHER FERTILIZERS		
		METALLIC ORES & PROD NE		
		METALLIC ORES		
		IRON ORES		
		PRIMARY IRON & STEEL PR		
		OTHER PRIMARY METAL PRO		
		FABRICATED METAL PRODUC		
		WASTE & SCRAP MATERIALS		
		NON-METALLIC MINERALS N		
		LIMESTONE FLUX & CALCAR		
		SAND GRAVEL & CRUSHED R		
		SULPHUR, LIQUID AND DRY		
		SALT		
		STONE, CLAY & GLASS NEC		
		BUILDING CEMENT		
		LIME		
		MARINE SHELLS, UNMANUFA		
		FARM PRODUCTS NEC		
		CORN		
		WHEAT		

DISTRICT: B2

CORPS OF ENGINEERS
LOCKAGE REPORT
MARCH 1981

PMS :23
PAGE: 1
RUN DATE: 06/20/84
TIME:1006

RIVER NAME	LOCK NAME	CHAMBER	NUMBER OF TONS			TOW DELAY TIME				
			THIS MONTH	YEAR TO DATE	TOTAL	AVERAGE THIS MONTH (H:MN)	YR TO DATE (H:MN)	MAXIMUM YR TO DATE (H:MN)		
GULF INTRACASTAL	PORT ALLEN LOCK	1	619	1752	575	1607	1:06	1:07	6:05	24:00

DISTRICT: B2

RIVER NAME:
GULF INTRACOASTAL

PMS :24
PAGE: 1
RUN DATE: 06/20/84
TIME:1023

LOCK UTILIZATION SUMMARY REPORT
MARCH 1981

LOCK NAME	-NUMBER OF-- TOWS		-NUMBER REC- VESSELS'		-TOTAL FOR		DELAY - YR TO		-% LOCK UTIL- --UPBOUND TONNAGE-- FOR YR TO		--DOWNBOUND TONNAGE-- (KTONS)	
	MONTH	DATE	MONTH	DATE	MONTH	DATE	MONTH	DATE	MONTH	DATE	MONTH	DATE
PORT ALLEN LOCK	619	1752	2	23	636:03	1803:32	74	70	1010	2700	833	2368

LOCK GROUP 1

PHS1 25
PAGE1
RUN DATE1 05/28/82
TIME10456

LOCK PERFORMANCE SUMMARY REPORT MARCH 1981

LOCK NAME		CHAMBER	STALL INTER		LOCK OPER		RELATIVE PERFORMANCE		EXCEPT	
			EVENT	INTER	TIME	TIME	LOCKAGE	TONS/MIN	TONS/MIN	PEAK
			NO	CD	NO	CD	(HRS)	(TONS)	(NUMBER)	(NUMBER)
			1	K	1	K				
PORT ALLEN LOCK		1	2	L	2	S				
			1	H	2	M				
			1	Q						
			1	R						
			3	A						
			4	X						
			3	Z						
TOTAL			16		5		-61.2	-2.2	-10.1	-166.5
										-301.0
BAYOU BORREL LOCK		1	1	K			-61.2	-3.4	-15.6	-166.3
			4	T						-301.0
TOTAL			5				-61.2	-3.4	-15.6	-166.5
										-301.0

GULF INTRACOASTAL

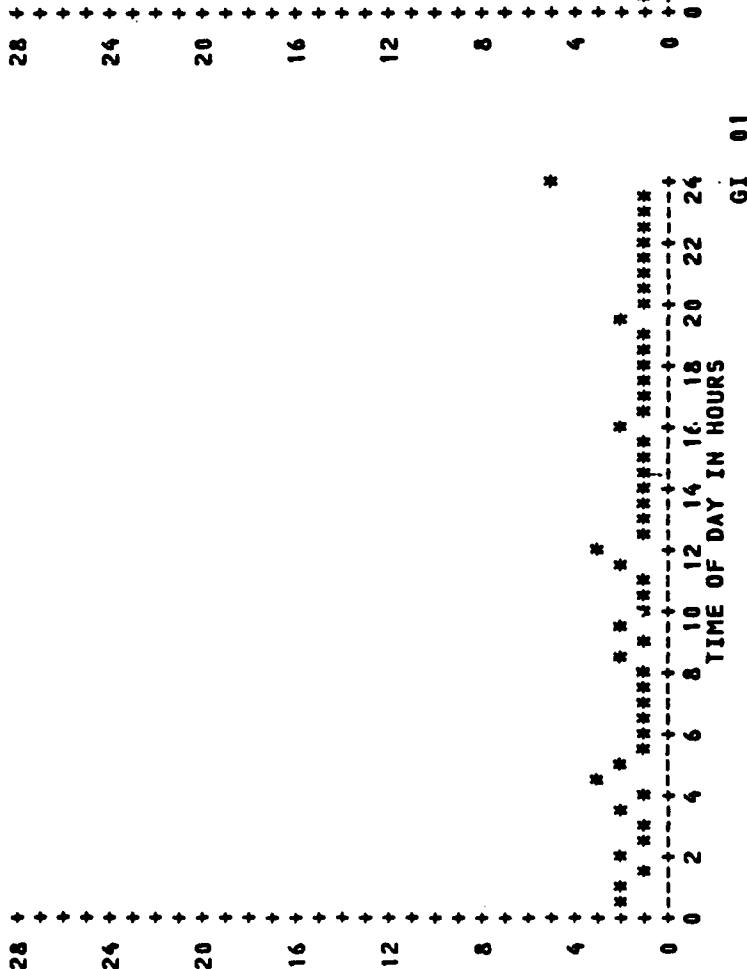
LOCK DELAY SUMMARY GRAPH

PMS: 26
PAGE: 1
RUN DATE: 01/04/83
TIME: 0611

UPBOUND

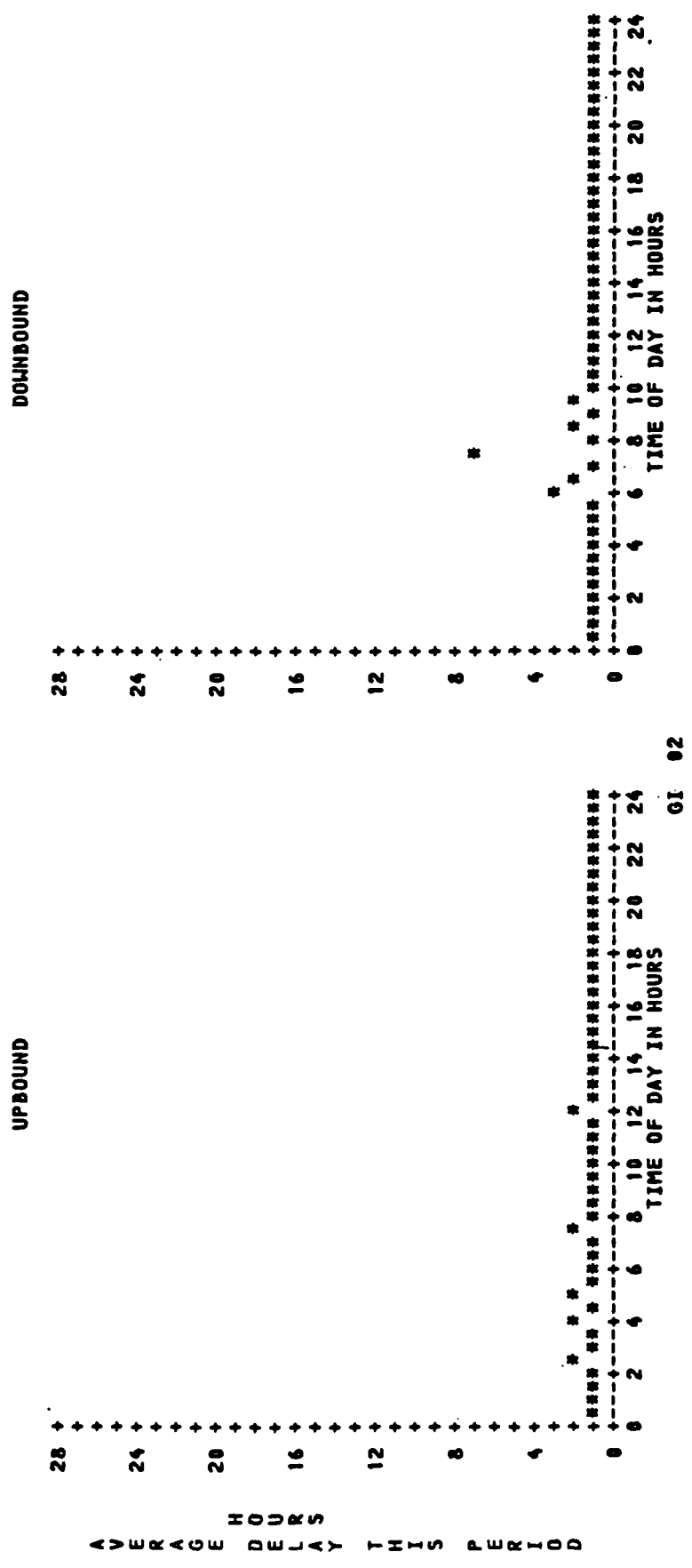
DOWNBOUND

AVERAGE
HOURS
THIS PERIOD



PMS: 26
 PAGE: 2
 RUN DATE: 01/06/83
 TIME: 0611

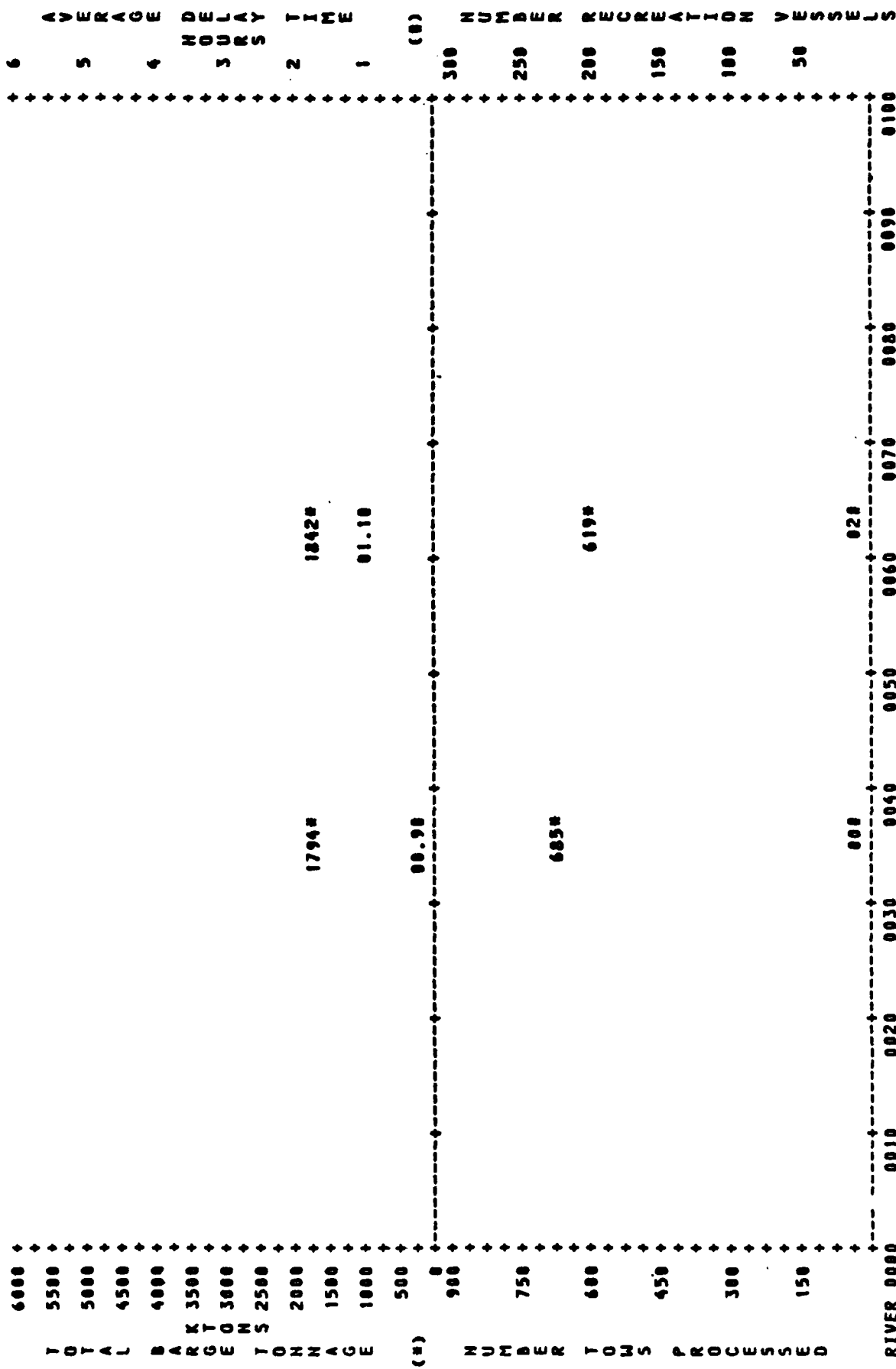
GULF INTRACOASTAL LOCK DELAY SUMMARY GRAPH



