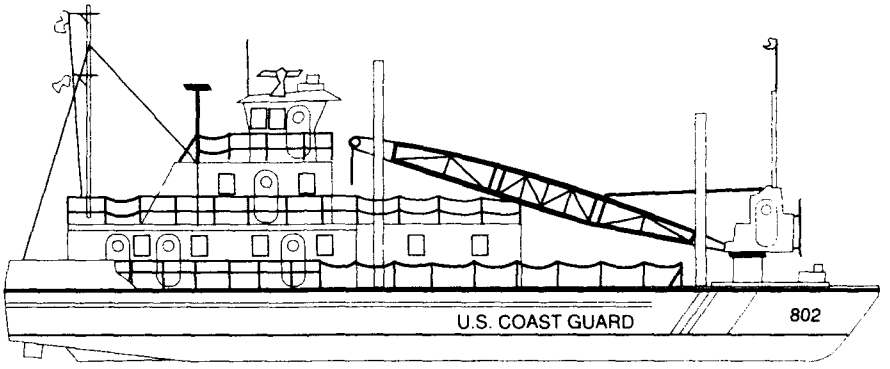
DOT-CG-N-01-94
DOT-VNTSC-CG-94-4

(11)

Analysis of Required Fleet Size and Private Sector Cost Comparisons for the USCG Inland Construction Tender Fleet

Final Report



Research and Special Programs Administration
U.S. Department of Transportation
John A. Volpe National Transportation Systems Center
Cambridge, MA 02142-1093

May, 1994

U.S. Department
of Transportation

United States
Coast Guard

Office of Navigation Safety and Waterway Services
Washington, DC 20593-0001

ANALYSIS OF REQUIRED FLEET SIZE AND PRIVATE SECTOR COST COMPARISONS FOR THE USCG INLAND CONSTRUCTION TENDER FLEET

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REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

1. AGENCY USE ONLY (Leave blank)	2. REPORT DATE	3. REPORT TYPE AND DATES COVERED
	May, 1994	Final Report September 1993 - May 1994

4. TITLE AND SUBTITLE
Analysis of Required Fleet Size and Private Sector Cost Comparisons for the USCG Inland Construction Tender Fleet

5. FUNDING NUMBERS
CG-494/B-4005

6. AUTHOR(S)
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7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)
U.S. Department of Transportation
Research and Special Programs Administration
John A. Volpe National Transportation Systems Center
Service Assessment Division
Cambridge, MA 02142-1093

8. PERFORMING ORGANIZATION REPORT NUMBER
DOT-VNTSC-CG-94-4

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)
LCDR Mitch West
USCG Office of Navigation Safety and Waterway Services
Short Range Aids to Navigation Division
2100 2nd Street, SW
Washington, DC 20593-0001

10. SPONSORING/MONITORING AGENCY REPORT NUMBER
DOT-CG-N-01-94

11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION/AVAILABILITY STATEMENT
This document is available to the public through the National Technical Information Service, Springfield, VA 22161

12b. DISTRIBUTION CODE

13. ABSTRACT (Maximum 200 words)
This report documents an analysis performed in support of the United States Coast Guard in managing its fleet of construction tenders (WLICs). Three areas were examined: a determination of the optimum number of WLICs needed for the construction component of current WLIC work; a comparison of Coast Guard construction tender costs with representative private sector costs; and an assessment of the mission-related factors concerning WLICs that need to be considered before reducing the construction tender fleet or contracting for the construction of fixed aids to navigation.

The analysis concludes that 11 WLICs are required for construction purposes; private sector costs exceed those of Coast Guard construction tenders fully employed on construction activities; and mission-related factors -- including having the capability of shifting tenders in response to peaks in construction activity and vessel maintenance requirements -- need to be included in any decision to alter the size and locations of the construction tender fleet.

14. SUBJECT TERMS
Aids to Navigation, Construction Tender, Buoy Tender, Decision Support System

15. NUMBER OF PAGES
190

16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT
Unclassified	Unclassified	Unclassified	

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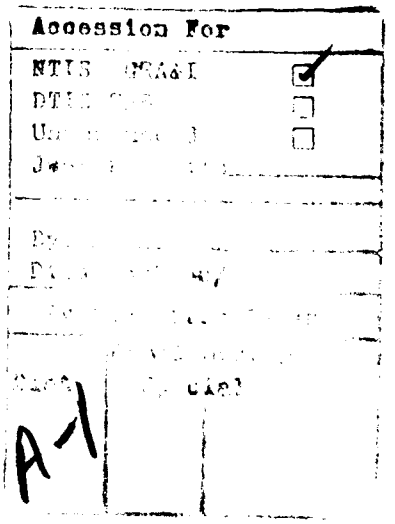

LIST OF ACRONYMS

AFC	allotment fund control
ANT	aids to navigation team
AOPS	abstract of operations
ATON	aids to navigation
ATONIS	aids to navigation information system
BU	buoy boat
BUSL	buoy boat - stern loading
CDB	corporate data base
CO	commanding officer
CPI	consumer price index
D1	USCG First District (Boston, MA)
D2	USCG Second District (St. Louis, MO)
D5	USCG Fifth District (Portsmouth, VA)
D7	USCG Seventh District (Miami, FL)
D8	USCG Eighth District (New Orleans, LA)
D9	USCG Ninth District (Cleveland, OH)
D11	USCG Eleventh District (Long Beach, CA)
D13	USCG Thirteenth District (Seattle, WA)
D14	USCG Fourteenth District (Honolulu, HI)
D17	USCG Seventeenth District (Juneau, AK)
DBN	daybeacon
DGPS	differential global positioning system
DOT	Department of Transportation
DSS	decision support system
ELT	enforcement of laws and treaties
FY	fiscal year
G-N	USCG Office of Navigation Safety & Waterway Services
G-NSR	USCG Short Range Aids to Navigation Division
GIS	geographical information system
LB	lighted buoy
LT	fixed light
NOAA	National Oceanic and Atmospheric Administration
O&M	operating and maintenance
OAN	USCG District Operations Division, Aids to Navigation and Waterways Management Branch
RSPA	Research and Special Programs Administration
SFM	service force mix
SRA	short range aids
TED	turtle exclusion devices
ULB	unlighted buoy
USCG	United States Coast Guard

USCGC	USCG cutter
VNTSC	Volpe National Transportation Systems Center
VOSS	vessel oil skimming systems
WLB	seagoing buoy tender
WLI	inland buoy tender
WLIC	inland construction buoy tender
WLM	coastal buoy tender
WLMR	coastal buoy tender replacement vessel
WLR	river buoy tender

EXECUTIVE SUMMARY

This report documents an analysis performed in support of the United States Coast Guard in managing its fleet of construction tenders (WLICs). The project was sponsored by the Coast Guard's Office of Navigation Safety and Waterway Services, Short Range Aids to Navigation Division (G-NSR). Three areas were examined: a determination of the optimum number of WLICs needed for the construction component of current WLIC work; a comparison of Coast Guard construction tender costs with representative private sector costs; and an assessment of the mission-related factors concerning WLICs that should be considered before reducing the construction tender fleet or contracting for the construction of fixed aids to navigation.

Background

The Coast Guard operates a fleet of 16 WLICs whose purpose is to build, or rebuild if destroyed, fixed aids to navigation (ATON). Three of the tenders are home ported in the Fifth Coast Guard District (Portsmouth, VA), five are located in the Seventh District (Miami, FL), and eight are located in the Eighth District (New Orleans, LA). The most common types of fixed structures built by WLICs are daybeacons, lights, and ranges. Over time, due to geographic availability and because construction work has not fully utilized their capacity, WLICs have been assigned responsibilities for servicing buoys.

The need to replace some of the older WLICs is approaching. However, the acquisition of new construction tenders can be deferred if, as older tenders are retired, the loss is offset by a reduction in the demand for construction tenders. The Coast Guard recognizes that such a reduction can be realized through off-loading the non-construction activities performed by WLICs onto less expensive resources. Specifically, the new replacement stern-loading buoy boats (BUSLs) being acquired by the Coast Guard can perform much of the buoy work done by WLICs, and their capital costs are less than one-seventh of the estimated cost of a new WLIC.

Previous work by the Volpe Center was directly applicable to the requirements of this analysis. A 1990 Volpe Center study initiated by the Office of Management and Budget to evaluate the commercial servicing of short range ATON performed by Coast Guard Aids to Navigation Teams concluded that no definitive advantage would be gained through a contracting effort. For a 1992 study in support of the Coast Guard's Service Force Mix (SFM) 2000 project, the Volpe Center designed, developed and exercised the ATON SFM Decision Support System (DSS) to project fleet size requirements for the Coast Guard's replacement fleet of seagoing and coastal buoy tenders. Finally, a 1993 Volpe Center study applied the ATON SFM DSS to project the required number of replacement BUSLs, mentioned previously. That analysis projected the need for 44 replacement BUSLs, 10 of which were targeted for the buoy work assigned to WLICs that BUSLs are capable of performing. The analysis concluded, however, that the final number of replacement BUSLs will depend on the projected WLIC fleet size produced by this analysis.

Projected WLIC Construction-Capable Fleet Size

A derived log file representing one year of construction activities for the 16 current WLICs was developed for this analysis. The file was based on an October, 1993 version of the Coast Guard's Aids to Navigation Information System (ATONIS) discrepancy file and a comparison of the 1990 and 1993 ATONIS aid files. The number of derived activities was 1,640, or approximately 103 per tender.

The derived file was converted for use with the ATON SFM DSS. Additional data required by the DSS, including vessel speeds, service times, lengths of cruises, lengths of work days, and prep/deprep times, were collected by G-NSR from each of the current tenders. The DSS was exercised for each current WLIC and the results were validated against reported piling usage data. DSS results showed opportunities for combining the work of some tenders, based on the use of an underway target of 1,500 hours (developed by this analysis).

The Fifth District (D5)

DSS results for D5 indicate that two WLICs -- one home ported at Baltimore and the other at Atlantic Beach, NC -- are capable of performing the construction work of the District's three current construction tenders. A large disparity was apparent, however, between the derived log file and the reported underway hours in the Coast Guard's Abstract of Operations for the three D5 construction tenders. Based on discussions with D5 personnel, the difference was attributed to structure upgrades performed by D5 which could not be captured in the derived file. If significant levels of additional structure upgrades are planned in the Fifth District, two construction tenders may not be adequate for the district's requirements. However, the ability to justify the need for a third construction tender based on structure upgrade requirements is not apparent. Upgrades can be planned out in advance and could be amenable to being performed through commercial contracts.

The Seventh District (D7)

DSS results for D7 indicate that four WLICs are capable of performing the construction work of the District's five current construction tenders. The current home port projected for elimination is Brunswick, GA.

The Eighth District (D8)

DSS outputs, combined with the WLIC qualitative mission factors identified in this analysis, result in a projection of five WLICs for the Eighth District.

DSS results for D8 indicate that one construction tender assigned to each of the district's four groups -- each of which currently have two -- would be capable of accomplishing the district's fixed aid construction requirements with minimal crossing of group boundaries. However, a fleet of four WLICs would have no capacity within the 1,500 hours underway target for above-average years of activities and consequently would be severely strained during periods of tender maintenance or significant surge response situations. These conditions are especially

relevant for D8, where 83% of WLIC construction activities were in response to discrepancies which generally can not be rescheduled around maintenance and surge response requirements. Accordingly, this analysis concludes that five WLICs are required in D8. The area around Morgan City, LA, would be a central location for the fifth tender, but placement of the fifth tender is subject to district concerns and local considerations.

Impact on Projected Replacement BUSL Requirements

The Volpe Center's August, 1993 analysis of Coast Guard BUSL requirements projected the need for 10 replacement BUSLs to perform the buoy work currently performed by WLICs. Based on the results of this study, reducing the WLIC fleet size by five -- to a fleet of 11 -- would still leave some capacity for some WLICs to perform buoy work. Having re-examined the BUSL requirements, the BUSLs previously projected for Charleston, Miami, and Galveston are no longer required, resulting in a revised projection of seven BUSLs for WLIC buoy work.

Comparison of WLIC and Private Sector Costs

The cost analysis of WLICs was initiated from the Coast Guard's own interest in exploring the relative costs of the WLIC fleet. No trial contracts have been developed or are planned. Therefore, private sector cost data directly related to the areas of operation of the 16 current WLICs was not available. Instead, current Coast Guard contracts for marine construction in Districts 11 (California) and 13 (Oregon and Washington) served as the source of comparable private sector costs. Therefore, differences in cost of living and in geographic marine construction costs, and possible economies of scale, are not reflected in this analysis.

Coast Guard costs were developed based on an estimation of the proportion of construction tender ATON resources expended on fixed aid construction activities versus non-construction activities. The use of an estimate was necessary because the Coast Guard does not track construction tender costs by mission area.

The results of the economic analysis indicate that private sector contract costs exceed those of Coast Guard construction tenders that are fully employed on construction activities. Of the total average annual WLIC operating cost of $771,820, 56% is consumed on personnel, 27% on engineering, and only 17% on operations and maintenance. The relatively fixed personnel and engineering costs result in lower average unit costs as a tender's workload increases.

Accordingly, an under utilized Coast Guard construction tender compares significantly less favorably against private sector costs than a tender that is fully utilized when capital replacement costs are included. This finding is consistent with the Coast Guard's use of contracted construction resources in those districts where the level of construction activity does not warrant the assignment of WLICs.

WLIC Qualitative Mission Factors

A reduction in the Coast Guard's construction tender fleet will reduce the availability of WLICs for performing activities beyond their ATON construction mission. The effects would be most noticeable in the following areas:

- meeting surge response requirements;
- providing ATON support to other Coast Guard districts;
- covering for other tenders undergoing scheduled and unscheduled maintenance;
- providing non-ATON support to other Coast Guard missions; and
- providing non-ATON marine construction support to other Coast Guard and government organizations.

To the extent that these activities are no longer performed by Coast Guard assets, the Coast Guard's visibility and associated public perception may be affected.

If private sector fixed aid construction costs were to compare favorably with Coast Guard construction tender costs, the following considerations should be included in the decision of whether to pursue the contracting option.

- Shifting contracted resources in response to surge response and maintenance requirements may be more difficult than it is with Coast Guard resources.
- The Coast Guard districts to which WLICs are periodically loaned would have to acquire alternative resources.
- Alternatives would have to be found for performing the WLICs' buoy work, for building docks and bulkheads for other Coast Guard and government organizations, and for the support to other Coast Guard missions currently delivered by WLICs.
- The Coast Guard's pipeline for developing personnel skilled in construction tender activities would no longer exist and therefore could not produce the expertise required to assure the quality of contracted fixed aid construction operations.
- Contractual specifications may inhibit the performance of discretionary preventive maintenance.
- Any delays encountered by contractors in receiving government payments may work counter to the requirements of an effective aids to navigation system.

Conclusion

A fleet of 11 construction tenders would be sufficient to meet current fixed aid construction requirements. This represents a reduction of five tenders from the current fleet of 16.

This would be achieved primarily through the transfer of approximately 1,400 of the 1,600 buoys worked by WLICs to seven replacement stern-loading buoy boats. In addition, other WLIC mission areas, including ATON support to other districts, non-ATON support to other Coast Guard missions, and construction of docks and bulkheads for both the Coast Guard and other government agencies, would have to be curtailed.

Construction tenders fully employed doing construction work result in economies of scale due to the fixed personnel and engineering costs of vessel operations. These economies of scale result in no apparent monetary advantage to contracting the work of construction tenders.

Recommendation

As the new BUSLs are brought into service and the oldest WLICs are retired, the Coast Guard should begin a realignment of construction tender operating areas down to a configuration of 11 WLICs. Then, the Coast Guard should acquire new WLICs to replace the remaining tenders.

The absence of complete and available data on the activities of the Coast Guard's construction tenders encountered by this analysis indicates that the Coast Guard needs to uniformly record and collect data capturing the activities of its ATON resources. Maintaining accurate, complete, and uniform data on construction activities and on all other ATON servicing activities would provide the Coast Guard with benefits beyond the requirements of this analysis. As federal agencies are faced with greater demands on limited resources, measuring and ensuring effectiveness becomes increasingly more important.

Better data will also provide a more accurate basis from which to consider contracting options. Contracting options should be investigated only for situations where required construction levels are not enough to keep a construction tender fully employed on construction activities. This includes areas where less than one WLIC is required, and where some number plus a fraction is warranted. Contracting an amount of work equal to the fractional portion would offer cost advantages over partially using Coast Guard assets. Private sector unit costs compare favorably with those of under utilized construction tenders.

1 PURPOSE

The Volpe Center was tasked by the U.S.C.G. Office of Navigation Safety and Waterway Services, Short Range Aids to Navigation Division (G-NSR) to conduct a fleet sizing and economic analysis study of the inland construction tender fleet (WLICs) in support of G-NSR's Short Range Aids to Navigation Mission Analysis (SRAMA). The objectives of the analysis are the following:

1. To project the required WLIC fleet size needed to perform only the construction component of current WLIC work. The results will be used by the Coast Guard in planning for the decommissioning of the oldest tenders in the WLIC fleet.

2. To compare Coast Guard construction tender costs with representative private sector marine construction costs. The results will be incorporated into future acquisition plans for replacing WLICs.

3. To perform a qualitative analysis of the mission of WLICs. This objective is intended to identify those factors that are related to the mission of WLICs but which are not directly relevant to the first two objectives. The factors will address issues that need to be considered by the Coast Guard before any decision is made to reduce the construction tender fleet or to contract for the construction of fixed aids to navigation.

2 BACKGROUND

The Coast Guard operates a fleet of 16 WLICs whose purpose is to build, or rebuild if destroyed, fixed aids to navigation (ATON). Three of the tenders are home ported in the Fifth Coast Guard District (Portsmouth, VA), five are located in the Seventh District (Miami, FL), and 8 are located in the Eighth District (New Orleans, LA). Table 1 and Figures 1 through 3 show the WLIC locations for each district.

The most common types of fixed structures built by WLICs are daybeacons, lights, and ranges. Over time, due to geographic availability and because construction work has not fully utilized their capacity, WLICs have been assigned responsibilities for servicing buoys. The need to replace some of the older WLICs is approaching and the opportunity exists to off-load their buoy work onto the relatively less expensive stern-loading buoy boats (BUSL) currently being acquired by the Coast Guard.[1]

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[1] Capital costs for a replacement BUSL are approximately $1 million, whereas the initial G-NSR estimate for a replacement WLIC is $7.7 million. Therefore, viewing capital costs only, up to 7 BUSLs would be cost effective if they resulted in one less WLIC.

TABLE 1. WLIC FLEET HOME PORTS

DISTRICT	HOME PORT	WLIC	CLASS
5	Baltimore, MD	SLEDGE	75-foot
	Portsmouth, VA	KENNEBEC	160-foot
	Atlantic Beach, NC	PRIMROSE	100-foot
7	Charleston, SC	RAMBLER	100-foot
	Brunswick, GA	[illegible] LAX	100-foot
	Mayport, FL	HAMMER	75-foot
	Miami Beach, FL	HUDSON	160-foot
	St. Petersburg, FL	VISE	75-foot
8	Mobile, AL	AXE	75-foot
	Mobile, AL	SAGINAW	160-foot
	New Orleans, LA	WEDGE	75-foot
	New Orleans, LA	PAMLICO	160-foot
	Galveston, TX	CLAMP	75-foot
	Galveston, TX	HATCHET	75-foot
	Corpus Christi, TX	ANVIL	75-foot
	Corpus Christi, TX	MALLET	75-foot

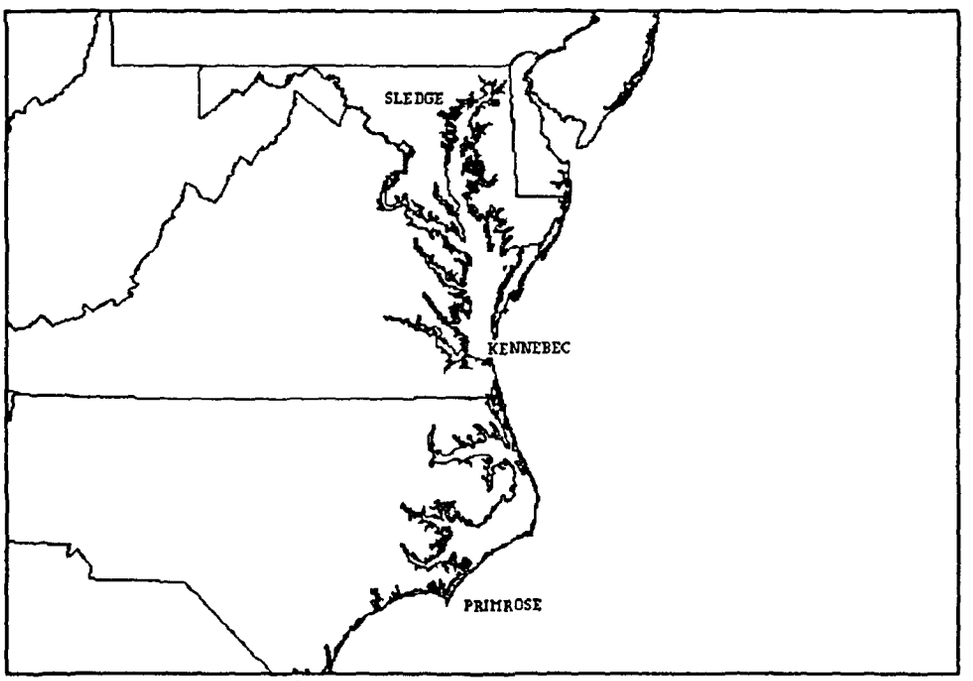

FIGURE 1. DISTRICT 5 WLICS (3)

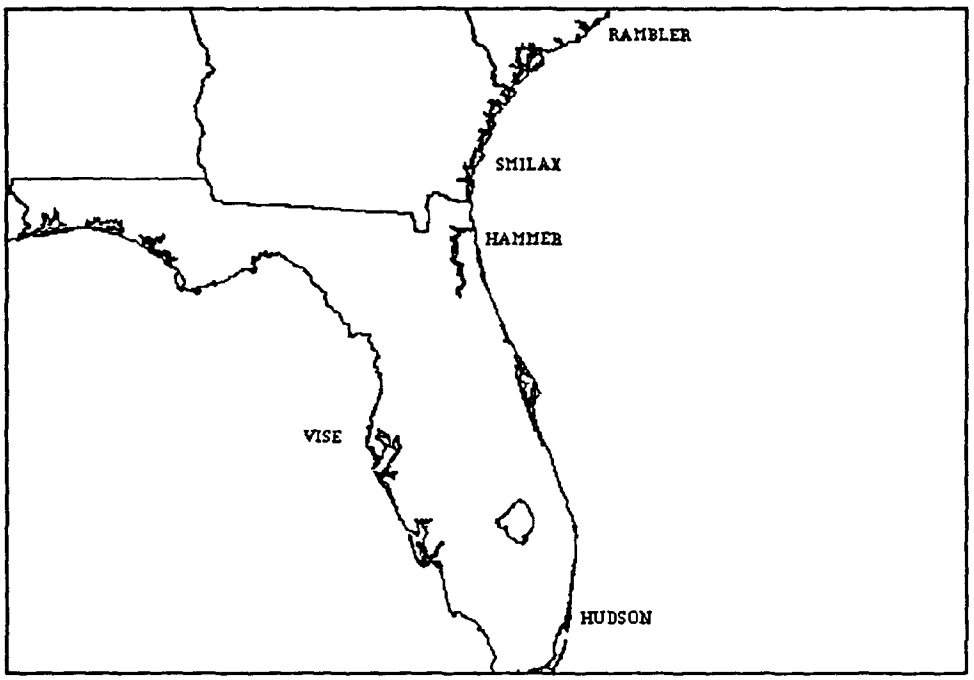

FIGURE 2. DISTRICT 7 WLICS (5)

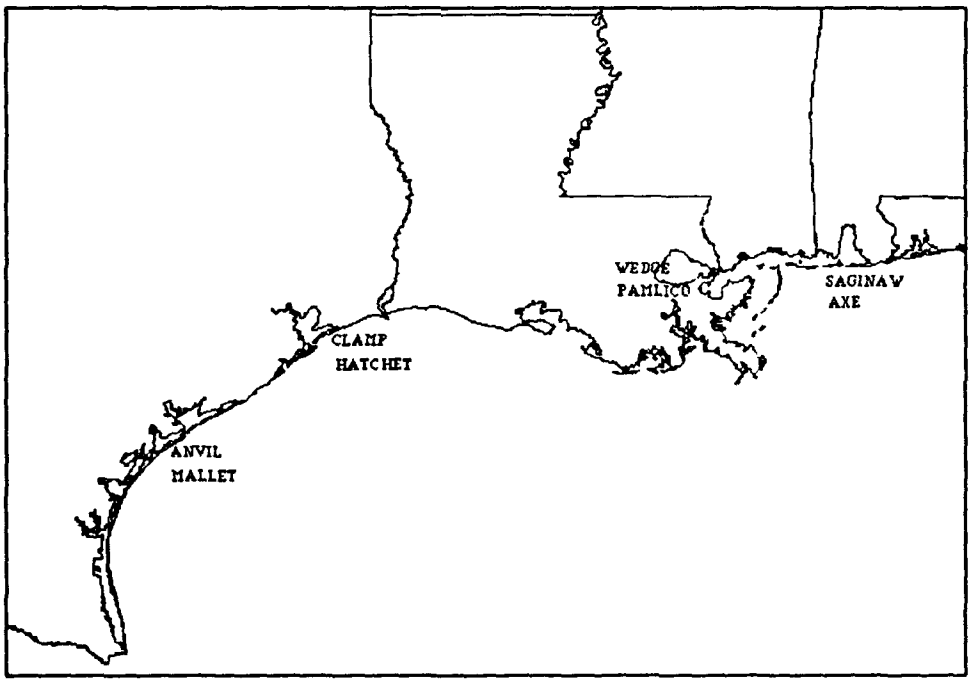

FIGURE 3. DISTRICT 8 WLICS (8)

Past Volpe Center support to the Coast Guard provides a basis for analyzing relative costs and fleet size requirements of WLICs. In 1990, the Office of Management and Budget requested that the Department of Transportation conduct an objective and independent evaluation of the results of three trial contracts awarded by the Coast Guard for commercial servicing of short range aids to navigation. The Volpe Center was tasked to perform the evaluation by the Coast Guard, the Office of the Assistant Secretary for Administration, and the Office of the Assistant Secretary for Budget and Programs. The Volpe Center's evaluation "did not produce any definitive position on whether the servicing of aids to navigation assigned to ANTs [Coast Guard Aids to Navigation Teams] should be contracted. All trial contractors performed satisfactorily. The differences between the contractors' costs and estimated USCG costs were not consistent enough to generalize to future cases for contracting ANTs."[2]

In support of the Coast Guard's Service Force Mix (SFM) 2000 Project, the Volpe Center designed, developed and exercised the ATON SFM Decision Support System (DSS) to project fleet size requirements for the replacement fleet of seagoing and coastal buoy tenders being acquired by the Coast Guard. The analysis projected the need for 16 seagoing tenders and 14 coastal tenders, representing a reduction of seven tenders from the current fleet size.[3]

In 1993, the Volpe Center analyzed requirements for the replacement BUSLs being acquired by the Coast Guard. The analysis, conducted as part of SRAMA, considered the use of the replacement buoy boats in three areas: to replace the Coast Guard's current fleet of thirteen 46-foot BUSLs and twelve 45-foot buoy boats; to assume some or all of the buoy work being performed by WLICs and inland buoy tenders (WLIs); and to identify and offset possible shortages in ATON response capabilities resulting from the decreased fleet size of seagoing and coastal buoy tenders projected by SFM 2000. The analysis projected the need for 44 replacement BUSLs, 10 of which were targeted for the WLIC buoys that BUSLs are capable of working.[4] The analysis concluded, however, that the final number of replacement BUSLs will depend on the projected WLIC fleet size produced by this analysis.

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[2] Volpe National Transportation Systems Center, U.S. Department of Transportation, *Evaluation of Contracting the Servicing of Short Range Aids to Navigation*, RSPA-TSC-CG094-TM-1, August, 1990.

[3] Volpe National Transportation Systems Center, U.S. Department of Transportation, *Aids to Navigation Service Force Mix 2000 Project, Volume 1: Development and Application of an Aids to Navigation Service Force Mix Decision Support System, Final Report.* DOT-VNTSC-CG-92-2.1, June 1992.

[4] Volpe National Transportation Systems Center, U.S. Department of Transportation, *Analysis of USCG Replacement Stern-Loading Buoy Boat Requirements for the Aids to Navigation Mission, Final Report.* DOT-VNTSC-CG-93-1, August, 1993.

3 PROJECTED WLIC CONSTRUCTION-ONLY FLEET SIZE

3.1 Data Limitations

The ATON SFM DSS utilizes geographic information system (GIS) technology to model the work activities of ATON servicing platforms. For SFM 2000, one-year profiles of aid servicing requirements were developed based on the service dates corresponding to aid inspections, mooring inspections, recharges, and reliefs contained in the Coast Guard's Aids to Navigation Information System (ATONIS). Aid discrepancies were derived from the ATONIS Discrepancy file and were supported or modified from surveys and discussions with tender and district personnel. A similar approach was also used for the 1993 analysis of replacement buoy boat fleet size requirements.

Unlike the activities of the coastal tenders, seagoing tenders, and buoy boats modeled in the previous Volpe Center studies, the construction work of WLICs does not follow regular annual servicing patterns and available data sources do not fully capture the historical construction work of the WLIC fleet. For instance, there are no structure "built" or "re-built" dates in the ATONIS Aid file, and the ATONIS Discrepancy file does not appear to be consistently and fully populated for all districts and tenders.

Key inputs required for a WLIC fleet-sizing analysis that were not available from the ATONIS files include the following: structure establishment dates; structure removal dates; conversions of aids from floating to fixed (in effect, establishments); and conversions from fixed to floating (in effect, removals). In addition, ATONIS provides no indication of the preventive maintenance performed by some tenders whereby aging structures are rebuilt in order to prevent future discrepancies.

Due to the limitations of the available data, the validity of the fleet-wide construction log file derived from existing data for this analysis is considered to be less accurate than the data used in past studies for the seagoing and coastal tenders and for BUSLs. To gage the validity of the derived log file, reported piling usage data was used as an indicator.

3.2 The Derived Log File

Vessel activity files, in list form, were provided by three WLICs: HUDSON (Miami - D7); SAGINAW (Mobile - D8); and MALLET (Corpus Christi - D8). The tenders used their actual ship logs to compile the lists. However, recognizing the extensive amount of time and effort required of the tenders to sort through their ship logs and compile two to three years of activities, and the impracticality of loaning out or copying actual ship logs, this analysis derived construction log files for all 16 WLICs from available data. The three vessel activity files that were received were used to evaluate the accuracy of the derived log files and as the basis for developing the construction-related operating costs of WLICs.

3.2.1 Discrepancies

The ATONIS Discrepancy file as of October, 1993 served as the basis for discrepancy inputs. The table covered 34 months of discrepancy data (beginning in January, 1991). Discrepancy records were considered to require a response by a WLIC if the following conditions were met:

- the associated aid type in the ATONIS Aid file was a light (LT) or daybeacon (DBN)
- the "Discrepancy Corrected" field (DISCCORR) was determined to be one of the following:

  DISCONTINUED
  REBUILT/RECOVERED
  REBUILT/REMAINS
  RESET ON STATION
- the responding unit had been either a WLIC or had been left blank

Based on the available 34 months, a 12-month average was computed. Calendar year 1992 was then used as the base year. For WLICs where 1992 discrepancies exceeded the one-year averages, randomly selected 1992 discrepancies were dropped to get down to the average. Where 1992 discrepancies fell short of the averages, discrepancies from either 1991 or 1993 were randomly added by changing their calendar year. Table 2 shows the resulting distribution of discrepancies (along with establishments, removals, and conversions).

3.2.2 Establishments, Removals, and Conversions

A comparison of the ATONIS Aid files from October 1990 and October 1993 was the basis for determining structure establishments, removals, and conversions. Establishments were determined to be structures existing in the 1993 file but not in the 1990 file. Conversely, removal/discontinuations were determined to be structures existing in the 1990 file but not in the 1993 file. Conversions were identified by changes in the aid type field between 1990 and 1993, either to or from the structure designations of LT or DBN. Conversions within a structure aid type, such as an upgrade of a single-pile light to a multi-pile light, could not be identified from the available data.

One-year average totals of activities were computed, which corresponded to one-third of the total activity covered by the 36-month time frame between the two files. As with discrepancies, calendar year 1992 was used as the base year and 1992 activity quantities equal to the one-year averages were developed. Where 1992 service dates were still apparent on the 1993 aid file, those 1992 dates were used as the dates for establishments or conversions. Otherwise, the oldest service date attached to each 1993 aid file record was used as the relevant service date, except for removal/discontinuations, where the latest recorded service date on the 1990 file was used as the relevant service date. Where the resulting derived 1992 activities exceeded the one-year averages, selected 1992 activities were randomly dropped to get down to the average. Where 1992 activities fell short of the averages (as all removals did because they were based on dates from the 1990 file), service dates for a number of aids equal to the shortfall

were randomly converted to 1992.

Table 2 contains the resulting distribution of establishments, removals, and conversions.

TABLE 2. DERIVED 1992 CONSTRUCTION LOG FILE ACTIVITIES

WLIC	DBNs to LTs	LTs to DBNs	Re-mov-als	Estab-lish-ments	Pass. Light Only	Re-build/ Recov	Re-build/ Remain	Reset on Sta.	Total
KENNEBEC	3	0	6	45	0	20	4	0	78
PRIMROSE	5	0	10	30	0	97	7	4	153
SLEDGE	1	4	11	27	3	4	1	1	52
D5 Total:	9	4	27	102	3	121	12	5	283
HAMMER	0	0	1	7	0	38	15	1	62
HUDSON	2	1	10	14	1	51	29	1	109
RAMBLER	1	0	6	8	0	15	23	2	55
SMILAX	0	1	0	11	0	17	21	1	51
VISE	3	0	15	23	1	60	38	0	140
D7 Total:	6	2	32	63	2	181	126	5	417
ANVIL	1	0	2	12	3	31	29	0	78
AXE	0	1	1	4	2	37	45	1	91
CLAMP	0	1	16	7	2	58	78	2	164
HATCHET	0	0	8	2	5	34	38	1	88
MALLET	1	2	2	9	1	35	26	0	76
PAMLICO	0	0	17	13	8	38	40	1	117
SAGINAW	1	0	3	6	11	66	107	0	194
WEDGE	1	0	26	1	15	53	35	1	132
D8 Total:	4	4	75	54	47	352	398	6	940
Totals:	19	10	134	219	52	654	536	16	1640

Activity Columns:

DBNs to LTs:	Daybeacons converted to Lights
LTs to DBNs:	Lights converted to Daybeacons
Removals:	Removals(& DISCONTINUED & conversions to buoys)
Establishments:	Establishments (& buoys converted to structures)
Pass. Light Only:	Discrepancy: Passing Light Only (of LTs and DBNs)
Rebuild/Recov:	Discrepancy: Rebuild/ Wreckage Recovered
Rebuild/Remain:	Discrepancy: Rebuild/ Wreckage Remains
Reset on Sta.:	Discrepancy: Reset on Station

3.3 Other DSS Inputs

G-NSR, with assistance from the Volpe Center, distributed a WLIC Operations Questionnaire to collect operating characteristics such as vessel speeds and service times. Appendix A shows the questionnaire form. In addition, a prior data call to the WLICs had generated buoy deck space, cruise lengths, prep/deprep times, and lengths of work days.

Manual assignments of questionnaire service times to log file activity records were made based on the indicated log file work activities and the associated ATONIS aid types. Averages

of available questionnaire times were used for structures whose composition (wood, steel, or concrete) and/or number of piles could not be determined. Appendix B contains the WLIC service times.

Abstract of Operations data was used to develop average total underway and high-readiness hours covering Fiscal Years 1991 through 1993 for comparison with DSS results.

3.4 DSS Results for Current WLIC Fleet

Appendix C describes the one-page summary report generated by the DSS. Appendix D contains the actual one-page reports corresponding to each of the 16 WLICs performing the activities of the derived construction log file. Table 3 summarizes those results.

3.5 Analysis of Piling Usage Data

The "Reported Pilings" and "Derived Pilings" columns of Table 3 correspond to the annual amounts of pilings reported for each tender (in D5) or group (in D7 and D8), and the amounts of pilings associated with the visits in the derived log files, respectively. Table 4 shows the piling data received from the three districts that served as the basis for the "Reported Pilings" column of Table 3. For groups having two WLICs, reported pilings for each tender were set to half of the group's total.

As shown in Table 3, District 5's reported pilings exceed derived pilings by 57%. The District indicated that it has converted a number of single pile structures into multi-pile structures. Because no differences between the 1990 and 1993 ATONIS aid files would be visible for the upgraded structures, the upgrades could not be captured in the derived log file. The upgrades also help explain KENNEBEC's relatively low hours in the derived log file. The derived log shows only 76 structure construction visits for KENNEBEC, requiring only 446 hours. The average reported underway hours for KENNEBEC, however, was 1,703. Because KENNEBEC is not a primary servicing unit for buoys or structures, all of its hours should be attributable to WLIC construction activities.

In D7 the reported piling count was only 3% more than the derived count, and in D8, the reported count was 5% less than the derived count. The relative closeness of Districts 7 and 8 piling totals implies that the derived log file reasonably represents the actual overall work activities in those districts.

TABLE 3. DERIVED 1992 CONSTRUCTION LOG FILE DSS RESULTS

WLIC	Structure Visits	Avg. Visits /Trip	Avg. Days /Trip	DSS Hours	AOPS Undrwy Hours	DSS/ AOPS Hours	Reported Pilings (Table 4)	Derived Pilings	Reported/ Derived Pilings
KENNEBEC	76	2.9	1.5	446	1703	26%	170	84	202%
PRIMROSE	137	3.7	2.0	979	1335	73%	240	165	145%
SLEDGE	49	2.6	2.2	544	1019	53%	70	57	123%
District		5 Totals:		1969	4057	49%	480	306	157%
HAMMER	61	2.2	1.9	710	819	87%	72	95	76%
SMILAX	52	3.1	1.6	302	2379	13%	72	68	106%
Group Mayport		Totals:		1012	3198	32%	145	163	89%
RAMBLER	54	2.1	1.7	459	1200	38%	115	78	147%
HUDSON	108	3.3	2.2	1092	1763	62%	169	135	125%
VISE	140	3.6	1.9	937	1107	85%	136	172	79%
District		7 Totals:		3501	7269	48%	564	548	103%
ANVIL	72	3.0	1.8	576	773	74%	96	79	122%
MALLET	62	2.2	1.8	611	1146	53%	96	81	119%
Group Corpus Christi		Totals:		1187	1919	62%	192	160	121%
CLAMP	146	3.7	1.6	805	981	82%	115	185	62%
HATCHET	74	2.7	1.7	713	1132	63%	115	90	128%
Group Galveston		Totals:		1519	2113	72%	231	275	84%
AXE	80	4.0	2.9	913	824	111%	165	101	164%
SAGINAW	175	5.5	2.2	902	1546	58%	165	216	77%
Group Mobile		Totals:		1815	2370	77%	331	317	104%
PAMLICO	107	4.1	2.1	866	1773	49%	106	133	80%
WEDGE	91	2.5	1.8	719	927	78%	106	131	81%
Group New Orleans		Totals:		1584	2700	59%	212	264	80%
District		8 Totals:		6104	9103	67%	965	1016	95%
Fleet		Totals:		11573	20429	57%	2009	1870	107%

TABLE 4. REPORTED PILING DATA

TENDER or Group	FY92	FY93	Total	Average
SLEDGE	70		70	70
KENNEBEC	170		170	170
PRIMROSE	240		240	240
Other D5	27	238	265	132.5
D5 Totals				612.5
Group Charleston	93	136	229	114.5
Group Mayport	89	200	289	144.5
Group Miami	128	209	337	168.5
Group St. Petersburg	5	267	272	136
GantSEC	18		18	18
D7 Totals				581.5
Group Mobile	383	278	661	330.5
Group New Orleans			424	212
Group Galveston	197	264	461	230.5
Group Corpus Christi		193	193	193
D8 Totals				966

3.6 Determination of WLIC Underway Hours Target

A key input to any fleet sizing analysis is the work capacity of the vessels involved. Historical data provides an indication of capacity but does not necessarily represent a preferred measure of operations. As shown in Table 3, average WLIC underway hours for Fiscal Years 1990 through 1992 ranged from a low of 773 (ANVIL, Corpus Christi, TX) to a high of 2,379 (SMILAX, Brunswick, GA). The average for all 16 tenders was 1,277 hours. Limiting all vessels to the low figure would help to minimize crew and vessel fatigue, but would be inefficient and would require more than the current level of 16 tenders. Using the high figure would mean significantly less tenders would be required, but the vessels and crews would be more prone to fatigue and failure. The average may be a relatively better target, but it does not necessarily take into account vessel capabilities. Overall, the following factors deter the use of historic data:

- Past operations are based on assigned missions. Vessels assigned less work than they are capable of will show lower employment numbers.

- Differences in how operational data is recorded diminishes the data's utility. In the interests of safety, WLICs generally will not work at night and will instead tie up to a mooring or spud down (WLICs have "spuds" which are posts that can be lowered into the water and which effectively anchor and stabilize the tender so that it can perform construction operations). If moored in port, the associated time may be recorded as standby or high readiness hours. If spudded down, the time may be recorded as underway hours. For example, SMILAX's underway hours, which were the highest of the fleet, generally include overnight time. Identifying the different record-keeping practices employed throughout the fleet and quantifying their impacts is beyond the scope of this analysis.

- Historic WLIC operational data in most cases includes varying amounts of buoy servicing. Weighting those hours equally with construction hours may not be appropriate.

To determine the minimum fleet size capable of supporting mission requirements, a target employment figure is required by which DSS outputs can be judged to represent a vessel that is either over or under-utilized. The method employed by this analysis to determine the target was based on a mix of historic data, published standards, and derived results. There are two published limitations on WLIC operations[5]. The first is a limit of 165 days away from home port. Because of the restricted size of WLIC operational areas, this figure is seldom significant. Where it becomes significant, restricting yard maintenance to the tender's home port area may be an effective means of controlling the problem, since no WLIC's total of underway days exceeds 165.

The second published limitation is the requirement for 95 days of dedicated maintenance, leaving 270 days per year available for operations. This figure is an upper limit, which is seldom approached in practice. Based on the cutter being employed in operations for 5 days per week during non-maintenance periods, 200 operational days per year are available.

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[5] *U.S.C.G. Commandant Instruction 3100.5, Cutter Employment Standards.* July 22, 1991.

Of these 200 "operational" days, some must be spent in port, conducting training, loading materials, off-loading wreckage, and performing other activities in support of the underway mission. In SFM 2000 for WLMs and WLBs, the ratio of underway days to in port operational days was 3:1, calling for 150 of the 200 days to be spent underway. This ratio is significantly different than recorded WLIC operations: the historical mean for WLICs is 1.4, and the median is 1.6. (Much of the difference between the WLM/WLB and WLIC ratios is attributable to WLICs having to dismantle and dispose of wreckage retrieved from damaged structures upon returning to port.) An examination of individual WLICs shows that the "busiest" construction tenders reported a higher ratio than those reporting fewer underway days and hours. A conservative ratio of 1.5:1 (60%) would give a target of 120 underway days, which is close to the totals reported for those vessels currently considered fully employed.

Because of the nature of WLIC operations, only part of each "underway" day is spent actually in transit or performing construction. Fleet-wide, the average underway hours per underway day is 14 hours.

Historic data indicates that WLICs are highly focused on ATON. For the fiscal years 1990-1992, 90% of all reported operations were for ATON. In FY 1992, WEDGE had been determined to be in excess of District 8's needs and plans were initiated for its conversion to a river buoy tender. That year, WEDGE was detailed to build a dock for the National Data Buoy Center, recording nearly 2000 hours outside the ATON mission. Excluding that one year of WEDGE data, the WLIC fleet averaged 92.5% of its underway hours on the ATON mission. For the purposes of determining operational targets, 90% of underway time was used as the amount of WLIC time to be spent on the construction of fixed aids.

Attributing 90% of the targeted number of WLIC underway hours to the ATON mission results in an operational ATON underway hours target of 1,500 hours (120 days * 14 hours per day * 90% on ATON ≈ 1,500 hours). A WLIC would therefore be targeted to spend 1,500 hours per year in transit to and servicing fixed aids to navigation. Table 5 summarizes the derivation of the target and the relevant data from the Abstract of Operations.

TABLE 5. DERIVATION OF WLIC UNDERWAY HOURS TARGET

(from FY 90-92 U.S.C.G. Abstract of Operations)

ANNUAL EMPLOYMENT HOURS

90-92 Averages	D2 (from D8)	D5	D7	D8	Under-way Total	In Port Opera-tions	High Readi-ness
ATON	55.5	253.6	454.3	513.5	1276.8	594.9	502.3
Other	0.4	15.4	36.5	93	145.4	81.1	25.3
Totals	55.9	269	490.8	606.4	1422.2	676.0	527.6
% ATON					89.8%	(≈90%)	

PERCENT UNDERWAY DAYS

	1990	1991	1992	90-92	
Underway Days	109.4	100.1	96.4	102.0	
In Port Operations Days	72.6	84.6	62.8	73.3	
% Underway Days	60%	54%	61%	58%	(≈60%)

UNDERWAY HOURS PER DAY

90-92 Avg. Days	102	
90-92 Avg. Hours	1422.2	
Avg. Hours / Day	13.94	(≈14)

DERIVATION OF UNDERWAY TARGET HOURS

Calendar Days	365	
Less Maintenance Days	95	
Less Weekends	70	
Available Days	200	
% Underway	60%	
Available Underway Days	120	
Avg. Hours / Day	14	
Available Hours / Year	1680	
Historic % ATON	90%	
Available ATON Hours	1512	(≈1500)

An additional consideration in applying an underway hours target limit is that the derived log represents an average year of construction work. A fleet that was projected using the 1,500 hour target may not always be able to meet peak year requirements within those hours. However, the limit is not a finite point that, if exceeded in peak years, would necessarily strain the abilities of the vessel and crew. Similarly, lower hours during off-peak years do not necessarily represent inefficiency. Recognizing that trade-offs have to be made between being able to respond to peak years and operating efficiently, DSS utilization amounts of greater than 1,500 hours are prohibited when developing the projected fleet. Similarly, three or more adjacent tenders for which the DSS reports utilization amounts of greater than 90% would warrant further consideration, and would generally be regarded as unacceptable.

3.7 Projected WLIC Fleet Size

Based upon projected DSS hours as a percentage of historical reported AOPS hours, as shown in Table 3's "DSS/AOPS Hours" column, opportunities for combining the construction work of some WLICs were evident. Specifically, it appeared that one WLIC might be able to perform the construction work in each of the five Coast Guard Groups that currently have two WLICs -- Group Mayport in D7 and Groups Mobile, New Orleans, Galveston, and Corpus Christi in D8. In addition, it appeared that two construction tenders might be sufficient for District 5. For each of the five groups and District 5, the DSS was used to evaluate the potential for fleet reductions.

In District 5, by reassigning KENNEBEC's 77 activities between SLEDGE and PRIMROSE, combined with a shift of some of PRIMROSE's activities to SLEDGE, DSS results indicate that two tenders could serve District 5.

In District 7, DSS results indicate that the activities of RAMBLER, (Charleston, SC), SMILAX (Brunswick, GA), and HAMMER (Mayport, FL) could be performed by two tenders home ported in any two of the three current ports.

In District 8, applying one tender to the workloads of each group's two tenders indicated that Groups Corpus Christi (1,111 hours) and New Orleans (1,416 hours) would be under the 1,500 underway hours limit, but Groups Galveston (1,531 hours) and Mobile (1,615) would exceed the limit. However, by shifting group boundaries to utilize the available capacities in Corpus Christi and New Orleans, all four tenders could be brought within the limit.

Appendix E contains the associated one-page DSS reports, and Table 6 summarizes the results.

TABLE 6. DSS RESULTS FOR COMBINED WLICs

WLIC	Home Port	Structure Visits	Avg Visits /trip	Avg Days /trip	DSS Hours	DSS / 1500 Target Hours	Transit Time / Service Time
District 5							
PRIMROSE/ KENNEBEC	ATLANTIC BEACH	140	3.9	2.4	1297	86%	6.7
SLEDGE/ KENNEBEC	BALTIMORE	122	4.1	2.5	1200	80%	9.5
District 7							
RAMBLER/SMILAX	CHARLESTON	71	2.2	1.9	727	48%	3.9
HAMMER/SMILAX	MAYPORT	96	2.9	2.2	923	62%	6.8
SMILAX/RAMBLER/ HAMMER	BRUNSWICK	167	3.4	2.7	2175	145%	5.4
District 8							
ANVIL/MALLET	CORPUS CHRISTI	134	3.3	2.0	1111	74%	4.3
CLAMP/HATCHET	GALVESTON	220	4.7	2.1	1531	102%	1.4
SAGINAW/AXE	MOBILE	255	6.4	2.8	1615	108%	2.4
PAMLICO/WEDGE	NEW ORLEANS	198	4.3	2.2	1416	94%	5.0
After Shifting Group Boundaries							
ANVIL/MALLET	CORPUS CHRISTI	162	3.9	2.4	1466	98%	5.4
CLAMP/HATCHET	GALVESTON	196	4.3	2.2	1424	95%	1.3
SAGINAW/AXE	MOBILE	235	6.0	2.7	1492	99%	2.4
PAMLICO/WEDGE	NEW ORLEANS	214	4.7	2.3	1489	99%	4.9
With Fifth WLIC at Morgan City							
ANVIL	CORPUS CHRISTI	153	3.7	2.1	1165	78%	4.4
CLAMP	GALVESTON	162	3.7	1.6	859	57%	.8
HATCHET	MORGAN CITY	127	4.9	2.6	1141	76%	3.8
SAGINAW	MOBILE	170	5.3	2.5	1194	80%	2.4
PAMLICO	NEW ORLEANS	194	4.5	2.0	1064	71%	4.1

3.8 Comparison of Derived and Actual Log File Results

DSS results for the compiled logs of MALLET and HUDSON are shown in Table 8 (Page 18).

MALLET's derived log consisted of 63 aid visits requiring 611 hours, and its compiled actual log consisted of 80 visits requiring 732 hours. Without shifting group boundaries, the additional 121 hours could be absorbed by the projected Corpus Christi tender. If group boundaries were shifted, the additional hours would put all four projected tenders closer to or over the 1,500 hour target.

The difference in DSS results for HUDSON's derived and actual log files does not affect the projected fleet size. The derived log consisted of 109 aid visits requiring 923 hours, and the actual log file consisted of 183 aid visits requiring 1,273 hours. Although the difference is significant, the derived log results in combination with HUDSON's large operating area supported the continued need for a WLIC in Miami, making the difference between the two log files inconsequential.

4 COMPARISON OF WLIC AND PRIVATE SECTOR COSTS

4.1 Data Limitations

The Volpe Center's 1990 contracting evaluation of Coast Guard Aids to Navigation Teams utilized data from actual private sector bids received in response to statements of work for performing ATON servicing at five different locations. Contracts were awarded at three of those five locations. As a result, the 1990 study had access to actual private sector costs that could be directly compared with Coast Guard costs along with qualitative data on contractor performance results.

This analysis of WLICs was initiated from the Coast Guard's own interest in exploring the relative costs of the WLIC fleet. No trial contracts have been developed or are planned. Therefore, private sector cost data directly related to the operations of the 16 current WLICs was not available.

Instead, current Coast Guard contracts for marine construction in Districts 11 (California) and 13 (Oregon and Washington) served as the source of comparable private sector costs. An underlying assumption was that the conditions necessary for building aid structures are consistent across geographic areas. For example, although generally water depths are greater and seas are rougher in the Pacific Northwest than in the Gulf, structures can only be built in the relatively shallower and calmer waters of Districts 11 and 13, making the actual conditions for building structures comparable to those in the Gulf. However, possible differences in costs of living and marine construction costs between the areas covered by the two contracts and the areas currently worked by WLICs are not reflected. Based on the differences that were observed between the D11 and D13 contracts, those differences may be significant. Economies of scale that might be realized from higher volumes of construction work than those represented by the D11 and D13 contracts are also not reflected.

In addition, for the three locations examined, it was assumed that contractor facilities would be located at the current WLIC home ports. Efficiencies that could be gained from a contractor operating from multiple facilities within a single WLIC's operating area are therefore not reflected.

Finally, the USCG Corporate Data Base (CDB), which was utilized by this analysis as the source of current WLIC operating costs, does not differentiate between construction and buoy activities. To counter this limitation, an approach was developed for estimating WLIC construction costs based on the percentage of resource hours required for construction activities in comparison to the total resource hours required for all activities, using DSS results for actual WLIC logs.

4.2 Costs Not Included

In the interests of simplicity and expedience, some costs relevant to a contracting analysis were assumed to be zero because their magnitudes were not considered to warrant significant attention at this time. These cost elements include indirect mission support costs associated with ATON construction activities, tender salvage values and disposal costs, contract administration costs, and contractor payments of social security and federal taxes.

4.3 WLIC Operating Costs

Operating Costs for the 16 current WLICs were developed from the USCG Corporate Data Base as follows:

- Average full direct costs were compiled for the years 1991 through 1993. Full direct costs are vessel specific and can be broken down into Personnel (AFC 10-12), Operations and Maintenance (AFC 30), and Engineering (AFC 42-45).

- Costs associated with ATON supplies and services, which would not be expected to change under a contracting scenario, were ignored.

- Personnel costs were standardized. This was done by multiplying Unit Personnel Costs from the CG's Standard Personnel Cost Tables by vessel personnel allowances (crew size and grades).

- Yearly costs were converted into 1993 dollars by using inflation factors based on the Consumer Price Index (CPI).

- Vessel specific and fleet-wide costs were calculated by averaging the adjusted yearly costs. A summary of the results is provided in Table 7.

Table 7 represents the total operating costs of WLICs, but only the costs associated with construction activities are relevant to this analysis. To determine the construction-related cost component of the total operating costs, the proportion of construction-related work to total work was developed through use of the Aids to Navigation Service Force Mix DSS.

TABLE 7. WLIC OPERATING COSTS

In 1993 Dollars

Summary 91-93	Personnel	O&M	Engineering	Total
WLIC 75s				
16901 ANVIL	$ 398,572	$85,303	$108,547	$592,422
16902 HAMMER	398,572	102,659	81,867	583,098
16903 SLEDGE	417,335	249,102	280,925	947,362
16904 MALLET	398,572	74,788	85,480	558,840
16905 VISE	417,335	102,781	233,239	753,355
16906 CLAMP	398,572	85,140	172,391	656,103
16907 WEDGE	398,572	94,289	180,567	673,428
16909 HATCHET	398,572	108,294	310,664	817,530
16910 AXE	398,572	112,076	197,246	707,894
WLIC 75 AVERAGE	$402,742	$112,714	$183,436	$698,892
WLIC 100s				
16305 PRIMROSE	508,452	200,131	80,387	788,971
16306 RAMBLER	569,211	141,342	324,003	1,034,555
16307 SMILAX	482,118	124,560	364,075	970,753
WLIC 100 AVERAGE	519,927	155,344	256,155	931,426
WLIC 160s				
17003 KENNEBEC	437,866	166,088	291,651	895,606
17001 PAMLICO	437,866	124,935	179,939	742,740
17002 HUDSON	437,866	151,807	211,554	801,227
17004 SAGINAW	437,866	131,948	255,419	825,233
WLIC 160 AVERAGE	437,866	143,695	234,641	816,201
ALL WLICS AVERAGE	433,495	128,453	209,872	771,820

4.4 Determining WLIC Construction Proportions

The DSS was used to provide a relative indication of construction-related activities in comparison to the total activities of WLICs. This was accomplished by comparing the DSS' reported number of hours for selected WLICs to perform all of their work with the reported number of hours for those tenders to perform only their construction work. As mentioned previously, the available operational data (ATONIS) did not sufficiently lend itself to this task. Instead, a request was made of each of the three relevant districts to provide the Volpe Center with at least one representative WLIC ship log which could be translated into an aid activity file for use with the DSS.

Ship log data was received from District 7 (HUDSON: Miami, FL) and District 8 (SAGINAW: Mobile, AL; and MALLET: Corpus Christi, TX). Service times for the log activities were derived by matching the indicated log activity descriptions with the WLIC questionnaire service time categories, as shown in Appendix B. Table 8 summarizes the three log files.

TABLE 8. SUMMARY OF HUDSON, MALLET, AND SAGINAW LOG FILES

	HUDSON	MALLET	SAGINAW*
Log File Months	23	15	21
Aid Visits			
Total	662	412	654
Construction Visits	349	97	466
% Construction	53%	24%	71%
On Station Servicing Time			
Total Hours	695.5	314.9	1,421.5
Construction Hours	613.3	187.2	1,282.0
% Construction	88.2%	59.4%	90.2%
DSS Hours (for 1 Year)			
Total Visits	405	366	0
Construction Visits	183	80	0
Total Hours	1,482	943	0
Construction Hours	1,273	732	0
% Construction Hours	85.9%	77.6%	85.9%

* Because the DSS could not be run for SAGINAW due to the absence of Aid Numbers on the SAGINAW log file, HUDSON's % Construction was applied to SAGINAW.

4.4.1 HUDSON Log

HUDSON's log covered October, 1991 through September, 1993 (23 months). The file was the most easily adapted for use because each individual activity was coded by whether or not a WLIC was necessary to perform the activity and by the actual amount of on-station time that was required. Of the 662 activities included in the file, 349 required a WLIC (53% of total activities) and consumed a total of 613.3 on-station service hours (88% of total on-station time). The remaining 313 activities (47% of total activities) not requiring a WLIC consumed only 82.2 hours of on-station service time (12% of on-station service time). The large difference in on-station time in comparison to aid servicing activities is explained in part by HUDSON's extensive use of its small boat crew to perform non-construction activities while the tender performs construction work. Appendix F, Page F-5, shows the breakdown of on-station service time for HUDSON's log file. Pages F-8 through F-14 show the HUDSON log file's "Indicated Actions", the corresponding "Derived Actions", and whether or not a WLIC was needed. Again, for HUDSON, the determination of whether or not a WLIC was needed was provided on the log file by the tender.

The DSS results for one year of HUDSON's activities showed a total of 1,482 hours. The corresponding one-page summary report is contained in Appendix F (Page F-1). The DSS

results for one year of HUDSON's construction-only activities reported a total of 1,273 hours. The corresponding one-page summary report is contained in Appendix F (Page F-2). The resulting proportion of construction time to total time is 85.9%. This proportion, when applied to HUDSON's average operating costs from the CDB, result in an average annual operating cost of $688.3 thousand for HUDSON's construction activities.

4.4.2 MALLET Log

MALLET's log covered June, 1992 through September, 1993 (15 months). Of the 412 activities included in the file, 97 required a WLIC (24% of total activities) and consumed a total of 187 on-station service hours (59.4% of total on-station time). The remaining 315 activities (76% of total activities) not requiring a WLIC consumed 127.7 hours of on-station service time (40.6% of on-station service time). Appendix F, Page F-6, shows the breakdown of on-station service time for MALLET's log file. Pages F-14 through F-17 show the MALLET log file's "Indicated Actions", the corresponding "Derived Actions", and whether or not a WLIC was needed.

The DSS results for one year of MALLET's activities showed a total of 943 hours. The corresponding one-page summary report is contained in Appendix F (Page F-3). The DSS results for one year of MALLET's construction-only activities reported a total of 732 hours. The corresponding one-page summary report is contained in Appendix F (Page F-4). The resulting proportion of construction time to total time is 77.6%. This proportion, when applied to MALLET's average operating costs from the CDB, results in an average cost of $433.7 thousand for MALLET's construction activities.

4.4.3 SAGINAW Log

SAGINAW's log covered January, 1992 through September, 1993 (21 months). Of the 654 activities included in the file, 466 required a WLIC (71% of total activities) and consumed a total of 1,282 on-station service hours (90.2% of total on-station time). The remaining 188 activities (29% of total activities) not requiring a WLIC consumed 139.5 hours of on-station service time (9.8% of on-station service time). Appendix F, Page F-7, shows the breakdown of on-station service time for SAGINAW's log file. Pages F-17 through F-20 show the SAGINAW log file's "Indicated Actions", the corresponding "Derived Actions", and whether or not a WLIC was needed.

Due to the absence of an Aid Number field on SAGINAW's log file, its log records could not be linked to the ATONIS Aid file. As a result, geographic aid locations and associated aid data could not be determined, so the DSS could not be applied to SAGINAW's log. However, both HUDSON and SAGINAW are 160-foot WLICs and their proportions of on-station service times were relatively equal -- 88% on-station construction time for HUDSON compared to 90.2% for SAGINAW. Therefore HUDSON's proportion of DSS construction hours to total hours (85.9%) was applied to SAGINAW. This proportion, when applied to SAGINAW's average operating costs from the CDB, result in an average cost of $708.9 thousand for SAGINAW's construction activities.

Table 9 summarizes the construction costs for HUDSON, MALLET, and SAGINAW.

TABLE 9. WLIC CONSTRUCTION OPERATING COSTS

In 1993 Dollars

WLIC	Operating Cost	% Construction (from DSS)	Construction Cost
HUDSON	$801,227	85.9%	$688,254
SAGINAW	825,233	85.9%	708,875
MALLET	558,840	77.6%	433,660

4.5 Private Sector Costs

Existing Coast Guard contracts for marine construction in the Columbia River (D13) and in San Francisco Bay (D11) served as the basis for the development of representative private sector costs. The line items of both contracts were reviewed and compiled into a spreadsheet that could be associated with the log file activities of HUDSON, MALLET, and SAGINAW. The spreadsheet is contained in Appendix G.

The construction-related records within each of the three log files were reviewed and linked to the related items in both of the West Coast contracts. This process relied on the remarks provided on the log files, the structure types and pilings from ATONIS (for MALLET and HUDSON), and the log file Aid Name field (for SAGINAW). Appendix H shows the resulting distribution of the construction activities for each of the three WLICs.

The activities of the three WLICs were then linked to the contract line items and tabulated. Appendix I shows the breakdown of the work order quantities resulting from the linking of the activities to the contract line items, and Appendix J summarizes the Appendix I tables through six corresponding summary tables (3 WLICs * 2 contracts). As an example of the contents of the tables, the MALLET/Columbia River table is shown as Table 10.

TABLE 10. MALLET LOG ACTIVITY PERFORMED THROUGH COLUMBIA RIVER CONTRACT

	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5
ITEM 1: MOBILIZATION/ DEMOBILIZATION					
Visits Per Trip	1	3	4	7	9
Required Number of Trips	97	32	24	14	11
Mobilization/Demob. Costs Per Trip	$5,500	$5,500	$5,500	$5,500	$5,500
TOTAL MOBILIZATION/DEMOB.	$533,500	$177,833	$133,375	$76,214	$59,278
ITEM 2: TRANSIT COSTS					
Transit Costs Per Mile	$60	$60	$60	$60	$60
Average Miles Per Trip	157	175	194	213	235
TOTAL TRANSIT COSTS	$914,542	$338,719	$282,266	$177,424	$151,796
ITEM 3: REMOVALS	$197,200	$197,200	$197,200	$197,200	$197,200
ITEM 4: MATERIALS	$0	$0	$0	$0	$0
ITEM 5: INSTALLATIONS	$220,000	$220,000	$220,000	$220,000	$220,000
ITEM 6: REPAIRS	$29,700	$29,700	$29,700	$29,700	$29,700
ITEM 7: DIVING SERVICES	$0	$0	$0	$0	$0
ITEM 8: FIELD ENGINEERING	$0	$0	$0	$0	$0
ITEM 9: BUOYS	$0	$0	$0	$0	$0
ITEM 10: DELIVER REMAINING MATERIALS	$0	$0	$0	$0	$0
ITEM 11: PICK UP MATERIALS REMAINING	$0	$0	$0	$0	$0
ITEM TOTALS: 15 Months	$1,894,942	$963,453	$862,541	$700,539	$657,974
ADJUSTED TOTALS: 12 Months	$1,515,954	$770,762	$690,033	$560,431	$526,379

The five scenarios shown in Table 10 correspond to the possibilities that were examined for the number of aids visited per trip, ranging from 1 to 9. Scenario 3, which is shaded, was determined to be the scenario that best represents MALLET's construction activities based on the one-year DSS run of MALLET's construction work (see Appendix F, Page F-4). The DSS reported that MALLET visited 4.0 aids per trip which corresponds to Scenario 3. Visiting 4 aids per trip, the 97 aid visits in the MALLET log file would require 24.25 trips. Each trip was priced at an average of $5,500 by the Columbia River contract, for a total Item 1 (Mobilization/ Demobilization) cost of $133,375.

Item 2 (Transit Costs) was developed based on the average miles per trip reported by the DSS (again, for MALLET, see Appendix F, Page F-4). Servicing 4 aids per DSS trip and making 20 trips, MALLET transited at 6 knots for 561.92 hours, for a total of 3,372 nautical

miles, or 3,880 standard miles. Dividing by 20 trips, the average trip was slightly less then 194 miles. Under Scenario 3, 24.25 trips were necessary and the Columbia River contract cost per mile was $60. Total transit costs were therefore 194 * 24.25 * $60, or $282,266. For the other four scenarios, a 10% change in miles per trip, starting from Scenario 3's 194 miles per trip, was used as an estimate of the effect of servicing one more or one less aid per trip (90% of 194 = 175, 90% of 175 = 157; and 110% of 194 = 213, 110% of 213 = 235).

Items 3 (Removals), 5 (Installations), and 6 (Repairs) were based on applying the associated contract costs to the corresponding number of activities indicated on the log files. The Item 4 (Materials) cost of $0 was based on the assumption that, as at present, the government would provide all materials and that those costs are not included under WLIC operating costs. For Items 10 (Deliver Remaining Materials) and 11 (Pick Up Materials Remaining), it was assumed that a contractor would be able to accommodate the receipt and storage of materials at their own facilities and that any associated costs (which are also not currently included under WLIC operating costs) would not be significantly different than those currently incurred by the government. Items 7 (Diving Services), 8 (Field Engineering), and 9 (Buoys) were also not considered significant.

Table 11 shows the resulting comparisons of government and contract costs for HUDSON, SAGINAW, and MALLET.

TABLE 11. COMPARISON OF GOVERNMENT & CONTRACTED ANNUAL OPERATING COSTS
In 1993 Dollars

WLIC	USCG Construction Cost	Average Visits per Trip (Scenario 3)	Cost Using Columbia River Contract	Cost Using San Francisco Contract
HUDSON	$688,254	5.8	$1,248,991	$1,981,150
SAGINAW	708,875	5.5	1,686,994	2,531,306
MALLET	433,660	4.0	690,033	1,067,807

4.6 Life Cycle Cost Analysis

G-NSR has developed an initial estimate of $7.7 million to acquire a new WLIC of the 160-foot class. The estimate is based on the current acquisition costs of the replacement WLMs and WLBs. Appendix K contains the spreadsheets used to develop life cycle costs for HUDSON, MALLET, and SAGINAW. To be conservative, the lower of each tender's two contract costs -- which in each case corresponded to the Columbia River contract -- was chosen for comparison with government costs. The life cycle was based on the arbitrary premise that each vessel would remain in operation for ten more years and then be replaced with a new 160-foot WLIC that would continue in operation for another 30 years. Table 12 contains a summary of the life cycle costs contained in Appendix K.

TABLE 12. COMPARISON OF GOVERNMENT AND CONTRACTED LIFE CYCLE COSTS

In 1993 Dollars

($K)	MALLET through USCG	MALLET through Contract	HUDSON through USCG	HUDSON through Contract	SAGINAW through USCG	SAGINAW through Contract
O&M Costs (40 years)	17,346	27,601	27,530	49,960	28,355	67,480
Capital(replaced in 2003)	7,700	0	7,700	0	7,700	0
Total 40 Year Cost	25,046	27,601	35,230	49,960	36,055	67,480
Total Discounted (@4%)	14,129	14,204	19,369	25,710	19,794	34,726

The life cycle cost results indicate that private sector contract costs exceed those of Coast Guard construction tenders for all three tenders. However, the MALLET private sector costs exceed government costs by less than 1%. If actual life cycle contract costs are $75,000 less than projected, or MALLET's life-cycle costs are $75,000 more than projected, the MALLET costs would exceed private sector costs.

The relatively poorer cost performance of MALLET in comparison to HUDSON and SAGINAW can be attributed to its relative lower level of utilization. Although MALLET is responsible for more buoys (283) than either HUDSON (36) or SAGINAW (70), DSS underway hours indicated that 77.6% of MALLET's costs were attributable to construction activities, versus 85.9% for HUDSON (whose percentage was also applied to SAGINAW). MALLET's estimated average annual construction operating costs of $433,660 are 63% of HUDSON's $688,254 and 61% of SAGINAW's $708,875. However, MALLET's 80 average annual construction visits are only 43% of HUDSON's 183 visits and 30% of SAGINAW's 266 visits. The differences in operating costs are not consistent with the workload differences. The resulting higher average unit costs for MALLET contribute significantly to making it less competitive with private sector costs.

MALLET's higher unit costs are reflective of the higher operating costs per underway hour of the 75-foot class of WLICs when compared to the 160-foot class. The average annual Abstract of Operations underway hours (see Table 3) shows that, of the 16 construction tenders, the highest reported AOPS underway hours was for a 100-footer (SMILAX), followed in order by the four 160-footers (PAMLICO, HUDSON, KENNEBEC, and SAGINAW), the remaining two 100-footers (PRIMROSE and RAMBLER), and then the nine 75-footers -- of which MALLET was actually the highest. Although the average annual operating costs of the 75-foot class are similarly less than those of the 100-foot or 160-foot classes (see Table 7), the cost per underway hour is actually higher. Adding up Table 3's AOPS hours by class and dividing the sums into Table 7's annual operating costs, the average costs per underway hour are $721, $568, and $481 for the 75-foot, 100-foot, and 160-foot classes, respectively.

The lower utilization figures for the 75-foot class, when combined with the relatively fixed personnel and engineering costs, produce the significantly higher average unit costs. Why the 75-foot class is relatively under-utilized is not a subject of this analysis, and may in fact be coincidental. Regardless, a relatively under-utilized tender compares less favorably with private sector costs than one that is fully utilized. If the under-utilization of the 75-foot class is due to design limitations, the Coast Guard's intention of limiting future WLIC acquisitions to vessels of the 160-foot class would help maintain the government's cost advantage, as shown by the life cycle cost results for HUDSON and SAGINAW.

5 WLIC QUALITATIVE MISSION FACTORS

The projected WLIC fleet size and the private sector cost comparison developed by this analysis consider only an average annual level of fixed aid construction activities performed by the WLIC fleet. Reducing or eliminating the WLIC fleet would affect the availability of WLICs to perform the other activities in which they are currently employed, and could potentially impact the Coast Guard's ability to respond to both peak and average levels of fixed aid construction requirements. Although difficult to quantify, the other WLIC activities need to be considered before making changes to the WLIC fleet.

To account for the additional WLIC activities, this analysis developed a list of relevant factors. Because relevant inputs and net effects are either unavailable or would require a level of effort beyond the scope of this analysis, the factors were developed from a qualitative rather than quantitative perspective. They were derived from a combination of past Volpe Center efforts and discussions with Coast Guard ATON personnel at each of the three districts in which WLICs are located.

Compilation of the qualitative factors was focused on the two key considerations of this analysis -- a reduction in the WLIC fleet size and contracting for fixed aid construction. Some factors, such as surge response (the ability to respond to surges in fixed aid construction requirements) and non-ATON support to other Coast Guard missions, were relevant to both a reduced WLIC fleet and to the contracting of the construction component. Other factors, such as quality assurance and control of discretionary preventive maintenance were relevant only to the contracting area. Table 13 shows the compiled list of WLIC mission factors broken out by the inputs of the three districts and the two areas considered -- reducing the WLIC fleet size and contracting for the construction component. Check marks indicate where potentially adverse effects were identified. For example, a check mark appears in the "Surge Response" row under District 5's "Impacted by Reduced Fleet" column because, based on inputs from the district, it was concluded that D5's ability to respond to a surge response would be adversely affected by a reduced fleet size. Each factor is discussed below.

5.1 Surge Response

Surge response refers to the need to service quickly large numbers of ATON discrepancies caused by weather extremes such as hurricanes, severe icing, severe droughts, and major coastal storms. Underlying this concern is the broader issue of operating philosophy that is beyond the scope of this analysis: how quickly must surge response requirements be met? Discrepancy response factors are computed by the Coast Guard for every discrepant aid, based upon the criticality of the aid and the nature of the discrepancy. Unless a fixed aid discrepancy imposes a hazard to navigation (such as when structure wreckage is blocking a channel), the discrepancy can be temporarily fixed by an Aids to Navigation Team through the deployment of temporary buoys. A WLIC will permanently repair the discrepancy when it can be worked into its schedule.

TABLE 13. WLIC MISSION FACTORS

Mission Factors	District 5		District 7		District 8	
	Affected by Reduced Fleet	Affected by Contracting Out	Affected by Reduced Fleet	Affected by Contracting Out	Affected by Reduced Fleet	Affected by Contracting Out
Surge Response	✓	✓	✓	✓	✓	✓
Buoy Work		✓		✓		✓
ATON Support to Other CG Districts	✓	✓			✓	✓
Discretionary Preventive Maintenance		✓		✓		✓
Quality Assurance		✓		✓		✓
Scheduled and Unscheduled Vessel Maintenance	✓	✓	✓	✓	✓	✓
Coast Guard Infrastructure		✓	✓	✓		✓
Non-ATON Support to Other CG Missions	✓	✓	✓	✓	✓	✓
Non-ATON Marine Construction	✓	✓	✓	✓	✓	✓
Heavy Lift Capability and Cable Repairs	✓	✓				
Coast Guard Visibility and Public Perception	✓	✓	✓	✓	✓	✓

Table 14 shows the average discrepancy response levels of the current 16 WLICs. The report was developed based on the 1990-1993 ATONIS discrepancy file. The discrepancy response level is the product of the ATONIS aid file "Discrepancy Response Factor 1" field and the ATONIS discrepancy file "Discrepancy Code" field. Because not all discrepancies could be linked to the aid file, and because not all that were linked had non-zero values in the relevant fields, not all of the discrepancies were included in computing the average response levels. The table provides an indication of the relative criticality of discrepancy response for the 16 WLIC areas. Due to the number of discrepancies for which response levels could not be computed, combined with the use of ANTs to provide an initial response which may alter the construction tender response requirement, no overall conclusions could be made from the table.

TABLE 14. AVERAGE 1990-1993 WLIC DISCREPANCY RESPONSE LEVELS

Dis-trict	WLIC	Port	Total Discrepancies	Computable Discrepancies	Average Discrepancy Resp. Level
7	VISE	ST PETERSBURG	310	175	138.7
8	PAMLICO	NEW ORLEANS	270	130	151.1
8	ANVIL	CORPUS CHRISTI	178	40	182.8
7	HUDSON	MIAMI	216	117	190.1
8	MALLET	CORPUS CHRISTI	166	62	205.0
7	RAMBLER	CHARLESTON	117	63	205.9
8	HATCHET	GALVESTON	201	89	212.8
8	AXE	MOBILE	251	54	213.3
8	SAGINAW	MOBILE	491	111	220.6
8	WEDGE	NEW ORLEANS	336	139	220.9
5	SLEDGE	BALTIMORE	17	13	240.2
8	CLAMP	GALVESTON	431	133	243.6
7	SMILAX	BRUNSWICK	111	59	281.4
5	KENNEBEC	PORTSMOUTH	63	24	282.5
5	PRIMROSE	ATLANTIC BEACH	324	102	303.4
7	HAMMER	MAYPORT	194	130	313.7

Coast Guard Discrepancy Response Levels

600 and up	IMMEDIATE	
450 - 599	HIGH PRIORITY	(within 18 hours)
275 - 449	PRIORITY	(within 36 hours)
150 - 274	ROUTINE	(within 72 hours)
1 - 149	DECISION/DEFERRED	(as practical)

Surge response requirements are unpredictable, yet contingency planning for execution and coordination has to be in place to mitigate the adverse effects to public safety and national economy. The 1990 Volpe Center contracting study stated:

> "In recent years there have been numerous cases where surge response was critically instrumental for restoring public safety to large sections of the nation that were devastated by hurricanes and flooding. [These] cases point out the national need for a geographically diversified capability in order to ensure the safety and security of the navigable U.S. waters. Clearly in those districts that are subject to extreme weather conditions the ATON resources are essential for surge response."

Effects of Reduced Fleet

A reduced fleet size would cause a decrease in the capacity to respond to unexpected surges in the demand for fixed aid construction. The relative effects would depend on an individual tender's typical work profile -- a tender that is fully employed doing fixed aid construction but which spends proportionately more time on non-discrepancy types of construction (which are more conducive to being deferred to a later date) could more readily

provide surge response. Conversely, a tender that is already primarily employed in discrepancy response would be less able to absorb surge response requirements. Relative servicing priorities would be more apparent in the first case, but in both cases there would be less capacity within the 1,500 hour target limit to provide both regular services and surge response.

Table 15 shows the relative proportions of discrepancy and non-discrepancy responses by tenders and districts. The table was developed from Table 2, which contained the derived 1992 construction log file activities. It provides an indication of the relative levels of discrepancy and non-discrepancy responses for the current construction tender fleet. In the Fifth District, 46% of WLIC activities were for discrepancy response, in the Seventh District this number was 74.2%, and in the Eighth District it was 82.8%.

Depending upon the size of the required surge response, the impacts could be felt by anywhere from a single tender up to the entire construction tender fleet. At those locations where home ports are projected to be eliminated (Portsmouth, VA, and Brunswick, GA), average distances between home ports and discrepancy response locations will increase, resulting in greater average response times for both regular and surge response requirements.

Effects of Contracting

If the required level of surge response mandates that additional resources be shifted from other areas, the ability to relocate contractor vessels and crews may be more difficult and expensive than those incurred in relocating Coast Guard resources.

If the required level does not warrant the shifting of resources, the ability of a contracted fleet to respond to a surge response may still differ significantly from those of the Coast Guard, depending in large part on how the contract is structured. After a major storm, contractors could be faced with competing demands on their resources, whereas Coast Guard resources are dedicated to Coast Guard requirements. A contract could be structured and funded to specify that a contractor must give priority to Coast Guard requirements, but the ability of the Coast Guard to enforce such requirements within the period of time required to meet a surge response would be of concern. One scenario offered was if, during a period when a significant surge response was required another customer offered a contractor a premium price for the contractor's services, the contractor might respond by overworking his resources to the point where his resources became incapable of performing to the desired contractual level, or might break down altogether. Problems experienced by contractors in receiving prompt payments from the government might further influence a contractor towards pursuing non-government opportunities that are financially more lucrative and timely.