GULF INTRACOASTAL

LOCK SERVICE SUMMARY GRAPH

PMS: 27
PAGE: 001
RUN DATE: 01/04/83
TIME: 0612



01
B2

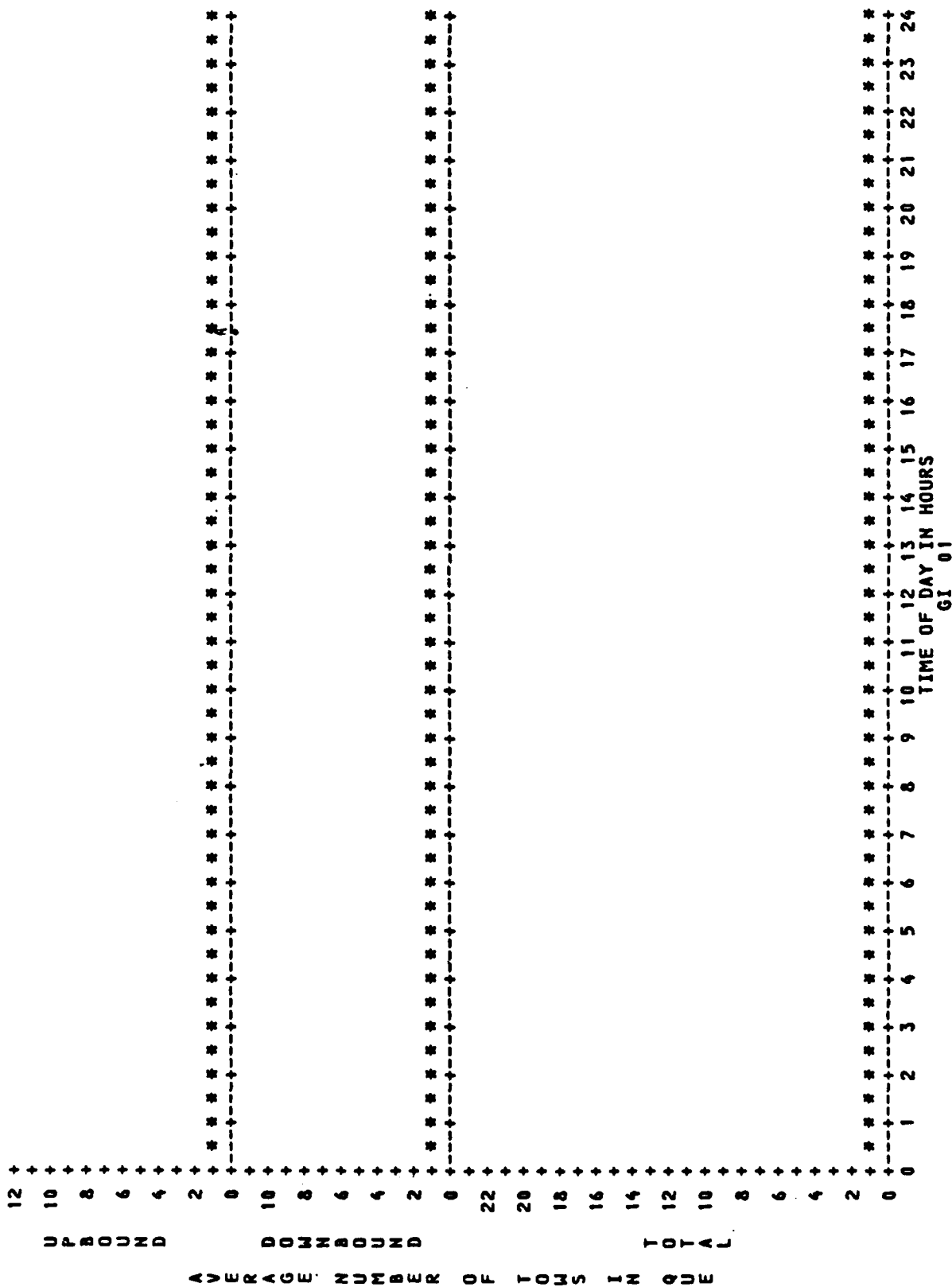
02
B2

LOCK CODE
DISTRICT

PMS: 28
 PAGE: 1
 RUN DATE: 01/04/83
 TIME: 0611

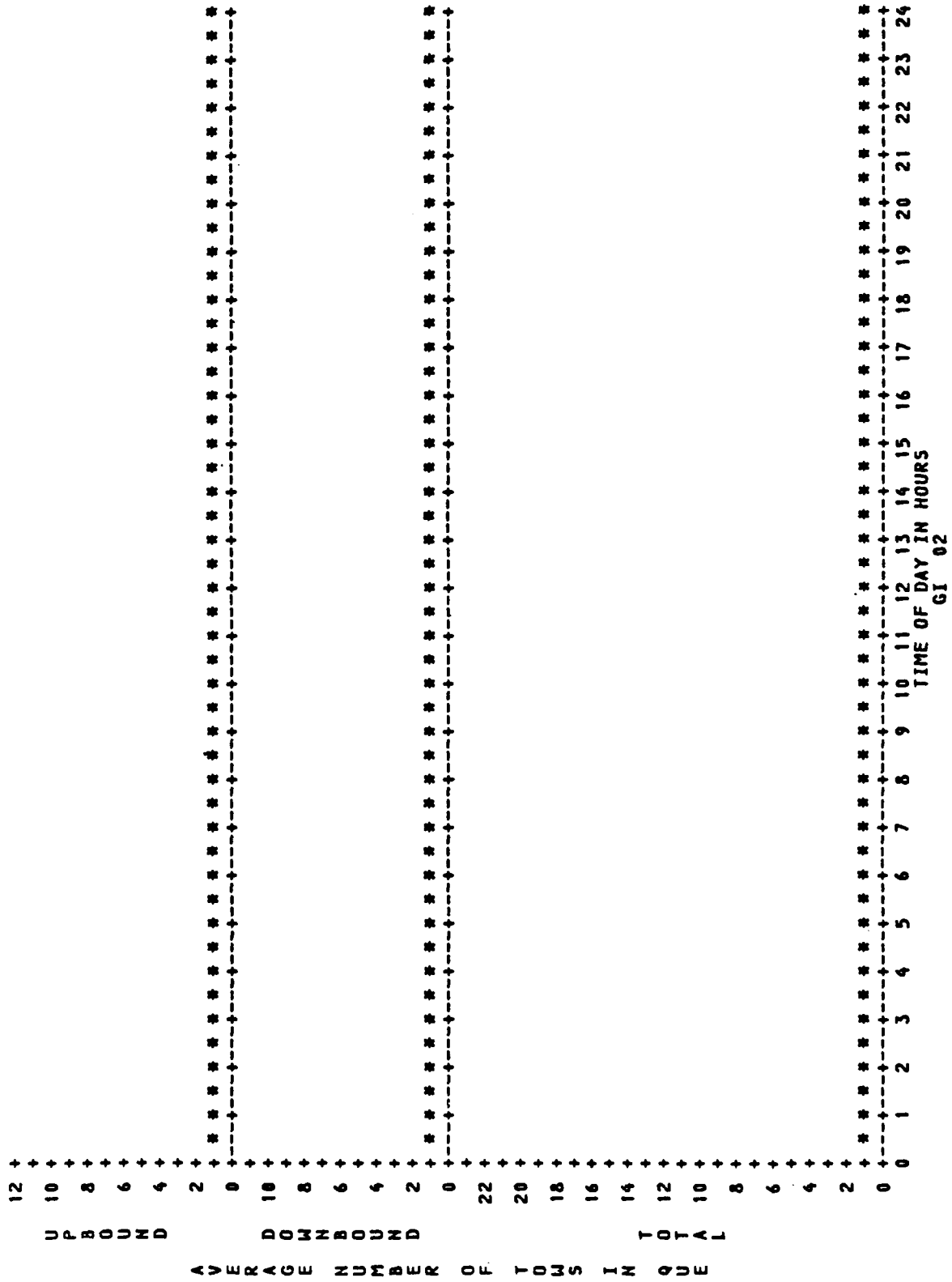
LOCK QUE SUMMARY GRAPH

GULF INTRACOASTAL



PMS: 28
 PAGE: 2
 RUN DATE: 01/04/83
 TIME: 0611

GULF INTRACOASTAL
 LOCK QUE SUMMARY GRAPH
 MARCH 1981



SUMMARY GRAPHIC REPORT
TOWNS PROCESSED
MARCH 1981

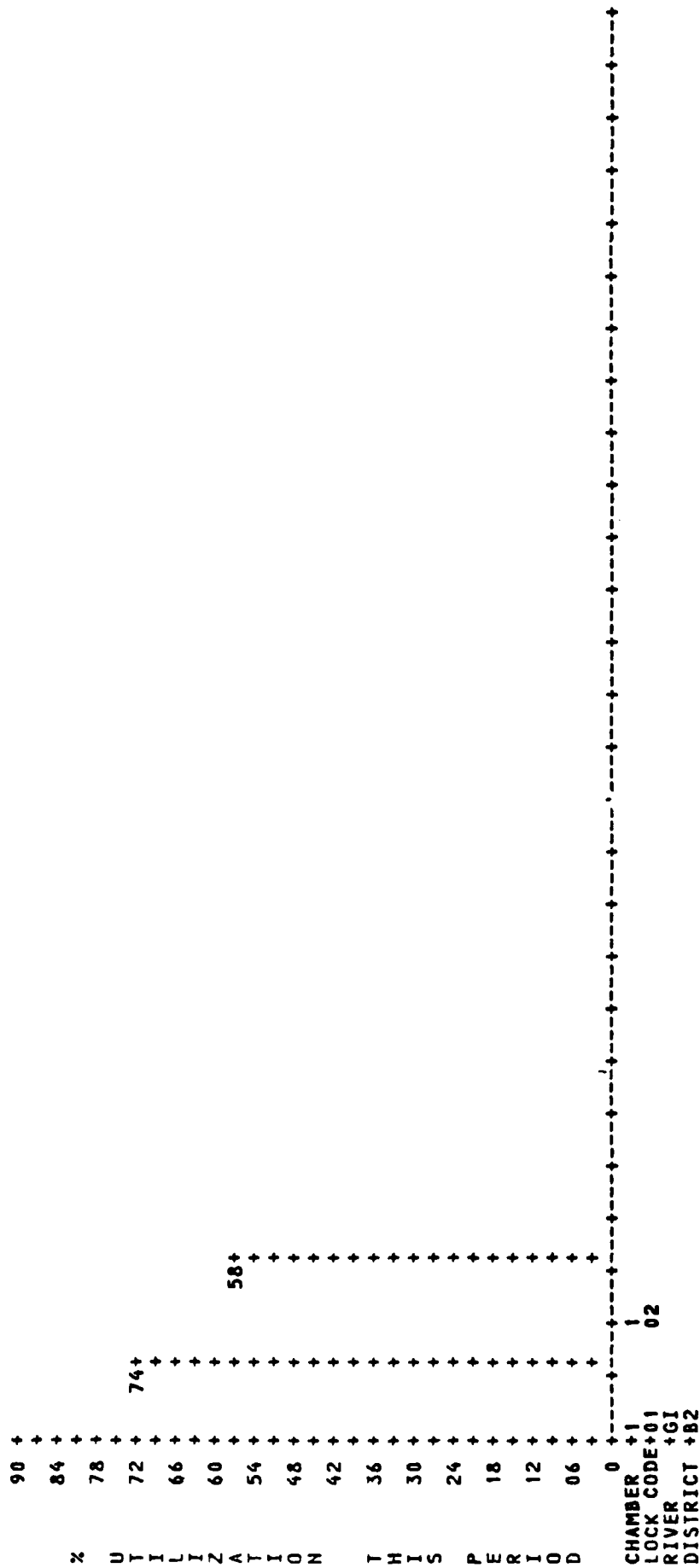
124

PMS: 31
 PAGE: 001
 RUN DATE: 01/04/83
 TIME: 0626

SUMMARY GRAPHIC REPORT

% UTILIZATION

MARCH 1981



PMS: 32
 PAGE: 001
 RUN DATE: 01/04/83
 TIME: 0626

SUMMARY GRAPHIC REPORT

TOTAL BARGES

MARCH 1981

TOTAL BARGES	6000	+	
TOTAL BARGES	5600	+	
TOTAL BARGES	5200	+	
TOTAL BARGES	4800	+	
TOTAL BARGES	4400	+	
TOTAL BARGES	4000	+	
TOTAL BARGES	3600	+	
TOTAL BARGES	3200	+	
TOTAL BARGES	2800	+	
TOTAL BARGES	2400	+	
TOTAL BARGES	2000	+	
TOTAL BARGES	1600	+	1727
TOTAL BARGES	1200	+	1743
TOTAL BARGES	800	+	
TOTAL BARGES	400	+	
TOTAL BARGES	0	+	
CHAMBER	+1		
LOCK CODE	+01		
RIVER	+01		
DISTRICT	+B2		

S U M M A R Y G R A P H I C R E P O R T
X E M P T Y B A R G E S
M A R C H 1 9 8 1

X		98	+	+
E		84	+	+
M		78	+	+
P		72	+	+
T		66	+	+
Y		60	+	+
B		54	+	+
A		48	+	+
R		42	+	+
G		36	+	+
E		30	+	+
S		24	+	+
T		18	+	+
H		12	+	+
I		06	+	+
S		0	+	+
P			+	+
E			+	+
R			+	+
I			+	+
O			+	+
D			+	+
CHAMBER	+1			
LOCK CODE	+0			
RIVER	+G			
DISTRICT	+B			

128

PMS: 36
PAGE: 001

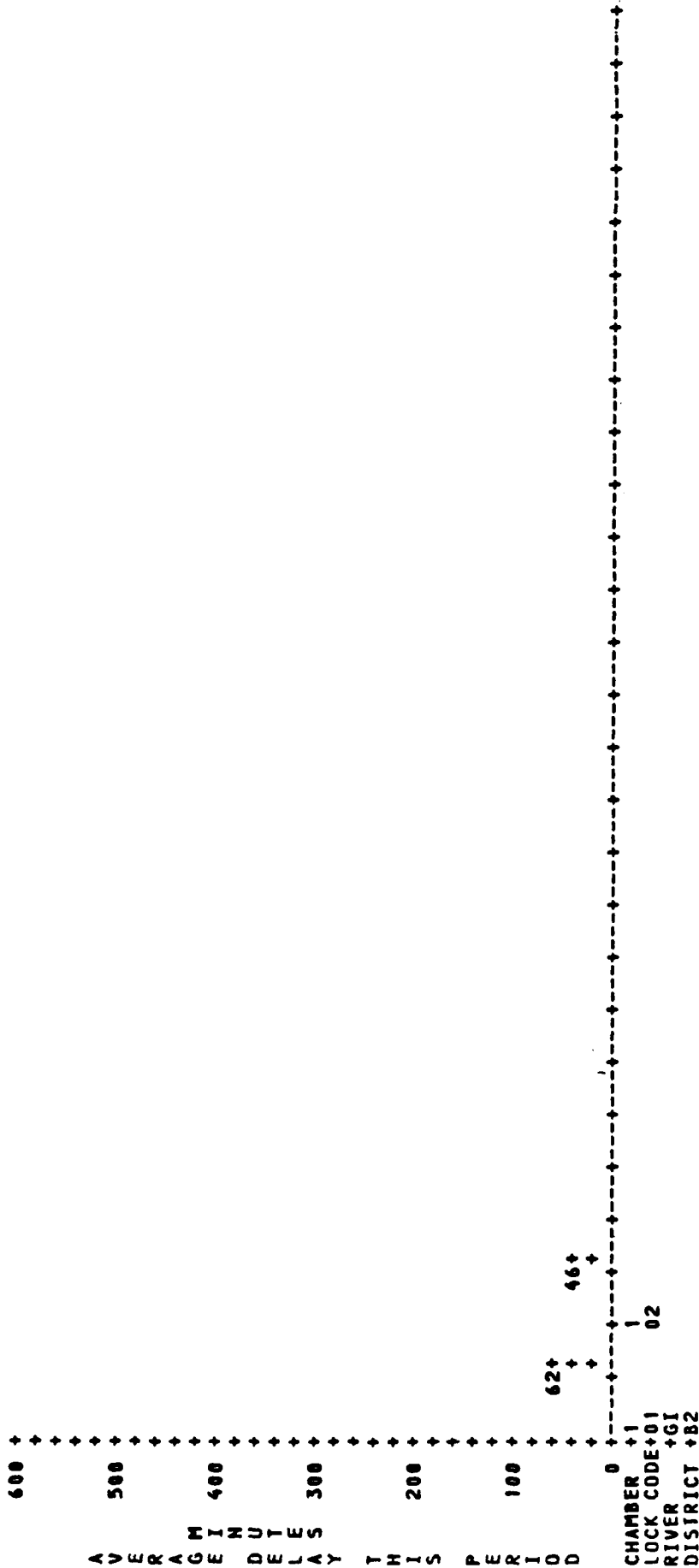
SUMMARY GRAPHIC REPORT

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O	7000	+
T	6500	+
A	6000	+
L	5500	+
DH	5000	+
E O	4500	+
L U	4000	+
A R	3500	+
Y S	3000	+
T H	2500	+
I I	2000	+
S P	1500	+
E E	1000	+
R R	500	+
I I	500	+
O D	500	+
CHAMBER	0	+
LOCK CODE	+1	+
RIVER	+01	+
DISTRICT	+B2	+
		02
		522+
	636+	+
	+	+
	+	+