TABLE 15. NON-DISCREPANCY VS. DISCREPANCY PROFILE OF 1992 DERIVED LOG FILE

WLIC	Non-Discrepancies (*)	% of Total	Discrepancies (**)	% of Total	Total Activities
KENNEBEC	54	71.1	22	28.9	76
PRIMROSE	45	32.8	92	67.2	137
SLEDGE	43	86.0	7	14.0	50
D5 Total	142	54.0	121	46.0	263
HAMMER	8	13.1	53	86.9	61
HUDSON	29	26.9	79	73.1	108
RAMBLER	15	27.8	39	72.2	54
SMILAX	14	26.9	38	73.1	52
VISE	41	29.3	99	70.7	140
D7 Total	107	25.8	308	74.2	415
ANVIL	15	20.8	57	79.2	72
AXE	6	7.5	74	92.5	80
CLAMP	24	16.4	122	83.6	146
HATCHET	10	13.5	64	86.5	74
MALLET	14	22.6	48	77.4	62
PAMLICO	33	30.6	75	69.4	108
SAGINAW	10	5.7	165	94.3	175
WEDGE	28	29.5	67	70.5	95
D8 Total	140	17.2	672	82.8	812
CG Total	389	26.1	1101	73.9	1490

* Non-Discrepancy Activities:
Daybeacons converted to Lights
Lights converted to Daybeacons
Removals(& structures converted to buoys)
Establishments (& buoys converted to structures)

** Discrepancy Activities:
Passing Light Only on DBNs or LTs
Rebuild/ Wreckage Recovered
Rebuild/ Wreckage Remains
Reset on Station

5.2 Buoy Work

Construction tenders are designed for constructing fixed aids to navigation. However, the required design features are also applicable to working certain buoy sizes and locations. As a result, in the absence of alternative resources and where available WLIC capacity exists, construction tenders have historically been assigned regular buoy maintenance responsibilities.

Effects of Reduced Fleet

Because buoy work is one of the primary components of the ATON mission, any reduction in the construction tender fleet must necessarily be combined with either the assignment of an appropriate level of alternative buoy servicing resources to the affected WLIC operational areas, or with the provision for sufficient remaining construction tender capacity to continue doing the buoy work. Where no fleet reduction is realized, WLICs will continue to work buoys as usual. Although further attention to the management and allocation of ATON resources may be required, any reduction in the construction tender fleet will necessarily include appropriate provisions for doing the buoy work, so no net effect should result.

Effects of Contracting

Contracting the construction work performed by WLICs would eliminate their availability for doing buoy work. Alternative methods would have to be pursued to provide those capabilities.

5.3 ATON Support to Other Districts

WLICs also provide fixed aid construction support to other Coast Guard districts. Most significantly, in recent years construction tenders have been dispatched from D5 to D1 and from D8 to D2 for the purpose of building fixed aids to navigation. The volumes of fixed aid construction work in both D1 and D2 do not support the permanent assignment of construction tenders, but the demands and costs of one-time large-scale conversions of floating aids to fixed aids often warrant the temporary transfer of WLICs to accomplish the task.

Effects of Reduced Fleet

A reduced construction tender fleet would impact the ability to provide ATON construction support to other districts.

Effects of Contracting

Contracts would have to be expanded or additional contracts would have to be awarded to perform ATON construction currently provided by WLICs to other Coast Guard districts. When faced with deciding between contracting to convert buoys to structures or continuing to use buoys, the decision to stay with buoys may be made more often.

5.4 Discretionary Preventive Maintenance

In addition to responding to reported discrepancies, construction tender operations also include the performance of preventive maintenance on structures in order to prevent future

discrepancies. During regular operations, if a WLIC commanding officer (CO) notices appreciable deterioration to a structure that otherwise is performing according to specifications and is not technically discrepant, the CO will make an assessment as to the urgency of the situation and the tender will either stop and rebuild the structure at that time or the CO will make plans to return and rebuild the aid at a later date. Factors included in the assessment would be the probability of aid failure, the availability of materials to perform the repairs, and the probability that the tender would be in the area again in the near future.

Effects of Reduced Fleet

Although data supporting the frequency of preventive maintenance activities was not directly available, the derived construction tender log file developed for this analysis took into account such activities through consideration of reported versus derived piling usage figures. Therefore no effect on the Coast Guard's performance of preventive maintenance should result from a reduced fleet size.

Effects of Contracting

Personal, professional, and legal considerations should prevent the misuse of contractor discretion in determining when or whether to perform preventive maintenance. However, required preventive maintenance could be ignored if a contractor is faced with having to pay overtime to complete the job or with the threat of having their judgement questioned and perhaps not being reimbursed. In the latter case, there might be an advantage to the contractor in foregoing the preventive maintenance and waiting until an actual discrepancy occurred. The government might then have to issue an emergency work order that could be more profitable to the contractor than performing preventive maintenance.

5.5 Quality Assurance

A factor related to having the discretion to perform preventive maintenance is quality assurance. Marking the "best water" in a waterway requires knowledge of local conditions and attention to detail. Ensuring proper placement of aids and adherence to sound construction practices is presently accomplished through the experience and commitment of the construction tender crews. Limits on crew endurance and time and cost constraints exist, but there is no financial motivation to cut corners.

Effects of Reduced Fleet

A reduced construction tender fleet would result in larger areas of operation for the remaining tenders. As the areas increase, the ability of COs and their crews to be expert on the features of their assigned waterways may diminish. However, because the smaller fleet will be more focused on the construction element and will only have to be familiar with fixed aid locations, the effects should offset each other, resulting in no net effect on quality assurance.

Effects of Contracting

Contracting the construction of fixed aids creates the opportunity for greater continuity of personnel than is possible under Coast Guard operations, due to the turnover aspect of

military tours of duty. Conversely, contracts are subject to change whenever they are re-competed, and the changeover could constitute 100% of the required personnel. Under a three-year military rotation policy, only one-third of a Coast Guard crew changes every year. Contracting therefore does not appear to imply a consistent effect on quality assurance through the ability to provide continuity of personnel.

Financial considerations, however, could affect quality assurance if a contractor could keep his costs down and still perform within the requirements of their contract. If contractors know they will only be reimbursed according to the terms of their contracts, they might be reluctant to go beyond those terms if they might not be reimbursed. One scenario offered was a situation where an existing contractor did not win a follow-on contract but whose current contract had not yet expired. In a situation where applying resources to a task might prove fruitless or not produce visible results, such as finding and removing the wreckage of a destroyed structure, the motivation to downplay quality assurance could result.

Due to government liability considerations, contracting the construction of aids to navigation would necessitate the provision of adequate government quality assurance resources. Depending on factors beyond the scope of this analysis, government oversight could range anywhere from complete on-sight supervision and verification down to only random and periodic audits and inspections of completed work. Either way, the resulting costs to the government could be considerable.

5.6 Coast Guard Infrastructure

The personnel and vessels associated with the construction of fixed aids to navigation represent a substantial investment on the part of the Coast Guard. The Coast Guard has been constructing fixed aids for 50 years[6]. Experience and proven ability aside, the current institutional structure supporting the construction component provides a pipeline of expertise and supporting resources that help ensure the continued success of the program.

Effects of Reduced Fleet

Due to the rotational aspect of Coast Guard military tours of duty, as the size of a program area decreases, the ability to develop the personnel skills and experience required to continue performing the mission becomes impaired. The Coast Guard is studying this issue in relation to all of its mission areas[7].

Effects of Contracting

A contracted fleet of construction tenders would eliminate the existing pipeline. As a result, the mechanisms currently in place for developing the skills and experience necessary to provide contract quality assurance would be gone. Today, there would be an ample supply of

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[6] The oldest construction tenders, the 100-foot class, were commissioned in 1944.

[7] G-PD5, Workforce Planning Division (1994)

qualified personnel available from among the current and past construction tender personnel that are still in the Coast Guard. However, as the personnel produced by the existing pipeline retire, the ability to develop and apply qualified personnel to the task would become more difficult.

5.7 Scheduled and Unscheduled Vessel Maintenance

Unscheduled vessel maintenance is similar to surge response -- the effect is a significant increase in the demand on available resources. Depending upon the amount of downtime involved, the effects of scheduled maintenance can be as significant as unscheduled maintenance, although the ability to plan and prepare for scheduled maintenance generally results in a lower overall impact.

Effects of Reduced Fleet

A reduction in the construction tender fleet size would cause a decrease in the number of coverage options when a tender goes in for maintenance. Limiting the geographic area from which shipyard repair bids are accepted could be a partial solution.

Effects of Contracting

A contracted fleet of construction tenders would present at least the same maintenance problems as those encountered by the Coast Guard's own fleet. With Coast Guard vessels, if the funding for repairs is not available in a tender's maintenance budget, the funding can be transferred eventually from other areas. From a timing perspective, it may be easier for a contractor to procure the repair of their vessels than it is for the Coast Guard, but whether the contractor has the necessary funds could become an issue.

In addition, as with surge response requirements, the ability to relocate contracted vessels and crews in response to vessel maintenance requirements may be more difficult and expensive than those incurred in relocating Coast Guard resources.

5.8 Non-ATON Support to Other CG Missions

WLICs have also been used in support of other Coast Guard missions. In support of marine environmental response activities, WLICs are among the smallest vessels capable of deploying vessel oil skimming systems (VOSS). WLICs have supported the Enforcement of Laws and Treaties (ELT) mission through their ability to provide "hotel services" during ELT operations. Recently, in D8, WLICs have been used in the enforcement of the use of Turtle Exclusion Devices (TED) by commercial fishermen.

Effects of Reduced Fleet

Although historically the amount of support WLICs have provided to other Coast Guard missions has been low in terms of their total underway time (90% of which has been in support of ATON), the impact of a reduced WLIC fleet would depend on the nature and urgency of the required activities and the availability and cost of other resources that might be substituted in their place. If the relative importance of a non-ATON requirement is judged to be greater than

assigned WLIC activities, construction tenders could be diverted from the ATON mission. The resulting impacts would then have to be absorbed by the ATON mission.

Effects of Contracting

Alternative methods would have to be pursued for accomplishing the support currently provided by WLICs to other Coast Guard missions.

5.9 Non-ATON Marine Construction

The marine construction capabilities of Coast Guard construction tenders are sometimes used to build docks and repair bulkheads at Coast Guard facilities and other government agencies, including the National Oceanic and Atmospheric Administration, the Army Corps of Engineers, the Environmental Protection Agency, and the Department of Interior.

Effects of Reduced Fleet

A reduced construction tender fleet would reduce the availability of WLICs for performing non-ATON marine construction.

Effects of Contracting

Alternative methods would have to be acquired to accomplish the non-ATON marine construction services currently performed by WLICs.

5.10 Heavy Lift Capability and Cable Repairs

The Fifth District indicated that the lift capability of WLICs is sometimes used for hoisting large battery packs up onto aid structures and for pulling up and repairing underwater cables. Generally, replacing battery packs is a component of regular aid servicing performed by other units, and not by WLICs. However, the responsible units are most often Aids to Navigation Teams, and they lack the resources necessary to perform the required lifting.

Effects of Reduced Fleet

A reduced construction tender fleet in the Fifth District would reduce the availability of WLICs for performing the heavy lift and cable repair services.

Effects of Contracting

Alternative methods would have to be pursued to accomplish these functions in the Fifth District.

5.11 Coast Guard Visibility and Public Perception

Public perception of the Coast Guard is an intangible asset that is of immense value in procuring the resources necessary to provide required levels of service and for the recruitment and retention of qualified personnel. Construction tenders are highly visible Coast Guard assets. Their appearance in a waterway can provide a mariner with the confidence of knowing that their

interests are being served, and that if there are any problems, they know who to contact to have the situation corrected. Coast Guard personnel encountered in the course of this analysis were universally found to be dedicated and devoted to their work, and concerned about preventing any decrease in service to the mariner.

Effects of Reduced Fleet

Any reduction in the construction tender fleet would primarily be accomplished through off-loading their buoy work onto the 49-foot replacement stern-loading buoy boats currently being acquired by the Coast Guard. Visually, the buoy boats are significantly less imposing than a construction tender, but more than a one-for-one replacement of buoy boats to construction tenders would be required to accomplish the buoy responsibilities. Because the ATON work being performed by the current fleet of construction tenders would still be performed by Coast Guard resources after a fleet reduction, no net effect on Coast Guard visibility from the ATON perspective should occur. However, to the extent that the other functions provided by construction tenders are no longer performed by Coast Guard assets, the Coast Guard's visibility would decrease.

Effects of Contracting

Elimination of the construction tender fleet would significantly reduce the Coast Guard's public visibility in the affected geographic areas. Public perception of Coast Guard performance, however, will remain tied to the performance of the aids to navigation system. If the system fails, the Coast Guard will ultimately remain both accountable and liable.

6 CONCLUSION

This analysis concludes that a fleet of 11 construction tenders would provide the Coast Guard with sufficient resources to meet current levels of fixed aid construction requirements, representing a reduction of five tenders from the current fleet of 16. Considering only annual construction workloads, 10 tenders would be sufficient. However, this would entail only four WLICs in the Eighth District which, in light of additional qualitative factors, was judged to be inappropriate. This analysis concludes that five construction tenders are required in D8.

Reducing the WLIC fleet by five would be achieved primarily through the transfer of approximately 1,400 of the 1,600 buoys worked by WLICs to seven replacement stern-loading buoy boats. In addition, other WLIC mission areas, including providing ATON support to other districts, non-ATON support to other Coast Guard missions, and the construction of docks and bulkheads for both the Coast Guard and other government agencies, would have to be curtailed.

A construction tender fleet dedicated to construction work would retain the ability to meet critical discrepancy response requirements, such as removing and rebuilding damaged structures posing hazards to navigation, and would preserve the Coast Guard career pipeline necessary to develop and maintain construction tender expertise and quality assurance.

Construction tenders fully employed doing construction work result in economies of scale due to the relatively fixed personnel and engineering costs associated with vessel operations. These economies of scale result in no apparent monetary advantage to be gained from contracting the work of construction tenders.

Following are summaries of the findings of this analysis.

6.1 District 5

DSS outputs for the Fifth District indicate that two WLICs -- one home ported at Baltimore and the other at Atlantic Beach, NC -- are capable of performing the construction work of the three current construction tenders. This finding was counter to what was expected based on reported Abstract of Operations underway hours for SLEDGE (Baltimore, MD), KENNEBEC (Portsmouth, VA), and PRIMROSE (Atlantic Beach, NC). Except for SLEDGE, the district's construction tenders are assigned little or no buoy work, so their AOPS hours should be almost entirely attributable to construction activities. The derived log file did not support that conclusion.

Discussions with the Fifth District revealed that the difference between the AOPS and DSS underway hours was primarily attributable to the number of structure upgrades performed in D5. In developing the derived log file, if an aid had been an "LT" (light structure) in the 1990 ATONIS aid file, and was still an "LT" in the 1993 version, then an upgrade during that time from a single-pile structure to a multi-pile structure would not have been captured. That the derived pilings total was only 64% of the district's reported total supports the conclusion that

the difference is attributable to structure upgrades.

If significant levels of additional structure upgrades are planned in the Fifth District, two construction tenders may not be adequate for the district's requirements. However, the ability to justify the need for a third construction tender based on structure upgrade requirements is not apparent. Upgrades can be planned out in advance and could be amenable to being performed under commercial contracts. The derived log file activities for the Fifth District already include the largest percentage (54%) and frequency (142 activities) of non-discrepancy work (establishments, conversions, and removals) of the three WLIC districts.

The Fifth District is subject to both hurricanes and severe winter icing that can cause significant damage to fixed aids. The possibility of such events occurring and the potential significance of the effects cannot be overlooked. However, it is not apparent that two construction tenders -- combined with additional resources from both within and outside the district -- could not satisfactorily respond to such events.

One replacement buoy boat is projected for D5 to offset the one-tender reduction in its WLIC fleet. Due to the large number of buoys (132) assigned to SLEDGE that can be worked by a buoy boat, the new buoy boat should be located in Baltimore. The geographic areas of coverage for the two projected D5 construction tenders are shown in Figure 4.

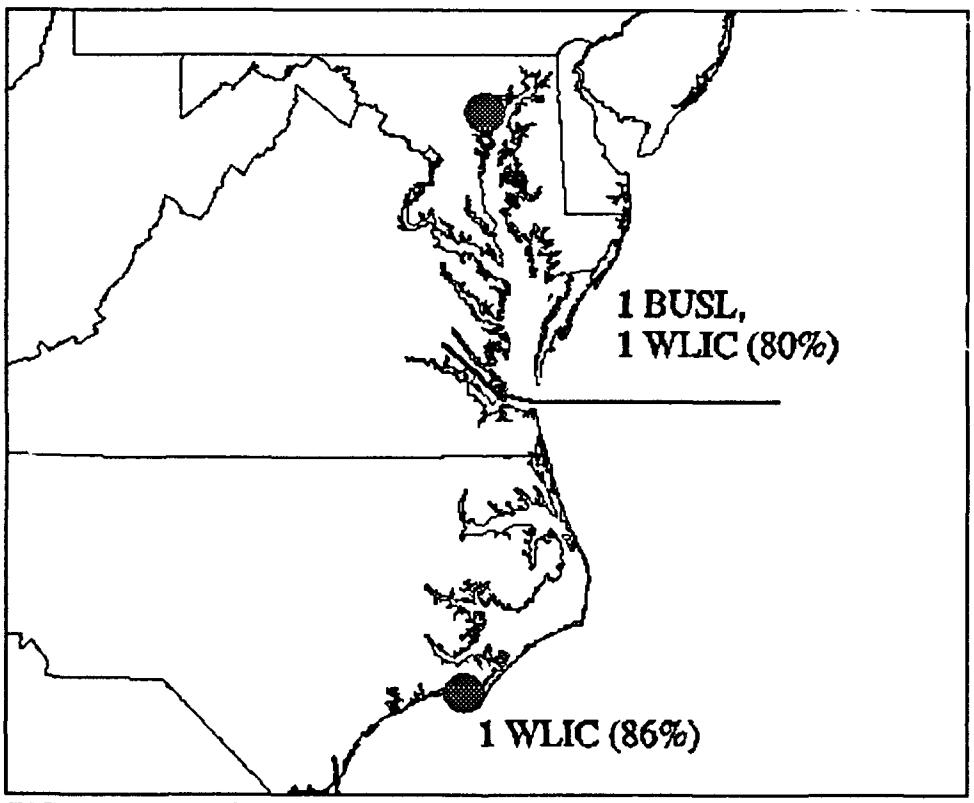

FIGURE 4. PROJECTED DISTRICT 5 WLICS (2)

6.2 District 7

DSS results for the Seventh District indicate that, due to the extensive operating areas of HUDSON (Miami, FL) and VISE (St. Petersburg, FL), no fleet reductions can be made at those locations.

However, DSS results for RAMBLER (Charleston, SC) and Group Mayport's SMILAX (Brunswick, GA) and HAMMER (Mayport, FL) indicate that two tenders could perform the construction work currently performed by those three tenders. The lowest utilization totals were reported when the two projected tenders are home ported in Charleston (48%) and Mayport (62%). Although both tenders would be relatively under utilized for construction work, DSS results showed that one tender working from the central Brunswick port would be 145% utilized.

Individually, among the 16 current construction tenders, the DSS reported the lowest (302) and third lowest (459) amounts of underway hours for the derived construction activities of SMILAX and RAMBLER, respectively. Conversely, SMILAX and RAMBLER show the highest (47) and third highest (16) totals of assigned buoys that cannot be worked by replacement buoy boats. It is projected that the two tenders replacing RAMBLER, SMILAX, and HAMMER will still have sufficient capacity to retain assignment of those buoys.

Despite the relatively low utilization amounts for the projected Charleston and Mayport tenders, the previous projection of one new buoy boat for Brunswick, which will no longer be home to a WLIC, is unchanged. This is based on the following considerations: the two construction tenders will still be assigned the non-BUSL buoys; currently, SMILAX reports the highest underway hours of the 16 WLICs -- a BUSL assigned to Brunswick will help offset the loss of those hours; and, anticipating assignment of the BUSL, the Coast Guard is preparing to convert a number of heavy-sinker buoys to smaller sinkers capable of being worked by a BUSL.

The buoy boats previously projected for Charleston and Miami, however, are no longer required. The WLICs projected for those locations will have sufficient capacity to meet existing buoy servicing requirements. The geographic areas of coverage for the four projected D7 construction tenders are shown in Figure 5.

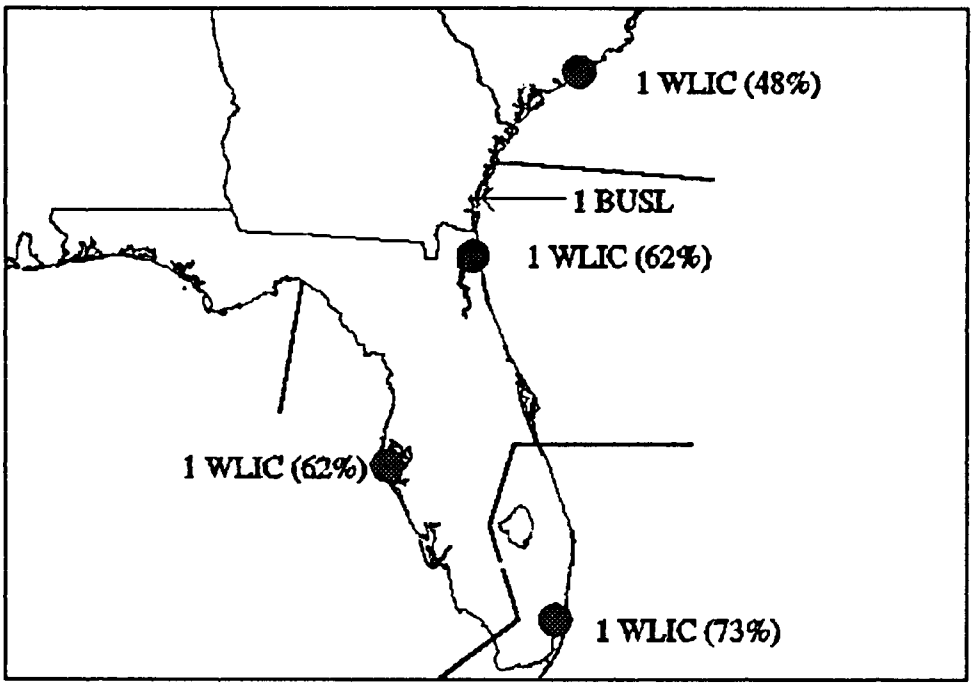

FIGURE 5. PROJECTED DISTRICT 7 WLICS (4)

6.3 District 8

The Eighth District's eight construction tenders are each assigned, on average, over 150 buoys. Off-loading those buoys onto replacement buoy boats significantly reduces demand on those tenders. DSS outputs for D8 indicate that one construction tender assigned to each of the district's four groups -- each of which currently have two WLICs -- would be capable of accomplishing the district's fixed aid construction requirements. Maintaining the current group boundaries, single WLICs at Corpus Christi, Galveston, New Orleans, and Mobile would operate at 74%, 102%, 94%, and 108% of underway hours capacity, respectively. By shifting group boundaries to take advantage of the available capacity at Corpus Christi, the utilization figures for all four groups can be brought to between 95% and 99%.

Additional considerations, including the WLIC qualitative factors identified in this analysis, indicate that reducing the D8 construction tender fleet to four is not advisable. Specifically, the following factors were considered:

- The derived log file represents an average year. Deploying four construction tenders at nearly 100% of their capacity allows little or no capacity for above-average annual workloads.

- Based on the derived log file, 83% of the construction activities performed by D8 WLICs are in response to discrepancies. This was the highest percentage of the three

districts (D7: 74%, D5: 46%). Areas where WLICs spend proportionately more time on discrepancy response requirements, as in D8, are more adversely affected by surge response and maintenance requirements. Compared to non-discrepancies, discrepancy response cannot be as easily deferred, and therefore cannot be as easily scheduled or rescheduled around maintenance and surge response requirements.

- The D8 ports of New Orleans, Port Arthur (TX), Houston/Galveston, Mobile, and Corpus Christi were five of the top six ports in the country identified for establishment or improvement of Vessel Traffic Systems[8], offering an indication of the relative significance and state of the district's ports.

Accordingly, this analysis concludes that five construction tenders are required in the Eighth District. The choice of location for the fifth tender requires further inputs from the district. Geographically, New Orleans and Galveston are the middle two ports in the district and either one of them, or some point in between, could be an appropriate location. The area of Morgan City, LA, due to its central location within the district and therefore its relative proximity to each of the other four WLIC ports, might be an advantageous location for the fifth tender, subject to local considerations and district concerns.

Previously, six new buoy boats had been projected for D8. Based on the five projected tenders, the need for five of the six buoy boats still exists. The buoy boat projected for Galveston is now unnecessary due to the availability of a sufficient level of WLIC capacity from Galveston to perform the required buoy work[9]. The geographic areas of coverage for the five projected D8 construction tenders, with the fifth tender home ported in Morgan City, are shown in Figure 6.

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[8] U.S. Department of Transportation, U.S. Coast Guard, *Ports Needs Study (Vessel Traffic Services Benefits)*, DOT-1-CG-N-01-91-1.2, August, 1991.

[9] The 1993 Volpe Center BUSL study projected 402 WLIC hours for the Galveston WLIC buoys.

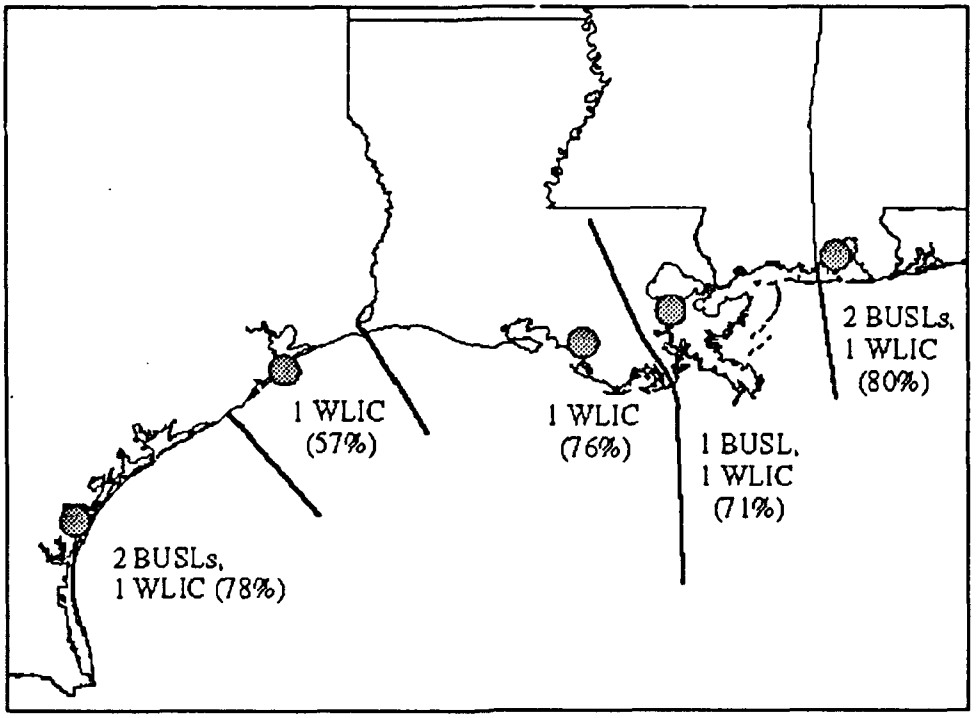

FIGURE 6. PROJECTED DISTRICT 8 WLICS (5)

6.4 Impact on Projected Replacement BUSL Requirements

The Volpe Center's August, 1993 analysis of Coast Guard BUSL requirements projected the need for 10 replacement BUSLs to perform the buoy work currently done by WLICs. However, the analysis also concluded that its findings were subject "to the follow-on WLIC mission analysis and fleet-sizing study. Both factors may contribute to a lowering of the projected number of replacement BUSLs." The BUSL analysis assumed a WLIC fleet with no available capacity for performing buoy work. Based on the results of this study, reducing the WLIC fleet size would still leave some capacity for some WLICs to perform buoy work. Having re-examined the requirements for replacement BUSLs, the BUSLs projected for Charleston, Miami, and Galveston are no longer required, resulting in a revised projection of 7 BUSLs for WLIC buoy work. Table 16 shows the revisions along with the number of buoys assigned to each WLIC that can be worked by BUSLs.

TABLE 16. REVISED REPLACEMENT BUSL PROJECTIONS FOR WLICs

District	State	WLIC/City	Buoys BUSLs Can Work	Buoys BUSLs Can't Work	Previous BUSL Projection	Revised BUSL Projection
5	MD	SLEDGE/Baltimore	132	15	1	1
5	VA	KENNEBEC/Portsmouth	0	0	0	0
5	NC	PRIMROSE/Atlantic Beach	10	5	0	0
		District 5 Totals	142	20	1	1
7	SC	RAMBLER/Charleston	35	16	1	0
7	GA	SMILAX/Brunswick	23	47	1	1
7	FL	HAMMER/Mayport	8	0	0	0
7	FL	HUDSON/Miami	27	9	1	0
7	FL	VISE/St Petersburg	3	2	0	0
		District 7 Totals	96	74	3	1
8	AL	AXE/Mobile	317	4	2	2
8	AL	SAGINAW/Mobile	56	14		
8	LA	WEDGE/New Orleans	14	3	1	1
8	LA	PAMLICO/New Orleans	88	1		
8	TX	CLAMP/Galveston	119	24	1	0
8	TX	HATCHET/Galveston	129	4		
8	TX	ANVIL/Corpus Christi	216	1	2	2
8	TX	MALLET/Corpus Christi	283	0		
		District 8 Totals	1222	51	6	5
		Fleet Totals	1460	145	10	7

6.5 Comparison of WLIC and Private Sector Costs

The comparison of government and private sector costs contained in this analysis is intended to provide an indication of the relative costs. The results should not be interpreted as a complete study of all relevant factors -- such an analysis is not warranted at this time. Instead, the objective was to provide a basis for the formulation of future acquisition plans for replacing WLICs. If a complete analysis were warranted, representative private sector costs from the relevant geographic areas would need to be collected. In addition, a more precise delineation between construction versus non-construction WLIC costs would be warranted.

The results of the economic analysis indicate that private sector contract costs exceed those of Coast Guard construction tenders that are fully employed on construction activities. Of the total average annual WLIC operating cost of $771,820, 56% is consumed on personnel, 27% on engineering, and only 17% on operations and maintenance. The relatively fixed personnel and engineering costs result in lower average unit costs as a tender's workload increases.

Accordingly, when capital replacement costs are included, an under utilized Coast Guard construction tender compares significantly less favorably against private sector costs than a fully utilized tender. This finding is consistent with the Coast Guard's use of contracted resources in districts where the level of construction activity does not warrant the assignment of WLICs.

6.6 Qualitative Mission Factors

A reduction in the Coast Guard's construction tender fleet will reduce the availability of WLICs for performing activities beyond their ATON construction mission. The effects would be most noticeable in the following areas: meeting surge response requirements; providing ATON support to other Coast Guard districts; covering for other tenders undergoing scheduled and unscheduled maintenance; providing non-ATON mission support to other Coast Guard missions; and providing non-ATON marine construction support to other Coast Guard and government organizations. To the extent that these activities are no longer performed by Coast Guard assets, the Coast Guard's visibility and associated public perception may be affected.

If private sector fixed aid construction costs were to compare favorably with Coast Guard construction tender costs, the following considerations should be included in the decision of whether to pursue the contracting option.

- The ability to shift contracted resources in response to both surge response and maintenance requirements may be more difficult with a contracted fleet than it is with Coast Guard assets.

- The Coast Guard districts to which WLICs are periodically loaned for the purpose of building fixed aids would have to pursue alternative means of building those aids.

- Alternatives would have to be found for performing the WLICs' buoy work, for building docks and bulkheads for other Coast Guard and government organizations, and for the support to other Coast Guard missions currently delivered by WLICs.

- If all fixed aid construction was contracted, the existing construction tender career pipeline, which produces Coast Guard personnel trained in both the aids to navigation mission and marine construction, would no longer exist. This would impact the ability to develop qualified personnel capable of assuring the quality performance of contracted fixed aid construction operations.

- Contractual specifications may inhibit the performance of discretionary preventive maintenance. In some cases, there might be a financial advantage to a contractor in foregoing preventive maintenance and waiting until an actual discrepancy occurs.

- Government reimbursement mechanisms may work counter to the requirements of an effective aids to navigation system. The receipt of prompt payments might be crucial to the ability of some contractors to maintain unbroken levels of service. Any problems experienced in receiving prompt payments might influence a contractor towards pursuing non-government opportunities that are financially more lucrative and timely during periods of high Coast Guard demand.

7 RECOMMENDATION

Construction tenders are essential to the successful performance of the aids to navigation systems in the areas in which they operate. WLICs provide the ability to quickly respond to and repair damaged structures which pose hazards to navigation. In addition, the ability to exercise judgment without regard for profits cannot be overlooked in assessing the value of WLICs.

This analysis recommends that, as the new BUSLs are brought into service and the oldest WLICs are retired, the Coast Guard begin a realignment of construction tender operating areas down to a configuration requiring 11 WLICs. From that point, the Coast Guard should pursue the acquisition of new WLICs to replace tenders retired thereafter.

The projected fleet size is based upon a derived log file that represents current activities. The fact that the log file was derived infers an obvious recommendation of this analysis: the work performed by Coast Guard ATON resources needs to be more accurately captured. The derived log file was judged to be an accurate depiction of construction tender activities. However, differences between the derived log file and reported Abstract of Operations utilization figures were apparent, as were differences between the derived log file and the three sets of actual compiled ship log data.

The Coast Guard is in the process of developing a new Aids to Navigation Information System which should cut down significantly on the data inconsistencies evident in the current version. However, at this time, no plans are in place for capturing the data appropriate to this analysis. At a minimum, this analysis recommends uniformly capturing the following data on all construction tender activities judged by the Coast Guard to be consistent with the mission of construction tenders:

- Date of activity;
- Description of activity;
- Aid number;
- Performing unit;
- Time spent on station; and
- Pilings utilized (if any).

For modeling purposes, assigning each activity to a corresponding tender trip number would be useful. The trip number could be a simple counter of each time the tender got underway from its home port.

Maintaining accurate, complete, and uniform data on construction activities, and on all other ATON servicing activities, would provide the Coast Guard with benefits beyond the requirements of this analysis. The ability to identify patterns and trends in aid servicing requirements by aid number, type, waterway, environment, and servicing unit would aid in the allocation of current resources, and would provide a basis for developing the justification for additional required resources.

Furthermore, as federal agencies are faced with greater demands on limited resources, measuring and ensuring *effectiveness* becomes increasingly important. Measuring effectiveness is often not a simple task, but it is unduly complicated by the absence of a clear definition of goals and objectives and associated performance and cost data. The effectiveness of an aids to navigation system requires a determination of benefits and costs, and costs need to be allocated to cost elements. Based on the data available to this analysis, such an allocation would be difficult for construction tender activities.

Capturing and compiling data related to performance and effectiveness will also provide a more accurate basis from which to consider contracting options. This analysis recommends that contracting options be investigated for only those situations where required construction levels are not sufficient to keep a construction tender fully employed on construction activities. This includes both areas where no WLICs are warranted and those where WLICs are warranted but more than a whole number of tenders is called for. In the latter case, contracting the non-discrepancy work that can be planned in advance would offer cost advantages over partially utilizing Coast Guard assets for those purposes. On the basis of average unit costs, private sector costs compare favorably with those of under utilized tenders.

APPENDIX A

WLIC OPERATIONS QUESTIONNAIRE

WLIC OPERATIONS QUESTIONNAIRE

Unit Name:_____ Phone:_____

1. What is your vessel's average transit speed?* _____ Kt
*Average transit speed should be lower than cruising speed, since it includes slowing while approaching an aid staion, mooring maneuvers, current affects, and no wake zones. Maneuvering to find the aid position, and dragging for wreckage should be counted as a part of servicing time.

2. Does your unit routinely work aids at night? YES / NO

3. Do you routinely transit between work areas at night? YES / NO

4. If the answer to 3 is no, are nights away from home port generally reported in the Abstracts as: UW / STANDBY

5. Many aids are repaired when a problem becomes apparent, but before there is a reported discrepancy. What percentage of your construction is for reported discrepancies? _____%

6. Please enter the average times it takes for your unit to complete the following services. Include time to sweep for old structures if appropriate. This average should consider varying water depths, aid characteristics and requirements, bottom types, and other conditions throughout your AOR.

Aid Type	New Construct	Recover & Rebuild	Remove & Replace	Minor Repairs
Wood Daybeacon	_____	_____	_____	_____
Steel Daybeacon	_____	_____	_____	_____
Wood Single Pile Lt	_____	_____	_____	_____
Steel Single Pile Lt	_____	_____	_____	_____
Wood 3 Pile Light	_____	_____	_____	_____
Steel 3 Pile Light	_____	_____	_____	_____
Wood 4 Pile Light	_____	_____	_____	_____
Steel 4 Pile Light	_____	_____	_____	_____
4 Pile Range Wood	_____	_____	_____	_____
4 Pile Range Steel	_____	_____	_____	_____

Aid Type	New Construct	Recover & Rebuild	Remove & Replace	Minor Repairs
8 Pile Range Wood				
8 Pile Range Steel				
12 Pile Range Wood				
12 Pile Range Steel				

7. Can all the aids you build be classified reasonably well in the above categories? YES / NO

8. If no, what categories are missing? _____

_____ _____ _____

9. Estimate the average time for scheduled services to aids for which you are assigned as primary unit. Leave blank if no aids of that type are assigned, or if these services are normally performed by small boat and do not affect ioperating hours. The following appreviations are used:

I = Annual Inspection
B = Dayboard Change (includes Annual Inspection)
C = Recharge (includes Annual Inspection)
M = Mooring Service (includes Annual Inspection)
P = Position Check
R = Buoy Relief

Aid Type	I	B	C	M	P	R
ULB		N/A	N/A			
LB		N/A				
DBN			N/A	N/A	N/A	N/A
LT				N/A	N/A	N/A
SM Range				N/A	N/A	N/A
LG Range				N/A	N/A	N/A

10. Are there significant operations which are recorded as ATON employment which are not identified above? (Specify)

_____

_____

_____

11. Given that the personnel and boats are available, can portions of your mission be performed by other standard CG ATON resources? What portions of your mission cannot be performed by any other resource? (specify)

_____

_____

_____

_____

12. Estimate the total number of piles you can carry for construction. Assume that you are not carrying buoy tending materials.

Wood:_____ Steel:_____

13. Are there any other factors which limit the number of aids you can build before returning to home port:

_____

_____

APPENDIX B

WLIC SERVICE TIMES

	District	Vessel Name	Code	Service Time in Hours	Description*
1	5	Fleet Average	11	00.61	1WDBNNew Con
2	5	Fleet Average	12	01.28	1WDBNRec/Reb
3	5	Fleet Average	13	01.25	1WDBNRem/Repl
4	5	Fleet Average	13-R	00.25	1WDBNRemove
5	5	Fleet Average	14	00.29	1WDBNMin Reps
6	5	Fleet Average	21	01.00	1SDBNNew Con
7	5	Fleet Average	22	02.00	1SDBNRec/Reb
8	5	Fleet Average	23	02.83	1SDBNRem/Repl
9	5	Fleet Average	23-R	01.33	1SDBNRemove
10	5	Fleet Average	24	00.40	1SDBNMin Reps
11	5	Fleet Average	31	01.33	1WLTNew Con
12	5	Fleet Average	32	01.50	1WLTRec/Reb
13	5	Fleet Average	33	02.08	1WLTRem/Repl
14	5	Fleet Average	33-R	00.58	1WLTRemove
15	5	Fleet Average	34	00.58	1WLTMin Reps
16	5	Fleet Average	41	02.00	1SLTNew Con
17	5	Fleet Average	42	02.75	1SLTRec/Reb
18	5	Fleet Average	43	03.50	1SLTRem/Repl
19	5	Fleet Average	43-R	01.67	1SLTRemove
20	5	Fleet Average	44	00.67	1SLTMin Reps
21	5	Fleet Average	51	03.67	3WLTNew Con
22	5	Fleet Average	52	05.33	3WLTRec/Reb
23	5	Fleet Average	53	05.67	3WLTRem/Repl
24	5	Fleet Average	53-R	02.00	3WLTRemove
25	5	Fleet Average	54	00.75	3WLTMin Reps
26	5	Fleet Average	61	04.00	3SLTNew Con
27	5	Fleet Average	62	05.00	3SLTRec/Reb
28	5	Fleet Average	63	05.00	3SLTRem/Repl
29	5	Fleet Average	64	00.88	3SLTMin Reps
30	5	Fleet Average	71	04.50	4WLTNew Con
31	5	Fleet Average	72	05.50	4WLTRec/Reb
32	5	Fleet Average	73	06.00	4WLTRem/Repl
33	5	Fleet Average	73-R	02.00	4WLTRemove
34	5	Fleet Average	74	00.88	4WLTMin Reps
35	5	Fleet Average	81	07.00	4SLTNew Con
36	5	Fleet Average	82	10.50	4SLTRec/Reb
37	5	Fleet Average	83	10.00	4SLTRem/Repl
38	5	Fleet Average	84	01.50	4SLTMin Reps
39	5	Fleet Average	91	28.33	4WLTNew Con
40	5	Fleet Average	92	34.00	4WLTRec/Reb
41	5	Fleet Average	93	41.67	4WLTRem/Repl
42	5	Fleet Average	93-R	24.00	4WLTRemove
43	5	Fleet Average	94	01.67	4WLTMin Reps
44	5	Fleet Average	F5	00.75	Inspect
45	5	Fleet Average	F8	01.02	Mooring
46	5	Fleet Average	F9	00.40	Pos Check
47	5	Fleet Average	FA	00.65	Relief
48	5	Fleet Average	G5	00.75	Inspect
49	5	Fleet Average	G7	01.35	Recharge

	District	Vessel Name	Code	Service Time in Hours	Description*
50	5	Fleet Average	G8	00.97	Mooring
51	5	Fleet Average	G9	00.40	Pos Check
52	5	Fleet Average	GA	00.65	Relief
53	5	Fleet Average	L1	00.33	1ADBNNew Con
54	5	Fleet Average	L2	00.75	1ADBNRec/Reb
55	5	Fleet Average	L3	02.38	1ADBNRem/Repl
56	5	Fleet Average	L3-R	00.79	1ADBNRemove
57	5	Fleet Average	L4	00.34	1ADBNMin Reps
58	5	Fleet Average	M1	01.00	1ALTNew Con
59	5	Fleet Average	M2	01.50	1ALTRec/Reb
60	5	Fleet Average	M3	03.38	1ALTRem/Repl
61	5	Fleet Average	M3-R	01.13	1ALTRemove
62	5	Fleet Average	M4	00.38	1ALTMin Reps
63	5	Fleet Average	O1	02.50	2ALTNew Con
64	5	Fleet Average	O2	03.25	2ALTRec/Reb
65	5	Fleet Average	O3	04.44	2ALTRem/Repl
66	5	Fleet Average	O3-R	01.48	2ALTRemove
67	5	Fleet Average	O4	00.56	2ALTMin Reps
68	5	Fleet Average	P3	05.00	2SLTRem/Repl
69	5	Fleet Average	P3-R	01.67	2SLTRemove
70	5	Fleet Average	P4	00.63	2SLTMin Reps
71	5	Fleet Average	Q1	02.50	2WLTNew Con
72	5	Fleet Average	Q2	03.25	2WLTRec/Reb
73	5	Fleet Average	Q3	03.88	2WLTRem/Repl
74	5	Fleet Average	Q3-R	01.29	2WLTRemove
75	5	Fleet Average	Q4	00.50	2WLTMin Reps
76	5	Fleet Average	R1	04.00	3ALTNew Con
77	5	Fleet Average	R2	05.00	3ALTRec/Reb
78	5	Fleet Average	R3	06.00	3ALTRem/Repl
79	5	Fleet Average	R3-R	02.00	3ALTRemove
80	5	Fleet Average	R4	00.75	3ALTMin Reps
81	5	Fleet Average	S1	26.00	4ALTNew Con
82	5	Fleet Average	S2	26.50	4ALTRec/Reb
83	5	Fleet Average	S3	39.00	4ALTRem/Repl
84	5	Fleet Average	S3-R	13.00	4ALTRemove
85	5	Fleet Average	S4	00.88	4ALTMin Reps
86	5	Fleet Average	U4	00.34	0ADBNMin Reps
87	5	Fleet Average	V4	00.38	0ALTMin Reps
88	5	Fleet Average	W4	00.50	0SLTMin Reps
89	5	Fleet Average	Y1	10.00	4SLTNew Con
90	5	Fleet Average	Y2	13.50	4SLTRec/Reb
91	5	Fleet Average	Y3	13.00	4SLTRem/Repl
92	5	Fleet Average	Y4	02.00	4SLTMin Reps
93	5	KENNEBEC	11	01.00	1WDBNNew Con
94	5	KENNEBEC	12	02.00	1WDBNRec/Reb
95	5	KENNEBEC	13	02.00	1WDBNRem/Repl
96	5	KENNEBEC	14	00.50	1WDBNMin Reps
97	5	KENNEBEC	21	01.50	1SDBNNew Con
98	5	KENNEBEC	22	03.00	1SDBNRec/Reb

	District	Vessel Name	Code	Service Time in Hours	Description*
99	5	KENNEBEC	23	03.00	1SDBNRem/Repl
100	5	KENNEBEC	24	00.50	1SDBNMin Reps
101	5	KENNEBEC	31	02.00	1WLTNew Con
102	5	KENNEBEC	32	02.00	1WLTRec/Reb
103	5	KENNEBEC	33	02.50	1WLTRem/Repl
104	5	KENNEBEC	34	01.00	1WLTMin Reps
105	5	KENNEBEC	41	02.50	1SLTNew Con
106	5	KENNEBEC	42	03.50	1SLTRec/Reb
107	5	KENNEBEC	43	03.50	1SLTRem/Repl
108	5	KENNEBEC	44	01.00	1SLTMin Reps
109	5	KENNEBEC	51	05.00	3WLTNew Con
110	5	KENNEBEC	52	08.00	3WLTRec/Reb
111	5	KENNEBEC	53	08.00	3WLTRem/Repl
112	5	KENNEBEC	54	01.00	3WLTMin Reps
113	5	KENNEBEC	81	08.00	4SLTNew Con
114	5	KENNEBEC	82	14.00	4SLTRec/Reb
115	5	KENNEBEC	83	14.00	4SLTRem/Repl
116	5	KENNEBEC	84	02.00	4SLTMin Reps
117	5	KENNEBEC	91	32.00	4WLTNew Con
118	5	KENNEBEC	92	48.00	4WLTRec/Reb
119	5	KENNEBEC	93	48.00	4WLTRem/Repl
120	5	KENNEBEC	94	03.00	4WLTMin Reps
121	5	KENNEBEC	Y1	14.00	4SLTNew Con
122	5	KENNEBEC	Y2	20.00	4SLTRec/Reb
123	5	KENNEBEC	Y3	20.00	4SLTRem/Repl
124	5	KENNEBEC	Y4	03.00	4SLTMin Reps
125	5	PRIMROSE	11	00.33	1WDBNNew Con
126	5	PRIMROSE	12	00.75	1WDBNRec/Reb
127	5	PRIMROSE	13	00.75	1WDBNRem/Repl
128	5	PRIMROSE	13-R	00.25	1WDBNRemove
129	5	PRIMROSE	14	00.17	1WDBNMin Reps
130	5	PRIMROSE	23	04.00	1SDBNRem/Repl
131	5	PRIMROSE	23-R	01.33	1SDBNRemove
132	5	PRIMROSE	24	00.50	1SDBNMin Reps
133	5	PRIMROSE	31	01.00	1WLTNew Con
134	5	PRIMROSE	32	01.50	1WLTRec/Reb
135	5	PRIMROSE	33	01.75	1WLTRem/Repl
136	5	PRIMROSE	33-R	00.58	1WLTRemove
137	5	PRIMROSE	34	00.25	1WLTMin Reps
138	5	PRIMROSE	43	05.00	1SLTRem/Repl
139	5	PRIMROSE	43-R	01.67	1SLTRemove
140	5	PRIMROSE	44	00.50	1SLTMin Reps
141	5	PRIMROSE	51	04.00	3WLTNew Con
142	5	PRIMROSE	52	05.00	3WLTRec/Reb
143	5	PRIMROSE	53	06.00	3WLTRem/Repl
144	5	PRIMROSE	53-R	02.00	3WLTRemove
145	5	PRIMROSE	54	00.75	3WLTMin Reps
146	5	PRIMROSE	64	00.75	3SLTMin Reps
147	5	PRIMROSE	71	04.00	4WLTNew Con

	District	Vessel Name	Code	Service Time in Hours	Description*
148	5	PRIMROSE	72	05.00	4WLTRec/Reb
149	5	PRIMROSE	73	06.00	4WLTRem/Repl
150	5	PRIMROSE	73-R	02.00	4WLTRemove
151	5	PRIMROSE	74	00.75	4WLTMin Reps
152	5	PRIMROSE	91	48.00	4WLTNew Con
153	5	PRIMROSE	92	48.00	4WLTRec/Reb
154	5	PRIMROSE	93	72.00	4WLTRem/Repl
155	5	PRIMROSE	93-R	24.00	4WLTRemove
156	5	PRIMROSE	94	01.00	4WLTMin Reps
157	5	PRIMROSE	F5	01.00	Inspect
158	5	PRIMROSE	F8	01.33	Mooring
159	5	PRIMROSE	F9	00.50	Pos Check
160	5	PRIMROSE	FA	01.00	Relief
161	5	PRIMROSE	G5	01.00	Inspect
162	5	PRIMROSE	G7	02.00	Recharge
163	5	PRIMROSE	G8	01.33	Mooring
164	5	PRIMROSE	G9	00.50	Pos Check
165	5	PRIMROSE	GA	01.00	Relief
166	5	PRIMROSE	L1	00.33	1ADBNNew Con
167	5	PRIMROSE	L2	00.75	1ADBNRec/Reb
168	5	PRIMROSE	L3	02.38	1ADBNRem/Repl
169	5	PRIMROSE	L3-R	00.79	1ADBNRemove
170	5	PRIMROSE	L4	00.34	1ADBNMin Reps
171	5	PRIMROSE	M1	01.00	1ALTNew Con
172	5	PRIMROSE	M2	01.50	1ALTRec/Reb
173	5	PRIMROSE	M3	03.38	1ALTRem/Repl
174	5	PRIMROSE	M3-R	01.13	1ALTRemove
175	5	PRIMROSE	M4	00.38	1ALTMin Reps
176	5	PRIMROSE	O1	02.50	2ALTNew Con
177	5	PRIMROSE	O2	03.25	2ALTRec/Reb
178	5	PRIMROSE	O3	04.44	2ALTRem/Repl
179	5	PRIMROSE	O3-R	01.48	2ALTRemove
180	5	PRIMROSE	O4	00.56	2ALTMin Reps
181	5	PRIMROSE	P3	05.00	2SLTRem/Repl
182	5	PRIMROSE	P3-R	01.67	2SLTRemove
183	5	PRIMROSE	P4	00.63	2SLTMin Reps
184	5	PRIMROSE	Q1	02.50	2WLTNew Con
185	5	PRIMROSE	Q2	03.25	2WLTRec/Reb
186	5	PRIMROSE	Q3	03.88	2WLTRem/Repl
187	5	PRIMROSE	Q3-R	01.29	2WLTRemove
188	5	PRIMROSE	Q4	00.50	2WLTMin Reps
189	5	PRIMROSE	R1	04.00	3ALTNew Con
190	5	PRIMROSE	R2	05.00	3ALTRec/Reb
191	5	PRIMROSE	R3	06.00	3ALTRem/Repl
192	5	PRIMROSE	R3-R	02.00	3ALTRemove
193	5	PRIMROSE	R4	00.75	3ALTMin Reps
194	5	PRIMROSE	S1	26.00	4ALTNew Con
195	5	PRIMROSE	S2	26.50	4ALTRec/Reb
196	5	PRIMROSE	S3	39.00	4ALTRem/Repl

	District	Vessel Name	Code	Service Time in Hours	Description*
197	5	PRIMROSE	S3-R	13.00	4ALTRemove
198	5	PRIMROSE	S4	00.88	4ALTMin Reps
199	5	PRIMROSE	U4	00.34	0ADBNMin Reps
200	5	PRIMROSE	V4	00.38	0ALTMin Reps
201	5	SLEDGE	11	00.50	1WDBNNew Con
202	5	SLEDGE	12	01.10	1WDBNRec/Reb
203	5	SLEDGE	13	01.00	1WDBNRem/Repl
204	5	SLEDGE	14	00.20	1WDBNMin Reps
205	5	SLEDGE	21	00.50	1SDBNNew Con
206	5	SLEDGE	22	01.00	1SDBNRec/Reb
207	5	SLEDGE	23	01.50	1SDBNRem/Repl
208	5	SLEDGE	24	00.20	1SDBNMin Reps
209	5	SLEDGE	31	01.00	1WLTNew Con
210	5	SLEDGE	32	01.00	1WLTRec/Reb
211	5	SLEDGE	33	02.00	1WLTRem/Repl
212	5	SLEDGE	34	00.50	1WLTMin Reps
213	5	SLEDGE	41	01.50	1SLTNew Con
214	5	SLEDGE	42	02.00	1SLTRec/Reb
215	5	SLEDGE	43	02.00	1SLTRem/Repl
216	5	SLEDGE	44	00.50	1SLTMin Reps
217	5	SLEDGE	51	02.00	3WLTNew Con
218	5	SLEDGE	52	03.00	3WLTRec/Reb
219	5	SLEDGE	53	03.00	3WLTRem/Repl
220	5	SLEDGE	54	00.50	3WLTMin Reps
221	5	SLEDGE	61	04.00	3SLTNew Con
222	5	SLEDGE	62	05.00	3SLTRec/Reb
223	5	SLEDGE	63	05.00	3SLTRem/Repl
224	5	SLEDGE	64	01.00	3SLTMin Reps
225	5	SLEDGE	71	05.00	4WLTNew Con
226	5	SLEDGE	72	06.00	4WLTRec/Reb
227	5	SLEDGE	73	06.00	4WLTRem/Repl
228	5	SLEDGE	74	01.00	4WLTMin Reps
229	5	SLEDGE	81	06.00	4SLTNew Con
230	5	SLEDGE	82	07.00	4SLTRec/Reb
231	5	SLEDGE	83	06.00	4SLTRem/Repl
232	5	SLEDGE	84	01.00	4SLTMin Reps
233	5	SLEDGE	91	05.00	4WLTNew Con
234	5	SLEDGE	92	06.00	4WLTRec/Reb
235	5	SLEDGE	93	05.00	4WLTRem/Repl
236	5	SLEDGE	94	01.00	4WLTMin Reps
237	5	SLEDGE	F5	00.50	Inspect
238	5	SLEDGE	F8	00.70	Mooring
239	5	SLEDGE	F9	00.30	Pos Check
240	5	SLEDGE	FA	00.30	Relief
241	5	SLEDGE	G5	00.50	Inspect
242	5	SLEDGE	G7	00.70	Recharge
243	5	SLEDGE	G8	00.60	Mooring
244	5	SLEDGE	G9	00.30	Pos Check
245	5	SLEDGE	GA	00.30	Relief

	District	Vessel Name	Code	Service Time in Hours	Description*
246	5	SLEDGE	W4	00.50	0SLTMin Reps
247	5	SLEDGE	Y1	06.00	4SLTNew Con
248	5	SLEDGE	Y2	07.00	4SLTRec/Reb
249	5	SLEDGE	Y3	06.00	4SLTRem/Repl
250	5	SLEDGE	Y4	01.00	4SLTMin Reps
251	7	Fleet Average	11	00.93	1WDBNNew Con
252	7	Fleet Average	12	01.72	1WDBNRec/Reb
253	7	Fleet Average	13	01.23	1WDBNRem/Repl
254	7	Fleet Average	13-R	00.41	1WDBNRemove
255	7	Fleet Average	14	00.25	1WDBNMin Reps
256	7	Fleet Average	21	00.95	1SDBNNew Con
257	7	Fleet Average	22	01.98	1SDBNRec/Reb
258	7	Fleet Average	23	01.81	1SDBNRem/Repl
259	7	Fleet Average	23-R	00.60	1SDBNRemove
260	7	Fleet Average	24	00.46	1SDBNMin Reps
261	7	Fleet Average	31	01.69	1WLTNew Con
262	7	Fleet Average	32	02.69	1WLTRec/Reb
263	7	Fleet Average	33	02.69	1WLTRem/Repl
264	7	Fleet Average	33-R	00.90	1WLTRemove
265	7	Fleet Average	34	00.60	1WLTMin Reps
266	7	Fleet Average	41	01.50	1SLTNew Con
267	7	Fleet Average	42	03.07	1SLTRec/Reb
268	7	Fleet Average	43	03.07	1SLTRem/Repl
269	7	Fleet Average	43-R	01.02	1SLTRemove
270	7	Fleet Average	44	00.74	1SLTMin Reps
271	7	Fleet Average	51	02.81	3WLTNew Con
272	7	Fleet Average	52	03.80	3WLTRec/Reb
273	7	Fleet Average	53	04.00	3WLTRem/Repl
274	7	Fleet Average	53-R	01.33	3WLTRemove
275	7	Fleet Average	54	00.85	3WLTMin Reps
276	7	Fleet Average	61	06.70	3SLTNew Con
277	7	Fleet Average	63	08.90	3SLTRem/Repl
278	7	Fleet Average	63-R	02.97	3SLTRemove
279	7	Fleet Average	64	01.60	3SLTMin Reps
280	7	Fleet Average	71	14.38	4WLTNew Con
281	7	Fleet Average	72	18.25	4WLTRec/Reb
282	7	Fleet Average	73	18.25	4WLTRem/Repl
283	7	Fleet Average	73-R	06.08	4WLTRemove
284	7	Fleet Average	74	02.53	4WLTMin Reps
285	7	Fleet Average	81	08.00	4SLTNew Con
286	7	Fleet Average	82	12.50	4SLTRec/Reb
287	7	Fleet Average	83	12.00	4SLTRem/Repl
288	7	Fleet Average	83-R	04.00	4SLTRemove
289	7	Fleet Average	84	02.73	4SLTMin Reps
290	7	Fleet Average	91	19.00	4WLTNew Con
291	7	Fleet Average	92	23.88	4WLTRec/Reb
292	7	Fleet Average	93	24.38	4WLTRem/Repl
293	7	Fleet Average	93-R	08.13	4WLTRemove
294	7	Fleet Average	94	02.88	4WLTMin Reps

	District	Vessel Name	Code	Service Time in Hours	Description*
295	7	Fleet Average	A3-R	07.67	4SLTRemove
296	7	Fleet Average	F5	00.87	Inspect
297	7	Fleet Average	F8	01.09	Mooring
298	7	Fleet Average	F9	00.24	Pos Check
299	7	Fleet Average	FA	00.94	Relief
300	7	Fleet Average	G5	01.00	Inspect
301	7	Fleet Average	G7	01.50	Recharge
302	7	Fleet Average	G8	01.30	Mooring
303	7	Fleet Average	G9	00.25	Pos Check
304	7	Fleet Average	GA	01.10	Relief
305	7	Fleet Average	H5	00.17	DBNInspect
306	7	Fleet Average	H6	00.17	DBNDayBrd Ch
307	7	Fleet Average	J5	01.00	LTInspect
308	7	Fleet Average	J6	02.00	LTDayBrd Ch
309	7	Fleet Average	K5	01.00	LTInspect
310	7	Fleet Average	K6	02.50	LTDayBrd Ch
311	7	Fleet Average	L1	00.95	1ADBNNew Con
312	7	Fleet Average	L2	01.86	1ADBNRec/Reb
313	7	Fleet Average	L3	01.49	1ADBNRem/Repl
314	7	Fleet Average	L3-R	00.50	1ADBNRemove
315	7	Fleet Average	L4	00.35	1ADBNMin Reps
316	7	Fleet Average	M1	01.70	1ALTNew Con
317	7	Fleet Average	M2	02.97	1ALTRec/Reb
318	7	Fleet Average	M3	03.02	1ALTRem/Repl
319	7	Fleet Average	M3-R	01.01	1ALTRemove
320	7	Fleet Average	M4	00.69	1ALTMin Reps
321	7	Fleet Average	O1	02.52	2ALTNew Con
322	7	Fleet Average	O2	03.29	2ALTRec/Reb
323	7	Fleet Average	O3	03.90	2ALTRem/Repl
324	7	Fleet Average	O3-R	01.30	2ALTRemove
325	7	Fleet Average	O4	00.94	2ALTMin Reps
326	7	Fleet Average	P1	02.33	2SLTNew Con
327	7	Fleet Average	P2	03.07	2SLTRec/Reb
328	7	Fleet Average	P3	04.02	2SLTRem/Repl
329	7	Fleet Average	P3-R	01.34	2SLTRemove
330	7	Fleet Average	P4	00.94	2SLTMin Reps
331	7	Fleet Average	Q1	02.25	2WLTNew Con
332	7	Fleet Average	Q2	03.25	2WLTRec/Reb
333	7	Fleet Average	Q3	03.34	2WLTRem/Repl
334	7	Fleet Average	Q3-R	01.11	2WLTRemove
335	7	Fleet Average	Q4	00.73	2WLTMin Reps
336	7	Fleet Average	R1	03.59	3ALTNew Con
337	7	Fleet Average	R2	03.80	3ALTRec/Reb
338	7	Fleet Average	R3	04.98	3ALTRem/Repl
339	7	Fleet Average	R3-R	01.66	3ALTRemove
340	7	Fleet Average	R4	01.24	3ALTMin Reps
341	7	Fleet Average	S1	16.85	4ALTNew Con
342	7	Fleet Average	S2	22.01	4ALTRec/Reb
343	7	Fleet Average	S3	22.09	4ALTRem/Repl

	District	Vessel Name	Code	Service Time in Hours	Description*
344	7	Fleet Average	S3-R	07.36	4ALTRemove
345	7	Fleet Average	S4	02.70	4ALTMin Reps
346	7	Fleet Average	T1	72.00	8ALTNew Con
347	7	Fleet Average	T2	96.00	8ALTRec/Reb
348	7	Fleet Average	T3	84.00	8ALTRem/Repl
349	7	Fleet Average	T3-R	28.00	8ALTRemove
350	7	Fleet Average	T4	04.00	8ALTMin Reps
351	7	Fleet Average	U4	00.35	0ADBNMin Reps
352	7	Fleet Average	V4	00.69	0ALTMin Reps
353	7	Fleet Average	W4	00.50	0SLTMin Reps
354	7	Fleet Average	X1	72.00	8WLTNew Con
355	7	Fleet Average	X2	96.00	8WLTRec/Reb
356	7	Fleet Average	X3	84.00	8WLTRem/Repl
357	7	Fleet Average	X3-R	28.00	8WLTRemove
358	7	Fleet Average	X4	04.00	8WLTMin Reps
359	7	Fleet Average	Y2	23.00	4SLTRec/Reb
360	7	Fleet Average	Y3	23.00	4SLTRem/Repl
361	7	Fleet Average	Y4	03.00	4SLTMin Reps
362	7	HAMMER	11	00.60	1WDBNNew Con
363	7	HAMMER	12	00.80	1WDBNRec/Reb
364	7	HAMMER	13	01.25	1WDBNRem/Repl
365	7	HAMMER	13-R	00.42	1WDBNRemove
366	7	HAMMER	14	00.20	1WDBNMin Reps
367	7	HAMMER	21	00.60	1SDBNNew Con
368	7	HAMMER	22	01.25	1SDBNRec/Reb
369	7	HAMMER	23	01.25	1SDBNRem/Repl
370	7	HAMMER	23-R	00.42	1SDBNRemove
371	7	HAMMER	24	00.20	1SDBNMin Reps
372	7	HAMMER	31	01.25	1WLTNew Con
373	7	HAMMER	32	01.25	1WLTRec/Reb
374	7	HAMMER	33	01.75	1WLTRem/Repl
375	7	HAMMER	33-R	00.58	1WLTRemove
376	7	HAMMER	34	00.40	1WLTMin Reps
377	7	HAMMER	41	01.25	1SLTNew Con
378	7	HAMMER	42	02.50	1SLTRec/Reb
379	7	HAMMER	43	02.50	1SLTRem/Repl
380	7	HAMMER	43-R	00.83	1SLTRemove
381	7	HAMMER	44	00.40	1SLTMin Reps
382	7	HAMMER	51	02.75	3WLTNew Con
383	7	HAMMER	52	03.50	3WLTRec/Reb
384	7	HAMMER	53	03.50	3WLTRem/Repl
385	7	HAMMER	53-R	01.17	3WLTRemove
386	7	HAMMER	54	00.40	3WLTMin Reps
387	7	HAMMER	71	03.50	4WLTNew Con
388	7	HAMMER	72	04.50	4WLTRec/Reb
389	7	HAMMER	73	04.50	4WLTRem/Repl
390	7	HAMMER	73-R	01.50	4WLTRemove
391	7	HAMMER	74	00.60	4WLTMin Reps
392	7	HAMMER	82	09.00	4SLTRec/Reb

	District	Vessel Name	Code	Service Time in Hours	Description*
393	7	HAMMER	83	09.00	4SLTRem/Repl
394	7	HAMMER	83-R	03.00	4SLTRemove
395	7	HAMMER	84	01.25	4SLTMin Reps
396	7	HAMMER	91	18.00	4WLTNew Con
397	7	HAMMER	92	23.00	4WLTRec/Reb
398	7	HAMMER	93	23.00	4WLTRem/Repl
399	7	HAMMER	93-R	07.67	4WLTRemove
.00	7	HAMMER	94	01.50	4WLTMin Reps
401	7	HAMMER	A3-R	07.67	4SLTRemove
402	7	HAMMER	F5	00.60	Inspect
403	7	HAMMER	F8	00.75	Mooring
404	7	HAMMER	F9	00.25	Pos Check
405	7	HAMMER	FA	01.25	Relief
406	7	HAMMER	L1	00.60	1ADBNNew Con
407	7	HAMMER	L2	01.03	1ADBNRec/Reb
408	7	HAMMER	L3	01.25	1ADBNRem/Repl
409	7	HAMMER	L3-R	00.42	1ADBNRemove
410	7	HAMMER	L4	00.20	1ADBNMin Reps
411	7	HAMMER	M1	01.25	1ALTNew Con
412	7	HAMMER	M2	01.88	1ALTRec/Reb
413	7	HAMMER	M3	02.13	1ALTRem/Repl
414	7	HAMMER	M3-R	00.71	1ALTRemove
415	7	HAMMER	M4	00.40	1ALTMin Reps
416	7	HAMMER	O1	01.63	2ALTNew Con
417	7	HAMMER	O2	02.44	2ALTRec/Reb
418	7	HAMMER	O3	02.56	2ALTRem/Repl
419	7	HAMMER	O3-R	00.85	2ALTRemove
420	7	HAMMER	O4	00.40	2ALTMin Reps
421	7	HAMMER	P1	01.25	2SLTNew Con
422	7	HAMMER	P2	02.50	2SLTRec/Reb
423	7	HAMMER	P3	02.50	2SLTRem/Repl
424	7	HAMMER	P3-R	00.83	2SLTRemove
425	7	HAMMER	P4	00.40	2SLTMin Reps
426	7	HAMMER	Q1	02.00	2WLTNew Con
427	7	HAMMER	Q2	02.38	2WLTRec/Reb
428	7	HAMMER	Q3	02.63	2WLTRem/Repl
429	7	HAMMER	Q3-R	00.88	2WLTRemove
430	7	HAMMER	Q4	00.40	2WLTMin Reps
431	7	HAMMER	R1	02.75	3ALTNew Con
432	7	HAMMER	R2	03.50	3ALTRec/Reb
433	7	HAMMER	R3	03.50	3ALTRem/Repl
434	7	HAMMER	R3-R	01.17	3ALTRemove
435	7	HAMMER	R4	00.40	3ALTMin Reps
436	7	HAMMER	S1	10.75	4ALTNew Con
437	7	HAMMER	S2	14.88	4ALTRec/Reb
438	7	HAMMER	S3	14.88	4ALTRem/Repl
439	7	HAMMER	S3-R	04.96	4ALTRemove
440	7	HAMMER	S4	01.21	4ALTMin Reps
441	7	HAMMER	U4	00.20	OADBNMin Reps

	District	Vessel Name	Code	Service Time in Hours	Description*
442	7	HAMMER	V4	00.40	OALTMin Reps
443	7	HAMMER	Y2	23.00	4SLTRec/Reb
444	7	HAMMER	Y3	23.00	4SLTRem/Repl
445	7	HAMMER	Y4	01.50	4SLTMin Reps
446	7	HUDSON	11	01.30	1WDBNNew Con
447	7	HUDSON	12	01.30	1WDBNRec/Reb
448	7	HUDSON	13	00.90	1WDBNRem/Repl
449	7	HUDSON	13-R	00.30	1WDBNRemove
450	7	HUDSON	14	00.20	1WDBNMin Reps
451	7	HUDSON	21	01.50	1SDBNNew Con
452	7	HUDSON	22	01.70	1SDBNRec/Reb
453	7	HUDSON	23	03.00	1SDBNRem/Repl
454	7	HUDSON	23-R	01.00	1SDBNRemove
455	7	HUDSON	24	00.60	1SDBNMin Reps
456	7	HUDSON	32	02.20	1WLTRec/Reb
457	7	HUDSON	41	01.75	1SLTNew Con
458	7	HUDSON	42	03.20	1SLTRec/Reb
459	7	HUDSON	43	03.20	1SLTRem/Repl
460	7	HUDSON	43-R	01.07	1SLTRemove
461	7	HUDSON	44	00.80	1SLTMin Reps
462	7	HUDSON	52	03.00	3WLTRec/Reb
463	7	HUDSON	61	06.70	3SLTNew Con
464	7	HUDSON	63	08.90	3SLTRem/Repl
465	7	HUDSON	63-R	02.97	3SLTRemove
466	7	HUDSON	64	02.80	3SLTMin Reps
467	7	HUDSON	84	02.40	4SLTMin Reps
468	7	HUDSON	A1	00.20	Position Check
469	7	HUDSON	A2	00.90	IM (LB)
470	7	HUDSON	A3	00.90	IMC (LB)
471	7	HUDSON	A5	01.30	MR (LB)
472	7	HUDSON	A6	01.30	R (LB)
473	7	HUDSON	B1	00.20	I (ULB)
474	7	HUDSON	B2	00.60	IM (ULB)
475	7	HUDSON	B3	00.60	MR (ULB)
476	7	HUDSON	B4	00.50	R (ULB)
477	7	HUDSON	F1	00.50	DBN
478	7	HUDSON	F2	00.50	LT
479	7	HUDSON	F8	00.60	Mooring
480	7	HUDSON	F9	00.20	Pos Check
481	7	HUDSON	FA	00.50	Relief
482	7	HUDSON	G8	00.90	Mooring
483	7	HUDSON	GA	01.30	Relief
484	7	HUDSON	HU01	00.25	1 1/4 Hours
485	7	HUDSON	HU02	00.50	2 1/4 Hours
486	7	HUDSON	HU03	00.75	3 1/4 Hours
487	7	HUDSON	HU04	01.00	4 1/4 Hours
488	7	HUDSON	HU05	01.25	5 1/4 Hours
489	7	HUDSON	HU06	01.50	6 1/4 Hours
490	7	HUDSON	HU07	01.75	7 1/4 Hours

	Dis-trict	Vessel Name	Code	Service Time in Hours	Description*
491	7	HUDSON	HU08	02.00	8 1/4 Hours
492	7	HUDSON	HU09	02.25	9 1/4 Hours
493	7	HUDSON	HU10	02.50	10 1/4 Hours
494	7	HUDSON	HU11	02.75	11 1/4 Hours
495	7	HUDSON	HU12	03.00	12 1/4 Hours
496	7	HUDSON	HU13	03.25	13 1/4 Hours
497	7	HUDSON	HU14	03.50	14 1/4 Hours
498	7	HUDSON	HU15	03.75	15 1/4 Hours
499	7	HUDSON	HU16	04.00	16 1/4 Hours
500	7	HUDSON	HU17	04.25	17 1/4 Hours
501	7	HUDSON	HU18	04.50	18 1/4 Hours
502	7	HUDSON	HU19	04.75	19 1/4 Hours
503	7	HUDSON	HU1A	01.30	NewCon: Wd DBN
504	7	HUDSON	HU1B	01.30	RecReb: Wd DBN
505	7	HUDSON	HU1C	00.90	RemRpl: Wd DBN
506	7	HUDSON	HU1D	00.20	MinRep: Wd DBN
507	7	HUDSON	HU20	05.00	20 1/4 Hours
508	7	HUDSON	HU21	05.25	21 1/4 Hours
509	7	HUDSON	HU22	05.50	22 1/4 Hours
510	7	HUDSON	HU23	05.75	23 1/4 Hours
511	7	HUDSON	HU24	06.00	24 1/4 Hours
512	7	HUDSON	HU25	06.25	25 1/4 Hours
513	7	HUDSON	HU26	06.50	26 1/4 Hours
514	7	HUDSON	HU27	06.75	27 1/4 Hours
515	7	HUDSON	HU28	07.00	28 1/4 Hours
516	7	HUDSON	HU29	07.25	29 1/4 Hours
517	7	HUDSON	HU2A	01.50	NewCon: Stl DBN
518	7	HUDSON	HU2B	01.70	RecReb: Stl DBN
519	7	HUDSON	HU2C	03.00	RemRpl: Stl DBN
520	7	HUDSON	HU2D	00.60	MinRep: Stl DBN
521	7	HUDSON	HU30	07.50	30 1/4 Hours
522	7	HUDSON	HU31	07.75	31 1/4 Hours
523	7	HUDSON	HU32	08.00	32 1/4 Hours
524	7	HUDSON	HU33	08.25	33 1/4 Hours
525	7	HUDSON	HU34	08.50	34 1/4 Hours
526	7	HUDSON	HU35	08.75	35 1/4 Hours
527	7	HUDSON	HU36	09.00	36 1/4 Hours
528	7	HUDSON	HU37	09.25	37 1/4 Hours
529	7	HUDSON	HU38	09.50	38 1/4 Hours
530	7	HUDSON	HU39	09.75	39 1/4 Hours
531	7	HUDSON	HU3A	00.00	NewCon: 1P Wd LT
532	7	HUDSON	HU3B	02.20	RecReb: 1P Wd LT
533	7	HUDSON	HU3C	00.00	RemRpl: 1P Wd LT
534	7	HUDSON	HU3D	00.00	MinRep: 1P Wd LT
535	7	HUDSON	HU40	10.00	40 1/4 Hours
536	7	HUDSON	HU41	10.25	41 1/4 Hours
537	7	HUDSON	HU42	10.50	42 1/4 Hours
538	7	HUDSON	HU43	10.75	43 1/4 Hours
539	7	HUDSON	HU44	11.00	44 1/4 Hours

	Dis-trict	Vessel Name	Code	Service Time in Hours	Description*
540	7	HUDSON	HU45	11.25	45 1/4 Hours
541	7	HUDSON	HU46	11.50	46 1/4 Hours
542	7	HUDSON	HU47	11.75	47 1/4 Hours
543	7	HUDSON	HU48	12.00	48 1/4 Hours
544	7	HUDSON	HU49	12.25	49 1/4 Hours
545	7	HUDSON	HU4A	01.75	NewCon:1P Stl LT
546	7	HUDSON	HU4B	03.20	RecReb:1P Stl LT
547	7	HUDSON	HU4C	03.20	RemRpl:1P Stl LT
548	7	HUDSON	HU4D	00.80	MinRep:1P Stl LT
549	7	HUDSON	HU50	12.50	50 1/4 Hours
550	7	HUDSON	HU51	12.75	51 1/4 Hours
551	7	HUDSON	HU52	13.00	52 1/4 Hours
552	7	HUDSON	HU53	13.25	53 1/4 Hours
553	7	HUDSON	HU54	13.50	54 1/4 Hours
554	7	HUDSON	HU55	13.75	55 1/4 Hours
555	7	HUDSON	HU56	14.00	56 1/4 Hours
556	7	HUDSON	HU57	14.25	57 1/4 Hours
557	7	HUDSON	HU58	14.50	58 1/4 Hours
558	7	HUDSON	HU59	14.75	59 1/4 Hours
559	7	HUDSON	HU5A	00.00	NewCon: 3P Wd LT
560	7	HUDSON	HU5B	03.00	RecReb:1P Stl LT
561	7	HUDSON	HU5C	00.00	RemRpl: 3P Wd LT
562	7	HUDSON	HU5D	00.00	MinRep: 3P Wd LT
563	7	HUDSON	HU60	15.00	60 1/4 Hours
564	7	HUDSON	HU6A	00.00	NewCon:3P Stl LT
565	7	HUDSON	HU6B	00.00	RecREb:3P Stl LT
566	7	HUDSON	HU6C	00.00	RemRpl:3P Stl LT
567	7	HUDSON	HU6D	00.00	MinRep:3P Stl LT
568	7	HUDSON	HU7A	00.00	NewCon: 4P Wd LT
569	7	HUDSON	HU7B	00.00	RecREb: 4P Wd LT
570	7	HUDSON	HU7C	00.00	RemRpl: 4P Wd LT
571	7	HUDSON	HU7D	00.00	MinRep: 4P Wd LT
572	7	HUDSON	HU8A	00.00	NewCon:4P Stl LT
573	7	HUDSON	HU8B	00.00	RecREb:4P Stl LT
574	7	HUDSON	HU8C	00.00	RemRpl:4P Stl LT
575	7	HUDSON	HU8D	02.40	MinRep:4P Stl LT
576	7	HUDSON	HU9A	00.00	NewCon: 4P Wd Rg
577	7	HUDSON	HU9B	00.00	RecREb: 4P Wd Rg
578	7	HUDSON	HU9C	00.00	RemRpl: 4P Wd Rg
579	7	HUDSON	HU9D	00.00	MinRep: 4P Wd Rg
580	7	HUDSON	HUAA	00.00	NewCon:4P Stl Rg
581	7	HUDSON	HUAB	00.00	RecREb:4P Stl Rg
582	7	HUDSON	HUAC	00.00	RemRpl:4P Stl Rg
583	7	HUDSON	HUAD	02.50	MinRep:4P Stl Rg
584	7	HUDSON	HUBA	00.00	NewCon: 8P Wd Rg
585	7	HUDSON	HUBB	00.00	RecREb: 8P Wd Rg
586	7	HUDSON	HUBC	00.00	RemRpl: 8P Wd Rg
587	7	HUDSON	HUBD	00.00	MinRep: 8P Wd Rg
588	7	HUDSON	HUCA	00.00	NewCon:8P Stl Rg