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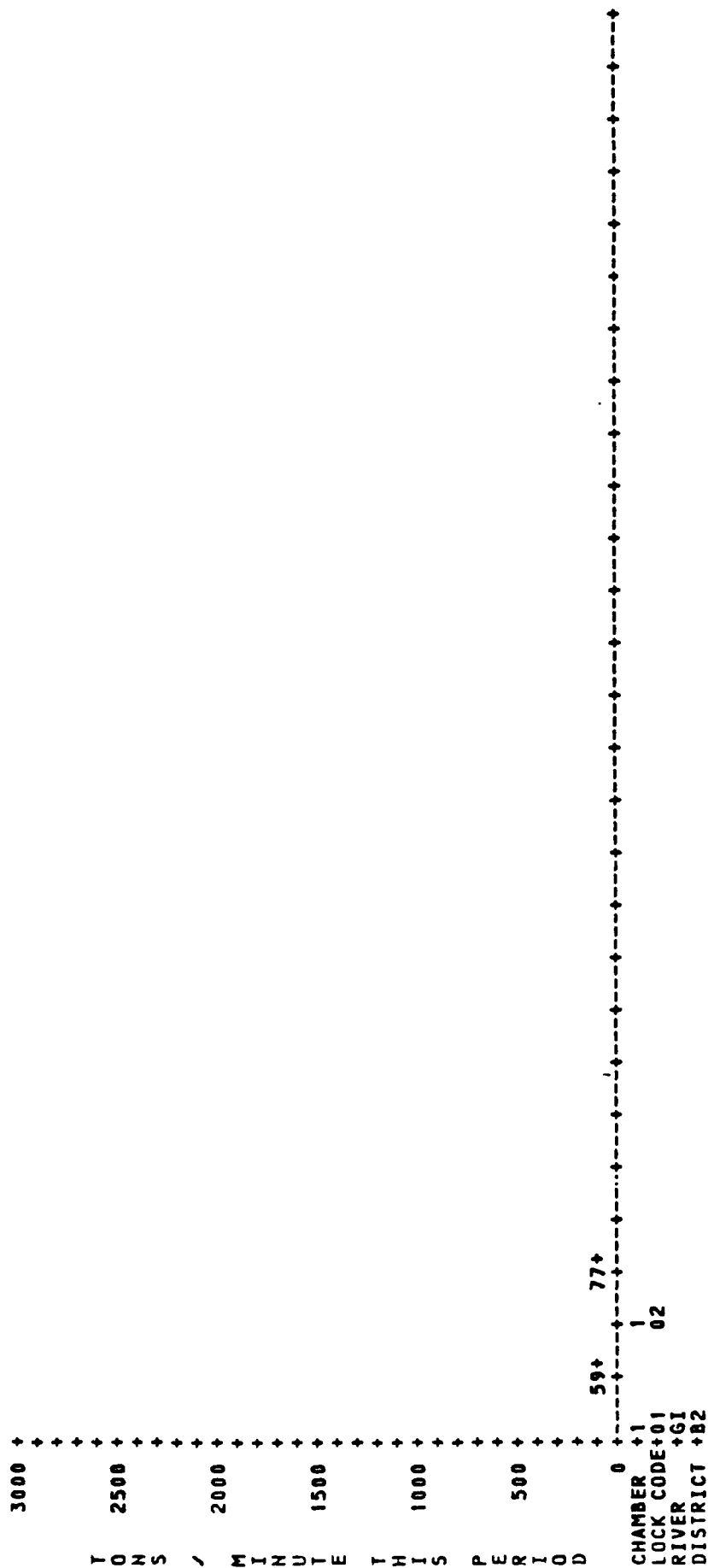
SUMMARY GRAPHIC REPORT

AVERAGE DELAY
 MARCH 1981



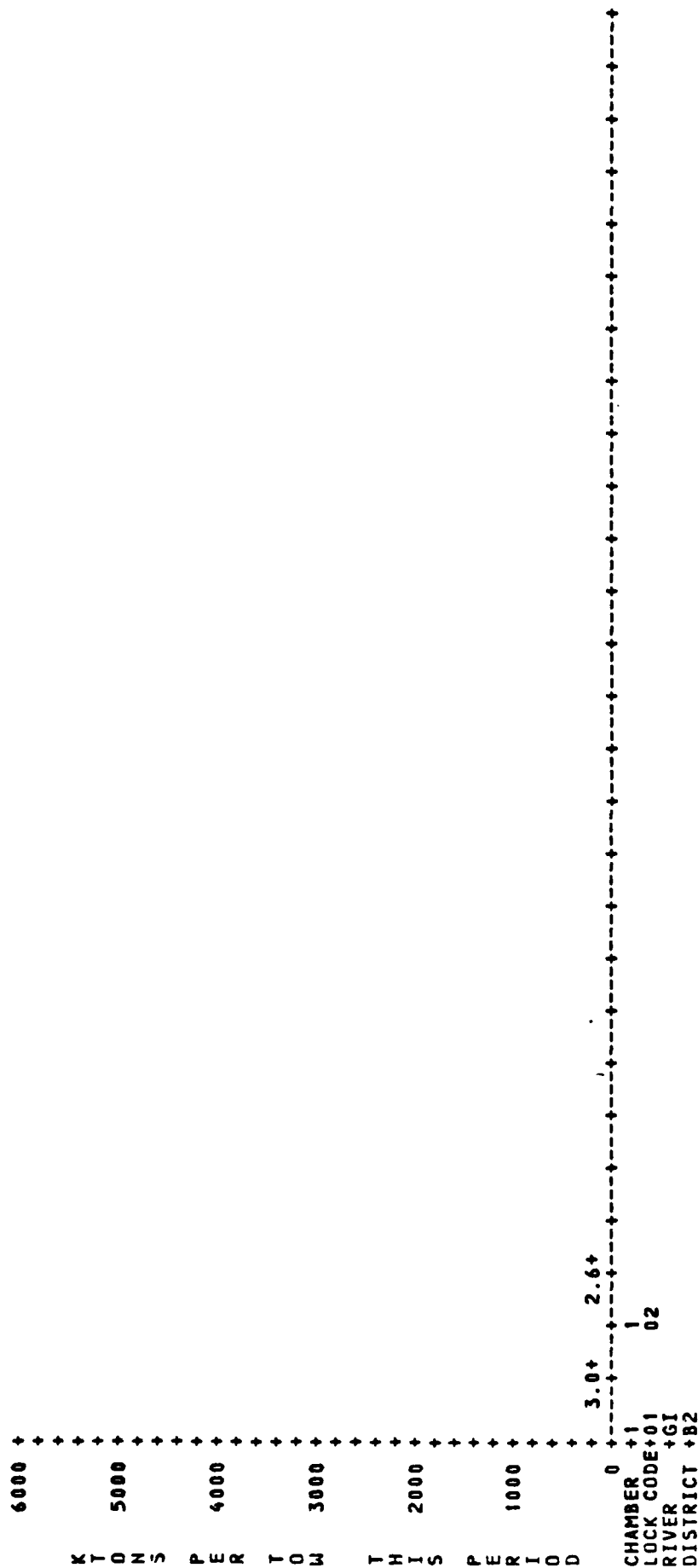
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 PAGE: 001
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 TIME: 0626

S U M M A R Y G R A P H I C R E P O R T
 TONS / MINUTE OF TOW PROCESSING TIME
 MARCH 1981



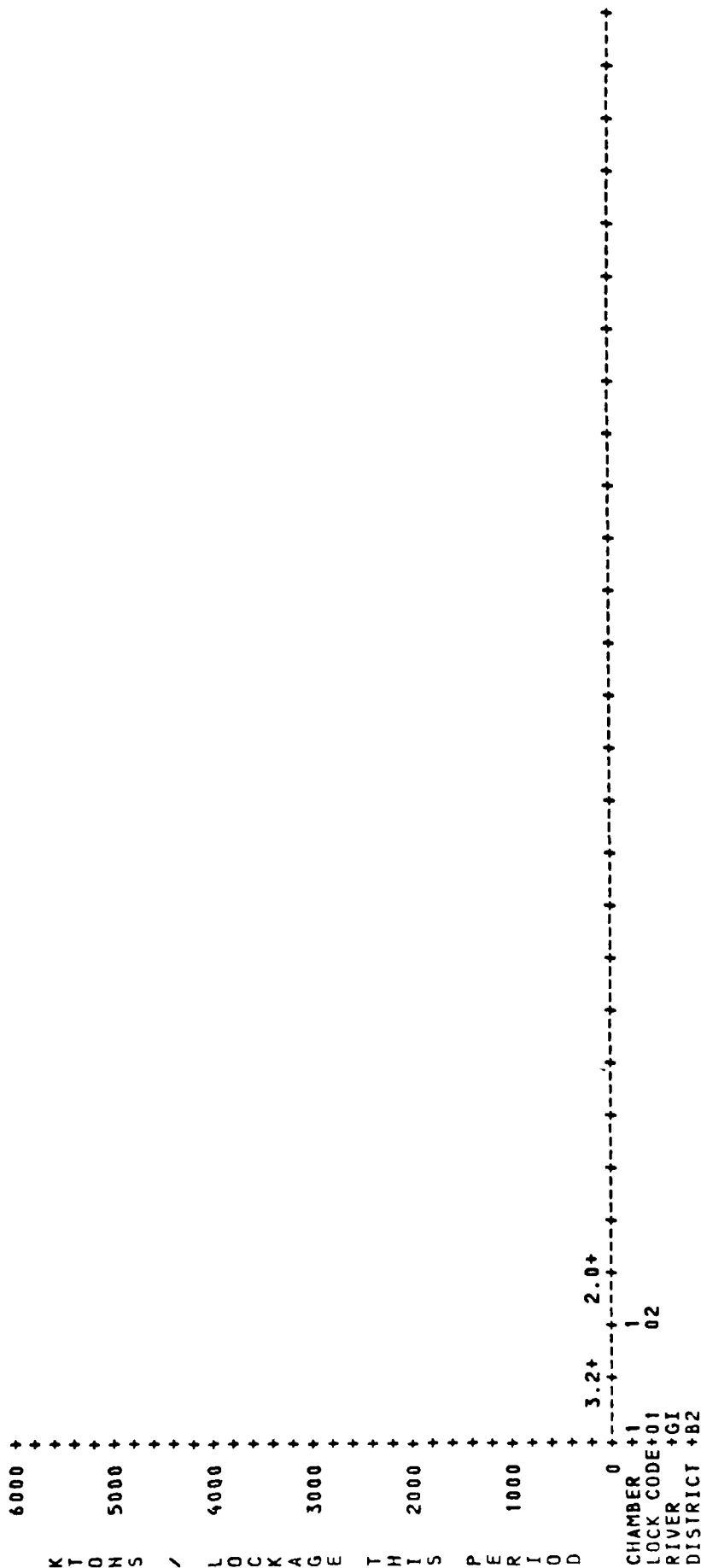
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 PAGE: 001
 RUN DATE: 01/04/83
 TIME: 0626

SUMMARY GRAPHIC REPORT
 KTONS PER TOW
 MARCH 1981



PMS: 39
 PAGE: 001
 RUN DATE: 01/04/83
 TIME: 0626

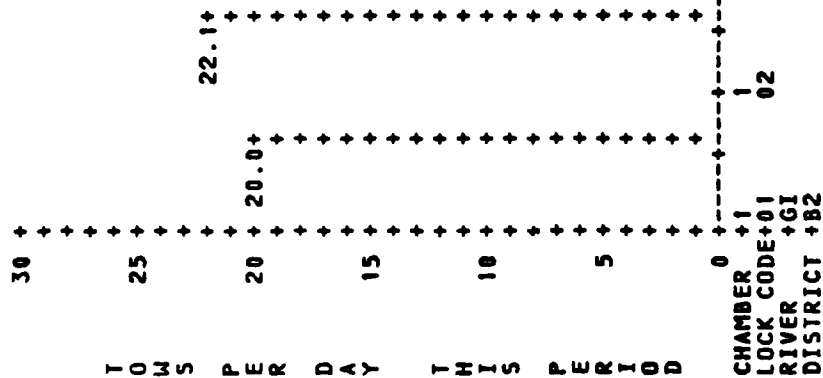
S U M M A R Y G R A P H I C R E P O R T
 K T O N S P E R L O C K A G E
 M A R C H 1 9 8 1



SUMMARY GRAPHIC REPORT

TONS PER DAY
MARCH 1981

PMS: 40
PAGE: 001
RUN DATE: 01/10/83
TIME: 0640



S U M M A R Y G R A P H I C R E P O R T
K T O N S P E R D A Y
M A R C H 1 9 8 1

PMS: 41
PAGE: 001
RUN DATE: 01/04/83
TIME: 0626

[illegible]

SUMMARY GRAPHIC REPORT

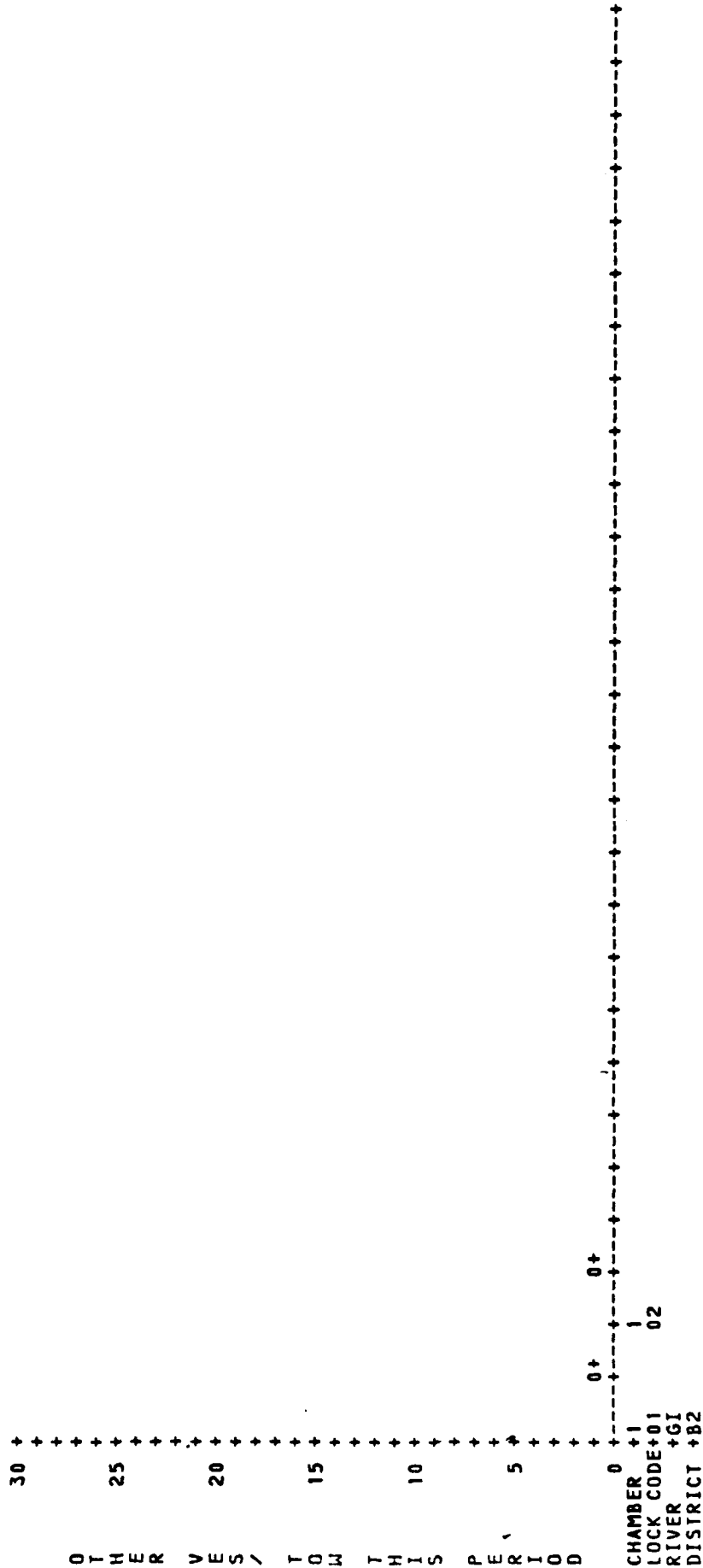
137

SUMMARY GRAPHIC REPORT

B	A	R	G	E	S	P	E	R	T	O	W	T	H	I	S	P	E	R	I	O	D
90	84	78	72	66	60	54	48	42	36	30	24	18	12	06	0	CHAMBER	+P	+G	+B	+R	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	LOCK CODE	+D	+E	+F	+C	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	RIVER	+A	+H	+I	+J	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	DISTRICT	+V	+W	+X	+Y	
+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+						