	Dis-trict	Vessel Name	Code	Service Time in Hours	Description*
589	7	HUDSON	HUCB	00.00	RecREb:8P Stl Rg
590	7	HUDSON	HUCC	00.00	RemRpl:8P Stl Rg
591	7	HUDSON	HUCD	00.00	MinRep:8P Stl Rg
592	7	HUDSON	HUDA	00.00	NewCon:12p Wd Rg
593	7	HUDSON	HUDB	00.00	RecREb:12p Wd Rg
594	7	HUDSON	HUDC	00.00	RemRpl:12p Wd Rg
595	7	HUDSON	HUDD	00.00	MinRep:12p Wd Rg
596	7	HUDSON	HUEA	00.00	NewCon:12p St Rg
597	7	HUDSON	HUEB	00.00	RecREb:12p St Rg
598	7	HUDSON	HUEC	00.00	RemRpl:12p St Rg
599	7	HUDSON	HUED	00.00	MinRep:12p St Rg
600	7	HUDSON	HUFA	00.00	NewCon:1P Con LT
601	7	HUDSON	HUFB	00.00	RecREb:1P Con LT
602	7	HUDSON	HUFC	00.00	RemRpl:1P Con LT
603	7	HUDSON	HUFD	01.20	MinRep:1P Con LT
604	7	HUDSON	HUGA	06.70	NewCon:5P Stl LT
605	7	HUDSON	HUGB	00.00	RecReb:5P Stl LT
606	7	HUDSON	HUGC	08.90	RemRpl:5P Stl LT
607	7	HUDSON	HUGD	02.80	MinRep:5P Stl LT
608	7	HUDSON	L1	01.40	1ADBNNew Con
609	7	HUDSON	L2	01.50	1ADBNRec/Reb
610	7	HUDSON	L3	01.95	1ADBNRem/Repl
611	7	HUDSON	L3-R	00.65	1ADBNRemove
612	7	HUDSON	L4	00.40	1ADBNMin Reps
613	7	HUDSON	M1	01.75	1ALTNew Con
614	7	HUDSON	M2	02.70	1ALTRec/Reb
615	7	HUDSON	M3	03.20	1ALTRem/Repl
616	7	HUDSON	M3-R	01.07	1ALTRemove
617	7	HUDSON	M4	00.80	1ALTMin Reps
618	7	HUDSON	O1	04.23	2ALTNew Con
619	7	HUDSON	O2	02.90	2ALTRec/Reb
620	7	HUDSON	O3	06.05	2ALTRem/Repl
621	7	HUDSON	O3-R	02.02	2ALTRemove
622	7	HUDSON	O4	01.80	2ALTMin Reps
623	7	HUDSON	P1	04.23	2SLTNew Con
624	7	HUDSON	P2	03.20	2SLTRec/Reb
625	7	HUDSON	P3	06.05	2SLTRem/Repl
626	7	HUDSON	P3-R	02.02	2SLTRemove
627	7	HUDSON	P4	01.80	2SLTMin Reps
628	7	HUDSON	Q2	02.60	2WLTRec/Reb
629	7	HUDSON	R1	06.70	3ALTNew Con
630	7	HUDSON	R2	03.00	3ALTRec/Reb
631	7	HUDSON	R3	08.90	3ALTRem/Repl
632	7	HUDSON	R3-R	02.97	3ALTRemove
633	7	HUDSON	R4	02.80	3ALTMin Reps
634	7	HUDSON	S4	02.45	4ALTMin Reps
635	7	HUDSON	U4	00.40	0ADBNMin Reps
636	7	HUDSON	V4	00.80	0ALTMin Reps
637	7	HUDSON	Y4	02.50	4SLTMin Reps

	Dis-trict	Vessel Name	Code	Service Time in Hours	Description*
638	7	RAMBLER	11	01.00	1WDBNNew Con
639	7	RAMBLER	12	02.00	1WDBNRec/Reb
640	7	RAMBLER	13	01.50	1WDBNRem/Repl
641	7	RAMBLER	13-R	00.50	1WDBNRemove
642	7	RAMBLER	14	00.33	1WDBNMin Reps
643	7	RAMBLER	24	00.50	1SDBNMin Reps
644	7	RAMBLER	31	02.00	1WLTNew Con
645	7	RAMBLER	32	03.50	1WLTRec/Reb
646	7	RAMBLER	33	03.50	1WLTRem/Repl
647	7	RAMBLER	33-R	01.17	1WLTRemove
648	7	RAMBLER	34	00.50	1WLTMin Reps
649	7	RAMBLER	44	01.00	1SLTMin Reps
650	7	RAMBLER	51	03.00	3WLTNew Con
651	7	RAMBLER	52	04.00	3WLTRec/Reb
652	7	RAMBLER	53	04.00	3WLTRem/Repl
653	7	RAMBLER	53-R	01.33	3WLTRemove
654	7	RAMBLER	54	01.00	3WLTMin Reps
655	7	RAMBLER	64	01.00	3SLTMin Reps
656	7	RAMBLER	71	02.00	4WLTNew Con
657	7	RAMBLER	72	02.50	4WLTRec/Reb
658	7	RAMBLER	73	02.50	4WLTRem/Repl
659	7	RAMBLER	73-R	00.83	4WLTRemove
660	7	RAMBLER	74	04.00	4WLTMin Reps
661	7	RAMBLER	84	04.00	4SLTMin Reps
662	7	RAMBLER	91	02.00	4WLTNew Con
663	7	RAMBLER	92	02.50	4WLTRec/Reb
664	7	RAMBLER	93	02.50	4WLTRem/Repl
665	7	RAMBLER	93-R	00.83	4WLTRemove
666	7	RAMBLER	94	04.00	4WLTMin Reps
667	7	RAMBLER	F5	01.00	Inspect
668	7	RAMBLER	F8	01.50	Mooring
669	7	RAMBLER	F9	00.25	Pos Check
670	7	RAMBLER	FA	01.00	Relief
671	7	RAMBLER	G5	01.00	Inspect
672	7	RAMBLER	G7	01.50	Recharge
673	7	RAMBLER	G8	01.50	Mooring
674	7	RAMBLER	G9	00.25	Pos Check
675	7	RAMBLER	GA	01.00	Relief
676	7	RAMBLER	L1	01.00	1ADBNNew Con
677	7	RAMBLER	L2	02.00	1ADBNRec/Reb
678	7	RAMBLER	L3	01.50	1ADBNRem/Repl
679	7	RAMBLER	L3-R	00.50	1ADBNRemove
680	7	RAMBLER	L4	00.42	1ADBNMin Reps
681	7	RAMBLER	M1	02.00	1ALTNew Con
682	7	RAMBLER	M2	03.50	1ALTRec/Reb
683	7	RAMBLER	M3	03.50	1ALTRem/Repl
684	7	RAMBLER	M3-R	01.17	1ALTRemove
685	7	RAMBLER	M4	00.75	1ALTMin Reps
686	7	RAMBLER	O1	02.50	2ALTNew Con

	District	Vessel Name	Code	Service Time in Hours	Description*
687	7	RAMBLER	Q2	03.75	2ALTRec/Reb
688	7	RAMBLER	Q3	03.75	2ALTRem/Repl
689	7	RAMBLER	Q3-R	01.25	2ALTRemove
690	7	RAMBLER	Q4	00.88	2ALTMin Reps
691	7	RAMBLER	P4	01.00	2SLTMin Reps
692	7	RAMBLER	Q1	02.50	2WLTNew Con
693	7	RAMBLER	Q2	03.75	2WLTRec/Reb
694	7	RAMBLER	Q3	03.75	2WLTRem/Repl
695	7	RAMBLER	Q3-R	01.25	2WLTRemove
696	7	RAMBLER	Q4	00.75	2WLTMin Reps
697	7	RAMBLER	R1	03.00	3ALTNew Con
698	7	RAMBLER	R2	04.00	3ALTRec/Reb
699	7	RAMBLER	R3	04.00	3ALTRem/Repl
700	7	RAMBLER	R3-R	01.33	3ALTRemove
701	7	RAMBLER	R4	01.00	3ALTMin Reps
702	7	RAMBLER	S1	02.00	4ALTNew Con
703	7	RAMBLER	S2	02.50	4ALTRec/Reb
704	7	RAMBLER	S3	02.50	4ALTRem/Repl
705	7	RAMBLER	S3-R	00.83	4ALTRemove
706	7	RAMBLER	S4	04.00	4ALTMin Reps
707	7	RAMBLER	U4	00.42	0ADBNMin Reps
708	7	RAMBLER	V4	00.75	0ALTMin Reps
709	7	RAMBLER	Y4	04.00	4SLTMin Reps
710	7	SMILAX	11	01.00	1WDBNNew Con
711	7	SMILAX	12	02.00	1WDBNRec/Reb
712	7	SMILAX	13	01.50	1WDBNRem/Repl
713	7	SMILAX	13-R	00.50	1WDBNRemove
714	7	SMILAX	14	00.33	1WDBNMin Reps
715	7	SMILAX	23	01.00	1SDBNRem/Repl
716	7	SMILAX	23-R	00.33	1SDBNRemove
717	7	SMILAX	24	00.50	1SDBNMin Reps
718	7	SMILAX	31	02.00	1WLTNew Con
719	7	SMILAX	32	03.50	1WLTRec/Reb
720	7	SMILAX	33	03.50	1WLTRem/Repl
721	7	SMILAX	33-R	01.17	1WLTRemove
722	7	SMILAX	34	00.50	1WLTMin Reps
723	7	SMILAX	44	01.00	1SLTMin Reps
724	7	SMILAX	51	03.00	3WLTNew Con
725	7	SMILAX	52	04.00	3WLTRec/Reb
726	7	SMILAX	53	04.00	3WLTRem/Repl
727	7	SMILAX	53-R	01.33	3WLTRemove
728	7	SMILAX	54	01.00	3WLTMin Reps
729	7	SMILAX	64	01.00	3SLTMin Reps
730	7	SMILAX	71	48.00	4WLTNew Con
731	7	SMILAX	72	60.00	4WLTRec/Reb
732	7	SMILAX	73	60.00	4WLTRem/Repl
733	7	SMILAX	73-R	20.00	4WLTRemove
734	7	SMILAX	74	04.00	4WLTMin Reps
735	7	SMILAX	84	04.00	4SLTMin Reps

	District	Vessel Name	Code	Service Time in Hours	Description*
736	7	SMILAX	91	48.00	4WLTNew Con
737	7	SMILAX	92	60.00	4WLTRec/Reb
738	7	SMILAX	93	60.00	4WLTRem/Repl
739	7	SMILAX	93-R	20.00	4WLTRemove
740	7	SMILAX	94	04.00	4WLTMin Reps
741	7	SMILAX	F5	01.00	Inspect
742	7	SMILAX	F8	01.50	Mooring
743	7	SMILAX	F9	00.25	Pos Check
744	7	SMILAX	FA	01.00	Relief
745	7	SMILAX	G5	01.00	Inspect
746	7	SMILAX	G7	01.50	Recharge
747	7	SMILAX	G8	01.50	Mooring
748	7	SMILAX	G9	00.25	Pos Check
749	7	SMILAX	GA	01.00	Relief
750	7	SMILAX	L1	01.00	1ADBNNew Con
751	7	SMILAX	L2	02.00	1ADBNRec/Reb
752	7	SMILAX	L3	01.25	1ADBNRem/Repl
753	7	SMILAX	L3-R	00.42	1ADBNRemove
754	7	SMILAX	L4	00.42	1ADBNMin Reps
755	7	SMILAX	M1	02.00	1ALTNew Con
756	7	SMILAX	M2	03.50	1ALTRec/Reb
757	7	SMILAX	M3	03.50	1ALTRem/Repl
758	7	SMILAX	M3-R	01.17	1ALTRemove
759	7	SMILAX	M4	00.75	1ALTMin Reps
760	7	SMILAX	O1	02.50	2ALTNew Con
761	7	SMILAX	O2	03.75	2ALTRec/Reb
762	7	SMILAX	O3	03.75	2ALTRem/Repl
763	7	SMILAX	O3-R	01.25	2ALTRemove
764	7	SMILAX	O4	00.88	2ALTMin Reps
765	7	SMILAX	P4	01.00	2SLTMin Reps
766	7	SMILAX	Q1	02.50	2WLTNew Con
767	7	SMILAX	Q2	03.75	2WLTRec/Reb
768	7	SMILAX	Q3	03.75	2WLTRem/Repl
769	7	SMILAX	Q3-R	01.25	2WLTRemove
770	7	SMILAX	Q4	00.75	2WLTMin Reps
771	7	SMILAX	R1	03.00	3ALTNew Con
772	7	SMILAX	R2	04.00	3ALTRec/Reb
773	7	SMILAX	R3	04.00	3ALTRem/Repl
774	7	SMILAX	R3-R	01.33	3ALTRemove
775	7	SMILAX	R4	01.00	3ALTMin Reps
776	7	SMILAX	S1	48.00	4ALTNew Con
777	7	SMILAX	S2	60.00	4ALTRec/Reb
778	7	SMILAX	S3	60.00	4ALTRem/Repl
779	7	SMILAX	S3-R	20.00	4ALTRemove
780	7	SMILAX	S4	04.00	4ALTMin Reps
781	7	SMILAX	T1	72.00	8ALTNew Con
782	7	SMILAX	T2	96.00	8ALTRec/Reb
783	7	SMILAX	T3	84.00	8ALTRem/Repl
784	7	SMILAX	T3-R	28.00	8ALTRemove

	District	Vessel Name	Code	Service Time in Hours	Description*
785	7	SMILAX	T4	04.00	8ALTMin Reps
786	7	SMILAX	U4	00.42	0ADBNMin Reps
787	7	SMILAX	V4	00.75	0ALTMin Reps
788	7	SMILAX	X1	72.00	8WLTNew Con
789	7	SMILAX	X2	96.00	8WLTRec/Reb
790	7	SMILAX	X3	84.00	8WLTRem/Repl
791	7	SMILAX	X3-R	28.00	8WLTRemove
792	7	SMILAX	X4	04.00	8WLTMin Reps
793	7	SMILAX	Y4	04.00	4SLTMin Reps
794	7	VISE	11	00.75	1WDBNNew Con
795	7	VISE	12	02.50	1WDBNRec/Reb
796	7	VISE	13	01.00	1WDBNRem/Repl
797	7	VISE	13-R	00.33	1WDBNRemove
798	7	VISE	14	00.17	1WDBNMin Reps
799	7	VISE	21	00.75	1SDBNNew Con
800	7	VISE	22	03.00	1SDBNRec/Reb
801	7	VISE	23	02.00	1SDBNRem/Repl
802	7	VISE	23-R	00.67	1SDBNRemove
803	7	VISE	24	00.50	1SDBNMin Reps
804	7	VISE	31	01.50	1WLTNew Con
805	7	VISE	32	03.00	1WLTRec/Reb
806	7	VISE	33	02.00	1WLTRem/Repl
807	7	VISE	33-R	00.67	1WLTRemove
808	7	VISE	34	01.00	1WLTMin Reps
809	7	VISE	41	01.50	1SLTNew Con
810	7	VISE	42	03.50	1SLTRec/Reb
811	7	VISE	43	03.50	1SLTRem/Repl
812	7	VISE	43-R	01.17	1SLTRemove
813	7	VISE	44	00.50	1SLTMin Reps
814	7	VISE	51	02.50	3WLTNew Con
815	7	VISE	52	04.50	3WLTRec/Reb
816	7	VISE	53	04.50	3WLTRem/Repl
817	7	VISE	53-R	01.50	3WLTRemove
818	7	VISE	54	01.00	3WLTMin Reps
819	7	VISE	71	04.00	4WLTNew Con
820	7	VISE	72	06.00	4WLTRec/Reb
821	7	VISE	73	06.00	4WLTRem/Repl
822	7	VISE	73-R	02.00	4WLTRemove
823	7	VISE	74	01.50	4WLTMin Reps
824	7	VISE	81	08.00	4SLTNew Con
825	7	VISE	82	16.00	4SLTRec/Reb
826	7	VISE	83	15.00	4SLTRem/Repl
827	7	VISE	83-R	05.00	4SLTRemove
828	7	VISE	84	02.00	4SLTMin Reps
829	7	VISE	91	08.00	4WLTNew Con
830	7	VISE	92	10.00	4WLTRec/Reb
831	7	VISE	93	12.00	4WLTRem/Repl
832	7	VISE	93-R	04.00	4WLTRemove
833	7	VISE	94	02.00	4WLTMin Reps

	District	Vessel Name	Code	Service Time in Hours	Description*
834	7	VISE	H5	00.17	DBNInspect
835	7	VISE	H6	00.17	DBNDayBrd Ch
836	7	VISE	J5	01.00	LTInspect
837	7	VISE	J6	02.00	LTDayBrd Ch
838	7	VISE	K5	01.00	LTInspect
839	7	VISE	K6	02.50	LTDayBrd Ch
840	7	VISE	L1	00.75	1ADBNNew Con
841	7	VISE	L2	02.75	1ADBNRec/Reb
842	7	VISE	L3	01.50	1ADBNRem/Repl
843	7	VISE	L3-R	00.50	1ADBNRemove
844	7	VISE	L4	00.34	1ADBNMin Reps
845	7	VISE	M1	01.50	1ALTNew Con
846	7	VISE	M2	03.25	1ALTRec/Reb
847	7	VISE	M3	02.75	1ALTRem/Repl
848	7	VISE	M3-R	00.92	1ALTRemove
849	7	VISE	M4	00.75	1ALTMin Reps
850	7	VISE	O1	01.75	2ALTNew Con
851	7	VISE	O2	03.63	2ALTRec/Reb
852	7	VISE	O3	03.38	2ALTRem/Repl
853	7	VISE	O3-R	01.13	2ALTRemove
854	7	VISE	O4	00.75	2ALTMin Reps
855	7	VISE	P1	01.50	2SLTNew Con
856	7	VISE	P2	03.50	2SLTRec/Reb
857	7	VISE	P3	03.50	2SLTRem/Repl
858	7	VISE	P3-R	01.17	2SLTRemove
859	7	VISE	P4	00.50	2SLTMin Reps
860	7	VISE	Q1	02.00	2WLTNew Con
861	7	VISE	Q2	03.75	2WLTRec/Reb
862	7	VISE	Q3	03.25	2WLTRem/Repl
863	7	VISE	Q3-R	01.08	2WLTRemove
864	7	VISE	Q4	01.00	2WLTMin Reps
865	7	VISE	R1	02.50	3ALTNew Con
866	7	VISE	R2	04.50	3ALTRec/Reb
867	7	VISE	R3	04.50	3ALTRem/Repl
868	7	VISE	R3-R	01.50	3ALTRemove
869	7	VISE	R4	01.00	3ALTMin Reps
870	7	VISE	S1	06.67	4ALTNew Con
871	7	VISE	S2	10.67	4ALTRec/Reb
872	7	VISE	S3	11.00	4ALTRem/Repl
873	7	VISE	S3-R	03.67	4ALTRemove
874	7	VISE	S4	01.83	4ALTMin Reps
875	7	VISE	U4	00.34	0ADBNMin Reps
876	7	VISE	V4	00.75	0ALTMin Reps
877	7	VISE	W4	00.50	0SLTMin Reps
878	8	ANVIL	11	00.50	1WDBNNew Con
879	8	ANVIL	12	01.00	1WDBNRec/Reb
880	8	ANVIL	13	01.00	1WDBNRem/Repl
881	8	ANVIL	13-R	00.33	1WDBNRemove
882	8	ANVIL	14	00.25	1WDBNMin Reps

	District	Vessel Name	Code	Service Time in Hours	Description*
883	8	ANVIL	31	01.00	1WLTNew Con
884	8	ANVIL	32	01.50	1WLTRec/Reb
885	8	ANVIL	33	01.50	1WLTRem/Repl
886	8	ANVIL	33-R	00.50	1WLTRemove
887	8	ANVIL	34	00.75	1WLTMin Reps
888	8	ANVIL	51	04.00	3WLTNew Con
889	8	ANVIL	52	06.00	3WLTRec/Reb
890	8	ANVIL	53	06.00	3WLTRem/Repl
891	8	ANVIL	53-R	02.00	3WLTRemove
892	8	ANVIL	54	00.75	3WLTMin Reps
893	8	ANVIL	91	12.00	4WLTNew Con
894	8	ANVIL	92	16.00	4WLTRec/Reb
895	8	ANVIL	93	16.00	4WLTRem/Repl
896	8	ANVIL	93-R	05.33	4WLTRemove
897	8	ANVIL	94	02.00	4WLTMin Reps
898	8	ANVIL	F5	00.25	Inspect
899	8	ANVIL	F8	00.50	Mooring
900	8	ANVIL	F9	00.25	Pos Check
901	8	ANVIL	FA	00.50	Relief
902	8	ANVIL	G5	00.75	Inspect
903	8	ANVIL	G7	01.00	Recharge
904	8	ANVIL	G8	02.50	Mooring
905	8	ANVIL	G9	00.25	Pos Check
906	8	ANVIL	GA	02.00	Relief
907	8	ANVIL	H5	00.13	DBNInspect
908	8	ANVIL	H6	00.25	DBNDayBrd Ch
909	8	ANVIL	I5	00.50	LTInspect
910	8	ANVIL	I6	00.25	LTDayBrd Ch
911	8	ANVIL	I7	01.00	LTRecharge
912	8	ANVIL	J5	00.50	LTInspect
913	8	ANVIL	J6	01.00	LTDayBrd Ch
914	8	ANVIL	J7	01.00	LTRecharge
915	8	ANVIL	K5	00.50	LTInspect
916	8	ANVIL	K6	02.00	LTDayBrd Ch
917	8	ANVIL	K7	01.00	LTRecharge
918	8	ANVIL	L1	00.50	1ADBNNew Con
919	8	ANVIL	L2	01.00	1ADBNRec/Reb
920	8	ANVIL	L3	01.00	1ADBNRem/Repl
921	8	ANVIL	L3-R	00.33	1ADBNRemove
922	8	ANVIL	L4	00.25	1ADBNMin Reps
923	8	ANVIL	M1	01.00	1ALTNew Con
924	8	ANVIL	M2	01.50	1ALTRec/Reb
925	8	ANVIL	M3	01.50	1ALTRem/Repl
926	8	ANVIL	M3-R	00.50	1ALTRemove
927	8	ANVIL	M4	00.75	1ALTMin Reps
928	8	ANVIL	O1	02.50	2ALTNew Con
929	8	ANVIL	O2	03.75	2ALTRec/Reb
930	8	ANVIL	O3	03.75	2ALTRem/Repl
931	8	ANVIL	O3-R	01.25	2ALTRemove

	District	Vessel Name	Code	Service Time in Hours	Description*
932	8	ANVIL	O4	00.75	2ALTMin Reps
933	8	ANVIL	Q1	02.50	2WLTNew Con
934	8	ANVIL	Q2	03.75	2WLTRec/Reb
935	8	ANVIL	Q3	03.75	2WLTRem/Repl
936	8	ANVIL	Q3-R	01.25	2WLTRemove
937	8	ANVIL	Q4	00.75	2WLTMin Reps
938	8	ANVIL	R1	04.00	3ALTNew Con
939	8	ANVIL	R2	06.00	3ALTRec/Reb
940	8	ANVIL	R3	06.00	3ALTRem/Repl
941	8	ANVIL	R3-R	02.00	3ALTRemove
942	8	ANVIL	R4	00.75	3ALTMin Reps
943	8	ANVIL	S1	12.00	4ALTNew Con
944	8	ANVIL	S2	16.00	4ALTRec/Reb
945	8	ANVIL	S3	16.00	4ALTRem/Repl
946	8	ANVIL	S3-R	05.33	4ALTRemove
947	8	ANVIL	S4	02.00	4ALTMin Reps
948	8	ANVIL	T1	24.00	8ALTNew Con
949	8	ANVIL	T2	30.00	8ALTRec/Reb
950	8	ANVIL	T3	30.00	8ALTRem/Repl
951	8	ANVIL	T3-R	10.00	8ALTRemove
952	8	ANVIL	T4	02.00	8ALTMin Reps
953	8	ANVIL	U4	00.25	0ADBNMin Reps
954	8	ANVIL	V4	00.75	0ALTMin Reps
955	8	ANVIL	X1	24.00	8WLTNew Con
956	8	ANVIL	X2	30.00	8WLTRec/Reb
957	8	ANVIL	X3	30.00	8WLTRem/Repl
958	8	ANVIL	X3-R	10.00	8WLTRemove
959	8	ANVIL	X4	02.00	8WLTMin Reps
960	8	AXE	11	00.50	1WDBNNew Con
961	8	AXE	12	00.70	1WDBNRec/Reb
962	8	AXE	13	00.60	1WDBNRem/Repl
963	8	AXE	13-R	00.20	1WDBNRemove
964	8	AXE	14	00.10	1WDBNMin Reps
965	8	AXE	31	00.80	1WLTNew Con
966	8	AXE	32	01.20	1WLTRec/Reb
967	8	AXE	33	01.10	1WLTRem/Repl
968	8	AXE	33-R	00.37	1WLTRemove
969	8	AXE	34	00.20	1WLTMin Reps
970	8	AXE	51	02.50	3WLTNew Con
971	8	AXE	52	03.00	3WLTRec/Reb
972	8	AXE	53	03.00	3WLTRem/Repl
973	8	AXE	53-R	01.00	3WLTRemove
974	8	AXE	54	00.50	3WLTMin Reps
975	8	AXE	73	03.00	4WLTRem/Repl
976	8	AXE	73-R	01.00	4WLTRemove
977	8	AXE	91	18.00	4WLTNew Con
978	8	AXE	92	22.00	4WLTRec/Reb
979	8	AXE	93	22.00	4WLTRem/Repl
980	8	AXE	93-R	07.33	4WLTRemove

	Dis-trict	Vessel Name	Code	Service Time in Hours	Description*
981	8	AXE	94	02.00	4WLTMin Reps
982	8	AXE	F5	00.30	Inspect
983	8	AXE	F8	00.30	Mooring
984	8	AXE	F9	00.50	Pos Check
985	8	AXE	FA	00.20	Relief
986	8	AXE	L1	00.50	1ADBNNew Con
987	8	AXE	L2	00.70	1ADBNRec/Reb
988	8	AXE	L3	00.60	1ADBNRem/Repl
989	8	AXE	L3-R	00.20	1ADBNRemove
990	8	AXE	L4	00.10	1ADBNMin Reps
991	8	AXE	M1	00.80	1ALTNew Con
992	8	AXE	M2	01.20	1ALTRec/Reb
993	8	AXE	M3	01.10	1ALTRem/Repl
994	8	AXE	M3-R	00.37	1ALTRemove
995	8	AXE	M4	00.20	1ALTMin Reps
996	8	AXE	O1	01.65	2ALTNew Con
997	8	AXE	O2	02.10	2ALTRec/Reb
998	8	AXE	O3	02.05	2ALTRem/Repl
999	8	AXE	O3-R	00.68	2ALTRemove
1000	8	AXE	O4	00.35	2ALTMin Reps
1001	8	AXE	Q1	01.65	2WLTNew Con
1002	8	AXE	Q2	02.10	2WLTRec/Reb
1003	8	AXE	Q3	02.05	2WLTRem/Repl
1004	8	AXE	Q3-R	00.68	2WLTRemove
1005	8	AXE	Q4	00.35	2WLTMin Reps
1006	8	AXE	R1	02.50	3ALTNew Con
1007	8	AXE	R2	03.00	3ALTRec/Reb
1008	8	AXE	R3	03.00	3ALTRem/Repl
1009	8	AXE	R3-R	01.00	3ALTRemove
1010	8	AXE	R4	00.50	3ALTMin Reps
1011	8	AXE	S1	18.00	4ALTNew Con
1012	8	AXE	S2	22.00	4ALTRec/Reb
1013	8	AXE	S3	12.50	4ALTRem/Repl
1014	8	AXE	S3-R	04.17	4ALTRemove
1015	8	AXE	S4	02.00	4ALTMin Reps
1016	8	AXE	U4	00.10	0ADBNMin Reps
1017	8	AXE	V4	00.20	0ALTMin Reps
1018	8	CLAMP	11	01.00	1WDBNNew Con
1019	8	CLAMP	12	01.30	1WDBNRec/Reb
1020	8	CLAMP	14	00.25	1WDBNMin Reps
1021	8	CLAMP	31	01.75	1WLTNew Con
1022	8	CLAMP	32	02.25	1WLTRec/Reb
1023	8	CLAMP	34	00.75	1WLTMin Reps
1024	8	CLAMP	51	03.00	3WLTNew Con
1025	8	CLAMP	52	04.75	3WLTRec/Reb
1026	8	CLAMP	54	00.75	3WLTMin Reps
1027	8	CLAMP	91	16.00	4WLTNew Con
1028	8	CLAMP	92	20.00	4WLTRec/Reb
1029	8	CLAMP	94	02.75	4WLTMin Reps

	Dis-trict	Vessel Name	Code	Service Time in Hours	Description*
1030	8	CLAMP	F5	00.50	Inspect
1031	8	CLAMP	F8	01.00	Mooring
1032	8	CLAMP	F9	00.20	Pos Check
1033	8	CLAMP	FA	00.50	Relief
1034	8	CLAMP	G5	00.50	Inspect
1035	8	CLAMP	G7	00.50	Recharge
1036	8	CLAMP	G8	01.00	Mooring
1037	8	CLAMP	G9	00.20	Pos Check
1038	8	CLAMP	GA	00.80	Relief
1039	8	CLAMP	L1	01.00	1ADBNNew Con
1040	8	CLAMP	L2	01.30	1ADBNRec/Reb
1041	8	CLAMP	L4	00.25	1ADBNMin Reps
1042	8	CLAMP	M1	01.75	1ALTNew Con
1043	8	CLAMP	M2	02.25	1ALTRec/Reb
1044	8	CLAMP	M4	00.75	1ALTMin Reps
1045	8	CLAMP	O1	02.38	2ALTNew Con
1046	8	CLAMP	O2	03.50	2ALTRec/Reb
1047	8	CLAMP	O4	00.75	2ALTMin Reps
1048	8	CLAMP	Q1	02.38	2WLTNew Con
1049	8	CLAMP	Q2	03.50	2WLTRec/Reb
1050	8	CLAMP	Q4	00.75	2WLTMin Reps
1051	8	CLAMP	R1	03.00	3ALTNew Con
1052	8	CLAMP	R2	04.75	3ALTRec/Reb
1053	8	CLAMP	R4	00.75	3ALTMin Reps
1054	8	CLAMP	S1	16.00	4ALTNew Con
1055	8	CLAMP	S2	20.00	4ALTRec/Reb
1056	8	CLAMP	S4	02.75	4ALTMin Reps
1057	8	CLAMP	T1	24.00	8ALTNew Con
1058	8	CLAMP	T2	26.00	8ALTRec/Reb
1059	8	CLAMP	T4	02.75	8ALTMin Reps
1060	8	CLAMP	U4	00.25	0ADBNMin Reps
1061	8	CLAMP	V4	00.75	0ALTMin Reps
1062	8	CLAMP	X1	24.00	8WLTNew Con
1063	8	CLAMP	X2	26.00	8WLTRec/Reb
1064	8	CLAMP	X4	02.75	8WLTMin Reps
1065	8	Fleet Average	11	00.60	1WDBNNew Con
1066	8	Fleet Average	12	01.00	1WDBNRec/Reb
1067	8	Fleet Average	13	00.89	1WDBNRem/Repl
1068	8	Fleet Average	13-R	00.30	1WDBNRemove
1069	8	Fleet Average	14	00.22	1WDBNMin Reps
1070	8	Fleet Average	21	01.50	1SDBNNew Con
1071	8	Fleet Average	31	01.04	1WLTNew Con
1072	8	Fleet Average	32	01.50	1WLTRec/Reb
1073	8	Fleet Average	33	01.35	1WLTRem/Repl
1074	8	Fleet Average	33-R	00.45	1WLTRemove
1075	8	Fleet Average	34	00.47	1WLTMin Reps
1076	8	Fleet Average	41	02.88	1SLTNew Con
1077	8	Fleet Average	42	02.50	1SLTRec/Reb
1078	8	Fleet Average	43	02.50	1SLTRem/Repl

	District	Vessel Name	Code	Service Time in Hours	Description*
1079	8	Fleet Average	43-R	00.83	1SLTRemove
1080	8	Fleet Average	44	00.75	1SLTMin Reps
1081	8	Fleet Average	51	02.57	3WLTNew Con
1082	8	Fleet Average	52	03.61	3WLTRec/Reb
1083	8	Fleet Average	53	03.67	3WLTRem/Repl
1084	8	Fleet Average	53-R	01.22	3WLTRemove
1085	8	Fleet Average	54	00.71	3WLTMin Reps
1086	8	Fleet Average	71	08.67	4WLTNew Con
1087	8	Fleet Average	72	10.67	4WLTRec/Reb
1088	8	Fleet Average	73	09.75	4WLTRem/Repl
1089	8	Fleet Average	73-R	03.25	4WLTRemove
1090	8	Fleet Average	74	01.17	4WLTMin Reps
1091	8	Fleet Average	91	13.25	4WLTNew Con
1092	8	Fleet Average	92	17.00	4WLTRec/Reb
1093	8	Fleet Average	93	17.43	4WLTRem/Repl
1094	8	Fleet Average	93-R	05.81	4WLTRemove
1095	8	Fleet Average	94	02.28	4WLTMin Reps
1096	8	Fleet Average	D1	21.33	12WLTNew Con
1097	8	Fleet Average	D2	26.00	12WLTRec/Reb
1098	8	Fleet Average	D3	27.00	12WLTRem/Repl
1099	8	Fleet Average	D3-R	09.00	12WLTRemove
1100	8	Fleet Average	D4	06.00	12WLTMin Reps
1101	8	Fleet Average	F5	00.33	Inspect
1102	8	Fleet Average	F8	00.49	Mooring
1103	8	Fleet Average	F9	00.31	Pos Check
1104	8	Fleet Average	FA	00.36	Relief
1105	8	Fleet Average	G5	00.58	Inspect
1106	8	Fleet Average	G7	00.94	Recharge
1107	8	Fleet Average	G8	01.29	Mooring
1108	8	Fleet Average	G9	00.27	Pos Check
1109	8	Fleet Average	GA	00.93	Relief
1110	8	Fleet Average	H5	00.15	DBNInspect
1111	8	Fleet Average	H6	00.25	DBNDayBrd Ch
1112	8	Fleet Average	I5	00.46	LTInspect
1113	8	Fleet Average	I6	00.38	LTDayBrd Ch
1114	8	Fleet Average	I7	00.88	LTRecharge
1115	8	Fleet Average	J5	00.63	LTInspect
1116	8	Fleet Average	J6	01.25	LTDayBrd Ch
1117	8	Fleet Average	J7	01.25	LTRecharge
1118	8	Fleet Average	K5	01.00	LTInspect
1119	8	Fleet Average	K6	02.50	LTDayBrd Ch
1120	8	Fleet Average	K7	01.75	LTRecharge
1121	8	Fleet Average	L1	00.70	1ADBNNew Con
1122	8	Fleet Average	L2	01.00	1ADBNRec/Reb
1123	8	Fleet Average	L3	00.89	1ADBNRem/Repl
1124	8	Fleet Average	L3-R	00.30	1ADBNRemove
1125	8	Fleet Average	L4	00.22	1ADBNMin Reps
1126	8	Fleet Average	M1	01.26	1ALTNew Con
1127	8	Fleet Average	M2	01.58	1ALTRec/Reb

	District	Vessel Name	Code	Service Time in Hours	Description*
1128	8	Fleet Average	M3	01.43	1ALTRem/Repl
1129	8	Fleet Average	M3-R	00.48	1ALTRemove
1130	8	Fleet Average	M4	00.48	1ALTMin Reps
1131	8	Fleet Average	N1	21.33	12ALTNew Con
1132	8	Fleet Average	N2	26.00	12ALTRec/Reb
1133	8	Fleet Average	N3	27.00	12ALTRem/Repl
1134	8	Fleet Average	N3-R	09.00	12ALTRemove
1135	8	Fleet Average	N4	06.00	12ALTMin Reps
1136	8	Fleet Average	O1	01.84	2ALTNew Con
1137	8	Fleet Average	O2	02.41	2ALTRec/Reb
1138	8	Fleet Average	O3	02.30	2ALTRem/Repl
1139	8	Fleet Average	O3-R	00.77	2ALTRemove
1140	8	Fleet Average	O4	00.58	2ALTMin Reps
1141	8	Fleet Average	P1	02.88	2SLTNew Con
1142	8	Fleet Average	P2	02.50	2SLTRec/Reb
1143	8	Fleet Average	P3	02.50	2SLTRem/Repl
1144	8	Fleet Average	P3-R	00.83	2SLTRemove
1145	8	Fleet Average	P4	00.75	2SLTMin Reps
1146	8	Fleet Average	Q1	01.69	2WLTNew Con
1147	8	Fleet Average	Q2	02.39	2WLTRec/Reb
1148	8	Fleet Average	Q3	02.32	2WLTRem/Repl
1149	8	Fleet Average	Q3-R	00.77	2WLTRemove
1150	8	Fleet Average	Q4	00.56	2WLTMin Reps
1151	8	Fleet Average	R1	02.57	3ALTNew Con
1152	8	Fleet Average	R2	03.61	3ALTRec/Reb
1153	8	Fleet Average	R3	03.67	3ALTRem/Repl
1154	8	Fleet Average	R3-R	01.22	3ALTRemove
1155	8	Fleet Average	R4	00.71	3ALTMin Reps
1156	8	Fleet Average	S1	13.13	4ALTNew Con
1157	8	Fleet Average	S2	16.88	4ALTRec/Reb
1158	8	Fleet Average	S3	15.93	4ALTRem/Repl
1159	8	Fleet Average	S3-R	05.31	4ALTRemove
1160	8	Fleet Average	S4	03.22	4ALTMin Reps
1161	8	Fleet Average	T1	19.00	8ALTNew Con
1162	8	Fleet Average	T2	24.50	8ALTRec/Reb
1163	8	Fleet Average	T3	24.80	8ALTRem/Repl
1164	8	Fleet Average	T3-R	08.27	8ALTRemove
1165	8	Fleet Average	T4	03.79	8ALTMin Reps
1166	8	Fleet Average	U4	00.22	0ADBNMin Reps
1167	8	Fleet Average	V4	00.48	0ALTMin Reps
1168	8	Fleet Average	X1	19.00	8WLTNew Con
1169	8	Fleet Average	X2	24.50	8WLTRec/Reb
1170	8	Fleet Average	X3	24.80	8WLTRem/Repl
1171	8	Fleet Average	X3-R	08.27	8WLTRemove
1172	8	Fleet Average	X4	03.79	8WLTMin Reps
1173	8	HATCHET	11	00.50	1WDBNNew Con
1174	8	HATCHET	12	00.75	1WDBNRec/Reb
1175	8	HATCHET	13	00.75	1WDBNRem/Repl
1176	8	HATCHET	13-R	00.25	1WDBNRemove

	District	Vessel Name	Code	Service Time in Hours	Description*
1177	8	HATCHET	14	00.17	1WDBNMin Reps
1178	8	HATCHET	31	00.75	1WLTNew Con
1179	8	HATCHET	32	01.00	1WLTRec/Reb
1180	8	HATCHET	33	01.00	1WLTRem/Repl
1181	8	HATCHET	33-R	00.33	1WLTRemove
1182	8	HATCHET	34	00.25	1WLTMin Reps
1183	8	HATCHET	91	16.00	4WLTNew Con
1184	8	HATCHET	92	22.00	4WLTRec/Reb
1185	8	HATCHET	93	22.00	4WLTRem/Repl
1186	8	HATCHET	93-R	07.33	4WLTRemove
1187	8	HATCHET	94	03.00	4WLTMin Reps
1188	8	HATCHET	F5	00.08	Inspect
1189	8	HATCHET	F8	00.17	Mooring
1190	8	HATCHET	F9	00.12	Pos Check
1191	8	HATCHET	FA	00.17	Relief
1192	8	HATCHET	G5	00.08	Inspect
1193	8	HATCHET	G7	00.25	Recharge
1194	8	HATCHET	G8	00.17	Mooring
1195	8	HATCHET	G9	00.12	Pos Check
1196	8	HATCHET	GA	00.17	Relief
1197	8	HATCHET	L1	00.50	1ADBNNew Con
1198	8	HATCHET	L2	00.75	1ADBNRec/Reb
1199	8	HATCHET	L3	00.75	1ADBNRem/Repl
1200	8	HATCHET	L3-R	00.25	1ADBNRemove
1201	8	HATCHET	L4	00.17	1ADBNMin Reps
1202	8	HATCHET	M1	00.75	1ALTNew Con
1203	8	HATCHET	M2	01.00	1ALTRec/Reb
1204	8	HATCHET	M3	01.00	1ALTRem/Repl
1205	8	HATCHET	M3-R	00.33	1ALTRemove
1206	8	HATCHET	M4	00.25	1ALTMin Reps
1207	8	HATCHET	O1	00.75	2ALTNew Con
1208	8	HATCHET	O2	01.00	2ALTRec/Reb
1209	8	HATCHET	O3	01.00	2ALTRem/Repl
1210	8	HATCHET	O3-R	00.33	2ALTRemove
1211	8	HATCHET	O4	00.25	2ALTMin Reps
1212	8	HATCHET	Q1	00.75	2WLTNew Con
1213	8	HATCHET	Q2	01.00	2WLTRec/Reb
1214	8	HATCHET	Q3	01.00	2WLTRem/Repl
1215	8	HATCHET	Q3-R	00.33	2WLTRemove
1216	8	HATCHET	Q4	00.25	2WLTMin Reps
1217	8	HATCHET	S1	16.00	4ALTNew Con
1218	8	HATCHET	S2	22.00	4ALTRec/Reb
1219	8	HATCHET	S3	22.00	4ALTRem/Repl
1220	8	HATCHET	S3-R	07.33	4ALTRemove
1221	8	HATCHET	S4	03.00	4ALTMin Reps
1222	8	HATCHET	U4	00.17	OADBNMin Reps
1223	8	HATCHET	V4	00.25	OALTMin Reps
1224	8	MALLET	11	00.33	1WDBNNew Con
1225	8	MALLET	12	01.50	1WDBNRec/Reb

	District	Vessel Name	Code	Service Time in Hours	Description*
1226	8	MALLET	13	00.66	1WDBNRem/Repl
1227	8	MALLET	13-R	00.22	1WDBNRemove
1228	8	MALLET	14	00.25	1WDBNMin Reps
1229	8	MALLET	31	01.00	1WLTNew Con
1230	8	MALLET	32	02.00	1WLTRec/Reb
1231	8	MALLET	33	01.50	1WLTRem/Repl
1232	8	MALLET	33-R	00.50	1WLTRemove
1233	8	MALLET	34	00.50	1WLTMin Reps
1234	8	MALLET	51	02.00	3WLTNew Con
1235	8	MALLET	52	03.00	3WLTRec/Reb
1236	8	MALLET	53	03.00	3WLTRem/Repl
1237	8	MALLET	53-R	01.00	3WLTRemove
1238	8	MALLET	54	01.00	3WLTMin Reps
1239	8	MALLET	71	04.00	4WLTNew Con
1240	8	MALLET	72	06.00	4WLTRec/Reb
1241	8	MALLET	73	08.00	4WLTRem/Repl
1242	8	MALLET	73-R	02.67	4WLTRemove
1243	8	MALLET	74	01.50	4WLTMin Reps
1244	8	MALLET	91	06.00	4WLTNew Con
1245	8	MALLET	92	08.00	4WLTRec/Reb
1246	8	MALLET	93	10.00	4WLTRem/Repl
1247	8	MALLET	93-R	03.33	4WLTRemove
1248	8	MALLET	94	02.50	4WLTMin Reps
1249	8	MALLET	A1	01.00	I (LB)
1250	8	MALLET	A2	01.50	IM (LB)
1251	8	MALLET	A3	02.00	IMC (LB)
1252	8	MALLET	A4	02.00	IC (LB)
1253	8	MALLET	A5	01.50	MR (LB)
1254	8	MALLET	A6	01.50	R (LB)
1255	8	MALLET	B1	00.33	I (ULB)
1256	8	MALLET	B2	00.50	IM (ULB)
1257	8	MALLET	B3	00.50	IMR (ULB)
1258	8	MALLET	B4	00.50	R (ULB)
1259	8	MALLET	C1	00.50	Sp
1260	8	MALLET	C2	00.25	Fa
1261	8	MALLET	D1	20.00	12WLTNew Con
1262	8	MALLET	D2	24.00	12WLTRec/Reb
1263	8	MALLET	D3	25.00	12WLTRem/Repl
1264	8	MALLET	D3-R	08.33	12WLTRemove
1265	8	MALLET	D4	04.00	12WLTMin Reps
1266	8	MALLET	F1	00.25	I
1267	8	MALLET	F2	00.50	I
1268	8	MALLET	F5	00.33	Inspect
1269	8	MALLET	F8	00.50	Mooring
1270	8	MALLET	F9	00.50	Pos Check
1271	8	MALLET	FA	00.08	Relief
1272	8	MALLET	G5	01.00	Inspect
1273	8	MALLET	G7	02.00	Recharge
1274	8	MALLET	G8	01.50	Mooring

	District	Vessel Name	Code	Service Time in Hours	Description*
1275	8	MALLET	G9	00.50	Pos Check
1276	8	MALLET	GA	00.75	Relief
1277	8	MALLET	H5	00.17	DBNInspect
1278	8	MALLET	H6	00.25	DBNDayBrd Ch
1279	8	MALLET	I5	00.42	LTInspect
1280	8	MALLET	I6	00.50	LTDayBrd Ch
1281	8	MALLET	I7	00.75	LTRecharge
1282	8	MALLET	J5	00.75	LTInspect
1283	8	MALLET	J6	01.50	LTDayBrd Ch
1284	8	MALLET	J7	01.50	LTRecharge
1285	8	MALLET	K5	01.50	LTInspect
1286	8	MALLET	K6	03.00	LTDayBrd Ch
1287	8	MALLET	K7	02.50	LTRecharge
1288	8	MALLET	L1	00.33	1ADBNNew Con
1289	8	MALLET	L2	01.50	1ADBNRec/Reb
1290	8	MALLET	L3	00.66	1ADBNRem/Repl
1291	8	MALLET	L3-R	00.22	1ADBNRemove
1292	8	MALLET	L4	00.25	1ADBNMin Reps
1293	8	MALLET	M1	01.00	1ALTNew Con
1294	8	MALLET	M2	02.00	1ALTRec/Reb
1295	8	MALLET	M3	01.50	1ALTRem/Repl
1296	8	MALLET	M3-R	00.50	1ALTRemove
1297	8	MALLET	M4	00.50	1ALTMin Reps
1298	8	MALLET	MA1A	00.33	NewCon: Wd DBN
1299	8	MALLET	MA1B	01.50	RecReb: Wd DBN
1300	8	MALLET	MA1C	00.67	RemRpl: Wd DBN
1301	8	MALLET	MA1D	00.25	MinRep: Wd DBN
1302	8	MALLET	MA3A	01.00	NewCon: 1P Wd LT
1303	8	MALLET	MA3B	02.00	RecReb: 1P Wd LT
1304	8	MALLET	MA3C	01.50	RemRpl: 1P Wd LT
1305	8	MALLET	MA3D	00.50	MinRep: 1P Wd LT
1306	8	MALLET	MA5A	02.00	NewCon: 3P Wd LT
1307	8	MALLET	MA5B	03.00	RecReb: 3P Wd LT
1308	8	MALLET	MA5C	03.00	RemRpl: 3P Wd LT
1309	8	MALLET	MA5D	01.00	MinRep: 3P Wd LT
1310	8	MALLET	MA7A	04.00	NewCon: 4P Wd LT
1311	8	MALLET	MA7B	06.00	RecReb: 4P Wd LT
1312	8	MALLET	MA7C	08.00	RemRpl: 4P Wd LT
1313	8	MALLET	MA7D	01.50	MinRep: 4P Wd LT
1314	8	MALLET	MABA	10.00	NewCon: 8P Wd LT
1315	8	MALLET	MABB	15.00	RecReb: 8P Wd LT
1316	8	MALLET	MABC	16.00	RemRpl: 8P Wd LT
1317	8	MALLET	MABD	03.00	MinRep: 8P Wd LT
1318	8	MALLET	N1	20.00	12ALTNew Con
1319	8	MALLET	N2	24.00	12ALTRec/Reb
1320	8	MALLET	N3	25.00	12ALTRem/Repl
1321	8	MALLET	N3-R	08.33	12ALTRemove
1322	8	MALLET	N4	04.00	12ALTMin Reps
1323	8	MALLET	O1	01.50	2ALTNew Con

	District	Vessel Name	Code	Service Time in Hours	Description*
1324	8	MALLET	O2	02.50	2ALTRec/Reb
1325	8	MALLET	O3	02.25	2ALTRem/Repl
1326	8	MALLET	O3-R	00.75	2ALTRemove
1327	8	MALLET	O4	00.75	2ALTMin Reps
1328	8	MALLET	Q1	01.50	2WLTNew Con
1329	8	MALLET	Q2	02.50	2WLTRec/Reb
1330	8	MALLET	Q3	02.25	2WLTRem/Repl
1331	8	MALLET	Q3-R	00.75	2WLTRemove
1332	8	MALLET	Q4	00.75	2WLTMin Reps
1333	8	MALLET	R1	02.00	3ALTNew Con
1334	8	MALLET	R2	03.00	3ALTRec/Reb
1335	8	MALLET	R3	03.00	3ALTRem/Repl
1336	8	MALLET	R3-R	01.00	3ALTRemove
1337	8	MALLET	R4	01.00	3ALTMin Reps
1338	8	MALLET	S1	05.00	4ALTNew Con
1339	8	MALLET	S2	07.00	4ALTRec/Reb
1340	8	MALLET	S3	09.00	4ALTRem/Repl
1341	8	MALLET	S3-R	03.00	4ALTRemove
1342	8	MALLET	S4	02.00	4ALTMin Reps
1343	8	MALLET	T1	10.00	8ALTNew Con
1344	8	MALLET	T2	15.00	8ALTRec/Reb
1345	8	MALLET	T3	16.00	8ALTRem/Repl
1346	8	MALLET	T3-R	05.33	8ALTRemove
1347	8	MALLET	T4	03.00	8ALTMin Reps
1348	8	MALLET	U4	00.25	0ADBNMin Reps
1349	8	MALLET	V4	00.50	0ALTMin Reps
1350	8	MALLET	X1	10.00	8WLTNew Con
1351	8	MALLET	X2	15.00	8WLTRec/Reb
1352	8	MALLET	X3	16.00	8WLTRem/Repl
1353	8	MALLET	X3-R	05.33	8WLTRemove
1354	8	MALLET	X4	03.00	8WLTMin Reps
1355	8	PAMLICO	11	00.50	1WDBNNew Con
1356	8	PAMLICO	12	00.75	1WDBNRec/Reb
1357	8	PAMLICO	13	01.00	1WDBNRem/Repl
1358	8	PAMLICO	13-R	00.33	1WDBNRemove
1359	8	PAMLICO	14	00.25	1WDBNMin Reps
1360	8	PAMLICO	21	00.50	1SDBNNew Con
1361	8	PAMLICO	31	01.00	1WLTNew Con
1362	8	PAMLICO	32	01.33	1WLTRec/Reb
1363	8	PAMLICO	33	01.33	1WLTRem/Repl
1364	8	PAMLICO	33-R	00.44	1WLTRemove
1365	8	PAMLICO	34	00.50	1WLTMin Reps
1366	8	PAMLICO	41	01.75	1SLTNew Con
1367	8	PAMLICO	42	02.50	1SLTRec/Reb
1368	8	PAMLICO	43	02.50	1SLTRem/Repl
1369	8	PAMLICO	43-R	00.83	1SLTRemove
1370	8	PAMLICO	44	00.75	1SLTMin Reps
1371	8	PAMLICO	51	02.50	3WLTNew Con
1372	8	PAMLICO	52	03.00	3WLTRec/Reb

	District	Vessel Name	Code	Service Time in Hours	Description*
1373	8	PAMLICO	53	04.00	3WLTRem/Repl
1374	8	PAMLICO	53-R	01.33	3WLTRemove
1375	8	PAMLICO	54	00.50	3WLTMin Reps
1376	8	PAMLICO	71	10.00	4WLTNew Con
1377	8	PAMLICO	72	12.00	4WLTRec/Reb
1378	8	PAMLICO	73	14.00	4WLTRem/Repl
1379	8	PAMLICO	73-R	04.67	4WLTRemove
1380	8	PAMLICO	74	01.00	4WLTMin Reps
1381	8	PAMLICO	91	10.00	4WLTNew Con
1382	8	PAMLICO	92	12.00	4WLTRec/Reb
1383	8	PAMLICO	93	14.00	4WLTRem/Repl
1384	8	PAMLICO	93-R	04.67	4WLTRemove
1385	8	PAMLICO	94	01.00	4WLTMin Reps
1386	8	PAMLICO	F5	00.33	Inspect
1387	8	PAMLICO	F8	00.50	Mooring
1388	8	PAMLICO	F9	00.33	Pos Check
1389	8	PAMLICO	FA	00.50	Relief
1390	8	PAMLICO	L1	00.50	1ADBNNew Con
1391	8	PAMLICO	L2	00.75	1ADBNRec/Reb
1392	8	PAMLICO	L3	01.00	1ADBNRem/Repl
1393	8	PAMLICO	L3-R	00.33	1ADBNRemove
1394	8	PAMLICO	L4	00.25	1ADBNMin Reps
1395	8	PAMLICO	M1	01.38	1ALTNew Con
1396	8	PAMLICO	M2	01.92	1ALTRec/Reb
1397	8	PAMLICO	M3	01.92	1ALTRem/Repl
1398	8	PAMLICO	M3-R	00.64	1ALTRemove
1399	8	PAMLICO	M4	00.63	1ALTMin Reps
1400	8	PAMLICO	O1	01.75	2ALTNew Con
1401	8	PAMLICO	O2	02.33	2ALTRec/Reb
1402	8	PAMLICO	O3	02.58	2ALTRem/Repl
1403	8	PAMLICO	O3-R	00.86	2ALTRemove
1404	8	PAMLICO	O4	00.63	2ALTMin Reps
1405	8	PAMLICO	P1	01.75	2SLTNew Con
1406	8	PAMLICO	P2	02.50	2SLTRec/Reb
1407	8	PAMLICO	P3	02.50	2SLTRem/Repl
1408	8	PAMLICO	P3-R	00.83	2SLTRemove
1409	8	PAMLICO	P4	00.75	2SLTMin Reps
1410	8	PAMLICO	Q1	01.75	2WLTNew Con
1411	8	PAMLICO	Q2	02.17	2WLTRec/Reb
1412	8	PAMLICO	Q3	02.67	2WLTRem/Repl
1413	8	PAMLICO	Q3-R	00.89	2WLTRemove
1414	8	PAMLICO	Q4	00.50	2WLTMin Reps
1415	8	PAMLICO	R1	02.50	3ALTNew Con
1416	8	PAMLICO	R2	03.00	3ALTRec/Reb
1417	8	PAMLICO	R3	04.00	3ALTRem/Repl
1418	8	PAMLICO	R3-R	01.33	3ALTRemove
1419	8	PAMLICO	R4	00.50	3ALTMin Reps
1420	8	PAMLICO	S1	10.00	4ALTNew Con
1421	8	PAMLICO	S2	12.00	4ALTRec/Reb

	District	Vessel Name	Code	Service Time in Hours	Description*
1422	8	PAMLICO	S3	14.00	4ALTRem/Repl
1423	8	PAMLICO	S3-R	04.67	4ALTRemove
1424	8	PAMLICO	S4	01.00	4ALTMin Reps
1425	8	PAMLICO	T1	20.00	8ALTNew Con
1426	8	PAMLICO	T2	30.00	8ALTRec/Reb
1427	8	PAMLICO	T3	30.00	8ALTRem/Repl
1428	8	PAMLICO	T3-R	10.00	8ALTRemove
1429	8	PAMLICO	T4	03.00	8ALTMin Reps
1430	8	PAMLICO	U4	00.25	0ADBNMin Reps
1431	8	PAMLICO	V4	00.63	0ALTMin Reps
1432	8	PAMLICO	X1	20.00	8WLTNew Con
1433	8	PAMLICO	X2	30.00	8WLTRec/Reb
1434	8	PAMLICO	X3	30.00	8WLTRem/Repl
1435	8	PAMLICO	X3-R	10.00	8WLTRemove
1436	8	PAMLICO	X4	03.00	8WLTMin Reps
1437	8	SAGINAW	11	01.00	1WDBNNew Con
1438	8	SAGINAW	12	01.25	1WDBNRec/Reb
1439	8	SAGINAW	13	01.50	1WDBNRem/Repl
1440	8	SAGINAW	13-R	00.50	1WDBNRemove
1441	8	SAGINAW	14	00.20	1WDBNMin Reps
1442	8	SAGINAW	21	02.50	1SDBNNew Con
1443	8	SAGINAW	31	01.30	1WLTNew Con
1444	8	SAGINAW	32	01.50	1WLTRec/Reb
1445	8	SAGINAW	33	01.75	1WLTRem/Repl
1446	8	SAGINAW	33-R	00.58	1WLTRemove
1447	8	SAGINAW	34	00.30	1WLTMin Reps
1448	8	SAGINAW	41	04.00	1SLTNew Con
1449	8	SAGINAW	51	02.00	3WLTNew Con
1450	8	SAGINAW	52	03.00	3WLTRec/Reb
1451	8	SAGINAW	53	03.50	3WLTRem/Repl
1452	8	SAGINAW	53-R	01.17	3WLTRemove
1453	8	SAGINAW	54	01.00	3WLTMin Reps
1454	8	SAGINAW	91	16.00	4WLTNew Con
1455	8	SAGINAW	92	22.00	4WLTRec/Reb
1456	8	SAGINAW	93	24.00	4WLTRem/Repl
1457	8	SAGINAW	93-R	08.00	4WLTRemove
1458	8	SAGINAW	94	04.00	4WLTMin Reps
1459	8	SAGINAW	B1	00.50	I (ULB)
1460	8	SAGINAW	B2	00.75	IM (ULB)
1461	8	SAGINAW	B3	00.75	IMR (ULB)
1462	8	SAGINAW	B4	00.75	R (ULB)
1463	8	SAGINAW	D1	24.00	12WLTNew Con
1464	8	SAGINAW	D2	30.00	12WLTRec/Reb
1465	8	SAGINAW	D3	32.00	12WLTRem/Repl
1466	8	SAGINAW	D3-R	10.67	12WLTRemove
1467	8	SAGINAW	D4	10.00	12WLTMin Reps
1468	8	SAGINAW	F5	00.50	Inspect
1469	8	SAGINAW	F8	00.75	Mooring
1470	8	SAGINAW	F9	00.25	Pos Check

	District	Vessel Name	Code	Service Time in Hours	Description*
1471	8	SAGINAW	FA	00.75	Relief
1472	8	SAGINAW	L1	01.75	1ADBNNew Con
1473	8	SAGINAW	L2	01.25	1ADBNRec/Reb
1474	8	SAGINAW	L3	01.50	1ADBNRem/Repl
1475	8	SAGINAW	L3-R	00.50	1ADBNRemove
1476	8	SAGINAW	L4	00.20	1ADBNMin Reps
1477	8	SAGINAW	M1	02.65	1ALTNew Con
1478	8	SAGINAW	M2	01.50	1ALTRec/Reb
1479	8	SAGINAW	M3	01.75	1ALTRem/Repl
1480	8	SAGINAW	M3-R	00.58	1ALTRemove
1481	8	SAGINAW	M4	00.30	1ALTMin Reps
1482	8	SAGINAW	N1	24.00	12ALTNew Con
1483	8	SAGINAW	N2	30.00	12ALTRec/Reb
1484	8	SAGINAW	N3	32.00	12ALTRem/Repl
1485	8	SAGINAW	N3-R	10.67	12ALTRemove
1486	8	SAGINAW	N4	10.00	12ALTMin Reps
1487	8	SAGINAW	O1	02.83	2ALTNew Con
1488	8	SAGINAW	O2	02.25	2ALTRec/Reb
1489	8	SAGINAW	O3	02.63	2ALTRem/Repl
1490	8	SAGINAW	O3-R	00.88	2ALTRemove
1491	8	SAGINAW	O4	00.65	2ALTMin Reps
1492	8	SAGINAW	P1	04.00	2SLTNew Con
1493	8	SAGINAW	Q1	01.65	2WLTNew Con
1494	8	SAGINAW	Q2	02.25	2WLTRec/Reb
1495	8	SAGINAW	Q3	02.63	2WLTRem/Repl
1496	8	SAGINAW	Q3-R	00.88	2WLTRemove
1497	8	SAGINAW	Q4	00.65	2WLTMin Reps
1498	8	SAGINAW	R1	02.00	3ALTNew Con
1499	8	SAGINAW	R2	03.00	3ALTRec/Reb
1500	8	SAGINAW	R3	03.50	3ALTRem/Repl
1501	8	SAGINAW	R3-R	01.17	3ALTRemove
1502	8	SAGINAW	R4	01.00	3ALTMin Reps
1503	8	SAGINAW	S1	16.00	4ALTNew Con
1504	8	SAGINAW	S2	22.00	4ALTRec/Reb
1505	8	SAGINAW	S3	24.00	4ALTRem/Repl
1506	8	SAGINAW	S3-R	08.00	4ALTRemove
1507	8	SAGINAW	S4	04.00	4ALTMin Reps
1508	8	SAGINAW	T1	20.00	8ALTNew Con
1509	8	SAGINAW	T2	26.00	8ALTRec/Reb
1510	8	SAGINAW	T3	28.00	8ALTRem/Repl
1511	8	SAGINAW	T3-R	09.33	8ALTRemove
1512	8	SAGINAW	T4	08.00	8ALTMin Reps
1513	8	SAGINAW	U4	00.20	0ADBNMin Reps
1514	8	SAGINAW	V4	00.30	0ALTMin Reps
1515	8	SAGINAW	X1	20.00	8WLTNew Con
1516	8	SAGINAW	X2	26.00	8WLTRec/Reb
1517	8	SAGINAW	X3	28.00	8WLTRem/Repl
1518	8	SAGINAW	X3-R	09.33	8WLTRemove
1519	8	SAGINAW	X4	08.00	8WLTMin Reps

	District	Vessel Name	Code	Service Time in Hours	Description*
1520	8	WEDGE	11	00.50	1WDBNNew Con
1521	8	WEDGE	12	00.75	1WDBNRec/Reb
1522	8	WEDGE	13	00.75	1WDBNRem/Repl
1523	8	WEDGE	13-R	00.25	1WDBNRemove
1524	8	WEDGE	14	00.25	1WDBNMin Reps
1525	8	WEDGE	31	00.75	1WLTNew Con
1526	8	WEDGE	32	01.25	1WLTRec/Reb
1527	8	WEDGE	33	01.25	1WLTRem/Repl
1528	8	WEDGE	33-R	00.42	1WLTRemove
1529	8	WEDGE	34	00.50	1WLTMin Reps
1530	8	WEDGE	51	02.00	3WLTNew Con
1531	8	WEDGE	52	02.50	3WLTRec/Reb
1532	8	WEDGE	53	02.50	3WLTRem/Repl
1533	8	WEDGE	53-R	00.83	3WLTRemove
1534	8	WEDGE	54	00.50	3WLTMin Reps
1535	8	WEDGE	71	12.00	4WLTNew Con
1536	8	WEDGE	72	14.00	4WLTRec/Reb
1537	8	WEDGE	73	14.00	4WLTRem/Repl
1538	8	WEDGE	73-R	04.67	4WLTRemove
1539	8	WEDGE	74	01.00	4WLTMin Reps
1540	8	WEDGE	91	12.00	4WLTNew Con
1541	8	WEDGE	92	14.00	4WLTRec/Reb
1542	8	WEDGE	93	14.00	4WLTRem/Repl
1543	8	WEDGE	93-R	04.67	4WLTRemove
1544	8	WEDGE	94	01.00	4WLTMin Reps
1545	8	WEDGE	D1	20.00	12WLTNew Con
1546	8	WEDGE	D2	24.00	12WLTRec/Reb
1547	8	WEDGE	D3	24.00	12WLTRem/Repl
1548	8	WEDGE	D3-R	08.00	12WLTRemove
1549	8	WEDGE	D4	04.00	12WLTMin Reps
1550	8	WEDGE	F5	00.33	Inspect
1551	8	WEDGE	F8	00.17	Mooring
1552	8	WEDGE	F9	00.33	Pos Check
1553	8	WEDGE	FA	00.17	Relief
1554	8	WEDGE	L1	00.50	1ADBNNew Con
1555	8	WEDGE	L2	00.75	1ADBNRec/Reb
1556	8	WEDGE	L3	00.75	1ADBNRem/Repl
1557	8	WEDGE	L3-R	00.25	1ADBNRemove
1558	8	WEDGE	L4	00.25	1ADBNMin Reps
1559	8	WEDGE	M1	00.75	1ALTNew Con
1560	8	WEDGE	M2	01.25	1ALTRec/Reb
1561	8	WEDGE	M3	01.25	1ALTRem/Repl
1562	8	WEDGE	M3-R	00.42	1ALTRemove
1563	8	WEDGE	M4	00.50	1ALTMin Reps
1564	8	WEDGE	N1	20.00	12ALTNew Con
1565	8	WEDGE	N2	24.00	12ALTRec/Reb
1566	8	WEDGE	N3	24.00	12ALTRem/Repl
1567	8	WEDGE	N3-R	08.00	12ALTRemove
1568	8	WEDGE	N4	04.00	12ALTMin Reps

	District	Vessel Name	Code	Service Time in Hours	Description*
1569	8	WEDGE	Q1	01.38	2ALTNew Con
1570	8	WEDGE	Q2	01.88	2ALTRec/Reb
1571	8	WEDGE	Q3	01.88	2ALTRem/Repl
1572	8	WEDGE	Q3-R	00.63	2ALTRemove
1573	8	WEDGE	Q4	00.50	2ALTMin Reps
1574	8	WEDGE	Q1	01.38	2WLTNew Con
1575	8	WEDGE	Q2	01.88	2WLTRec/Reb
1576	8	WEDGE	Q3	01.88	2WLTRem/Repl
1577	8	WEDGE	Q3-R	00.63	2WLTRemove
1578	8	WEDGE	Q4	00.50	2WLTMin Reps
1579	8	WEDGE	R1	02.00	3ALTNew Con
1580	8	WEDGE	R2	02.50	3ALTRec/Reb
1581	8	WEDGE	R3	02.50	3ALTRem/Repl
1582	8	WEDGE	R3-R	00.83	3ALTRemove
1583	8	WEDGE	R4	00.50	3ALTMin Reps
1584	8	WEDGE	S1	12.00	4ALTNew Con
1585	8	WEDGE	S2	14.00	4ALTRec/Reb
1586	8	WEDGE	S3	14.00	4ALTRem/Repl
1587	8	WEDGE	S3-R	04.67	4ALTRemove
1588	8	WEDGE	S4	01.00	4ALTMin Reps
1589	8	WEDGE	T1	16.00	8ALTNew Con
1590	8	WEDGE	T2	20.00	8ALTRec/Reb
1591	8	WEDGE	T3	20.00	8ALTRem/Repl
1592	8	WEDGE	T3-R	06.67	8ALTRemove
1593	8	WEDGE	T4	04.00	8ALTMin Reps
1594	8	WEDGE	U4	00.25	0ADBNMin Reps
1595	8	WEDGE	V4	00.50	0ALTMin Reps
1596	8	WEDGE	X1	16.00	8WLTNew Con
1597	8	WEDGE	X2	20.00	8WLTRec/Reb
1598	8	WEDGE	X3	20.00	8WLTRem/Repl
1599	8	WEDGE	X3-R	06.67	8WLTRemove
1600	8	WEDGE	X4	04.00	8WLTMin Reps
1601	99	Fleet Average	11	00.71	1WDBNNew Con
1602	99	Fleet Average	12	01.29	1WDBNRec/Reb
1603	99	Fleet Average	13	01.09	1WDBNRem/Repl
1604	99	Fleet Average	13-R	00.33	1WDBNRemove
1605	99	Fleet Average	14	00.24	1WDBNMin Reps
1606	99	Fleet Average	21	01.13	1SDBNNew Con
1607	99	Fleet Average	22	01.99	1SDBNRec/Reb
1608	99	Fleet Average	23	02.27	1SDBNRem/Repl
1609	99	Fleet Average	23-R	00.81	1SDBNRemove
1610	99	Fleet Average	24	00.44	1SDBNMin Reps
1611	99	Fleet Average	31	01.29	1WLTNew Con
1612	99	Fleet Average	32	01.88	1WLTRec/Reb
1613	99	Fleet Average	33	01.91	1WLTRem/Repl
1614	99	Fleet Average	33-R	00.62	1WLTRemove
1615	99	Fleet Average	34	00.53	1WLTMin Reps
1616	99	Fleet Average	41	02.06	1SLTNew Con
1617	99	Fleet Average	42	02.84	1SLTRec/Reb

	District	Vessel Name	Code	Service Time in Hours	Description*
1618	99	Fleet Average	43	03.13	1SLTRem/Repl
1619	99	Fleet Average	43-R	01.14	1SLTRemove
1620	99	Fleet Average	44	00.72	1SLTMin Reps
1621	99	Fleet Average	51	02.90	3WLTNew Con
1622	99	Fleet Average	52	04.06	3WLTRec/Reb
1623	99	Fleet Average	53	04.27	3WLTRem/Repl
1624	99	Fleet Average	53-R	01.37	3WLTRemove
1625	99	Fleet Average	54	00.76	3WLTMin Reps
1626	99	Fleet Average	61	05.35	3SLTNew Con
1627	99	Fleet Average	62	05.00	3SLTRec/Reb
1628	99	Fleet Average	63	06.95	3SLTRem/Repl
1629	99	Fleet Average	63-R	02.97	3SLTRemove
1630	99	Fleet Average	64	01.29	3SLTMin Reps
1631	99	Fleet Average	71	10.00	4WLTNew Con
1632	99	Fleet Average	72	12.53	4WLTRec/Reb
1633	99	Fleet Average	73	12.15	4WLTRem/Repl
1634	99	Fleet Average	73-R	04.22	4WLTRemove
1635	99	Fleet Average	74	01.66	4WLTMin Reps
1636	99	Fleet Average	81	07.40	4SLTNew Con
1637	99	Fleet Average	82	11.50	4SLTRec/Reb
1638	99	Fleet Average	83	11.00	4SLTRem/Repl
1639	99	Fleet Average	83-R	04.00	4SLTRemove
1640	99	Fleet Average	84	02.32	4SLTMin Reps
1641	99	Fleet Average	91	18.20	4WLTNew Con
1642	99	Fleet Average	92	22.69	4WLTRec/Reb
1643	99	Fleet Average	93	25.17	4WLTRem/Repl
1644	99	Fleet Average	93-R	09.01	4WLTRemove
1645	99	Fleet Average	94	02.31	4WLTMin Reps
1646	99	Fleet Average	A3-R	07.67	4SLTRemove
1647	99	Fleet Average	A5	01.44	MR
1648	99	Fleet Average	A6	01.04	R
1649	99	Fleet Average	C1	00.67	Sp
1650	99	Fleet Average	C2	00.44	Fa
1651	99	Fleet Average	C3	00.97	Sp
1652	99	Fleet Average	C4	00.77	Fa
1653	99	Fleet Average	D1	21.33	12WLTNew Con
1654	99	Fleet Average	D2	26.00	12WLTRec/Reb
1655	99	Fleet Average	D3	27.00	12WLTRem/Repl
1656	99	Fleet Average	D3-R	09.00	12WLTRemove
1657	99	Fleet Average	D4	06.00	12WLTMin Reps
1658	99	Fleet Average	F1	01.00	I
1659	99	Fleet Average	F2	01.50	I
1660	99	Fleet Average	F5	00.54	Inspect
1661	99	Fleet Average	F8	00.76	Mooring
1662	99	Fleet Average	F9	00.30	Pos Check
1663	99	Fleet Average	FA	00.58	Relief
1664	99	Fleet Average	G5	00.74	Inspect
1665	99	Fleet Average	G7	01.20	Recharge
1666	99	Fleet Average	G8	01.21	Mooring

	District	Vessel Name	Code	Service Time in Hours	Description*
1667	99	Fleet Average	G9	00.30	Pos Check
1668	99	Fleet Average	GA	00.92	Relief
1669	99	Fleet Average	H5	00.16	DBNInspect
1670	99	Fleet Average	H6	00.22	DBNDayBrd Ch
1671	99	Fleet Average	I5	00.46	LTInspect
1672	99	Fleet Average	I6	00.38	LTDayBrd Ch
1673	99	Fleet Average	I7	00.88	LTRecharge
1674	99	Fleet Average	J5	00.78	LTInspect
1675	99	Fleet Average	J6	01.55	LTDayBrd Ch
1676	99	Fleet Average	J7	01.25	LTRecharge
1677	99	Fleet Average	K5	01.00	LTInspect
1678	99	Fleet Average	K6	02.50	LTDayBrd Ch
1679	99	Fleet Average	K7	01.75	LTRecharge
1680	99	Fleet Average	L1	00.74	1ADBNNew Con
1681	99	Fleet Average	L2	01.27	1ADBNRec/Reb
1682	99	Fleet Average	L3	01.30	1ADBNRem/Repl
1683	99	Fleet Average	L3-R	00.43	1ADBNRemove
1684	99	Fleet Average	L4	00.28	1ADBNMin Reps
1685	99	Fleet Average	M1	01.38	1ALTNew Con
1686	99	Fleet Average	M2	02.06	1ALTRec/Reb
1687	99	Fleet Average	M3	02.27	1ALTRem/Repl
1688	99	Fleet Average	M3-R	00.76	1ALTRemove
1689	99	Fleet Average	M4	00.54	1ALTMin Reps
1690	99	Fleet Average	N1	21.33	12ALTNew Con
1691	99	Fleet Average	N2	26.00	12ALTRec/Reb
1692	99	Fleet Average	N3	27.00	12ALTRem/Repl
1693	99	Fleet Average	N3-R	09.00	12ALTRemove
1694	99	Fleet Average	N4	06.00	12ALTMin Reps
1695	99	Fleet Average	O1	02.16	2ALTNew Con
1696	99	Fleet Average	O2	02.82	2ALTRec/Reb
1697	99	Fleet Average	O3	03.17	2ALTRem/Repl
1698	99	Fleet Average	O3-R	01.06	2ALTRemove
1699	99	Fleet Average	O4	00.70	2ALTMin Reps
1700	99	Fleet Average	P1	02.56	2SLTNew Con
1701	99	Fleet Average	P2	02.88	2SLTRec/Reb
1702	99	Fleet Average	P3	03.88	2SLTRem/Repl
1703	99	Fleet Average	P3-R	01.29	2SLTRemove
1704	99	Fleet Average	P4	00.84	2SLTMin Reps
1705	99	Fleet Average	Q1	01.97	2WLTNew Con
1706	99	Fleet Average	Q2	02.79	2WLTRec/Reb
1707	99	Fleet Average	Q3	02.87	2WLTRem/Repl
1708	99	Fleet Average	Q3-R	00.96	2WLTRemove
1709	99	Fleet Average	Q4	00.61	2WLTMin Reps
1710	99	Fleet Average	R1	03.13	3ALTNew Con
1711	99	Fleet Average	R2	03.85	3ALTRec/Reb
1712	99	Fleet Average	R3	04.50	3ALTRem/Repl
1713	99	Fleet Average	R3-R	01.50	3ALTRemove
1714	99	Fleet Average	R4	00.92	3ALTMin Reps
1715	99	Fleet Average	S1	15.90	4ALTNew Con

	District	Vessel Name	Code	Service Time in Hours	Description*
1716	99	Fleet Average	S2	19.68	4ALTRec/Reb
1717	99	Fleet Average	S3	21.06	4ALTRem/Repl
1718	99	Fleet Average	S3-R	07.02	4ALTRemove
1719	99	Fleet Average	S4	02.23	4ALTMin Reps
1720	99	Fleet Average	T1	30.78	8ALTNew Con
1721	99	Fleet Average	T2	40.39	8ALTRec/Reb
1722	99	Fleet Average	T3	39.60	8ALTRem/Repl
1723	99	Fleet Average	T3-R	13.20	8ALTRemove
1724	99	Fleet Average	T4	03.84	8ALTMin Reps
1725	99	Fleet Average	U4	00.28	OADBNMin Reps
1726	99	Fleet Average	V4	00.54	OALTMin Reps
1727	99	Fleet Average	W4	00.50	OSLTMin Reps
1728	99	Fleet Average	X1	30.78	8WLTNew Con
1729	99	Fleet Average	X2	40.39	8WLTRec/Reb
1730	99	Fleet Average	X3	39.60	8WLTRem/Repl
1731	99	Fleet Average	X3-R	13.20	8WLTRemove
1732	99	Fleet Average	X4	03.84	8WLTMin Reps
1733	99	Fleet Average	Y1	10.00	4SLTNew Con
1734	99	Fleet Average	Y2	17.30	4SLTRec/Reb
1735	99	Fleet Average	Y3	17.00	4SLTRem/Repl
1736	99	Fleet Average	Y4	02.63	4SLTMin Reps
1737	99	TEMP	A1	00.00	LB Inspection
1738	99	TEMP	A2	00.00	LB Inspect+Moor.
1739	99	TEMP	A3	00.00	LB Insp+Moor+Chg
1740	99	TEMP	A4	00.00	LB Insp+Charge
1741	99	TEMP	A5	00.00	LB Moor+Relief
1742	99	TEMP	A6	00.00	LB Relief
1743	99	TEMP	B1	00.00	ULB Inspection (
1744	99	TEMP	B2	00.00	ULB Mooring+Insp
1745	99	TEMP	B3	00.00	ULB Moorng+Relf
1746	99	TEMP	B4	00.00	ULB Relief (ULB)
1747	99	TEMP	F1	00.00	DBN Inspection
1748	99	TEMP	F2	00.00	LT Inspection
1749	99	TEMP	ST1A	00.00	NewCon: Wd DBN
1750	99	TEMP	ST1B	00.00	RecReb: Wd DBN
1751	99	TEMP	ST1C	00.00	RemRpl: Wd DBN
1752	99	TEMP	ST1D	00.00	MinRep: Wd DBN
1753	99	TEMP	ST2A	00.00	NewCon: Stl DBN
1754	99	TEMP	ST2B	00.00	RecReb: Stl DBN
1755	99	TEMP	ST2C	00.00	RemRpl: Stl DBN
1756	99	TEMP	ST2D	00.00	MinRep: Stl DBN
1757	99	TEMP	ST3A	00.00	NewCon: 1P Wd LT
1758	99	TEMP	ST3B	00.00	RecReb: 1P Wd LT
1759	99	TEMP	ST3C	00.00	RemRpl: 1P Wd LT
1760	99	TEMP	ST3D	00.00	MinRep: 1P Wd LT
1761	99	TEMP	ST4A	00.00	NewCon:1P Stl LT
1762	99	TEMP	ST4B	00.00	RecReb:1P Stl LT
1763	99	TEMP	ST4C	00.00	RemRpl:1P Stl LT
1764	99	TEMP	ST4D	00.00	MinRep:1P Stl LT