PMS: 44
 PAGE: 001
 RUN DATE: 01/06/83
 TIME: 0626

S U M M A R Y G R A P H I C R E P O R T
 OTHER VES/ TOW
 MARCH 1981



SUMMARY GRAPHIC REPORT
AVG PROC / TOW
MARCH 1981

140

APPENDIX G

Detailed Report Descriptions

Table of Contents
Detailed Report Descriptions

<u>SECTION</u>	<u>PAGE</u>
Chamber Reports	
PMS-3E, Lock Analysis Report	145
PMS-3F, Lock Analysis Report	146
PMS-4, Stall Analysis Report	147
PMS-5, Vessel Frequency Analysis Report	148
PMS-6, Lock Utilization Analysis Report	148
PMS-8, Exceptional Performance Events Report	149
PMS-10, Exceptional Performance Summary Report	150
PMS-13, Arrival Frequency Analysis Report	152
PMS-14, Interarrival Distribution Report	152
PMS-25, Lock Performance Summary Report	153
Commodity Reports	
PMS-12, Commodity Barge-Type Report	155
PMS-15, Delay Time Frequency Analysis Report	155
PMS-16, Horsepower Frequency Distribution Report	156
Tow Transit Analysis Reports	
PMS-17, Tow Transit Analysis: Detailed Vessel Report	158
PMS-18, Tow Transit Analysis: Detailed Lock Report	159
PMS-19, Tow Transit Analysis: Summary Report	159
PMS-20, Detailed Tow Company Analysis Report	160

SECTIONPAGE

Summary Reports

PMS-22, Corps of Engineers: Lock Tonnage Report	161
PMS-23, Corps of Engineers: Lockage Report	161
PMS-24, Lock Utilization Summary Report	162
PMS-26, Lock Delay Summary Graph	163
PMS-27, Lock Service Summary Graph	164
PMS-28, Lock Queue Summary Graph	165
PMS-29, Tows Processed	165
PMS-30, Kilotons Processed	166
PMS-31, % Utilization	166
PMS-32, Total Barges Processed	167
PMS-33, % Empty Barges Processed	167
PMS-34, Total Delay Time	168
PMS-35, Average Delay Time	168
PMS-36, Barges/Hour of Tow Processing Time	169
PMS-37, Tons/Minutes of Tow Processing Time	169
PMS-38, Kilotons/Tow	170
PMS-39, Kilotons/Lockage	170
PMS-40, Tows/Day	171
PMS-41, Kilotons/Day	171
PMS-42, Barges/Day	172
PMS-43, Barges/Tow	172
PMS-44, Other Vessels/Tow Lockage	173
PMS-45, Average Processing Time/Tow	173

I. Chamber Reports

The chamber reports provide information regarding lock performance and utilization during the month.

1. Lock Analysis Report - PMS 3E

This is a two part report consisting of frequency and percentage analysis of all heavy tows transiting a lock/chamber. The analyses are presented in terms of time required to complete a lockage function. Each of eight lockage functions is reported separately: approach for fly, exchange and turnback entry types, chamber entry, chambering, fly exit, exchange exit, and turnback exit. In addition to time interval breakout, each lockage function is further subdivided by the direction of the lockage.

a. Frequency Analysis

The number of heavy tows falling within each defined category.

- | | |
|----------------------------|---|
| o Lockage Type | The analysis is reported separately for each lockage type. For double-cut and multi-cut lockages, timing information for both the first and last cuts is considered independently. Because of this, the number of heavy tows reported may be greater than those actually transiting the lock. |
| o Dir | There is an analysis for upbound, downbound and total (both directions) traffic. |
| o Time Intervals (minutes) | The ranges of time are divided into four minute intervals up to 45-48 minutes. The final category is 49 minutes or more. |
| o Total | Aggregation of all time intervals. |
| o Avg Time | Sum of times divided by number of heavy tows within a given category. |

b. Percent Analysis

The percentage of heavy tows falling within each defined category. The computation considers only tows falling within the category defined by each row and column.

- | | |
|----------------------------|------------------------------------|
| o Lockage Type | As defined for Frequency Analysis. |
| o Dir | As defined for Frequency Analysis. |
| o Time Intervals (minutes) | As defined for Frequency Analysis. |

2. Lock Analysis Report - PMS 3F

This report provides a frequency analysis and a percentage analysis of turnback and wait times experienced by heavy tows transiting a lock/chamber during the reporting period. Frequencies and percentages of turnback and wait times are reported by time interval and by direction.

a. Turnback Time Distribution

Two types of turnbacks are considered; turnback between vessels is the elapsed time between the end of lockage of the prior lockage and the start of lockage of the current lockage when entry type is turnback. For double-cuts only, turnback between cuts is the elapsed time between the end of the lockage of the first cut and the start of lockage of the second cut.

(1) Frequency Analysis (of time distributions for turnbacks) for turnback and wait time

- o Time (minutes) Time intervals into which turnbacks are categorized. There are two minute intervals to 56-58 and a final category for 59 and up.
- o Turnback The number of turnbacks falling into each time category
- o Total Total number of turnbacks, all times
- o Average Average turnback time

(2) Percent Analysis - The percentage of turnbacks falling within each time and direction category.

b. Waiting Time Distribution

(1) Frequency Analysis

- o Time (minutes) Delay time intervals into which heavy tows are categorized. There are 5 minute categories up to a delay time of 100, 10 minute categories to 300 minutes, 60 minutes from 301 to 360 then 120 minutes through 600. The final category is all delay times over 600 minutes.
- o Wait Time The number of delayed heavy tows distributed by wait time and direction.
- o Total Total number of delayed tows by direction.
- o Avg Time Average wait time for heavy tows, by direction.

(2) Percent Analysis - The percentage of heavy tows falling into each wait time category, by direction.

3. Stall Analysis Report - PMS 4

This report describes the stall and interference events which occurred at each lock/chamber during the month. An event which has a stall code recorded but no time recorded is considered an interference. Possible stall and interference codes can be found in Appendix J.

a. Type of Stall

Provides a code and description for each type of stall or interference

b. Stall Events

The following computations are provided for total stalls and each type of stall:

- | | |
|-------------------------|--|
| o Number of Events | Number of occurrences of each type of stall. |
| o Percent of Events | Number of occurrences of each type of stall divided by the total number of stalls. |
| o Total Time | Total hours and minutes for each stall by type. |
| o Percent of Total Time | Time dedicated to each type of stall divided by the total minutes in each month. |
| o Average Time Stalled | Total stall time for each type of stall divided by the number of events for each stall type. |
| o Minimum Time Stalled | The smallest value recorded for each stall type during the month. |
| o Maximum Time Stalled | The largest value recorded for each stall type during the month. |
| o Standard Deviation | Computed conventionally using the previously computed statistics. |

c. Interference Events

The following computations are provided for total interferences and for each type of interference:

- o Number of Events Number of occurrences of each type of interference.
- o Percent of Events Number of occurrences of each type of interference divided by the total number of interferences.
- o Percent of Total Lockages Number of lockages which experience interferences divided by the total number of lockages.

4. Vessel Frequency Analysis Report - PMS 5

This report provides a summary of the number of vessels of each type served at each lock chamber, the average processing and waiting times, and the number of passengers transiting the lock during the month.

a. Type Vessel

The number of each type of vessel transiting the lock.

b. Number Vessels

The number of each type of vessel.

c. Average Processing Time

The average time required to process a vessel of a given type, i.e., total processing time/total number of vessels.

d. Average Wait Time

The average waiting time for each type of vessel before being processed, i.e., total waiting time/total number of vessels.

e. Passenger Count

The number of passengers on all vessels of each type, excluding crew members on commercial vessels.

5. Lock Utilization Analysis Report - PMS 6

This report provides a detailed description of the allocation of a lock/chamber's available time among the various operations it performs during the month, by direction.

a. Chamber Utilization

(1) Operation

o Vessel operation time is reported by vessel type for all primary lockage vessels and represents the sum of the approach, entry and exit times minus overlapping times in a multi-vessel situation.

o Lock operation time is reported by vessel type and consists of the chambering and turnback time to process all primary vessels of the given type.

o Open pass is reported independantly and is the total time from start of lockage to end of lockage; there is no differentiation between vessel and lock operating time.

o Mixed time is time uniquely attributed to the processing of light and recreational vesels when they are locked with other vessel types.

(2) % of Total

The percent of total time represents the total time devoted to each operation divided by the total time in the month. The percentage is reported for operation time as well as stall and idle time.

b. Number of Lockages

o The number of lockages falling into each lockage (purpose) category, by direction.

o % of Total - The percent of total lockages falling into each lockage (purpose) category, by direction.

6. Exceptional Performance Events Report - PMS 8

This report describes the exceptional performance events that occurred at the lock during the reporting period. It reports both the poorer and better than normal performance for up and down bound traffic at each lock chamber.

The report also presents the performance standards which are used to compute whether performance is better or worse than the norm as reported throughout the specified reporting period. The norm and the bounds of the norm are developed by a statistical analysis of lock performance during prior reporting periods. Excess time is an absolute, representing either processing time in excess of the standards or standard times in excess of processing time, as appropriate.

This report is voluminous and detailed.

a. Lockage Elements

The lockage elements for which standards are developed, and for which performances are reported, include the vessel's approach, entry, chambering and exit operations. The elements are subdivided by single-cut, double-cut (1st cut), double-cut (2nd cut), multi-cut (1st cut) and multi-cut (last cut). The approach and exit limits are further subdivided by type: fly, exchange, and turnback.

b. Performance Standards (Min/Max)

For each lockage function considered, performance standards are produced for nine lockage types, for eight lockage elements and for both upbound and downbound directions. These standards represent the deviation from the norm that form the limits for defining exceptional performance.

c. % By Lockage Type

The number of exceptional lockages for this element divided by the total number of lockages considered for this element.

d. % of Total Lockages

The number of exceptional lockages for this element divided by the total number of lockages considered on this page of the report (total column).

e. % of Total Element Time

The amount of excess time for this lockage element divided by the total amount of time for this lockage element.

f. % of Total Processing Time

The amount of excess time for each lockage element divided by the total amount of processing time spent in that kind of lockage.

g. % of Available Lock Time

The amount of excess time for each lockage element divided by the total available lock time during the month. Available lock time is the amount of time in the month minus the time the lock was reported in stall conditions during the month.

h. Avg. Excess Time - Exc Lkgs

The amount of excess time for each lockage element divided by the number of exceptional lockages of the element type.

i. Avg. Excess Time - All Lkgs

The amount of excess time for each lockage element divided by the number of lockage elements of the type.

j. Unidentified Lockage Type

The number of lockages that do not fall into any of the defined lockage type categories.

7. Exceptional Performance Summary Report - PMS 10

This report presents a summary of exceptionally good and poor performances at each lock/chamber for processing upbound and downbound traffic. For tows only, the data are reported for each lockage type.

a. Lockage Elements

The lockage elements for which exceptional performances are reported include the vessel's approach, entry, chambering, and exit operations. The elements are subdivided by single-cut, double-cut (1st cut), double-cut (2nd cut), multi-cut (1st cut), multi-cut (last cut), and the total for all elements.

b. Number of Lockages Considered

The total number of lockages, by number of cuts and lockage element, for the reporting period.

c. Number of Exceptional Lockages

The number of lockages, by number of cuts and lockage element, that were exceptional in performance.

d. Percent of Total Lockages

The number of exceptional lockages divided by the total number of lockages considered.

e. Total Excess Time

The sum of the observed excess times. It is computed by determining the difference between the elapsed time and the performance standard; when performance is better than normal, it is the excess of the standard time over the actual and when performance is poorer than the standard, it is the excess of the actual over the standard.

f. Average Excess Time

o Exceptional Lockages The total excess time divided by the the total number of exceptional lockages for this element.

o All Lockages The total excess time divided by the total number of lockages for this element.

g. Percentage of Total Time

o This Time Segment The total excess time divided by the total time the lock is used for each lockage element during reporting period.

o Processing Time The total excess time divided by the total processing time for the lock/ chamber during the reporting period.

- o Available Lock Time The total excess time divided by the total time the lock was available during the reporting period.

8. Arrival Frequency Analysis Report, PMS 13

This report provides a frequency distribution of vessel arrivals by time of day, day of week and day of month during the reporting period, upbound and downbound traffic and a total for both. The analysis is grouped by Tows and Cargo Carrying Vessels, Recreational Vessels and Lightboats. This report combines the vessel arrivals reported for all chambers at the lock.

Vessel Arrivals

Provides the frequency of vessel arrivals by day and date for an entire month. Also, total arrivals for the month are given.

- o Tows & Cargo Carrying Vessels

Time of Day
(hour increments)

Arrivals are summed by hour of the day and by total for each day.

% By Hour

The number of arrivals for the day.

% By Day

The number of arrivals for the hour divided by the total arrivals during that hour for the month.

% By Hour & Day

The arrivals for the hour divided by all arrivals for the month.

- o Recreational Vessels

Same as for the Tows and Cargo Carrying Vessels.

- o Lightboats

Same as for the Tows & Cargo Carrying Vessels.

9. Interarrival Distribution Report, PMS 14

This report provides a frequency distribution of the time between vessel arrivals stratified by day of the reporting period and day of the week. This report combines the arrivals of vessels at all chambers of the lock in determining the interarrival times.

Vessel Arrivals

Provides the frequency of arrivals by day and date for the entire month and the total for the month.