	District	Vessel Name	Code	Service Time in Hours	Description*
1765	99	TEMP	ST5A	00.00	NewCon: 3P Wd LT
1766	99	TEMP	ST5B	00.00	RecReb:1P Stl LT
1767	99	TEMP	ST5C	00.00	RemRpl: 3P Wd LT
1768	99	TEMP	ST5D	00.00	MinRep: 3P Wd LT
1769	99	TEMP	ST6A	00.00	NewCon:3P Stl LT
1770	99	TEMP	ST6B	00.00	RecREb:3P Stl LT
1771	99	TEMP	ST6C	00.00	RemRpl:3P Stl LT
1772	99	TEMP	ST6D	00.00	MinRep:3P Stl LT
1773	99	TEMP	ST7A	00.00	NewCon: 4P Wd LT
1774	99	TEMP	ST7B	00.00	RecREb: 4P Wd LT
1775	99	TEMP	ST7C	00.00	RemRpl: 4P Wd LT
1776	99	TEMP	ST7D	00.00	MinRep: 4P Wd LT
1777	99	TEMP	ST8A	00.00	NewCon:4P Stl LT
1778	99	TEMP	ST8B	00.00	RecREb.4P Stl LT
1779	99	TEMP	ST8C	00.00	RemRpl:4P Stl LT
1780	99	TEMP	ST8D	00.00	MinRep:4P Stl LT
1781	99	TEMP	ST9A	00.00	NewCon: 4P Wd Rg
1782	99	TEMP	ST9B	00.00	RecREb: 4P Wd Rg
1783	99	TEMP	ST9C	00.00	RemRpl: 4P Wd Rg
1784	99	TEMP	ST9D	00.00	MinRep: 4P Wd Rg
1785	99	TEMP	STAA	00.00	NewCon:4P Stl Rg
1786	99	TEMP	STAB	00.00	RecREb:4P Stl Rg
1787	99	TEMP	STAC	00.00	RemRpl:4P Stl Rg
1788	99	TEMP	STAD	00.00	MinRep:4P Stl Rg
1789	99	TEMP	STBA	00.00	NewCon: 8P Wd Rg
1790	99	TEMP	STBB	00.00	RecREb: 8P Wd Rg
1791	99	TEMP	STBC	00.00	RemRpl: 8P Wd Rg
1792	99	TEMP	STBD	00.00	MinRep: 8P Wd Rg
1793	99	TEMP	STCA	00.00	NewCon:8P Stl Rg
1794	99	TEMP	STCB	00.00	RecREb:8P Stl Rg
1795	99	TEMP	STCC	00.00	RemRpl:8P Stl Rg
1796	99	TEMP	STCD	00.00	MinRep:8P Stl Rg
1797	99	TEMP	STDA	00.00	NewCon:12p Wd Rg
1798	99	TEMP	STDB	00.00	RecREb:12p Wd Rg
1799	99	TEMP	STDC	00.00	RemRpl:12p Wd Rg
1800	99	TEMP	STDD	00.00	MinRep:12p Wd Rg
1801	99	TEMP	STEA	00.00	NewCon:12p St Rg
1802	99	TEMP	STEB	00.00	RecREb:12p St Rg
1803	99	TEMP	STEC	00.00	RemRpl:12p St Rg
1804	99	TEMP	STED	00.00	MinRep:12p St Rg
1805	99	TEMP	STFA	00.00	NewCon:1P Con LT
1806	99	TEMP	STFB	00.00	RecREb:1P Con LT
1807	99	TEMP	STFC	00.00	RemRpl:1P Con LT
1808	99	TEMP	STFD	00.00	MinRep:1P Con LT
1809	99	TEMP	STGA	00.00	NewCon:5P Stl LT
1810	99	TEMP	STGB	00.00	RecReb:5P Stl LT
1811	99	TEMP	STGC	00.00	RemRpl:5P Stl LT
1812	99	TEMP	STGD	00.00	MinRep:5P Stl LT

* Key to Description

1WDBNMin Reps
abcccddddddd

a: Number of Piles
b: Composition
- W = Wood
- S = Steel
- C = Concrete
- A = Average

c: Structure Type
- DBN = Daybeacon
- LT = Light

d: Action Performed
- New Con: New Construction
- Min Reps: Minor Repairs
- Rec/Reb: Recover & Rebuild
- Rem/Repl: Remove & Replace
- Remove: Remove

APPENDIX C

DESCRIPTION OF DSS ONE-PAGE SUMMARY SHEETS

APPENDIX C.
LAYOUT OF DSS 1-PAGE SUMMARY SHEET

Time report generated
date report generated ATON SERVICE FORCE MIX DSS vessel & report #

VESSEL SUMMARY REPORT
==========

Platform Characteristics

- *vessel class and name*
- Homeport: *city and state*
- average transit speed: *from survey*
- maximum cruise length: *from survey*
- work day: *from survey*
- Prep/Deprep time: *from survey (minimum minutes between aids -- WLICs =15)*
- Dispatch: date of first trip *(1/1/93 for derived WLIC log, all aids last serviced in 1992 will be serviced)*
  (Window size: *size of service days window*, Step size: *number of days between vessel trips) (a Window Size, Step Size of 1,1 will result in the DSS servicing the aids within +/- 1 or 2 days of actual dates)*

Summary Statistics

Total Navaids assigned	=	*number of aids assigned (includes port)*
Total Navaids serviced	=	*number of aids visited by DSS*
Total trips	=	*generated by DSS*
Underway days	=	*total calendar days tender was out*
Avg buoys / trip	=	*calculated*
Avg underway days / trip	=	*calculated*
Total transit time	=	*sum of DSS trip routes*
Total service time	=	*sum of required aid servicing times*
Total idle time	=	*sum of overnight time away from port*
Total time	=	*sum of above three times*
Total short transits	=	*inter-navaid trip times that were < prep/deprep time*
Total length of short trips	=	*time that was expended by by DSS on those trips*
Additional prep/deprep time	=	*additional time needed to = prep-deprep time*
Avg service time / navaid	=	*calculated*
Avg transit time / navaid	=	*calculated*
Avg total time / navaid	=	*calculated*
Total ATON hours used	=	*Sum Total of all hours*
Historical ATON hours used	=	*AOPS avg. of Underway and Hi-Readiness Hours*

APPENDIX D

DSS RESULTS FOR THE CONSTRUCTION LOG FILE

Table of Contents

VESSEL SUMMARY REPORT
==========

Platform Characteristics

- WLIC KENNEBEC
- Homeport PORTSMOUTH, VA
- 8 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- Prep/Deprep time 0:15
- Dispatch Friday 1/1/1993 at 7:00
  (Window size = 7 days, Step size = 7 days)

Summary Statistics

Total Navaids assigned	= 77	(0 Seasonal)	
Total Navaids serviced	= 76	(0 Seasonal)	
Total trips	= 26		
Underway days	= 39		
Avg buoys / trip	= 2.9		
Avg underway days / trip	= 1.5		
Total transit time	= 349:58		
Total service time	= 90:45		
Total idle time (not added)	= 95:47		
Total time		=	440:43
Total short transits	= 33		
Total length of short trips	= 3:20		
Additional prep/deprep time		=	4:55
Avg service time / navaid	= 1:12		
Avg transit time / navaid	= 4:40		
Avg total time / navaid	= 5:52		

Total ATON hours used = 445:38

Historical ATON hours used = 1703:00

VESSEL SUMMARY REPORT
==========

Platform Characteristics

- WLIC PRIMROSE
- Homeport ATLANTIC BEACH, NC
- 8.5 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- Prep/Deprep time 0:15
- Dispatch Friday 1/1/1993 at 7:00
  (Window size = 7 days, Step size = 7 days)

Summary Statistics

Total Navaids assigned	= 138	(0 Seasonal)
Total Navaids serviced	= 137	(0 Seasonal)
Total trips	= 37	
Underway days	= 74	
Avg buoys / trip	= 3.7	
Avg underway days / trip	= 2.0	
Total transit time	= 814:48	
Total service time	= 158:46	
Total idle time (not added)	= 184:23	
Total time		= 973:34
Total short transits	= 40	
Total length of short trips	= 4:15	
Additional prep/deprep time		= 5:45
Avg service time / navaid	= 1:10	
Avg transit time / navaid	= 5:59	
Avg total time / navaid	= 7:09	

Total ATON hours used = 979:19

Historical ATON hours used = 1335:00

10:37:53
Tuesday 3/22/1994 ATON SERVICE FORCE MIX DSS SLEDGE5.REP

VESSEL SUMMARY REPORT
==========

Platform Characteristics

- WLIC SLEDGE
- Homeport BALTIMORE, MD
- 7 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- Prep/Deprep time 0:15
- Dispatch Friday 1/1/1993 at 7:00
  (Window size = 7 days, Step size = 7 days)

Summary Statistics

Total Navaids assigned	= 50	(0 Seasonal)	
Total Navaids serviced	= 49	(0 Seasonal)	
Total trips	= 19		
Underway days	= 41		
Avg buoys / trip	= 2.6		
Avg underway days / trip	= 2.2		
Total transit time	= 488:57		
Total service time	= 53:31		
Total idle time (not added)	= 73:25		
Total time		=	542:28
Total short transits	= 11		
Total length of short trips	= 0:48		
Additional prep/deprep time		=	1:57
Avg service time / navaid	= 1:06		
Avg transit time / navaid	= 10:01		
Avg total time / navaid	= 11:07		

Total ATON hours used = 544:25

Historical ATON hours used = 1019:00

15:0:41
Tuesday 3/22/1994 ATON SERVICE FORCE MIX DSS rambler7.REP

VESSEL SUMMARY REPORT
==========

Platform Characteristics

- WLIC RAMBLER
- Homeport CHARLESTON, SC
- 8 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- Prep/Deprep time 0:15
- Dispatch Friday 1/1/1993 at 7:00
  (Window size = 7 days, Step size = 7 days)

Summary Statistics

Total Navaids assigned	= 55	(0 Seasonal)
Total Navaids serviced	= 54	(0 Seasonal)
Total trips	= 26	
Underway days	= 43	
Avg buoys / trip	= 2.1	
Avg underway days / trip	= 1.7	
Total transit time	= 358:45	
Total service time	= 98:38	
Total idle time (not added)	= 81:25	
Total time		= 457:23
Total short transits	= 9	
Total length of short trips	= 0:18	
Additional prep/deprep time		= 1:57
Avg service time / navaid	= 1:50	
Avg transit time / navaid	= 6:41	
Avg total time / navaid	= 8:30	

Total ATON hours used = 459:20

Historical ATON hours used = 1200:00

15:39:14
Friday 3/4/1994 ATON SERVICE FORCE MIX DSS hammer2.REP

VESSEL SUMMARY REPORT
==========

Platform Characteristics

- WLIC HAMMER
- Homeport MAYPORT, FL
- 7 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- Prep/Deprep time 0:15
- Dispatch Friday 1/1/1993 at 7:00
  (Window size = 7 days, Step size = 7 days)

Summary Statistics

Total Navaids assigned	= 62	(0 Seasonal)
Total Navaids serviced	= 61	(0 Seasonal)
Total trips	= 28	
Underway days	= 54	
Avg buoys / trip	= 2.2	
Avg underway days / trip	= 1.9	
Total transit time	= 616:37	
Total service time	= 91:41	
Total idle time (not added)	= 112:27	
Total time		= 708:18
Total short transits	= 7	
Total length of short trips	= 0:20	
Additional prep/deprep time		= 1:25
Avg service time / navaid	= 1:30	
Avg transit time / navaid	= 10:08	
Avg total time / navaid	= 11:38	

Total ATON hours used = 709:43

Historical ATON hours used = 1426:00

15:39:7
Friday 3/4/1994 ATON SERVICE FORCE MIX DSS smilax3.REP

VESSEL SUMMARY REPORT
==========

Platform Characteristics

- WLIC SMILAX
- Homeport BRUNSWICK, GA
- 8 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- Prep/Deprep time 0:15
- Dispatch Friday 1/1/1993 at 7:00
  (Window size = 7 days, Step size = 7 days)

Summary Statistics

Total Navaids assigned	= 53	(0 Seasonal)	
Total Navaids serviced	= 52	(0 Seasonal)	
Total trips	= 17		
Underway days	= 27		
Avg buoys / trip	= 3.1		
Avg underway days / trip	= 1.6		
Total transit time	= 205:54		
Total service time	= 93:30		
Total idle time (not added)	= 77:30		
Total time		=	299:24
Total short transits	= 15		
Total length of short trips	= 0:54		
Additional prep/deprep time		=	2:51
Avg service time / navaid	= 1:48		
Avg transit time / navaid	= 4:01		
Avg total time / navaid	= 5:49		

Total ATON hours used = 302:16

Historical ATON hours used = 2403:00

10:19:27
Tuesday 3/22/1994 ATON SERVICE FORCE MIX DSS hudson15.REP

VESSEL SUMMARY REPORT
==========

Platform Characteristics

- WLIC HUDSON
- Homeport MIAMI, FL
- 6.5 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- Prep/Deprep time 0:15
- Dispatch Friday 1/1/1993 at 7:00
  (Window size = 7 days, Step size = 7 days)

Summary Statistics

Total Navaids assigned	= 109 (0 Seasonal)	
Total Navaids serviced	= 108 (0 Seasonal)	
Total trips	= 33	
Underway days	= 72	
Avg buoys / trip	= 3.3	
Avg underway days / trip	= 2.2	
Total transit time	= 888:00	
Total service time	= 199:24	
Total idle time (not added)	= 191:56	
Total time		= 1087:24
Total short transits	= 31	
Total length of short trips	= 2:46	
Additional prep/deprep time		= 4:59
Avg service time / navaid	= 1:51	
Avg transit time / navaid	= 8:16	
Avg total time / navaid	= 10:07	

Total ATON hours used = 1092:23

Historical ATON hours used = 1763:00

15:39:35
Friday 3/4/1994 ATON SERVICE FORCE MIX DSS vise2.REP

VESSEL SUMMARY REPORT
=====================
Platform Characteristics

- WLIC VISE
- Homeport ST PETERSBURG, FL
- 7 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- Prep/Deprep time 0:15
- Dispatch Friday 1/1/1993 at 7:00
  (Window size = 7 days, Step size = 7 days)

Summary Statistics

Total Navaids assigned	= 141 (0 Seasonal)	
Total Navaids serviced	= 140 (0 Seasonal)	
Total trips	= 39	
Underway days	= 74	
Avg buoys / trip	= 3.6	
Avg underway days / trip	= 1.9	
Total transit time	= 680:38	
Total service time	= 248:50	
Total idle time (not added)	= 194:40	
Total time		= 929:27
Total short transits	= 40	
Total length of short trips	= 2:05	
Additional prep/deprep time		= 7:55
Avg service time / navaid	= 1:47	
Avg transit time / navaid	= 4:55	
Avg total time / navaid	= 6:42	

Total ATON hours used = 937:22

Historical ATON hours used = 1660:00

15:41:34
Friday 3/4/1994 ATON SERVICE FORCE MIX DSS anvil3.REP

VESSEL SUMMARY REPORT
==========

Platform Characteristics

- WLIC ANVIL
- Homeport CORPUS CHRISTI, TX
- 7 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- Prep/Deprep time 0:15
- Dispatch Friday 1/1/1993 at 7:00
  (Window size = 7 days, Step size = 7 days)

Summary Statistics

Total Navaids assigned	= 73	(0 Seasonal)
Total Navaids serviced	= 72	(0 Seasonal)
Total trips	= 24	
Underway days	= 43	
Avg buoys / trip	= 3.0	
Avg underway days / trip	= 1.8	
Total transit time	= 489:54	
Total service time	= 84:35	
Total idle time (not added)	= 178:34	
Total time		= 574:29
Total short transits	= 10	
Total length of short trips	= 1:24	
Additional prep/deprep time		= 1:06
Avg service time / navaid	= 1:10	
Avg transit time / navaid	= 6:49	
Avg total time / navaid	= 8:00	

Total ATON hours used = 575:35

Historical ATON hours used = 1512:00

15:44:6
Friday 3/4/1994 ATON SERVICE FORCE MIX DSS mallet16.REP

VESSEL SUMMARY REPORT
=====================
Platform Characteristics

- WLIC MALLET
- Homeport CORPUS CHRISTI, TX
- 6 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- Prep/Deprep time 0:15
- Dispatch Friday 1/1/1993 at 7:00
  (Window size = 7 days, Step size = 7 days)

Summary Statistics

Total Navaids assigned	= 63	(0 Seasonal)
Total Navaids serviced	= 62	(0 Seasonal)
Total trips	= 28	
Underway days	= 49	
Avg buoys / trip	= 2.2	
Avg underway days / trip	= 1.8	
Total transit time	= 515:43	
Total service time	= 94:38	
Total idle time (not added)	= 96:19	
Total time		= 610:21
Total short transits	= 5	
Total length of short trips	= 0:36	
Additional prep/deprep time		= 0:39
Avg service time / navaid	= 1:32	
Avg transit time / navaid	= 8:20	
Avg total time / navaid	= 9:51	

Total ATON hours used = 611:00

Historical ATON hours used = 1845:00

15:41:3
Friday 3/4/1994 ATON SERVICE FORCE MIX DSS clamp3.REP

VESSEL SUMMARY REPORT
==========

Platform Characteristics

- WLIC CLAMP
- Homeport GALVESTON, TX
- 7 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- Prep/Deprep time 0:15
- Dispatch Friday 1/1/1993 at 7:00
  (Window size = 7 days, Step size = 7 days)

Summary Statistics

Total Navaids assigned	= 147	(0 Seasonal)
Total Navaids serviced	= 146	(0 Seasonal)
Total trips	= 39	
Underway days	= 64	
Avg buoys / trip	= 3.7	
Avg underway days / trip	= 1.6	
Total transit time	= 375:18	
Total service time	= 424:07	
Total idle time (not added)	= 137:30	
Total time		= 799:25
Total short transits	= 42	
Total length of short trips	= 4:39	
Additional prep/deprep time		= 5:51
Avg service time / navaid	= 2:54	
Avg transit time / navaid	= 2:37	
Avg total time / navaid	= 5:31	

Total ATON hours used = 805:16

Historical ATON hours used = 1328:00

15:41:22
Friday 3/4/1994 ATON SERVICE FORCE MIX DSS hatchet2.REP

VESSEL SUMMARY REPORT
==========

Platform Characteristics

- WLIC HATCHET
- Homeport GALVESTON, TX
- 7 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- Prep/Deprep time 0:15
- Dispatch Friday 1/1/1993 at 7:00
  (Window size = 7 days, Step size = 7 days)

Summary Statistics

Total Navaids assigned	= 75	(0 Seasonal)
Total Navaids serviced	= 74	(0 Seasonal)
Total trips	= 27	
Underway days	= 47	
Avg buoys / trip	= 2.7	
Avg underway days / trip	= 1.7	
Total transit time	= 565:59	
Total service time	= 145:47	
Total idle time (not added)	= 137:37	
Total time		= 711:47
Total short transits	= 11	
Total length of short trips	= 1:16	
Additional prep/deprep time		= 1:29
Avg service time / navaid	= 1:58	
Avg transit time / navaid	= 7:40	
Avg total time / navaid	= 9:38	

Total ATON hours used = 713:16

Historical ATON hours used = 1370:00

15:39:49
Friday 3/4/1994 ATON SERVICE FORCE MIX DSS axe3.REP

VESSEL SUMMARY REPORT
==========

Platform Characteristics

- WLIC AXE
- Homeport MOBILE, AL
- 7 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- Prep/Deprep time 0:15
- Dispatch Friday 1/1/1993 at 7:00
  (Window size = 7 days, Step size = 7 days)

Summary Statistics

Total Navaids assigned	= 81	(0 Seasonal)
Total Navaids serviced	= 80	(0 Seasonal)
Total trips	= 20	
Underway days	= 58	
Avg buoys / trip	= 4.0	
Avg underway days / trip	= 2.9	
Total transit time	= 793:50	
Total service time	= 117:11	
Total idle time (not added)	= 179:56	
Total time		= 911:01
Total short transits	= 12	
Total length of short trips	= 0:53	
Additional prep/deprep time		= 2:07
Avg service time / navaid	= 1:28	
Avg transit time / navaid	= 9:57	
Avg total time / navaid	= 11:25	

Total ATON hours used = 913:08

Historical ATON hours used = 1658:00

15:40:3
Friday 3/4/1994 ATON SERVICE FORCE MIX DSS saginaw3.REP

VESSEL SUMMARY REPORT
==========

Platform Characteristics

- WLIC SAGINAW
- Homeport MOBILE, AL
- 8 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- Prep/Deprep time 0:15
- Dispatch Friday 1/1/1993 at 7:00
  (Window size = 7 days, Step size = 7 days)

Summary Statistics

Total Navaids assigned	= 176 (0 Seasonal)	
Total Navaids serviced	= 175 (0 Seasonal)	
Total trips	= 32	
Underway days	= 70	
Avg buoys / trip	= 5.5	
Avg underway days / trip	= 2.2	
Total transit time	= 576:43	
Total service time	= 319:40	
Total idle time (not added)	= 242:30	
Total time		= 896:23
Total short transits	= 37	
Total length of short trips	= 4:08	
Additional prep/deprep time		= 5:07
Avg service time / navaid	= 1:50	
Avg transit time / navaid	= 3:19	
Avg total time / navaid	= 5:09	

Total ATON hours used = 901:30

Historical ATON hours used = 2248:00

15:40:47
Friday 3/4/1994 ATON SERVICE FORCE MIX DSS pamlico3.REP

VESSEL SUMMARY REPORT
==========

Platform Characteristics

- WLIC PAMLICO
- Homeport NEW ORLEANS, LA
- 8 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- Prep/Deprep time 0:15
- Dispatch Friday 1/1/1993 at 7:00
  (Window size = 7 days, Step size = 7 days)

Summary Statistics

Total Navaids assigned	= 108 (0 Seasonal)	
Total Navaids serviced	= 107 (0 Seasonal)	
Total trips	= 26	
Underway days	= 55	
Avg buoys / trip	= 4.1	
Avg underway days / trip	= 2.1	
Total transit time	= 728:34	
Total service time	= 132:39	
Total idle time (not added)	= 249:20	
Total time		= 861:13
Total short transits	= 27	
Total length of short trips	= 2:12	
Additional prep/deprep time		= 4:33
Avg service time / navaid	= 1:14	
Avg transit time / navaid	= 6:51	
Avg total time / navaid	= 8:05	

Total ATON hours used = 865:46

Historical ATON hours used = 1956:00

VESSEL SUMMARY REPORT
==========

Platform Characteristics

- WLIC WEDGE
- Homeport NEW ORLEANS, LA
- 7 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- Prep/Deprep time 0:15
- Dispatch Friday 1/1/1993 at 7:00
  (Window size = 7 days, Step size = 7 days)

Summary Statistics

Total Navaids assigned	= 92	(0 Seasonal)
Total Navaids serviced	= 91	(0 Seasonal)
Total trips	= 36	
Underway days	= 64	
Avg buoys / trip	= 2.5	
Avg underway days / trip	= 1.8	
Total transit time	= 625:57	
Total service time	= 88:59	
Total idle time (not added)	= 121:12	
Total time		= 714:56
Total short transits	= 24	
Total length of short trips	= 2:21	
Additional prep/deprep time		= 3:39
Avg service time / navaid	= 0:59	
Avg transit time / navaid	= 6:55	
Avg total time / navaid	= 7:54	

Total ATON hours used = 718:35

Historical ATON hours used = 927:00

APPENDIX E

DSS RESULTS FOR COMBINED WLICS

Table of Contents

VESSEL SUMMARY REPORT
==========

Platform Characteristics

- WLIC PRIMROSE/KENNEBEC
- Homeport ATLANTIC BEACH, NC
- 8.5 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- Prep/Deprep time 0:15
- Dispatch Friday 1/1/1993 at 7:00
  (Window size = 7 days, Step size = 7 days)

Summary Statistics

Total Navaids assigned	= 141 (0 Seasonal)	
Total Navaids serviced	= 140 (0 Seasonal)	
Total trips	= 36	
Underway days	= 87	
Avg buoys / trip	= 3.9	
Avg underway days / trip	= 2.4	
Total transit time	= 1123:35	
Total service time	= 167:32	
Total idle time (not added)	= 201:48	
Total time		= 1291:07
Total short transits	= 40	
Total length of short trips	= 4:31	
Additional prep/deprep time		= 5:29
Avg service time / navaid	= 1:12	
Avg transit time / navaid	= 8:04	
Avg total time / navaid	= 9:16	

Total ATON hours used = 1296:36

Historical ATON hours used = 1500:00

10:53:10
Tuesday 3/22/1994 ATON SERVICE FORCE MIX DSS sledge6.REP

VESSEL SUMMARY REPORT
==========

Platform Characteristics

- WLIC SLEDGE/KENNEBEC
- Homeport BALTIMORE, MD
- 7 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- Prep/Deprep time 0:15
- Dispatch Friday 1/1/1993 at 7:00
  (Window size = 7 days, Step size = 7 days)

Summary Statistics

Total Navaids assigned	= 123	(0 Seasonal)
Total Navaids serviced	= 122	(0 Seasonal)
Total trips	= 30	
Underway days	= 75	
Avg buoys / trip	= 4.1	
Avg underway days / trip	= 2.5	
Total transit time	= 1079:30	
Total service time	= 113:21	
Total idle time (not added)	= 214:48	
Total time		= 1192:51
Total short transits	= 42	
Total length of short trips	= 3:37	
Additional prep/deprep time		= 6:53
Avg service time / navaid	= 0:56	
Avg transit time / navaid	= 8:54	
Avg total time / navaid	= 9:50	

Total ATON hours used = 1199:44

Historical ATON hours used = 1500:00

VESSEL SUMMARY REPORT

Platform Characteristics

- WLIC RAMBLER/SMILAX
- Homeport CHARLESTON, SC
- 8 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- Prep/Deprep time 0:15
- Dispatch Friday 1/1/1993 at 7:00
  (Window size = 7 days, Step size = 7 days)

Summary Statistics

Total Navaids assigned	= 72	(0 Seasonal)	
Total Navaids serviced	= 71	(0 Seasonal)	
Total trips	= 32		
Underway days	= 60		
Avg buoys / trip	= 2.2		
Avg underway days / trip	= 1.9		
Total transit time	= 576:33		
Total service time	= 148:08		
Total idle time (not added)	= 138:56		
Total time		=	724:40
Total short transits	= 10		
Total length of short trips	= 0:27		
Additional prep/deprep time		=	2:03
Avg service time / navaid	= 2:05		
Avg transit time / navaid	= 8:09		
Avg total time / navaid	= 10:14		

Total ATON hours used = 726:44

Historical ATON hours used = 1500:00

VESSEL SUMMARY REPORT
==========

Platform Characteristics

- WLIC HAMMER/SMILAX
- Homeport MAYPORT, FL
- 7 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- Prep/Deprep time 0:15
- Dispatch Friday 1/1/1993 at 7:00
  (Window size = 7 days, Step size = 7 days)

Summary Statistics

Total Navaids assigned	= 97	(0 Seasonal)
Total Navaids serviced	= 96	(0 Seasonal)
Total trips	= 33	
Underway days	= 71	
Avg buoys / trip	= 2.9	
Avg underway days / trip	= 2.2	
Total transit time	= 800:17	
Total service time	= 118:32	
Total idle time (not added)	= 159:50	
Total time		= 918:50
Total short transits	= 20	
Total length of short trips	= 1:07	
Additional prep/deprep time		= 3:53
Avg service time / navaid	= 1:14	
Avg transit time / navaid	= 8:23	
Avg total time / navaid	= 9:37	

Total ATON hours used = 922:43

Historical ATON hours used = 1500:00

VESSEL SUMMARY REPORT
==========

Platform Characteristics

- WLIC SMILAX/RAMBLER/HAMMER
- Homeport BRUNSWICK, GA
- 8 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- Prep/Deprep time 0:15
- Dispatch Friday 1/1/1993 at 7:00
  (Window size = 7 days, Step size = 7 days)

Summary Statistics

Total Navaids assigned	= 168 (0 Seasonal)	
Total Navaids serviced	= 167 (0 Seasonal)	
Total trips	= 49	
Underway days	= 134	
Avg buoys / trip	= 3.4	
Avg underway days / trip	= 2.7	
Total transit time	= 1829:19	
Total service time	= 339:35	
Total idle time (not added)	= 368:45	
Total time		= 2168:55
Total short transits	= 32	
Total length of short trips	= 1:28	
Additional prep/deprep time		= 6:32
Avg service time / navaid	= 2:02	
Avg transit time / navaid	= 11:00	
Avg total time / navaid	= 13:02	

Total ATON hours used = 2175:27

Historical ATON hours used = 1500:00

16:25:51
Friday 3/4/1994 ATON SERVICE FORCE MIX DSS ANVIL4.REP

VESSEL SUMMARY REPORT
==========

Platform Characteristics

- WLIC ANVIL/MALLET
- Homeport CORPUS CHRISTI, TX
- 7 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- Prep/Deprep time 0:15
- Dispatch Friday 1/1/1993 at 7:00
  (Window size = 7 days, Step size = 7 days)

Summary Statistics

Total Navaids assigned	= 135	(0 Seasonal)
Total Navaids serviced	= 134	(0 Seasonal)
Total trips	= 41	
Underway days	= 84	
Avg buoys / trip	= 3.3	
Avg underway days / trip	= 2.0	
Total transit time	= 901:31	
Total service time	= 207:44	
Total idle time (not added)	= 319:02	
Total time		= 1109:15
Total short transits	= 18	
Total length of short trips	= 2:24	
Additional prep/deprep time		= 2:06
Avg service time / navaid	= 1:33	
Avg transit time / navaid	= 6:45	
Avg total time / navaid	= 8:18	

Total ATON hours used = 1111:21

Historical ATON hours used = 1500:00

VESSEL SUMMARY REPORT
==========

Platform Characteristics

- WLIC CLAMP/HATCHET
- Homeport GALVESTON, TX
- 7 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- Prep/Deprep time 0:15
- Dispatch Friday 1/1/1993 at 7:00
  (Window size = 7 days, Step size = 7 days)

Summary Statistics

Total Navaids assigned	= 221	(0 Seasonal)
Total Navaids serviced	= 220	(0 Seasonal)
Total trips	= 47	
Underway days	= 100	
Avg buoys / trip	= 4.7	
Avg underway days / trip	= 2.1	
Total transit time	= 900:54	
Total service time	= 622:41	
Total idle time (not added)	= 289:02	
Total time		= 1523:36
Total short transits	= 53	
Total length of short trips	= 5:56	
Additional prep/deprep time		= 7:19
Avg service time / navaid	= 2:50	
Avg transit time / navaid	= 4:08	
Avg total time / navaid	= 6:58	

Total ATON hours used = 1530:54

Historical ATON hours used = 1500:00

VESSEL SUMMARY REPORT
==========

Platform Characteristics

- WLIC SAGINAW/AXE
- Homeport MOBILE, AL
- 8 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- Prep/Deprep time 0:15
- Dispatch Friday 1/1/1993 at 7:00
  (Window size = 7 days, Step size = 7 days)

Summary Statistics

Total Navaids assigned	= 256 (0 Seasonal)	
Total Navaids serviced	= 255 (0 Seasonal)	
Total trips	= 40	
Underway days	= 111	
Avg buoys / trip	= 6.4	
Avg underway days / trip	= 2.8	
Total transit time	= 1141:28	
Total service time	= 466:18	
Total idle time (not added)	= 441:40	
Total time		= 1607:46
Total short transits	= 49	
Total length of short trips	= 4:32	
Additional prep/deprep time		= 7:43
Avg service time / navaid	= 1:50	
Avg transit time / navaid	= 4:30	
Avg total time / navaid	= 6:20	

Total ATON hours used = 1615:29

Historical ATON hours used = 1500:00

VESSEL SUMMARY REPORT
==========

Platform Characteristics

- WLIC PAMLICO/WEDGE
- Homeport NEW ORLEANS, LA
- 8 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- Prep/Deprep time 0:15
- Dispatch Friday 1/1/1993 at 7:00
  (Window size = 7 days, Step size = 7 days)

Summary Statistics

Total Navaids assigned	= 199 (0 Seasonal)	
Total Navaids serviced	= 198 (0 Seasonal)	
Total trips	= 46	
Underway days	= 100	
Avg buoys / trip	= 4.3	
Avg underway days / trip	= 2.2	
Total transit time	= 1173:25	
Total service time	= 234:22	
Total idle time (not added)	= 362:42	
Total time		= 1407:48
Total short transits	= 52	
Total length of short trips	= 4:23	
Additional prep/deprep time		= 8:37
Avg service time / navaid	= 1:11	
Avg transit time / navaid	= 5:58	
Avg total time / navaid	= 7:09	

Total ATON hours used = 1416:25

Historical ATON hours used = 1500:00

17:42:9
Thursday 3/17/1994 ATON SERVICE FORCE MIX DSS anvil5.REP

VESSEL SUMMARY REPORT
==========

Platform Characteristics

- WLIC ANVIL/MALLET
- Homeport CORPUS CHRISTI, TX
- 7 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- Prep/Deprep time 0:15
- Dispatch Friday 1/1/1993 at 7:00
  (Window size = 7 days, Step size = 7 days)

Summary Statistics

Total Navaids assigned	= 163 (0 Seasonal)	
Total Navaids serviced	= 162 (0 Seasonal)	
Total trips	= 42	
Underway days	= 100	
Avg buoys / trip	= 3.9	
Avg underway days / trip	= 2.4	
Total transit time	= 1234:37	
Total service time	= 228:01	
Total idle time (not added)	= 291:00	
Total time		= 1462:38
Total short transits	= 30	
Total length of short trips	= 3:40	
Additional prep/deprep time		= 3:50
Avg service time / navaid	= 1:24	
Avg transit time / navaid	= 7:39	
Avg total time / navaid	= 9:03	

Total ATON hours used = 1466:27

Historical ATON hours used = 1500:00

14:21:33
Friday 3/18/1994 ATON SERVICE FORCE MIX DSS CLAMP5.REP

VESSEL SUMMARY REPORT
==========

Platform Characteristics

- WLIC CLAMP/HATCHET
- Homeport GALVESTON, TX
- 7 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- Prep/Deprep time 0:15
- Dispatch Friday 1/1/1993 at 7:00
  (Window size = 7 days, Step size = 7 days)

Summary Statistics

Total Navaids assigned	= 197	(0 Seasonal)
Total Navaids serviced	= 196	(0 Seasonal)
Total trips	= 46	
Underway days	= 100	
Avg buoys / trip	= 4.3	
Avg underway days / trip	= 2.2	
Total transit time	= 805:35	
Total service time	= 612:55	
Total idle time (not added)	= 286:38	
Total time		= 1418:30
Total short transits	= 41	
Total length of short trips	= 4:44	
Additional prep/deprep time		= 5:31
Avg service time / navaid	= 3:08	
Avg transit time / navaid	= 4:08	
Avg total time / navaid	= 7:16	

Total ATON hours used = 1424:01

Historical ATON hours used = 1500:00

VESSEL SUMMARY REPORT
==========

Platform Characteristics

- WLIC SAGINAW/AXE
- Homeport MOBILE, AL
- 8 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- Prep,Deprep time 0:15
- Dispatch Friday 1/1/1993 at 7:00
  (Window size = 7 days, Step size = 7 days)

Summary Statistics

Total Navaids assigned	= 236	(0 Seasonal)
Total Navaids serviced	= 235	(0 Seasonal)
Total trips	= 39	
Underway days	= 105	
Avg buoys / trip	= 6.0	
Avg underway days / trip	= 2.7	
Total transit time	= 1044:42	
Total service time	= 439:26	
Total idle time (not added)	= 430:10	
Total time		= 1484:09
Total short transits	= 48	
Total length of short trips	= 4:39	
Additional prep/deprep time		= 7:21
Avg service time / navaid	= 1:52	
Avg transit time / navaid	= 4:29	
Avg total time / navaid	= 6:21	

Total ATON hours used = 1491:30

Historical ATON hours used = 1500:00

14:25:40
Friday 3/18/1994 ATON SERVICE FORCE MIX DSS pamlico5.REP

VESSEL SUMMARY REPORT
==========

Platform Characteristics

- WLIC PAMLICO/WEDGE
- Homeport NEW ORLEANS, LA
- 8 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- Prep/Deprep time 0:15
- Dispatch Friday 1/1/1993 at 7:00
  (Window size = 7 days, Step size = 7 days)

Summary Statistics

Total Navaids assigned	= 215 (0 Seasonal)	
Total Navaids serviced	= 214 (0 Seasonal)	
Total trips	= 46	
Underway days	= 106	
Avg buoys / trip	= 4.7	
Avg underway days / trip	= 2.3	
Total transit time	= 1231:31	
Total service time	= 249:00	
Total idle time (not added)	= 417:31	
Total time		= 1480:31
Total short transits	= 53	
Total length of short trips	= 4:42	
Additional prep/deprep time		= 8:33
Avg service time / navaid	= 1:10	
Avg transit time / navaid	= 5:48	
Avg total time / navaid	= 6:57	

Total ATON hours used = 1489:04

Historical ATON hours used = 1500:00

VESSEL SUMMARY REPORT
==========

Platform Characteristics

- WLIC ANVIL
- Homeport CORPUS CHRISTI, TX
- 7 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- Prep/Deprep time 0:15
- Dispatch Friday 1/1/1993 at 7:00
  (Window size = 7 days, Step size = 7 days)

Summary Statistics

Total Navaids assigned	= 154	(0 Seasonal)
Total Navaids serviced	= 153	(0 Seasonal)
Total trips	= 41	
Underway days	= 88	
Avg buoys / trip	= 3.7	
Avg underway days / trip	= 2.1	
Total transit time	= 946:56	
Total service time	= 214:01	
Total idle time (not added)	= 329:15	
Total time		= 1160:56
Total short transits	= 30	
Total length of short trips	= 3:40	
Additional prep/deprep time		= 3:50
Avg service time / navaid	= 1:24	
Avg transit time / navaid	= 6:13	
Avg total time / navaid	= 7:37	

Total ATON hours used = 1164:46

Historical ATON hours used = 1500:00

VESSEL SUMMARY REPORT
==========

Platform Characteristics

- WLIC CLAMP
- Homeport GALVESTON, TX
- 7 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- Prep/Deprep time 0:15
- Dispatch Friday 1/1/1993 at 7:00
  (Window size = 7 days, Step size = 7 days)

Summary Statistics

Total Navaids assigned	= 163	(0 Seasonal)
Total Navaids serviced	= 162	(0 Seasonal)
Total trips	= 44	
Underway days	= 72	
Avg buoys / trip	= 3.7	
Avg underway days / trip	= 1.6	
Total transit time	= 382:00	
Total service time	= 472:01	
Total idle time (not added)	= 170:02	
Total time		= 854:01
Total short transits	= 35	
Total length of short trips	= 3:55	
Additional prep/deprep time		= 4:50
Avg service time / navaid	= 2:55	
Avg transit time / navaid	= 2:23	
Avg total time / navaid	= 5:18	

Total ATON hours used = 858:50

Historical ATON hours used = 1500:00

8:52:36
Monday 4/11/1994 ATON SERVICE FORCE MIX DSS hatchet8.REP

VESSEL SUMMARY REPORT
==========

Platform Characteristics

- WLIC HATCHET
- Homeport LITTLE WAX BAYOU LT 1
- 7 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- Prep/Deprep time 0:15
- Dispatch Friday 1/1/1993 at 7:00
  (Window size = 7 days, Step size = 7 days)

Summary Statistics

Total Navaids assigned	= 128	(0 Seasonal)
Total Navaids serviced	= 127	(0 Seasonal)
Total trips	= 26	
Underway days	= 68	
Avg buoys / trip	= 4.9	
Avg underway days / trip	= 2.6	
Total transit time	= 902:00	
Total service time	= 234:51	
Total idle time (not added)	= 165:28	
Total time		= 1136:51
Total short transits	= 27	
Total length of short trips	= 2:40	
Additional prep/deprep time		= 4:05
Avg service time / navaid	= 1:51	
Avg transit time / navaid	= 7:08	
Avg total time / navaid	= 8:59	

Total ATON hours used = 1140:55

Historical ATON hours used = 1500:00

VESSEL SUMMARY REPORT
==========

Platform Characteristics

- WLIC SAGINAW
- Homeport MOBILE, AL
- 8 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- Prep/Deprep time 0:15
- Dispatch Friday 1/1/1993 at 7:00
  (Window size = 7 days, Step size = 7 days)

Summary Statistics

Total Navaids assigned	= 171 (0 Seasonal)	
Total Navaids serviced	= 170 (0 Seasonal)	
Total trips	= 32	
Underway days	= 81	
Avg buoys / trip	= 5.3	
Avg underway days / trip	= 2.5	
Total transit time	= 835:38	
Total service time	= 352:38	
Total idle time (not added)	= 279:59	
Total time		= 1188:16
Total short transits	= 35	
Total length of short trips	= 3:01	
Additional prep/deprep time		= 5:44
Avg service time / navaid	= 2:04	
Avg transit time / navaid	= 4:57	
Avg total time / navaid	= 7:01	