Total

o Tows

Time Intervals

Number of vessels arriving within the designated interval of each other on that day of the month.

% Arriving

Number of tows arriving within the interval divided by the total number of tows arriving during the day.

Cumm. Arr

Number of vessels arriving with an interval equal to or less than that defined for the cell.

Cumm. % Arr

Number of vessels arriving within or less than the interval defined for the cell divided by the total number of vessels arriving for that day.

Tot

Total number of tows arriving during the day.

Avg Rate Arr

The average interval (minutes) between tow arrivals.

o Other Vessels

Same as for the Tows.

o All Vessels

Same as for the Tows.

10. Lock Performance Summary Report - PMS 25

This report provides a comparison of the relative performance of similar locks in the system by lock chamber.

Parameters required with this report to specify which locks will be compared must be supplied by EASA and the report can only be run by EASA personnel.

a. Lock Name

The name of the lock.

b. Chamber

The chamber name.

c. Stall Events

The number and type of stall events.

d. Inter Events

The number and type of interference events.

e. Relative Performance

All values are "+" for above the average and "-" for below.

- o Idle Time The number of hours that the idle time differs from the average for all lock/chambers compared.
- o Lock Oper Time/
 Procs Time The ratio of lock operation time to vessel processing time is computed from all locks being compared and an average is found. The ratio at each lock is also computed and the difference reported in this column.
- o Delay Time/Lockage The number of hours that the delay time per lockage differs from the average for all locks compared.
- o Tons/Min Procs The amount the number of tons per minute processed differs from the average for all locks compared.
- o Barges/Min Procs The amount the number of barges per minute processed differs from the average for all locks compared.
- o Lockages The number of lockages above or below the average for all locks compared.
- o Excep Perf -
 (BETTER) The number of exceptional performances above the average for all locks compared.
- o Excep Perf -
 (WORSE) The number of exceptional performances below the average for all locks compared.

II. Commodity Reports

The commodity reports provide tonnage and cost information for cargo and cargo carrying vessels processed at a lock during the month.

1. Commodity Barge-Type Report - PMS 12

This report provides a detailed analysis by direction of the types of barges used to transport each product type through each chamber of the lock. The analysis also gives a total for all chambers and both directions.

a. Commodity

The code and product type name for each commodity.

b. Barge Type

The number of barges and thousands of tons of cargo by product type for nine barge types and a total for all barges.

c. % by Barge

o Barge Type

For barges carrying each product type, the number of barges of each barge type is divided by the total number of all barges used for that product type.

o Brgktons

For each product type, the tonnage of each barge carrying the commodity is divided by the total tonnage for all barge types used for that product type.

d. % by Commodity

o Barge Type

For each barge type, the number of barges used for each product is divided by the total number of all barges used for that product type.

o Brgktons

For each barge type, the tonnage of a given commodity carried is divided by the total tonnage carried by that barge type for all commodities.

2. Delay Time Frequency Analysis Report - PMS 15

This report provides a frequency distribution of the delay time and dollar losses caused by traffic delays for utilization of the chambers at a lock.

a. Time Loss (Hours) or (Dollars)

Frequency distribution for traffic delays at the chambers of the lock in terms of delay hours and dollar losses.

- | | | |
|---|----------------|--|
| o | Number of Tows | The number of heavy tows in each delay time range. |
| o | Time Delay | The sum of delay times in hours for all heavy tows delayed in each range. |
| o | Dollar Losses | The total dollar losses resulting from delays in each delay time range. The algorithm for computing dollar losses is based upon expected operating costs for vessels of various size, horsepower, and use. |
| o | % of Tows | The number of heavy tows in each delay time range divided by the total number of heavy tows delayed. |
| o | % of Delay | The hours of delay in each delay time range divided by the total number of hours of delay for all heavy tows. |
| o | % of Loss | The dollar loss for heavy tows in each delay time range divided by the total dollar loss for all heavy tows. |

3. Horsepower Frequency Distribution Report - PMS 16

This report provides a cross tabulation between tow horsepower class and number of barges in the flotilla and a cross tabulation between tow horsepower and flotilla tonnage. There are 3 reports for each barge type; upbound, downbound, and total. The mixed barges report contains information for flotillas composed of more than one barge type. There is also a report for all upbound and downbound flotillas, but no total. When the horsepower of a tow cannot be found, (e.g., vessel number not on Coast Guard vessel file) it is not included in the statistics.

a. Horsepower

These figures represent the horsepower ranges for each horsepower class.

b. Barges per Tow

These figures represent the number of barges range for each number of barges class.

- o Number of Tows The number of flotillas in the horsepower class made up of the specified number of barges.
- o Percent of Tows in Horsepower Class The percentage of all flotillas within the given horsepower class which fall in each barge number class.
- o Percent of Tows in Barges per Tow and Kilo-tons per Tow Class The percent of flotillas in each barge number class which fall within the given horsepower range.

c. Kilo-Tons per Tow

These figures represent the ranges of kilotons used to define each tonnage class.

- o Number of Tows The number of tows in each horsepower range which fall within the specified tonnage class.
- o Percent of Tows in Horsepower Class The percent of the flotillas in each horsepower class which fall within the specified tonnage class.
- o Percent of Tows in Barges per Tow and Kilo-tons per Tow Class The percent of the flotillas in each tonnage class which fall within the given horsepower class.

III. Tow Transit Analysis Reports

The tow transit reports provide information regarding waterway systems utilization by heavy tows during the month. Travel time and vessel speeds between locks is not computed if (1) the vessel has stopped between the locks or (2) both locks are not in the extracted data set (as defined on the "SELECT" card).

1. Tow Transit Analysis: Detailed Vessel Report - PMS 17

This report analyzes the performance of all tows transiting the inland waterways during the reporting period on a lock-by-lock basis. The report groups vessels by barge company. Locks are identified by their PMS river and lock code (see Appendix J). If a tow is traveling to or from a lock not in the extracted data set, the lock is coded "0000." Travel time will be computed only between locks selected and extracted.

a. Vessel

Provides the name of each vessel and tracks its movements between locks during the reporting period. If the name of a vessel has not been recorded, then the vessel number is printed in lieu of the name.

b. Dir

Direction of travel - 1=up, 2=down.

c. Stop

If a stop code is reported on the input form or if the number of loaded and empty barges has changed between the two locks, a "Y" is reported.

d. Barges

- o LD Number of loaded barges
- o MT Number of empty barges

e. Cargo Tons

This field provides the actual number of tons carried.

f. Travel Time

Elapsed time from the end of lockage at the "from" lock until the arrival time at the "to" lock.

g. Eff. Hdwy

This is the average effective headway between the two locks. It is not computed if the vessel has stopped between the two locks.

h. Arrival

Arrival date and time.

i. Wait Time

Time between arrival and start of lockage.

j. Lokag

- o TP Type of lockage (see Appendix J)
- o CT The number of cuts for the lockage

k. Stall

- o CD Code identifying reason for stall
(see Appendix J)
- o Time Duration time of stall

l. Procs Time

Total processing time, start of lockage to end of lockage.

m. Travel Time

Time from arrival at lock to end of lockage.

n. Exceptional Performance

Time that vessel (approach, entry and exit) or lock (chambering) processing time is better or poorer than average.

2. Tow Transit Analysis: Detailed Lock Report - PMS 18

This report analyzes the performance of all vessels transiting the inland waterways on a lock-by-lock basis during the reporting period.

This report provides the same data as PMS-17 except it is reported by lock rather than by vessel and company. Traffic is reported separately for upbound and downbound traffic. The report itemizes all the vessels that went through a given lock during the month.

3. Tow Transit Analysis: Summary Report - PMS 19

This report provides an aggregate summary of heavy tow traffic between each lock pair during the reporting period.

a. Lock Codes

This field consists of PMS river and lock code (see Appendix J) of each lock in the system. Locks not in the extracted data set coded "0000". Locks are reported in the sequence in which they are listed in the Encoded Map Table. (EMTFIL, Appendix D). The order of the lock code determines whether the traffic is upbound or downbound.

b. Upbound Vessel

- o Eff Hdwy The average travel speed of the vessels between locks.
- o Travel Time Average travel time between locks.
- o Wait Time The average time a tow waits for service at the lock.
- o Procs Time The average time required to process a vessel.
- o Stall Time The average duration of a stall at the lock.
- o Transit Time The average time required for a vessel to transit a lock (wait time plus processing time).
- o No Vsl The number of vessels transiting the lock.
- o Stdev TV + TR The standard deviation of the travel time plus the transit time.

c. Downbound Vessel

Same as for Upbound Vessels

4. Detailed Tow Company Analysis - PMS 20

This report is prepared for a specific towing company. A specified towing company with all of its vessels, or specified vessel numbers only, will be reported. To run, contact the PMS Coordinator at EASA.

This report provides the same data as PMS-17, but for selected vessels only.

IV. Summary Reports

The summary reports provide information summarizing commerce and traffic through each lock during the month.

1. Corps of Engineers: Lock Tonnage Report - PMS 22

This report provides monthly summary commodity tonnages passing through each lock in both the upbound and downbound direction. The report sums tonnages by commodity, lock and river.

a. River Name

Name of the river on which the lock is situated.

b. Lock Name

Name of the lock for which tonnages are being reported.

c. Commodity

The name of each commodity.

d. Upbound Tonnage

o For Month

The tonnage, in kilotons, of each commodity processed during the month.

o Year-to-Date

The tonnage, in kilotons, of each commodity processed from January through the reporting month.

e. Downbound Tonnage

Same as for Upbound Tonnage.

2. Corps of Engineers: Lockage Report - PMS 23

This report summarizes the number of tows delayed, average delay time and maximum delay time.

a. River Name

Name of river on which the lock is situated.

b. Lock Name

Name of lock for which tow information is being reported.

c. Chamber

Number identifying which chamber of the lock is being analyzed (see Appendix J).

d. Number of Tows

Total

- o This Month The number of tows transiting the lock chamber during the month.
- o Year-to-Date The number of tows transiting the lock chamber from January through the reporting month.

Delayed

- o This Month The number of tows delayed at the chamber during the month.
- o Year-to-Date The number of tows delayed at the chamber from January through the reporting month.

e. Tow Delay Time

Average

- o This Month The total delay time at each chamber for the month divided by the number of tows delayed during the month.
- o Year-to-Date The total delay time at each chamber for the year divided by the number of tows delayed during the year.

Maximum

- o This Month The maximum time any one tow was delayed during the month.
- o Year-to-Date The maximum time any one tow was delayed during the year.

3. Lock Utilization Summary Report - PMS 24

This report summarizes traffic, utilization and commodity tonnages at each lock.

a. Lock Name

Name of the lock.

b. Number of Tows

o For Month The total number of tows processed during the month

o Year-to-Date The total number of tows processed from January through the reporting month.

c. Number Rec Vessels

o For Month The total number of recreational vessels processed during the month.

o Year-to-Date The total number of recreational vessels processed for the year.

d. Total Delay

o For Month The total delay time, all vessels, for the month.

o Year-to-Date The total delay time, all vessels, for the year.

e. % Lock Util

o For Month The hours in the month less the lock idle time divided by the hours in the month.

o Year-to-Date The % utilization for the year.

f. Upbound Tonnage

o For Month The total upbound barge tonnage for the month.

o Year-to-Date The total upbound barge tonnage for the year.

g. Downbound Tonnage

Same as for Upbound Tonnage.

4. Lock Delay Summary Graph - PMS 26

This graph is printed on the line printer. It depicts average delay time versus tow arrival time. There is one graph for upbound traffic and one for

downbound traffic. Each lock is represented on a different page. The displays are identified only by the PMS river and lock codes (Appendix J) which are printed at the lower right corner of the upbound display. Days for which there are no arrivals during a given time period are ignored.

a. Average Delay This Period.

Total delay experienced by tows arriving during each half hour period, summed over all days in the month, divided by the number of tows arriving during that half hour increment. There is no way to distinguish an average delay of one hour from a zero delay.

b. Time of Day in Hours

Time of day from 0000 to 2400. There is a point for each half hour period.

5. Lock Service Summary Graph - PMS 27

This graph is produced on the printer and provides a summary of tonnage, number of tows, number of recreational vessels and average delay time for each month; these figures are on the vertical axis. Each character space on the horizontal axis represents one river mile and information for each lock is reported at that lock's position, to the nearest mile, on the river. The name of the river, or waterway, is printed at the upper left of each page of output.

a. Total Barge Tonnage

Total barge tonnage in kilotons. Tonnage figures are on the upper half of the left vertical axis. The point is defined by an # with actual tonnage printed to the left.

b. Average Delay Time

The total tow delay time divided by the number of tows processed. The range of hours is on the upper half of the right vertical axis. The point is represented by a # with average delay printed to the left.

c. Number Tows Processed

The total number of tows processed. The number of tows is on the lower half of the left vertical axis. The point is represented by an # with the actual figure printed to the left.

d. Number Recreational Vessels

The total number of recreational vessels processed. The number of recreational vessels is on the lower half of the right vertical axis. The point is represented by a # with the actual figure printed to the left.

e. River Mileage

The river mileage, one space to each mile.

f. Lock Code

The locks, as located along the river, identified by their PMS lock code (Appendix J).

g. District

The district responsible for the operation of the lock identified by the EROC district code (Appendix F).

6. Lock Queue Summary Graph - PMS 28

This graph is printed on the line printer and shows the average queue size at the lock for each directions and both directions versus time of day. There is a page for each lock. The lock is identified only by the PMS river and lock code (Appendix J) displayed beneath the caption of the horizontal axis. Note that this output cannot be compared with PMS 26 as PMS 26 uses number of arrivals to compute average delay while this report uses number of days in month to compute average queue.

a. Average Numbers of Tows in Queue

The number of tows arriving and those waiting during each half hour period are summed over all days in the month and divided by the total days in the month. There is no way to differentiate a queue size of zero and one.

- | | |
|-------------|--|
| o Upbound | Average queue size, 0 to 12, for upbound traffic displayed on the upper portion of the graph. |
| o Downbound | Average queue size, 0 to 10, for downbound traffic displayed in the middle portion of the graph. |
| o Total | Sum of averages, up and downbound, displayed on the lower portion of the graph. |

b. Time of Day in Hours

Time of day. There is one space for each half hour increment in the day.

7. Tows Processed - PMS 29

This report is a graphic display showing the total number of heavy tows processed by a lock/chamber during the month. The horizontal axis defines the lock/chamber, the vertical axis defines the number of tows.

a. Tows Processed

Total number of heavy tows processed. The point is represented by an * with the number of tows printed to the left.

b. Chamber

The PMS chamber identification number (Appendix J).

c. Lock Code

The PMS lock identification code (Appendix J).

d. River

The PMS river identification code (Appendix J).

e. District

The District EROC Code (Appendix F).

8. Kilotons Processed - PMS 30

This report is a printed graphic display showing the total number of kilotons processed by each lock/chamber during the month.

a. Kilotons Processed

Total tonnage, in kilotons, processed. The point is represented by a +; the actual tonnage is printed to the left.

b. Chamber

PMS chamber identification number (Appendix J).

c. Lock Code

PMS Lock identification code (Appendix J).

d. River

PMS river identification code (Appendix J).

e. District

District EROC code (Appendix F).

9. % Utilization - PMS 31

This report is a printed graphic display representing the percentage of available hours that a lock/chamber was in use during the month.

a. % Utilization

Hours in month minus hours idle time divided by hours in month. The point is represented by a +, the actual percentage is written to the left.

b. Chamber

PMS chamber identification number (Appendix J).

c. Lock

PMS lock identification code (Appendix J).

d. River

PMS river identification code (Appendix J).

e. District

District EROC code (Appendix F).

10. Total Barges - PMS 32

This report is a printed graphic display representing the total number of barges processed by a lock/chamber during the month.

a. Barges Processed

Total number of barges processed. The point is represented by a +, the actual number is written to the left.

b. Chamber

PMS chamber identification number (Appendix J).

c. Lock

PMS lock identification code (Appendix J).

d. River

PMS river identification code (Appendix J).

e. District

District EROC code (Appendix F).

11. % Empty Barges - PMS 33

This report is a printed graphic display representing the percentage of empty barges that were processed by a lock/chamber during a month.

a. % Empty Barges Processed

Total number of empty barges processed divided by the total number of barges. The point is represented by a +, the actual percentage is written to the left.

b. Chamber

PMS chamber identification number (Appendix J).

c. Lock

PMS lock identification code (Appendix J).

d. River

PMS river identification code (Appendix J).

e. District

District EROC code (Appendix F).

12. Total Delay - PMS 34

This report is a printed graphic display representing the total delay time in hours experienced by tows at a lock/chamber during the month.

a. Total Delay Time

Total delay time for tows in hours. The point is represented by a +, the actual number of delay hours is written to the left.

b. Chamber

PMS chamber identification number (Appendix J).

c. Lock

PMS lock identification code (Appendix J).

d. River

PMS river identification code (Appendix J).

e. District

District EROC code (Appendix F).

13. Average Delay - PMS 35

This report is a graphic display representing the average delay time in minutes experienced by tows at a lock/chamber during the month.

a. Average Delay Time

Total delay time for tows divided by the total number of tows. The point is represented by a +, the average delay is written to the left.

b. Chamber

PMS chamber identification number (Appendix J).

c. Lock

PMS lock identification code (Appendix J).

d. River

PMS river identification code (Appendix J).

e. District

District EROC code (Appendix F).

14. Barges/Hour of Tow Processing Time - PMS 36

This report is a printed graphic display representing the number of barges processed per hour of processing time at each lock/chamber during the month.

a. Barges/Hour This Period

The number of barges processed is divided by the total number of hours in the month less stall and idle time. The point is represented by a +, the barges/hour is written to the left.

b. Chamber

PMS chamber identification number (Appendix J).

c. Lock

PMS lock identification code (Appendix J).

d. River

PMS river identification code (Appendix J).

e. District

District EROC code (Appendix F).

15. Tons/Minute of Towing Processing Time - PMS 37

This report is a printed graphic display representing the tonnage processed per minute of tow processing time at each lock/chamber during the month.

a. Tons/Minute of Processing

Total tons (not KTONS) divided by minutes in the month minus idle and stall time. The point is represented by a +, the actual tonnage is written to the left.

b. Chamber

PMS chamber identification number (Appendix J).

c. Lock

PMS lock identification code (Appendix J).

d. River

PMS river identification code (Appendix J).

e. District

District EROC code (Appendix F).

16. Kilotons/Tow - PMS 38

This report is a printed graphic display representing the commodity kilotons processed per heavy tow at each lock/chamber during the month.

a. Tons/Tow

Total tonnage in thousands divided by the total number of heavy tows. The point is represented by a +, the tonnage is printed to the left.

b. Chamber

PMS chamber identification number (Appendix J).

c. Lock

PMS lock identification code (Appendix J).

d. River

PMS river identification code (Appendix J).

e. District

District EROC code (Appendix F).

17. Kilotons/Lockage - PMS 39

This report is a printed graphic display representing the number of kilotons per lockage processed at each lock/chamber during a month.

a. Kilotons/Lockage

Total tonnage, in kilotons, divided by the number of lockages during the month. The point is represented by a +, the actual tonnage is printed to the left.

b. Chamber

PMS chamber identification number (Appendix J).

c. Lock

PMS lock identification code (Appendix J).

d. River

PMS river identification code (Appendix J).

e. District

District EROC code (Appendix F).

18. Tows/Day - PMS 40

This report is a printed graphic display representing the number of tows processed per day at each lock/chamber during a month.

a. Tows/Day

Total number of heavy tows divided by the total number of days in the given month. The number of tows does not include lightboats. The point is represented by a +, the actual number of tows is printed to the left.

b. Chamber

PMS chamber identification number (Appendix J).

c. Lock

PMS lock identification code (Appendix J).

d. River

PMS river identification code (Appendix J).

e. District

District EROC code (Appendix F).

19. Kilotons/Day - PMS 41

This report is a printed graphic display representing the number of kilotons processed per day at each lock/chamber during a month.

a. Ktons/Day

Thousands of tons divided by the number of days in the month. The point is represented by a +, the kilotons are written to the left.

b. Chamber

PMS chamber identification number (Appendix J).

c. Lock

PMS lock identification code (Appendix J).

d. River

PMS river identification code (Appendix J).

e. District

District EROC code (Appendix F).

20. Barges/Day - PMS 42

This report is a printed graphic display representing the number of barges processed per day at each lock/chamber during a month.

a. Barges/Day

Total number of barges divided by the total number of days in the month. the point is represented by a +, the number of barges is written to the left.

b. Chamber

PMS chamber identification number (Appendix J).

c. Lock

PMS lock identification code (Appendix J).

d. River

PMS river identification code (Appendix J).

e. District

District EROC code (Appendix F).

21. Barges/Tow - PMS 43

This report is a printed graphic display representing the average barges per tow at each lock/chamber during a month.

a. Barges/Tow

Total number of barges divided by the total number of heavy tows. The point is represented by a +, the number of barges is printed to the left.

b. Chamber

PMS chamber identification number (Appendix J).

c. Lock

PMS lock identification code (Appendix J).

d. River

PMS river identification code (Appendix J).

e. District

District EROC code (Appendix F).

22. Other Vessels/Tow Lockage - PMS 44

This report is a printed graphic display representing the average number of vessels, other than heavy tows, processed through each lock/chamber with heavy tows during a month.

a. Other Vessels/Tow Lockage

Total number of vessels, other than heavy tows processed with heavy tows divided by the total number of heavy tows. The point is represented by a +, the actual number of other vessels is written to the left.

b. Chamber

PMS chamber identification number (Appendix J).

c. Lock

PMS lock identification code (Appendix J).

d. River

PMS river identification code (Appendix J).

e. District

District EROC code (Appendix F).

23. Average Processing Time/Tow - PMS 45

This report is a printed graphic display representing the average processing time per tow at each lock/chamber during a month.

a. Average Processing Time per Tow

Total tows processed at the lock during the month divided by hours in the month, less idle and stall time. The point is represented by a +, the average time is written to the left.

b. Chamber

PMS chamber identification number (Appendix J).

c. Lock

PMS lock identification code (Appendix J).

d. River

PMS river identification code (Appendix J).

e. District

District EROC code (Appendix F).

Appendix H

PMS Look-Up Tables

RIVER AND LOCK CODES

Lower Mississippi Valley Division (LMVD)

River Name	River Code	District Designation (EROC)	Lock Name	Lock Code	Chamber Code	Type*
Atchafalya River	AT	LMN (B2)	Berwick Lock	11	1	M
Bayou Teche	BT	LMN (B2)	Keystone Lock	31	1	M
Calcasieu River	CA	LMN (B2)	Calcasieu Salt Water Barrier	23	1	C
Freshwater Bayou	FB	LMN (B2)	Freshwater Bayou Lk	41	1	M
Gulf Intracoastal Waterway (GIWW)	GI	LMN (B2)	Port Allen Lock	01	1	M
		LMN (B2)	Bayou Sorrel Lock	02	1	M
		LMN (B2)	Inner Harbor Navigation Canal Lock	03	1	M
		LMN (B2)	Algiers Lock	04	1	M
		LMN (B2)	Harvey Lock	05	1	M
		LMN (B2)	Bayou Boeuf Lock	06	1	M
		LMN (B2)	Leland Bowman	77	1	
		LMN (B2)	Vermilion Lock	07	1	M
		LMN (B2)	Calcasieu Lock	08	1	M
		LMN (B2)	Schooner Bayou Control Structure	21	1	C
		LMN (B2)	Catfish Point Control Structure	22	1	C
Kaskaskia River	KS	LMS (B3)	Kaskaskia River Navigation Lock	01	1	M
Mississippi River	MI	LMS (B3)	Chain of Rocks Canal			
		LMS (B3)	Lock & Dam 27	27	1,4	M,A
		LMS (B3)	Lock & Dam 26	26	1,4	M,A
		LMS (B3)	Lock & Dam 25	25	1	M
		LMS (B3)	Lock & Dam 24	24	1	M
Old River	OD	LMN (B2)	Old River Lock	51	1	M
Ouachita and Black Rivers	OB	LMK (B4)	Jonesville Lock & Dam	01	1	M
		LMK (B4)	Columbia Lock & Dam	02	1	M
			Felsenthal	03	1	
			Calion	04	1	
Pearl River	PR	LMK (B4)	Lock No. 1	31	1	M
		LMK (B4)	Lock No. 2	32	1	M
		LMK (B4)	Lock No. 3	33	1	M
Red River	RR	LMK (B4)	Red River L&D 1	41	1	

*The following designations are used:

M - Main chamber
A - Auxiliary chamber
T - Temporary Lock
C - Control Structure

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RIVER AND LOCK CODES

North Atlantic Division (NAD)

<u>River Name</u>	<u>River Code</u>	<u>District Designation (EROCC)</u>	<u>Lock Name</u>	<u>Lock Code</u>	<u>Chamber Code</u>	<u>Type</u>
Atlantic Inter- coastal Waterway	AI	NAO (E4)	Albemarle & Chesapeake Canal Great Bridge Lock	11	1	M
Dismal Swamp	DS	NAO (E4)	Deep Creek Lock	01	1	M
Canal Route		NAO (E4)	South Mills Lock	02	1	M
Hudson River	HU	NAN (E3)	Troy Lock & Dam	01	1	M

RIVER AND LOCK CODES

North Central Division(NCD)

<u>River Name</u>	<u>River Code</u>	<u>District Designation (EROC)</u>	<u>Lock Name</u>	<u>Lock Code</u>	<u>Chamber Code</u>	<u>Type</u>
Black Rock Chan- nel & Tonawanda Harbor	BR	NCB (F1)	Black Rock Lock	01	1	M
Fox River	FX	NCE (F3)	De Pere Lock & Dam	11	1	M
		NCE (F3)	Little Kaukauna Lock & Dam	12	1	M
		NCE (F3)	Rapide Croche Lock & Dam	13	1	M
		NCE (F3)	Kaukauna Guard Lock	20	1	M
		NCE (F3)	Kaukauna Lock 1	21	1	M
		NCE (F3)	Kaukauna Lock 2	22	1	M
		NCE (F3)	Kaukauna Lock 3	23	1	M
		NCE (F3)	Kaukauna Lock 4	24	1	M
		NCE (F3)	Kaukauna Lock 5	25	1	M
		NCE (F3)	Little Chute Guard Lock	31	1	M
		NCE (F3)	Little Chute Lock 2	32	1	M
		NCE (F3)	Little Chute Combined Locks Upper	33	1	M
		NCE (F3)	Little Chute Combined Locks - Lower	34	1	M
		NCE (F3)	Cedars Lock & Dam	35	1	M
		NCE (F3)	Appleton Lock 1	41	1	M
		NCE (F3)	Appleton Lock 2	42	1	M
		NCE (F3)	Appleton Lock 3	43	1	M
		NCE (F3)	Appleton Lock 4	44	1	M
		NCE (F3)	Menasha Lock & Dam	51	1	M
Chicago Harbor	CH	NCC (F2)	Chicago Lock	01	1	M
Illinois Waterway	IL	NCR (F4)	Thomas J. O'Brien Lock	01	1	M
		NCR (F4)	Lockport Lock	02	1	M
		NCR (F4)	Brandon Road Lock & Dam	03	1	M
		NCR (F4)	Dresden Island Lock & Dam	04	1	M
		NCR (F4)	Marseilles Lock & Dam	05	1	M
		NCR (F4)	Starved Rock Lock & Dam	06	1	M

RIVER AND LOCK CODES

NCD (Continued)

<u>River Name</u>	<u>River Code</u>	<u>District Designation (EROCC)</u>	<u>Lock Name</u>	<u>Lock Code</u>	<u>Chamber Code Type</u>
Illinois Waterway IL					
		(Continued)			
		NCR (F4)	Peoria Lock & Dam	07	1 M
		NCR (F4)	LaGrange Lock & Dam	08	1 M
Mississippi River MI		NCS (F5)	St. Anthony Falls - Upper Lock & Dam	51	1 M
		NCS (F5)	St. Anthony Falls - Lower Lock & Dam	52	1 M
		NCS (F5)	Locks & Dam 1	01	1,2 M,M
		NCS (F5)	Locks & Dam 2	02	1,4 M,A
		NCS (F5)	Locks & Dam 3	03	1 M
		NCS (F5)	Locks & Dam 4	04	1 M
		NCS (F5)	Locks & Dam 5	05	1 M
		NCS (F5)	Locks & Dam 5A	55	1 M
		NCS (F5)	Locks & Dam 6	06	1 M
		NCS (F5)	Locks & Dam 7	07	1 M
		NCS (F5)	Locks & Dam 8	08	1 M
		NCS (F5)	Locks & Dam 9	09	1 M
		NCS (F5)	Locks & Dam 10	10	1 M
		NCR (F4)	Lock & Dam 11	11	1 M
		NCR (F4)	Lock & Dam 12	12	1 M
		NCR (F4)	Lock & Dam 13	13	1 M
		NCR (F4)	Locks & Dam 14	14	1,4 M,A
		NCR (F4)	Locks & Dam 15	15	1,4 M,A
		NCR (F4)	Lock & Dam 16	16	1 M
		NCR (F4)	Lock & Dam 17	17	1 M
		NCR (F4)	Lock & Dam 18	18	1 M
		NCR (F4)	Lock & Dam 19	19	1,4 M,A
		NCR (F4)	Lock & Dam 20	20	1 M
		NCR (F4)	Lock & Dam 21	21	1 M
		NCR (F4)	Lock & Dam 22	22	1 M
St. Marys River SM		NCE (F3)	Sabin Lock	04	1 M
		NCE (F3)	Davis Lock	03	1 M
		NCE (F3)	New Poe Lock	02	1 M
		NCE (F3)	MacArthur Lock	01	1 M
The Inland Route IN		NCE (F3)	Alanson Lock	61	1 M

RIVER AND LOCK CODES

North Pacific Division (NPD)

<u>River</u> <u>Name</u>	<u>River</u> <u>Code</u>	<u>District</u> <u>Designation (EROCC)</u>	<u>Lock</u> <u>Name</u>	<u>Lock</u> <u>Code</u>	<u>Chamber</u> <u>Code Type</u>
Columbia River	CO	NPP (G2)	Bonneville Lock & Dam	01	1 M
		NPP (G2)	The Dalles Dam	02	1 M
		NPP (G2)	John Day Lock & Dam	03	1 M
		NPW (G4)	McNary Lock & Dam	04	1 M
Lake Washington	WS	NPS (G3)	Hiram M. Chittenden		
Ship Canal			Locks	01	1,4 M,A
Snake River	SN	NPW (G4)	Ice Harbor Lock & Dam	01	1 M
		NPW (G4)	Lower Monumental Lock		
			& Dam	02	1 M
		NPW (G4)	Little Goose Lock &		
			Dam	03	1 M
		NPW (G4)	Lower Granite Lock &		
			Dam	04	1 M
Willamette River	WI	NPP (G2)	Willamette Falls		
			Locks 1-4	11	1 M
		NPP (G2)	Willamette Falls		
			Guard Lock	15	1 M

RIVER AND LOCK CODES

Ohio River Division (ORD)

<u>River Name</u>	<u>River Code</u>	<u>District Designation (EROCC)</u>	<u>Lock Name</u>	<u>Lock Code</u>	<u>Chamber Code</u>	<u>Type</u>
Allegheny River	AG	ORP (H4)	Lock & Dam No. 2	42	1	M
		ORP (H4)	Lock & Dam No. 3	43	1	M
		ORP (H4)	Lock & Dam No. 4	44	1	M
		ORP (H4)	Lock & Dam No. 5	45	1	M
		ORP (H4)	Lock & Dam No. 6	46	1	M
		ORP (H4)	Lock & Dam No. 7	47	1	M
		ORP (H4)	Lock & Dam No. 8	48	1	M
		ORP (H4)	Lock & Dam No. 9	49	1	M
		ORP (H4)	Lock & Dam No. 9	49	1	M
Clinch River	CI	ORN (H3)	Melton Hill Lock & Dam	11	1	M
Cumberland River	CU	ORN (H3)	Barkley Dam & Lake			
			Barkley	21	1	M
		ORN (H3)	Cheatham Lock & Dam	22	1	M
		ORN (H3)	Cordell Hull Lock & Dam	23	1	M
		ORN (H3)	Old Hickory Lock & Dam	24	1	M
Green & Barren Rivers	GB	ORL (H2)	Green River Lock & Dam 1	21	1	M
		ORL (H2)	Green River Lock & Dam 2	22	1	M
		ORL (H2)	Green River Lock & Dam 2	22	1	M
Kanawha River	KA	ORH (H1)	Winfield Locks & Dam	01	1,2	M,M
		ORH (H1)	Marmet Locks & Dam	02	1,2	M,M
		ORH (H1)	London Lock & Dam	03	1,2	M,M
Kentucky River	KY	ORL (H2)	Lock & Dam 1	01		
		ORL (H2)	Lock & Dam 2	02		
		ORL (H2)	Lock & Dam 3	03		
		ORL (H2)	Lock & Dam 4	04		
		ORL (H2)	Lock & Dam 5	05		
		ORL (H2)	Lock & Dam 6	06		
		ORL (H2)	Lock & Dam 7	07		
		ORL (H2)	Lock & Dam 8	08		
		ORL (H2)	Lock & Dam 9	09		
		ORL (H2)	Lock & Dam 10	10		
		ORL (H2)	Lock & Dam 11	11		

RIVER AND LOCK CODES

ORD (Continued)

<u>River Name</u>	<u>River Code</u>	<u>District Designation (EROC)</u>	<u>Lock Name</u>	<u>Lock Code</u>	<u>Chamber Code Type</u>
Monongahela River	MN	ORL (H2)	Lock & Dam 12	12	
		ORL (H2)	Lock & Dam 13	13	
		ORL (H2)	Lock & Dam 14	14	
		ORP (H4)	Locks & Dam 2	22	1,4 M,A
		ORP (H4)	Locks & Dam 3	23	1,4 M,A
		ORP (H4)	Locks & Dam 4	24	1,4 M,A
		ORP (H4)	Maxwell Locks & Dam	25	1,2 M,A
		ORP (H4)	Lock & Dam 7	27	1 M
		ORP (H4)	Lock & Dam 8	28	1 M
		ORP (H4)	Morgantown Lock & Dam	29	1 M
Ohio River	OH	ORP (H4)	Hildebrand Lock & Dam	30	1 M
		ORP (H4)	Opekiska Lock & Dam	31	1 M
		ORP (H4)	Emsworth Locks & Dam	01	1,4 M,A
		ORP (H4)	Dashields Locks & Dam	02	1,4 M,A
		ORP (H4)	Montgomery Locks & Dam	03	1,4 M,A
		ORP (H4)	New Cumberland Locks & Dam	04	1,4 M,A
		ORP (H4)	Pike Island Locks & Dam	05	1,4 M,A
		ORP (H4)	Hannibal Locks & Dam	71	1,4 M,A
		ORH (H1)	Willow Island Locks	72	2,4 M,A
		ORH (H1)	Belleville Locks & Dam	21	2,4 M,A
		ORH (H1)	Racine Locks & Dam	22	2,4 M,A
		ORH (H1)	Gallipolis Locks & Dam	23	1,5 M,A
		ORH (H1)	Greenup Locks & Dam	24	2,4 M,A
		ORH (H1)	Capt. Anthony Meldahl Locks & Dam	25	2,4 M,A
		ORL (H2)	Markland Locks & Dam	41	2,4 M,A
		ORL (H2)	McAlpine Locks & Dam	42	2,4 M,A

RIVER AND LOCK CODES

ORD (Continued)

<u>River Name</u>	<u>River Code</u>	<u>District Designation</u>	<u>(EROC)</u>	<u>Lock Name</u>	<u>Lock Code</u>	<u>Chamber Code</u>	<u>Type</u>
		ORL (H2)		Cannelton Locks & Dam	75	2,4	M,A
		ORL (H2)		Newburgh Locks & Dam	76	2,4	M,A
		ORL (H2)		Uniontown Locks & Dam	77	2,4	M,A
		ORL (H2)		Smithland Locks & Dam	78	1,2	M,A
		ORL (H2)		Locks & Dam 52	52	1,5	M,A
Tennessee River	TN	ORN (H3)		Kentucky Lock & Dam	01	1	M
		ORN (H3)		Pickwick Landing Lock & Dam	02	1,5	M
		ORN (H3)		Wilson Locks & Dam	03	2,4	M,A
		ORN (H3)		General Joseph Wheeler Locks & Dam	04	1,5	M,A
		ORN (H3)		Guntersville Locks & Dam	05	1,5	M,A
		ORN (H3)		Nickajac Locks & Dam	06	1	M
		ORN (H3)		Chickamauga Lock & Dam	07	1	M
		ORN (H3)		Watts Bar Lock & Dam	08	1	M
		ORN (H3)		Fort Loudon Lock & Dam	09	1	M

RIVER AND LOCK CODES

South Atlantic Division (SAD)

<u>River Name</u>	<u>River Code</u>	<u>District Designation (EROC)</u>	<u>Lock Name</u>	<u>Lock Code</u>	<u>Chamber Code</u>	<u>Type</u>
Alabama-Coosa Rivers	AL	SAM (K5)	Claiborne Lock & Dam	11	1	M
		SAM (K5)	Millers Ferry Lock & Dam	12	1	M
		SAM (K5)	Jones Bluff Lock & Dam	13	1	M
Apalachicola, Chattahoochee and Flint Rivers	AP	SAM (K5)	Jim Woodruff Lock & Dam	21	1	M
		SAM (K5)	George W. Andrews Lock & Dam	22	1	M
		SAM (K5)	Walter F. George Lock & Dam	23	1	M
Black Warrior & Tombigee Rivers	BW	SAM (K5)	Coffeeville Lock	01	1	M
		SAM (K5)	Demopolis Lock & Dam	02	1	M
		SAM (K5)	Warrior Lock & Dam	03	1	M
		SAM (K5)	William Bacon Oliver Lock & Dam	04	1	M
		SAM (K5)	Holt Lock & Dam	05	1	M
		SAM (K5)	John Hollis Bankhead Lock & Dam	06	1	M
Canaveral Harbor	CN	SAJ (K3)	Canaveral Lock	21	1	M
Cape Fear River	FR	SAW (K7)	Lock & Dam No. 1	01	1	M
		SAW (K7)	Lock & Dam No. 2	02	1	M
		SAW (K7)	William O. Huske Lock & Dam	03	1	M
Cross Florida Barge Canal	CF	SAJ (K3)	Henry Holland Buckman Lock	11	1	M
		SAJ (K3)	Eureka Lock	12	1	M
		SAJ (K3)	Inglis Lock	13	1	M
Okeechobee Waterway	OK	SAJ (K3)	St. Lucie Lock & Dam	01	1	M
		SAJ (K3)	Port Mayaca Lock	05	1	M
		SAJ (K3)	Moore Haven Lock	02	1	M
		SAJ (K3)	Ortona Lock & Dam	03	1	M
		SAJ (K3)	W.P. Franklin Lock and Control Structure	04	1	M

RIVER AND LOCK CODES

SAD (Continued)

<u>River Name</u>	<u>River Code</u>	<u>District Designation (EROCC)</u>	<u>Lock Name</u>	<u>Lock Code</u>	<u>Chamber Code</u>	<u>Type</u>
Savannah River	SV	SAS (K6)	New Savannah Bluff			
			Lock & Dam	01	1	M
Tennessee Tombigbee Waterway	TT	SAM (K5)	Gainesville Lock & Dam	41	1	M
		SAM (K5)	Aliceville Lock & Dam	42	1	M
		SAM (K5)	Columbus Lock & Dam	43	1	M
		SAM (K5)	Aberdeen Lock	44	1	M
		SAM (K5)	Lock A	45	1	M
		SAM (K5)	Lock B	46	1	M
		SAM (K5)	Lock C	47	1	M
		SAM (K5)	Lock D	48	1	M
		SAM (K5)	Lock E	49	1	M
		SAM (K5)	Bay Springs	50	1	M

RIVER AND LOCK CODES

South Pacific Division (SPD)

<u>River Name</u>	<u>River Code</u>	<u>District Designation (EROCC)</u>	<u>Lock Name</u>	<u>Lock Code</u>	<u>Chamber Code</u>	<u>Type</u>
Sacramento River Deep Water Ship Channel	SA	SPK (L2)	Barge Canal Lock	01	1	M

RIVER AND LOCK CODES

South West Division (SWD)

<u>River Name</u>	<u>River Code</u>	<u>District Designation (EROC)</u>	<u>Lock Name</u>	<u>Lock Code</u>	<u>Chamber Code</u>	<u>Type</u>
Gulf Intracoastal GI Waterway		SWG (M3)	Colorado River East Lock	11	1	M
		SWG (M3)	Colorado River West Lock	12	1	M
		SWG (M3)	Brazos East Gate	13	1	C
		SWG (M3)	Brazos West Gate	14	1	C
McClellan-Kerr Arkansas River Navigation System	MK	SWL (M4)	Norrell Lock & Dam	01	1	M
		SWL (M4)	Lock & Dam 2	02	1	M
		SWL (M4)	Lock & Dam 3	03	1	M
		SWL (M4)	Lock & Dam 4	04	1	M
		SWL (M4)	Lock & Dam 5	05	1	M
		SWL (M4)	David D. Terry Lock & Dam	06	1	M
		SWL (M4)	Murray Lock & Dam	07	1	M
		SWL (M4)	Toad Suck Ferry Lock & Dam	08	1	M
		SWL (M4)	Lock & Dam 9	09	1	M
		SWL (M4)	Dardanelle Lock & Dam	10	1	M
		SWL (M4)	Ozark Lock & Dam	11	1	M
		SWL (M4)	Lock & Dam 13	13	1	M
		SWT (M5)	W.D. Mayo Lock & Dam	21	1	M
		SWT (M5)	Robert S. Kerr Lock & Dam & Reservoir	22	1	M
		SWT (M5)	Webbers Falls Lock & Dam	23	1	M
		SWT (M5)	Chouteau Lock & Dam	24	1	M
		SWT (M5)	Newt Graham Lock & Dam	25	1	M

Time Zone

<u>Code</u>	<u>Symbol</u>	<u>Timezone</u>
1	EST	Eastern Standard Time
2	CST	Central Standard Time
3	PST	Pacific Standard Time
4	EDT	Eastern Daylight Savings Time
5	CDT	Central Daylight Savings Time
6	PDT	Pacific Daylight Savings Time

Shift Number

<u>Number</u>	<u>Time Period for this Shift*</u>
1	0801-1600
2	1601-2400
3	0001-0800

WIND CODES

Direction

<u>Code</u>	<u>Direction</u>
0	None
1	N (North)
2	NE (Northeast)
3	E (East)
4	SE (Southeast)
5	S (South)
6	SW (Southwest)
7	W (West)
8	NW (Northwest)
9	Variable

Velocity

<u>Shift Log</u>	<u>(MPH)</u>	<u>Description</u>
0	0	None
1	1-12	Light
3	13-32	Moderate
5	33-56	Gale
7	57	Storm

*Default times; actual times may be different and are as recorded in the parameter file.

CURRENT

<u>Code</u>	<u>Description</u>
0	Normal
1	Outdraft
2	Backlash (Eddy)
3	Flood (rising)
4	Flood (crest)
5	Flood (falling)
6	Flow-in
7	Flow-out
8	Low water
9	Other - Indicate in remarks box or on reverse side of log

WEATHER CONDITION

Condition

<u>Code</u>	<u>Description</u>
0	Clear
1	Fog
2	Rain
3	Hail
4	Freezing Rain
5	Sleet
6	Snow
9	Other - Place remarks on reverse side or Report

Severity

<u>Code</u>	<u>Description</u>
0	Clear
1	Slight
2	Moderate
3	Intense

SURFACE CONDITION

Condition

<u>Code</u>	<u>Description</u>
0	Clear
1	Ice
2	Debris
9	Other - indicate in remarks box or on reverse side of log

Severity

<u>Code</u>	<u>Description</u>
0	Clear
1	Slight
2	Moderate
3	Intense

CUTS

<u>Code</u>	<u>Description</u>
1	Single (one cut to serve the tow)
2	Double (two cuts)
3	Triple (three cuts)
4	Quadruple (four cuts)

If more than four (4) cuts are required, record the number of cuts in the two boxes supplied following the check box for quadruple cuts.

DIRECTIONALITY

At most lock structures it is readily apparent at which end of the lock is the upper pool or lower pool. Hence it is easy to designate whether vessels are going up river or down river.

At some structures, however (e.g., tidal locks and gates) the direction and the pools are ambiguous or changeable. The following structures, therefore, have their direction and pool designation arbitrarily assigned:

<u>District</u>	<u>Designation</u>	<u>Structure</u>	<u>Upper Pool</u>	<u>Lower Pool</u>
LMN		Bayou Boeuf Lock	East or North	West or South
		Calcasieu Lock	East or North	West or South
		Freshwater Bayou Lock	East or North	West or South
		Vermilion Lock	East or North	West or South
		Bayou Sorrell Lock	East or North	West or South
		Schooner Bayou Control		
		Structure	East or North	West or South
		Catfish Point Control	East or North	West or South
		Structure		
		Calcasieu Salt Water	East or North	West or South
SWG		Barrier		
		Colorado River East Lock	East or North	West or South
		Colorado River West Lock	East or North	West or South
		Brazos East Gate	East or North	West or South
		Brazos West Gate	East or North	West or South

DIRECTION CODES

<u>Code</u>	<u>Description</u>
1	Up
2	Down

LOCKAGE CODES (AS REPORTED ON INPUT FORMS)

<u>Code</u>	<u>Description</u>
S	Straight lockage
V	Setover
K	Knockout

J	Jackknife lockage
M	Multivessel lockage
F	Fast Double lockage
P	Navigable Pass lockage
D	Open Pass lockage
T	Barge Transfer lockage
Z	Other lockage

Explain in the remarks section of the form.

LOCKAGE CODES (AS CONVERTED BY EDIT)

<u>TYPE OF LOCKAGE</u>	<u>CODE</u>
Straight	1
Double Cut, first Cut	2
Multi-cut, first cut	3
Setover	4
Knockout	5
Jackknife	6
Multi-Vessel	7
Navigable pass	8
Open pass	9
Fast double	10
Barge Transfer	11
Other	12
Double cut, second cut	13
Multi-cut, last cut	14

Vessel Assist Codes

<u>CODE</u>	<u>DESCRIPTION</u>
O	None- the vessel was not assisted
A	Tow equipped with bow thrusters
B	Switchboat (SB) assisted tow on entry
C	Switchboat (SB) assisted tow on exit
D	Switchboat (SB) assisted tow on entry and exit and locked through
E	Switchboat (SB) assisted tow on entry only and locked through
F	Switchboat (SB) locked through and assisted tow on exit only
G	Separate switchboat (SB) assisted tow on entry and exit
H	Separate switchboat (SB) assisted tow to secure on wall prior to entry
I	Tow equipped with bow thrusters in addition to being assisted by switchboat.
J	Tow haulage equipment such as a winch or kevel assisted the tow in its lockage

- K Hydraulic assist was used to assist the vessel. This consists of opening the lock valves to assist a downbound tow. This procedure is sometimes used to assist "Fast Doubles" and can only be used where authorized.
- L Extra personnel were used to assist the vessel. These may either be lock operators or vessel personnel who would not ordinarily be assisting the vessel.
- Z Some other form of assistance was provided. If this occurs, please describe this assistance in the remarks section of this form.

Vessel Type

<u>Code</u>	<u>Description</u>
T	Commercial towboats
P	Passenger boats and ferries
R	Recreational vessels
C	Cargo carrying vessels
G	U.S. Government vessels
U	U.S. Government contractor's vessels
F	Commercial fishing charter vessels
Z	Other (vessels not otherwise classified) please specify in remarks box or on reverse side of Lockage Log
L	Lightboat

Barge Type

<u>Type</u>	<u>Name</u>	<u>Tons</u>	<u>Tons</u>	<u>Dimensions</u>
R	Small regular barge	1500	3000	175 x 26
J	Regular, Long jumbo barge	2400	5000	175 - 200 x 35
S	Super jumbo barge	4200	20000	280 x 50
B	Seabee or Lash	1000	3000	all sizes
M	Motorized barge			all sizes
C	Bulk Cargo Vessels (self-propelled)			all sizes
T	Bulk Tanker Vessels (self-propelled)			all sizes
I	Integrated			all sizes
Z	Other (describe in Remarks)			all sizes

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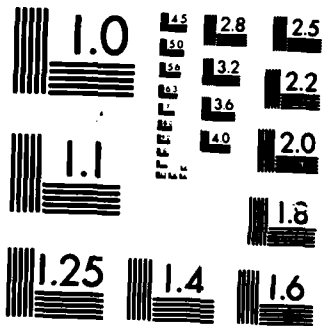
LOCK PERFORMANCE MONITORING SYSTEM USER'S MANUAL FOR
DATA ANALYSIS(U) CORPS OF ENGINEERS FORT BELVOIR VA
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Stall or Interference Code

<u>Condition</u>	<u>Code</u>	<u>Description</u>
Weather Conditions	A	Fog
	B	Rain
	C	Sleet or Hail
	D	Snow
	E	Wind
Surface Conditions	H	Ice
	I	River Current or Outdraft Condition
	J	Flood
Tow Conditions	K	Interference by other vessels
	L	Tow Malfunction or Breakdown
	M	Tow staff occupied with other duties
Lock Conditions	Q	Debris in lock recesses or in lock chamber
	R	Lock hardware
	S	Lock Staff occupied with other duties
	T	Testing or maintaining lock or lock equipment
Other Conditions	V	Tow detained by Coast Guard and/or Corps
	W	Collision or accident
	X	Vehicular or railway bridge delay
	Z	Other. Please describe in the remarks box or on the reverse side of Lockage Log.

COMMODITY CODES

<u>Code</u>	<u>Description</u>
01	EMPTY BARGES
10	COAL
11	Coal & Lignite
20	PETROLEUM & PETROLEUM PRODUCTS*
21	Crude Petroleum
22	Gasoline
23	Jet Fuel & Kerosene
24	Distillate Fuel Oil
25	Residual Fuel Oil
26	Coke (Coal and Petroleum), Petroleum Pitches, Asphalts, Naphtha, and Solvents
30	CHEMICALS & RELATED PRODUCTS*
31	Organic Industrial Chemicals (Crude Products) from Coal Tar, Petroleum, and Natural Gas, Dyes, Organic Pigment, Dyeing and Tanning Materials, Alcohols, Benzene)
32	Synthetics (Plastic Materials, Synthetic Rubber, Synthetic Fiber)
33	Drugs, Soap, Detergent and Cleaning Preparations, Paints, Gum and Wood Chemicals, Radioactive and Associated Materials
34	Inorganic Industrial Chemicals (Sodium Hydroxide)
35	Nitrogenous Chemical Fertilizers (Anhydrous Ammonia)
36	Potassic Chemical Fertilizers
37	Phosphatic Chemical Fertilizers
38	Other Basic Chemicals and Basic Chemical Products
39	Other Fertilizers
40	METALLIC ORES, METAL PRODUCTS (PRIMARY & FABRICATED), WASTE AND SCRAP MATERIALS
41	Metallic Ores
42	Iron Ore
43	Primary Iron and Steel Products
44	Other Primary Metal Products
45	Fabricated Metal Products
46	Waste and Scrap Materials
50	NON-METALLIC MINERALS, EXCEPT FUELS*
51	Limestone Flux and Calcareous Stone
52	Sand, Gravel and Crushed Rock

COMMODITY CODES (continued)

<u>Code</u>	<u>Description</u>
53	Phosphate Rock
54	Sulphur, Liquid and Dry
55	Salt
60	STONE, CLAY, GLASS & CONCRETE*
61	Building Cement
62	Lime
70	FRESH FISH & OTHER MARINE PRODUCTS*
71	Marine Shells, Unmanuf.
80	FARM PRODUCTS*
81	Corn
82	Wheat
83	Soybeans
84	Oats
85	Barley
86	Rye
87	Flaxseed
88	Flour
89	Vegetable products
90	MISCELLANEOUS PRODUCTS
91	Forest Products
92	Lumber and Wood Products
93	Pulp, Paper, and Allied Products
94	Processed Agricultural Products (including Food and Kindred Products and Tobacco Products)
95	All Manufactured Equipment and Machinery (including Ordinance and accessories, Machinery, Electrical Machinery, Transportation Equipment, Instruments, Photographic and Optical Goods, Watches and Clocks, and Miscellaneous Products of Manufacturing)
99	COMMODITY IS "UNKNOWN" OR CANNOT BE LOCATED ON THIS LIST

* Either not classified within general category or a more detailed classification is unknown.

Appendix I

GLOSSARY OF TERMS

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Appendix I

GLOSSARY OF TERMS

Approach Time - Time from start of lockage (SOL) to bow over sill (BOS).

Arrival Time - See Lockage Times.

Assisting Vessel - A light boat which assists a tow during a lockage. (Uses independent power)

Auxillary Chamber - A secondary chamber used primarily when the main chamber is busy.

Barge Transfer - See Lockage Type (Functional).

Bow Over Sill (BOS) - See Lockage Times.

Cargo Carrying Vessels - A self-propelled, commodity carrying vessel.

Chamber - Each of the one or more structures at a lock used to convey vessels through the lock. (See Auxillary or Main)

Commercial Lockage - See Lockage Type (Purpose).

Commercial Fishing boats - Boats whose function is the catching and carrying of fish for subsequent sale.

Commercial Towboat - Tow moving barges for profit.

Cut - Series of events required to transfer a vessel, or that part of the tow which can be contained by the lock at once, through a lock in a single direction.

Delay Time - See Wait Time.

End of Entry (EOE) - See Lockage Times.

End of Locakge (EOL) - See Lockage Times.

Entry Time - Time from bow over sill (BOS) to end of entry (EOE).

Entry Type - Type of process initiated at a lock chamber before the vessel to be locked enters. The possibilities are:

1. Fly Entry - The lock has been idle and the inbound vessel directly enters the chamber.
2. Exchange Entry - The vessel inbound to the chamber passes a vessel outbound from the chamber.
3. Turnback Entry - The preceding event is a lockage in which no tows were served.

Exit Time - Time from start of exit (SOE) to end of lockage (EOL).

Exit Type - Type of process occurring at a lock chamber after it has completed its lockage. The possibilities are:

1. Fly Exit - The lock will be idle following the departure of the outgoing vessel.
2. Exchange Exit - The vessel outbound from the chamber passes a vessel inbound to the chamber.
3. Turnback Exit - The vessel to be served next is going in the same direction as the outbound vessel and the lock must be turned back with no vessels in the chamber.

Fast Double - See Lockage Type (Functional).

Ferryboat - Boats which transport land vehicles which cannot otherwise cross a body of water.

Flotilla - Tow boat with its barge or barges.

Heavy Tow - A tow boat with barges (Also known as Flotilla, Tow).

Helper Boat - Any boat which only helps a tow through the lock (No independent powering).

Interference - An occurrence which slows lock operation during a lockage.

Jackknife - See Lockage Type (Functional).

Knockout - See Lockage Type (Functional).

Light boat - Tow boat with no barge.

Lock - The structure, composed of one or more chambers, which allows vessels to be moved from one level of water to another.

Lockage - The series of events required to transfer a vessel or tow (with all barges) through a lock in a single direction. More than one vessel can be processed during one lockage as can a tow requiring several cycles to be completely processed. There are two ways to calculate a lockage: 1) by number of lockage hardware cycles and 2) by the number of flotillas using the lock.

Lockage Times - The time at which each of the following specific events, all necessary to define a lockage, occur:

1. Arrival Time - The time when the vessel is ready to use the lock, whether or not the lock is ready to serve the vessel.
2. Start of Lockage (SOL) - The time when the lock is ready to serve the incoming vessel.
3. Bow Over Sill (BOS) - The time when the bow of the inbound vessel is abreast of the lock gates and it is in a position parallel to the guide wall to enter the lock chamber.

4. End of Entry (EOE) - The earliest of the following two times:
 - a. The tow or the complete entering cut is secured within the lock and the gates are clear; or
 - b. The closing of the gates has been initiated.
5. Start of Exit (SOE) - The time when the exit gates are fully in their recesses and the horn has been sounded. If the vessel starts its exit prior to the gates being fully opened, the Start of Exit Time is when the bow of the exiting vessel crosses the gate sill.
6. End of Lockage (EOL) - The time when the lock has completed serving a vessel or cut and can be dedicated to another vessel or cut. These times are recorded for the first and last cuts only when multiple cuts are required to completely process a tow.

Lock Processing Time - See processing time.

Lockage Type (Functional) - Type of process necessary to move a tow or vessels through a lock. They are as follows:

1. Barge Transfer - Barges are placed in the lock chamber by one towboat, removed and continued on their journey with another towboat.
2. Fast Double - The towboat and possibly some of its barges are separated from the remaining barges and are locked through a different chamber from the remaining barges.
3. Jackknife - The tow is rearranged, usually from two barges wide to three, by breaking the face coupling on a least one barge and knockout of the tow.
4. Knockout - The towboat alone is separated from its barges to be set over for service.
5. Multivessel Lockage - More than one commercial vessel or tow is served in a single lockage cycle. A separate Lockage Log and Vessel Log is completed for each vessel served. Only cargo carrying vessels and towboats with barges (tows) are considered in defining multiple lockages, light boats and recreational vessels are not.
6. Navigable Pass - The tow traverses the dam without a lockage.
7. Open pass - The vessel traverses the lock with no lock hardware operation. This may occur at tidal locks.
8. Setover - The towboat and one or more of its barges are separated as a unit from the remaining barges to be "set over" for service.

9. Straight Lockage - The tow is not broken up for lockage.
10. Other - Any type of lockage not defined by one of the above.

Lockage Type (Purpose)

1. Commercial Lockage - Any lockage in which a ferry, lightboat, passenger boat, cargo carrying vessel or heavy tow is processed.
2. Government Lockage - Any lockage serving a government vessel or a vessel under contract to the government.
3. Recreational Lockage - Any lockage in which only recreation vessels are processed.
4. Other Lockage - Any lockage not classified as commercial, government or recreational.

Main Chamber - The chamber, usually the largest, through which most traffic transversing a lock passes.

Mixed Time - Processing time attributed solely to the processing of recreational and light boats when they are processed with commercial vessels or tows.

Multivessel Lockage - See Lockage Type (Functional).

Navigable Pass - See Lockage Type (Functional).

Open Pass - See Lockage Type (Functional).

Passenger Boats - Boats whose primary commercial purpose is the transportation of people.

Prime Mover - The towboat responsible for the flotilla.

Processing Time - Time to completely process a vessel through a lock, from start of lockage (SOL) to end of lockage (EOL). It is composed of the following elements:

1. Lock Processing Time - Time dependent solely on lock operation, from end of entry (EOE) to start of exit (SOE).
2. Vessel Processing Time - Time dependent solely on vessel operation, from start of lockage (SOL) to end of entry (EOE) and from start of exit (SOE) to end of exit (EOE).

Recreational Lockage - See Lockage Type (Purpose).

Recreational Vessels - Vessels which are being operated for sport or pleasure, not profit.

Record Number - A sequential four digit number assigned to each shift and lockage record. Vessel records are assigned the same record number as the lockage record describing their transit.

Setover - See Lockage Type (Functional).

Stall - An occurrence which stops lock operation. A stall which occurs when a lock is idle should be recorded on the next lockage log completed.

Start of Exit (SOE) - See Lockage Times.

Start of Lockage (SOL) - See Lockage Times.

Straight Lockage - See Lockage Type (Functional).

Switchboat - A boat which stays at the lock to assist tows.

Tow - Tow boat with a barge or barges. (Also known as Flotilla, Heavy Tow)

Turnback Entry - See Entry Type.

Turnback Exit - See Exit Type.

U.S. Government Vessel - A vessel owned by the United States government or being operated under contract to the government.

Vessel Number - The seven-digit vessel identification number from the Coast Guard Vessel Index File.

Wait Time - The time elapsed from the arrival of a vessel at a lock to the start of its approach to a lock chamber; the time spent in queue awaiting lockage.

END

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