Total ATON hours used = 1194:00

Historical ATON hours used = 1500:00

10:8:33
Friday 4/8/1994 ATON SERVICE FORCE MIX DSS PMLICO12.REP

VESSEL SUMMARY REPORT
==========

Platform Characteristics

- WLIC PAMLICO
- Homeport NEW ORLEANS, LA
- 8 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- Dispatch Friday 1/1/1993 at 7:00
  (Window size = 7 days, Step size = 7 days)

Summary Statistics

Total Navaids assigned	= 195 (0 Seasonal)	
Total Navaids serviced	= 194 (0 Seasonal)	
Total trips	= 43	
Underway days	= 86	
Avg buoys / trip	= 4.5	
Total service time	= 208:50	
Total idle time (not added)	= 296:29	
Total time		= 1057:29
Total short transits	= 44	
Total length of short trips	= 4:15	
Additional prep/deprep time		= 6:45
Avg service time / navaid	= 1:05	
Avg transit time / navaid	= 4:25	
Avg total time / navaid	= 5:29	

Total ATON hours used = 1064:00

Historical ATON hours used = 1500:00

APPENDIX F

DSS RESULTS FOR HUDSON and MALLET LOG FILES & ACTIVITY LOGS FOR HUDSON, MALLET, AND SAGINAW

Table of Contents

16:53:11
Wednesday 1/5/1994 ATON SERVICE FORCE MIX DSS hudson3.RET

VESSEL SUMMARY REPORT

Platform Characteristics

- **WLIC HUDSON (1 yr log file, 10/20/91 thru 10/20/92: all activities)**
- Homeport Miami, FL
- 8 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- 1000 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 10/20/1992 at 7:00
  (Window size = 3 days, Step size = 3 days)

Summary Statistics

Total Navaids assigned	= 406 (0 Seasonal)	
Total Navaids serviced	= 402 (0 Seasonal)	
Total trips	= 46	
Underway days	= 124	
Deck Space Available	= 46000	
Deck Space Used	= 0 (0.0% utilization)	
Avg buoys / trip	= 8.7	
Avg underway days / trip	= 2.7	
Total transit time	= 1387:57	
Total service time	= 366:15	
Total idle time	= 465:51	
Total time		= 2220:03
Total short transits	= 180	
Total length of short trips	= 11:44	
Additional prep/deprep time		= 33:16
Avg service time / navaid	= 0:55	
Avg transit time / navaid	= 3:32	
Avg total time / navaid	= 5:36	
Total discrepancies	= 0	
Computed discrepancy hours		= 0:00
Additional Structure Visits	= 0	
Additional Structure hours		= 0:00
Total weather hours		= 0:00
Same time servicing (subtract)		= 76:20
Total ATON hours used		= 2176:59
Historical ATON hours used		= 2124:00

VESSEL SUMMARY REPORT
==========

Platform Characteristics

- WLIC HUDSON (1 yr log file, 10/20/91 thru 10/20/92: construction only)
- Homeport Miami, FL
- 8 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- 1000 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Tuesday 10/20/1992 at 7:00
  (Window size = 3 days, Step size = 3 days)

Summary Statistics

Total Navaids assigned	= 184 (0 Seasonal)	
Total Navaids serviced	= 181 (0 Seasonal)	
Total trips	= 44	
Underway days	= 102	
Deck Space Available	= 44000	
Deck Space Used	= 0 (0.0% utilization)	
Avg buoys / trip	= 4.1	
Avg underway days / trip	= 2.3	
Total transit time	= 1263:52	
Total service time	= 294:45	
Total idle time	= 293:02	
Total time		= 1851:40
Total short transits	= 52	
Total length of short trips	= 4:15	
Additional prep/deprep time		= 8:45
Avg service time / navaid	= 1:38	
Avg transit time / navaid	= 7:02	
Avg total time / navaid	= 10:17	
Total discrepancies	= 0	
Computed discrepancy hours		= 0:00
Additional Structure Visits	= 0	
Additional Structure hours		= 0:00
Total weather hours		= 0:00
Same time servicing (subtract)		= 36:43
Total ATON hours used		= 1823:41
Historical ATON hours used		= 2124:00

VESSEL SUMMARY REPORT
==========

Platform Characteristics

- WLIC MALLET (1 yr log file, 6/24/92 thru 6/24/93: all activities)
- Homeport CORPUS CHRISTI, TX
- 6 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- 950 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Thursday 6/24/1993 at 7:00
  (Window size = 0 days, Step size = 1 days)

Summary Statistics

Total Navaids assigned	= 367 (0 Seasonal)	
Total Navaids serviced	= 365 (0 Seasonal)	
Total trips	= 36	
Underway days	= 87	
Deck Space Available	= 34200	
Deck Space Used	= 2298.97 (6.7% utilization)	
Avg buoys / trip	= 10.1	
Avg underway days / trip	= 2.4	
Total transit time	= 874:22	
Total service time	= 275:26	
Total idle time	= 377:29	
Total time		= 1527:17
Total short transits	= 232	
Total length of short trips	= 18:32	
Additional prep/deprep time		= 39:28
Avg service time / navaid	= 0:45	
Avg transit time / navaid	= 2:30	
Avg total time / navaid	= 4:18	
Total discrepancies	= 0	
Computed discrepancy hours		= 0:00
Additional Structure Visits	= 0	
Additional Structure hours		= 0:00
Total weather hours		= 0:00
Same time servicing (subtract)		= 0:00
Total ATON hours used		= 1566:45
Historical ATON hours used		= 1845:00

VESSEL SUMMARY REPORT
==========

Platform Characteristics

- WLIC MALLET (1 yr log file, 6/24/92 thru 6/24/93: contruction only)
- Homeport CORPUS CHRISTI, TX
- 6 knot average transit speed
- 120 hour maximum cruise length
- work day is 7:00 to 19:00
- 950 sq.ft. deck space available
- Prep/Deprep time 0:15
- Dispatch Thursday 6/24/1993 at 7:00
  (Window size = 0 days, Step size = 1 days)

Summary Statistics

Total Navaids assigned	= 81 (0 Seasonal)	
Total Navaids serviced	= 79 (0 Seasonal)	
Total trips	= 31	
Underway days	= 66	
Deck Space Available	= 29450	
Deck Space Used	= 0 (0.0% utilization)	
Avg buoys / trip	= 2.5	
Avg underway days / trip	= 2.1	
Total transit time	= 737:01	
Total service time	= 157:49	
Total idle time	= 151:00	
Total time		= 1045:49
Total short transits	= 14	
Total length of short trips	= 1:41	
Additional prep/deprep time		= 1:49
Avg service time / navaid	= 2:00	
Avg transit time / navaid	= 9:21	
Avg total time / navaid	= 13:16	
Total discrepancies	= 0	
Computed discrepancy hours		= 0:00
Additional Structure Visits	= 0	
Additional Structure hours		= 0:00
Total weather hours		= 0:00
Same time servicing (subtract)		= 0:00
Total ATON hours used		= 1047:39
Historical ATON hours used		= 1845:00

Hudson Log Activities
(23 Months, Oct/91 thru Sep/93)

Aid Type	Quarter Hours	Count	Total Service Time
WLIC Needed? = N			
DBN	.33	106	8.8
DBN	1.00	35	8.8
DBN	5.00	2	2.5
DBN	6.00	1	1.5
LB	.33	1	.1
LB	1.00	3	.8
LB	3.00	3	2.3
LB	4.00	3	3.0
LB	6.00	2	3.0
LB	7.00	1	1.8
LT	.33	76	6.3
LT	1.00	32	8.0
LT	2.00	2	1.0
LT	3.00	1	.8
LT	4.00	6	6.0
LT	5.00	2	2.5
LT	8.00	1	2.0
LT	27.00	1	6.8
ULB	1.00	14	3.5
ULB	2.00	12	6.0
ULB	3.00	8	6.0
ULB	4.00	1	1.0
Totals		313	82.2
			(11.8%)

Aid Type	Quarter Hours	Count	Total Service Time
WLIC Needed? = Y			
DBN	1.00	28	7.0
DBN	2.00	17	8.5
DBN	3.00	31	23.3
DBN	4.00	46	46.0
DBN	5.00	40	50.0
DBN	6.00	16	24.0
DBN	7.00	8	14.0
DBN	8.00	3	6.0
DBN	9.00	2	4.5
DBN	10.00	4	10.0
DBN	11.00	4	11.0
DBN	12.00	1	3.0
DBN	15.00	1	3.8
DBN	16.00	2	8.0
DBN	19.00	1	4.8
DBN	21.00	1	5.3
DBN	24.00	1	6.0
LT	1.00	13	3.3
LT	2.00	12	6.0
LT	3.00	8	6.0
LT	4.00	12	12.0
LT	5.00	13	16.3
LT	6.00	11	16.5
LT	7.00	5	8.8
LT	8.00	3	6.0
LT	9.00	8	18.0
LT	10.00	5	12.5
LT	11.00	5	13.8
LT	12.00	11	33.0
LT	13.00	5	16.3
LT	14.00	1	3.5
LT	15.00	3	11.3
LT	16.00	2	8.0
LT	17.00	1	4.3
LT	19.00	6	28.5
LT	20.00	3	15.0
LT	21.00	1	5.3
LT	22.00	1	5.5
LT	24.00	1	6.0
LT	28.00	2	14.0
LT	31.00	2	15.5
LT	32.00	1	8.0
LT	34.00	1	8.5
LT	35.00	1	8.8
LT	39.00	2	19.5
LT	43.00	1	10.8
LT	49.00	1	12.3
LT	50.00	1	12.5
LT	52.00	1	13.0
Totals		349	613.3
			(88.2%)
Table: Hudhours		662	695.5
			(100.0%)

Mallet Log Activities
(15 Months, Jun/92 thru Aug/93)

Aid Type	Activity	Service Time	Count	Total Service Time	
WLIC Needed? = N					
3 PILE WOOD LT	INSPECTION	.50	1	.50	
4 PILE WOOD PLATFORM	INSPECTION	.50	1	.50	
LB	REPLACED	1.50	1	1.50	
PASSING LIGHT ONLY	INSPECTION	.50	3	1.50	
SINGLE PILE WOOD LT	INSPECTION	.50	6	3.00	
SINGLE PILE WOOD LT	POSITION CHECK	.50	29	14.50	
ULB	ESTABLISHED (MISSING)	.50	16	8.00	
ULB	INSPECTION	.33	165	54.45	
ULB	MOORING INSPECTION	.50	22	11.00	
ULB	POSITION CHECK	.33	13	4.29	
ULB	REPLACED	.50	14	7.00	
ULB	RESET	.50	42	21.00	
WOOD DAYBEACON	INSPECTION	.25	2	.50	
WLIC Needed? = N Totals			315	127.74	(
40.6%)					
WLIC Needed? = Y					
3 PILE WOOD LT	DISCONTINUED	1.00	1	1.00	
3 PILE WOOD LT	REBUILT	3.00	11	33.00	
3 PILE WOOD LT	REPAIRED	1.00	5	5.00	
4 PILE WOOD PLATFORM	REBUILT	6.00	3	18.00	
8 PILE WOOD PLATFORM	REBUILT	15.00	1	15.00	
8 PILE WOOD PLATFORM	REPAIRED	3.00	1	3.00	
MUD SILL	REBUILT	2.00	1	2.00	
None	REBUILT	.33	2	.66	
PASSING LIGHT ONLY	ESTABLISHED	.33	3	.99	
PASSING LIGHT ONLY	REBUILT	1.50	1	1.50	
PASSING LIGHT ONLY	RESET	.50	1	.50	
SINGLE PILE WOOD DBN	REBUILT	1.50	15	22.50	
SINGLE PILE WOOD DBN	REPAIRED	.25	2	.50	
SINGLE PILE WOOD LT	ESTABLISHED	1.00	1	1.00	
SINGLE PILE WOOD LT	REBUILT	2.00	32	64.00	
SINGLE PILE WOOD LT	REPAIRED	.50	7	3.50	
WOOD DAYBEACON	REBUILT	1.50	10	15.00	
WLIC Needed? = Y Totals			97	187.15	(
59.4%)					
Table: Malhours			412	314.89	
(100.0%)					

Saginaw Log Activities
(21 Months, Jan/92 thru Sep/93)

Aid Type	Activity	Service Time	Count	Total Service Time	
WLIC Needed? = N					
BUOY	/MOORING	.75	81	60.8	
BUOY	/MOORING/RELIEF	.75	48	36.0	
BUOY	/RELIEF	.75	3	2.3	
BUOY	DISC BUOY	.75	1	.8	
BUOY	DISCONTINUED	.75	1	.8	
BUOY	ESTABLISHED	.75	2	1.5	
BUOY	INSPECTION	.50	1	.5	
BUOY	None	.75	4	3.0	
BUOY	POSITION CHECK	.75	2	1.5	
BUOY	REPAIRED	.75	4	3.0	
BUOY	REPLACED	.75	10	7.5	
BUOY	RESET	.75	11	8.3	
DBN	None	.75	1	.8	
LT	DISC BUOY	.75	1	.8	
LT	INSPECTION	.50	5	2.5	
LT	None	.75	9	6.8	
LT	RECHARGED	.75	4	3.0	
WLIC Needed? = N Totals			188	139.5	(9.8%)
WLIC Needed? = Y					
1 Pile Steel LT	Rebuild	4.00	1	4.0	
1 Pile Wood DBN	Discontinue	1.25	1	1.3	
1 Pile Wood DBN	Establish	1.00	77	77.0	
1 Pile Wood DBN	Rebuild	1.00	38	38.0	
1 Pile Wood DBN	Rebuild/Remove	1.50	35	52.5	
1 Pile Wood DBN	Repair	.20	14	2.8	
1 Pile Wood DBN	Reset	1.50	1	1.5	
1 Pile Wood LT	Discontinue	1.25	1	1.3	
1 Pile Wood LT	Establish	1.30	36	46.8	
1 Pile Wood LT	Rebuild	1.30	71	92.3	
1 Pile Wood LT	Rebuild/Remove	1.75	53	92.8	
1 Pile Wood LT	Repair	.30	27	8.1	
1 Pile Wood LT	Reset	1.75	1	1.8	
3 Pile Wood LT	Establish	2.00	13	26.0	
3 Pile Wood LT	Rebuild	2.00	26	52.0	
3 Pile Wood LT	Rebuild/Remove	3.50	20	70.0	
3 Pile Wood LT	Repair	1.00	10	10.0	
4 Pile Wood LT	Establish	16.00	7	112.0	
4 Pile Wood LT	Rebuild	16.00	13	208.0	
4 Pile Wood LT	Rebuild/Remove	24.00	10	240.0	
4 Pile Wood LT	Repair	4.00	5	20.0	
8 Pile Wood LT	Establish	20.00	1	20.0	
8 Pile Wood LT	Rebuild	20.00	2	40.0	
8 Pile Wood LT	Rebuild/Remove	28.00	2	56.0	
8 Pile Wood LT	Repair	8.00	1	8.0	
WLIC Needed? = Y Totals			466	1282.0	(90.2%)
Table: Saghours			654	1421.5	(100.0%)

WLIC	WLIC Needed?	Aid Type	Indicated Action	Derived Action	Count
HUDSON	N	DBN		INSPECTION	1
HUDSON	N	DBN	CONDUCTED SOUNDING SURVEYED BISCAYN E BAY DBNS 16-2	INSPECTION	1
HUDSON	N	DBN	INSPECTED FOR DETERIORATION	INSPECTION	1
HUDSON	N	DBN	INSPECTED SPC FOR REBUILD	INSPECTION	1
HUDSON	N	DBN	INSPECTED SPS STRUCTURES	INSPECTION	1
HUDSON	N	DBN	INSPECTED SPW FOR REBUILD	INSPECTION	1
HUDSON	N	DBN	INSPECTED STRUCTURE FOR LEANING	INSPECTION	1
HUDSON	N	DBN	SURVEYED RED SIDE OF CH LAKE WORTH S DBN 46-48	INSPECTION	1
HUDSON	N	DBN	TO DETERMINE IF CUTTER CAN TRANSIT CHANNEL	INSPECTION	17
HUDSON	N	DBN	CONVERTED OLD SPS OF ABOVE AID TO A SHOAL DBN	REBUILD	1
HUDSON	N	DBN	FOUND OFF STATION, RESET ON STATION	REBUILD/REMOVE	1
HUDSON	N	DBN	FOUND EXTINGUISHED, RECHARGED	RECHARGE	1
HUDSON	N	DBN	REBLACED MISSING DAYBOARDS	REPAIRED	1
HUDSON	N	DBN	RENUMBERED/REPLACED DAYBOARDS	REPAIRED	1
HUDSON	N	DBN	REPLACED 1 MISSING DAYBOARD	REPAIRED	1
HUDSON	N	DBN	REPLACED DAMAGED DAYBOARDS	REPAIRED	1
HUDSON	N	DBN	REPLACED DAYBOARDS	REPAIRED	4
HUDSON	N	DBN	WIRE DRAGGED NEG RESULTS FOR OLD SPC	REPAIRED	2
HUDSON	N	DBN	SMALL BOAT LOWERED DAYBOARDS THAT WERE OBSCURING TH	SMALL BOAT	1
HUDSON	N	DBN	SMALL BOAT RENUMBERED/REPLACED DAYBOARDS	SMALL BOAT	1
HUDSON	N	DBN	SMALL BOAT RENUMBERED/REPLACED DAYBOARDS ON (08) DB	SMALL BOAT	1
HUDSON	N	DBN	SMALL BOAT REPLACED 1 MISSING DAYBOARD	SMALL BOAT	1
HUDSON	N	DBN	SMALL BOAT REPLACED DAMAGED DAYBOARD	SMALL BOAT	1
HUDSON	N	DBN	SMALL BOAT REPLACED DAYBOARDS	SMALL BOAT	34
HUDSON	N	DBN	SMALL BOAT REPLACED DAYBOARDS ON (02) DAY BEACONS	SMALL BOAT	5
HUDSON	N	DBN	SMALL BOAT REPLACED DAYBOARDS ON (03) DAY BEACONS	SMALL BOAT	6
HUDSON	N	DBN	SMALL BOAT REPLACED DAYBOARDS ON (03) DAYBEACONS	SMALL BOAT	6
HUDSON	N	DBN	SMALL BOAT REPLACED DAYBOARDS ON (04) DAY BEACONS	SMALL BOAT	2
HUDSON	N	DBN	SMALL BOAT REPLACED DAYBOARDS ON (04) DAYBEACONS	SMALL BOAT	3
HUDSON	N	DBN	SMALL BOAT REPLACED DAYBOARDS ON (05) DAYBEACONS	SMALL BOAT	3
HUDSON	N	DBN	SMALL BOAT REPLACED DAYBOARDS ON (06) DAY BEACONS	SMALL BOAT	6
HUDSON	N	DBN	SMALL BOAT REPLACED DAYBOARDS ON (07) DAY BEACONS	SMALL BOAT	1
HUDSON	N	DBN	SMALL BOAT REPLACED DAYBOARDS ON (07) DAYBEACONS	SMALL BOAT	1
HUDSON	N	DBN	SMALL BOAT REPLACED DAYBOARDS ON (08) DAY BEACONS	SMALL BOAT	1
HUDSON	N	DBN	SMALL BOAT REPLACED DAYBOARDS ON (09) DAYBEACONS	SMALL BOAT	1
HUDSON	N	DBN	SMALL BOAT REPLACED DAYBOARDS ON (10) DAYBEACONS	SMALL BOAT	2
HUDSON	N	DBN	SMALL BOAT REPLACED DAYBOARDS ON (102) DAYBEACONS	SMALL BOAT	1
HUDSON	N	DBN	SMALL BOAT REPLACED DAYBOARDS ON (11) DAYBEACONS	SMALL BOAT	2
HUDSON	N	DBN	SMALL BOAT REPLACED DAYBOARDS ON (15) DAY BEACONS	SMALL BOAT	1
HUDSON	N	DBN	SMALL BOAT REPLACED DAYBOARDS ON (16) DAYBEACONS	SMALL BOAT	1
HUDSON	N	DBN	SMALL BOAT REPLACED DAYBOARDS ON (2) DAYBEACONS	SMALL BOAT	6
HUDSON	N	DBN	SMALL BOAT REPLACED DAYBOARDS ON (29) DAYBEACONS	SMALL BOAT	1
HUDSON	N	DBN	SMALL BOAT REPLACED DAYBOARDS ON (3) DAYBEACONS	SMALL BOAT	2
HUDSON	N	DBN	SMALL BOAT REPLACED DAYBOARDS ON (4) DAYBEACONS	SMALL BOAT	2
HUDSON	N	DBN	SMALL BOAT REPLACED DAYBOARDS ON (5) DAYBEACONS	SMALL BOAT	3
HUDSON	N	DBN	SMALL BOAT REPLACED DAYBOARDS ON (7) DAYBEACONS	SMALL BOAT	3
HUDSON	N	DBN	SMALL BOAT REPLACED DAYBOARDS ON (8) DAYBEACONS	SMALL BOAT	2
HUDSON	N	DBN	SMALL BOAT REPLACED DAYBOARDS ON 13 DAYBEACONS	SMALL BOAT	1
HUDSON	N	DBN	SMALL BOAT REPLACED DAYBOARDS/ESTABLISHED POSTIONS	SMALL BOAT	1
HUDSON	N	DBN	SMALL BOAT REPLACED MISSING DAYBOARD	SMALL BOAT	1
HUDSON	N	DBN	SMALL BOAT REPLACED MISSING DAYBOARDS	SMALL BOAT	1
HUDSON	N	DBN	SMALL BOAT REPLACED MISSING ICW MARK ON DAYBOARD	SMALL BOAT	1
HUDSON	N	DBN	SMALL BOAT STRAIGHTENED AND REATTACHED DAYBOARDS	SMALL BOAT	1
HUDSON	N	LB	DISCONTINUED AFTER WORKING ABOVE AID	DISCONTINUED	1
HUDSON	N	LB	DISCONTINUED DBN 17, SET BUOY,	DISCONTINUED	1
HUDSON	N	LB	CONDUCTED EXTENISIVE SURVEY OF SHOAL, REMOVED TEMP	INSPECTION	1
HUDSON	N	LB	CONDUCTED MOORING INSPECTION	MOORING	2
HUDSON	N	LB	MOORING INSPECTION	MOORING	1
HUDSON	N	LB	RELOCATED, CONDUCTED MOORING INSPECTION	MOORING	1
HUDSON	N	LB	REPLACED BRIDLE, MOORING INSPECTION, INSPECTED	MOORING	1
HUDSON	N	LB	RELIEF AND MOORING	MOORING/RELIEF	1
HUDSON	N	LB	RELIEF AND MOORING INSPECTION	MOORING/RELIEF	1

WLIC	WLIC Needed?	Aid Type	Indicated Action	Derived Action	Count
HUDSON	N	LB	RELOCATED DUE TO SHOALING	REBUILD/REMOVE	1
HUDSON	N	LB	RELIEVED AND RELOCATED BUOY	RELIEF	1
HUDSON	N	LB	SMALL BOAT REPAIRED AND INSPECTED (04) LIGHTS	SMALL BOAT	1
HUDSON	N	LT	ESTABLISHED BUOY TO MARK BEST WATER,	ESTABLISHED	1
HUDSON	N	LT		INSPECTION	1
HUDSON	N	LT	HUDSON INSPECTED/SERVICED LIGHT	INSPECTION	1
HUDSON	N	LT	INSPECTED CONCRETE DOUGHNUT PLATFORM, GOOD CONDITIO	INSPECTION	1
HUDSON	N	LT	INSPECTED PLATFOP, M, INSTALLED NIXALITE	INSPECTION	1
HUDSON	N	LT	INSPECTED PLATFORM AND PILE	INSPECTION	1
HUDSON	N	LT	INSPECTED PLATFORM, DESIGNED SPECIAL MPS TEMPLATE C	INSPECTION	1
HUDSON	N	LT	INSPECTED STRUCTURE FOR DETERIORATION	INSPECTION	4
HUDSON	N	LT	INSPECTED STRUCTURE FOR LEANING	INSPECTION	1
HUDSON	N	LT	INSPECTED, PLANNED FOR REBUILDING	INSPECTION	1
HUDSON	N	LT	INSPECTED, SERVICED, REPLACED BATTERY BOX	INSPECTION	1
HUDSON	N	LT	INSPECTED/SERVICED RFL AND RRL	INSPECTION	1
HUDSON	N	LT	MINIOR REPAIRS, INSPECTED/SERVICED	INSPECTION	1
HUDSON	N	LT	SURVEYED AREA, DREDGING NEEDED	INSPECTION	1
HUDSON	N	LT	TO DETERMINE IF CUTTER CAN TRANSIT CHANNEL	INSPECTION	1
HUDSON	N	LT	REBUILT UTILIZING 20 FT 18 INCH TWR AND SAF-T-CLIMB	REBUILD	1
HUDSON	N	LT	REBUILT, ADDED 5 FT TWR SECTION, BRUSHED, REMOUNTED	REBUILD	1
HUDSON	N	LT	REBUILT 30' 18" TOWER, REMOVED TWO OLD STRUCTURES	REBUILD/REMOVE	1
HUDSON	N	LT	FOUND EXTINGUISHED, RECHARGED, LWP	RECHARGE	1
HUDSON	N	LT	INSTALLED 6 KRW	REPAIRED	1
HUDSON	N	LT	INSTALLED SAF-T-CLIMB	REPAIRED	1
HUDSON	N	LT	REPAIRED AND REALIGNED DAYBOARDS	REPAIRED	1
HUDSON	N	LT	REPAIRED DAYBOARDS	REPAIRED	1
HUDSON	N	LT	REPAIRED HANGING DAYBOARD	REPAIRED	1
HUDSON	N	LT	REPAIRED HANGING DAYBOARD, REPLACED L BRACKET	REPAIRED	1
HUDSON	N	LT	REPLACED 1 MISSING DAYBOARD	REPAIRED	1
HUDSON	N	LT	REPLACED 30 FT LADDER, FA 240,DAYBOARD, INSTALL SAF	REPAIRED	1
HUDSON	N	LT	REPLACED ALL LIGHTING EQUIPMENT, FOUND EXTINGUISHED	REPAIRED	1
HUDSON	N	LT	REPLACED DAYBOARDS AND LADDER BACK	REPAIRED	1
HUDSON	N	LT	REPLACED DAYBOARDS, ONE WAS MISSING	REPAIRED	1
HUDSON	N	LT	REPLACED LADDER	REPAIRED	1
HUDSON	N	LT	REPLACED LADDER BACK	REPAIRED	1
HUDSON	N	LT	REPLACED MISSING DAYBOARD	REPAIRED	1
HUDSON	N	LT	RE[LACED MISSING DAYBOARDS	REPAIRED	1
HUDSON	N	LT	SERVICED, INSPECTED, REPLACED DAYBOARDS	REPAIRED	1
HUDSON	N	LT	SERVICED, REPLACED DAYBOARDS	REPAIRED	4
HUDSON	N	LT	STARTED DAYBOARD REPLACEMENT	REPAIRED	1
HUDSON	N	LT	STARTED REBUILDING	REPAIRED	1
HUDSON	N	LT	STARTED SERVICE/DAYBOARD REPLACEMENT	REPAIRED	1
HUDSON	N	LT	FOUND EXTINGUISHED, SMALL BOAT RECHARGED AND SERVIC	SMALL BOAT	1
HUDSON	N	LT	REPORTED AS A DISC TO ANT, SMALL BOAT SERVICED	SMALL BOAT	1
HUDSON	N	LT	SMALL BOAT CHANGED DAYBOARDS TO 4SGs	SMALL BOAT	1
HUDSON	N	LT	SMALL BOAT CLEANED SOLAR PANEL AND REPLACED BATTERY	SMALL BOAT	1
HUDSON	N	LT	SMALL BOAT ESTABLISHED LT ON STRUCTURE	SMALL BOAT	1
HUDSON	N	LT	SMALL BOAT INSPECTED MPW IN MADE MINOR REPAIRS	SMALL BOAT	7
HUDSON	N	LT	SMALL BOAT INSPECTED/SERVICED (2) LIGHTS	SMALL BOAT	1
HUDSON	N	LT	SMALL BOAT INSPECTED/SERVICED (3) LIGHTS	SMALL BOAT	3
HUDSON	N	LT	SMALL BOAT INSPECTED/SERVICED (4) LIGHTS	SMALL BOAT	1
HUDSON	N	LT	SMALL BOAT INSPECTED/SERVICED (7) LIGHTS	SMALL BOAT	1
HUDSON	N	LT	SMALL BOAT INSPECTED/SERVICED LIGHT	SMALL BOAT	2
HUDSON	N	LT	SMALL BOAT RELIT (FOUND EXT)	SMALL BOAT	1
HUDSON	N	LT	SMALL BOAT REMOUNTED DAYBOARDS	SMALL BOAT	2
HUDSON	N	LT	SMALL BOAT RENUMBERED/REPLACED DAYBOARDS ON (02) DB	SMALL BOAT	1
HUDSON	N	LT	SMALL BOAT REPAIRED AND INSPECTED (04) LIGHTS	SMALL BOAT	1
HUDSON	N	LT	SMALL BOAT REPAIRED PLATFORM ON MPW AND REPLACED LA	SMALL BOAT	1
HUDSON	N	LT	SMALL BOAT REPAIRED, REPLACED SOLAR PANEL	SMALL BOAT	1
HUDSON	N	LT	SMALL BOAT REPLACED 1 MISSING DAYBOARD	SMALL BOAT	1
HUDSON	N	LT	SMALL BOAT REPLACED ALL LIGHTING EQUIPMENT, HIT BY	SMALL BOAT	1
HUDSON	N	LT	SMALL BOAT REPLACED DAYBOARDS	SMALL BOAT	2

WLIC	WLIC Needed?	Aid Type	Indicated Action	Derived Action	Count
HUDSON	N	LT	SMALL BOAT REPLACED DAYBOARDS AND CLEANED SOLAR PAN	SMALL BOAT	1
HUDSON	N	LT	SMALL BOAT REPLACED DAYBOARDS ON (06) DAYBEACONS	SMALL BOAT	1
HUDSON	N	LT	SMALL BOAT REPLACED DAYBOARDS ON (3) LIGHTS	SMALL BOAT	1
HUDSON	N	LT	SMALL BOAT REPLACED DAYBOARDS/ESTABLISHED POSTION,S	SMALL BOAT	1
HUDSON	N	LT	SMALL BOAT REPLACED LADDER	SMALL BOAT	3
HUDSON	N	LT	SMALL BOAT REPLACED LADDER BACK	SMALL BOAT	3
HUDSON	N	LT	SMALL BOAT REPLACED MISSING DAYBOARD	SMALL BOAT	3
HUDSON	N	LT	SMALL BOAT SERVICED AID AND CLEANED SOLAR PANEL	SMALL BOAT	1
HUDSON	N	LT	SMALL BOAT SERVICED AND CHANGED LANTERN TO AMBER	SMALL BOAT	3
HUDSON	N	LT	SMALL BOAT SERVICED FOUND BURNING IN DAYLIGHT	SMALL BOAT	1
HUDSON	N	LT	SMALL BOAT SERVICED LT, REPLACED MISSING DAYBOARD,	SMALL BOAT	1
HUDSON	N	LT	SMALL BOAT SERVICED REPLACED DAYBOARDS	SMALL BOAT	11
HUDSON	N	LT	SMALL BOAT SERVICED REPLACED LADDER BRACKETS AND DA	SMALL BOAT	2
HUDSON	N	LT	SMALL BOAT SERVICED, AND REPLACED MISSING BATTERY	SMALL BOAT	1
HUDSON	N	LT	SMALL BOAT SERVICED, REPLACED DAYBOARDS	SMALL BOAT	11
HUDSON	N	LT	SMALL BOAT STRAIGHTENED DAYBOARDS	SMALL BOAT	1
HUDSON	N	Port			1
HUDSON	N	ULB	ESTABLISHED BUOY TO MARK BEST WATER,	ESTABLISHED	1
HUDSON	N	ULB	ESTABLISHED BUOY,WAS DBN WITH HIGH KNOCKDOWN, REMOV	ESTABLISHED	1
HUDSON	N	ULB	ESTABLISHED DUE TO SHOALING	ESTABLISHED	1
HUDSON	N	ULB	POST/ON CHECKED & SOUNDINGS	INSPECTION	1
HUDSON	N	ULB	POSTION CHECKED & SOUNDINGS	INSPECTION	3
HUDSON	N	ULB	CONDUCTED MOORING INSPECTION	MOORING	3
HUDSON	N	ULB	CONDUCTED MOORING INSPECTION, PAINTED	MOORING	1
HUDSON	N	ULB	CONDUCTED SOUNDING SURVEY, REPLACED MOORING	MOORING	1
HUDSON	N	ULB	MOORING INSPECTION	MOORING	5
HUDSON	N	ULB	RELOCATED DUE TO SHOALING, MOORING INSPECTION	MOORING	2
HUDSON	N	ULB	RELOCATED, CONDUCTED MOORING INSPECTION	MOORING	2
HUDSON	N	ULB	RELOCATED, CONDUCTED MOORING INSPECTION, RENUMBERED	MOORING	1
HUDSON	N	ULB	REPLACED MOORING, RELOCATED DUE TO DREDGING	MOORING	1
HUDSON	N	ULB	RELIEF AND MOORING	MOORING/RELIEF	1
HUDSON	N	ULB	RELIEF AND MOORING INSPECTION	MOORING/RELIEF	1
HUDSON	N	ULB	RELIEVED HULL CONDUCTED MOORING INSPECTION	MOORING/RELIEF	1
HUDSON	N	ULB	RELIEVED HULL, CONDUCTED MOORING INSPECTION	MOORING/RELIEF	1
HUDSON	N	ULB	RELIEVED HULL, REPLACED MOORING	MOORING/RELIEF	1
HUDSON	N	ULB	RELIEVED AND RELOCATED BUOY	RELIEF	5
HUDSON	N	ULB	RELIEVED AND RELOCATED TO MARK BEST WATER	RELIEF	1
HUDSON	N	ULB	RELOCATED AND RELIEVED HULL	RELIEF	1
HUDSON	N	Total			314
HUDSON	Y	DBN	DISCONTINUED, RECOVERED OLD SPC	DISCONTINUED	1
HUDSON	Y	DBN	ESTABLISHED AID UTILIZING A SPW	ESTABLISHED	3
HUDSON	Y	DBN	ESTABLISHED AID UTILIZING SPW REMOVED (2) TEMP BUOY	ESTABLISHED	1
HUDSON	Y	DBN	ESTABLISHED AID, DISCONTINUED BUOY	ESTABLISHED	1
HUDSON	Y	DBN	ESTABLISHED UTILIZED SPW	ESTABLISHED	2
HUDSON	Y	DBN	ESTABLISHED UTILIZING A SPW	ESTABLISHED	4
HUDSON	Y	DBN	ESTABLISHED UTILIZING ASPS TO MARK A ROCK LEDGE	ESTABLISHED	1
HUDSON	Y	DBN	ESTABLISHED UTILIZING SPW, REMOVED TRUB	ESTABLISHED	1
HUDSON	Y	DBN	ESTABLISHED, SPW, DISCONTINUED DBN 6, RECOVERED OLD	ESTABLISHED	1
HUDSON	Y	DBN	ESTABLISHED, UTILIZED SPW, REMOVED TEMP BUOY	ESTABLISHED	2
HUDSON	Y	DBN	CONVERTED BUOY TO SPW DBN, DISCONTINUED BOUY	REBUILD	5
HUDSON	Y	DBN	CONVERTED LT IA TO DBN 1A	REBUILD	1
HUDSON	Y	DBN	CONVERTED TO MPS, NOAA, NWS, TENDER WORK ORDER	REBUILD	1
HUDSON	Y	DBN	COVERTED OLD DBN 18 TO A SHOAL DBN (SEE ABOVE)	REBUILD	1
HUDSON	Y	DBN	REBUILT AID UTILIZING A SPW, DISCONTINUED TRUB	REBUILD	2
HUDSON	Y	DBN	REBUILT AID UTILIZING ASPS, DISCONTINUED TRLB	REBUILD	1
HUDSON	Y	DBN	REBUILT AND RELOCATED UTILIZED A SPW	REBUILD	1
HUDSON	Y	DBN	REBUILT AS SPW, DISCONTINUED TRUB	REBUILD	4
HUDSON	Y	DBN	REBUILT UTILIZED SPS	REBUILD	1
HUDSON	Y	DBN	REBUILT UTILIZED SPW, DISCONTINUED TRUB	REBUILD	1
HUDSON	Y	DBN	REBUILT UTILIZING A SPW (CHANGED FROM PRIVATE TO FE	REBUILD	1
HUDSON	Y	DBN	REBUILT UTILIZING A SPW, WIRE DRAGGED, REMOVE D TRU	REBUILD	1

WLIC	WLIC Needed?	Aid Type	Indicated Action	Derived Action	Count
HUDSON	Y	DBN	REBUILT UTILIZING ASPS, CUT OFF OLD SPS ABOVE WATER	REBUILD	3
HUDSON	Y	DBN	REBUILT UTILIZING ASPS, OLD SPS DESTROYED	REBUILD	1
HUDSON	Y	DBN	REBUILT UTILIZING SPS, UNABLE TO LOCATE OLD SPW	REBUILD	1
HUDSON	Y	DBN	REBUILT/RELOCATED UTILIZING A SPW, OLD SPS CUTOFF B	REBUILD	1
HUDSON	Y	DBN	CHANGED AID FM BUOY TO DBN UTILIZING SPW, REMOVED B	REBUILD/REMOVE	2
HUDSON	Y	DBN	FOUND LEANING, REBUILT UTILIZING SPW, RECOVERED O	REBUILD/REMOVE	1
HUDSON	Y	DBN	REBUILD AID UTILIZING A SPW, RECOVERED OLD CAST IRO	REBUILD/REMOVE	1
HUDSON	Y	DBN	REBUILT AID TO MARK BEST WATER UTILIZED SPW, REMOVE	REBUILD/REMOVE	1
HUDSON	Y	DBN	REBUILT AID UTILIZING A SPW, RECOVERED OLD SPS WAS	REBUILD/REMOVE	1
HUDSON	Y	DBN	REBUILT AID UTILIZING A SPW, RECOVERED OLD SPW	REBUILD/REMOVE	1
HUDSON	Y	DBN	REBUILT AID UTILIZING A SPW, RECOVERED TRUB	REBUILD/REMOVE	1
HUDSON	Y	DBN	REBUILT AID UTILIZING SPW, RECOVERED 2 OLD STRUCTUR	REBUILD/REMOVE	1
HUDSON	Y	DBN	REBUILT AND RELOCATED UTILIZING A SPW, RECOVERED OL	REBUILD/REMOVE	1
HUDSON	Y	DBN	REBUILT AND RELOCATED, UTILIZED SPW, REMOVED WRECKA	REBUILD/REMOVE	1
HUDSON	Y	DBN	REBUILT AS SPS, RECOVERED OLD SPS, DISCONTINUED TRU	REBUILD/REMOVE	1
HUDSON	Y	DBN	REBUILT AS SPW, RECOVERED OLD SPC, REMOVED TRUB	REBUILD/REMOVE	1
HUDSON	Y	DBN	REBUILT AS SPW, RECOVERED OLD SPS, REMOVED TRUB	REBUILD/REMOVE	3
HUDSON	Y	DBN	REBUILT AS SPW, RECOVERED OLD SPW, REMOVED TRUB	REBUILD/REMOVE	1
HUDSON	Y	DBN	REBUILT UTILIZED SPS, RECOVERED DBN 23 OLD STRUCTUR	REBUILD/REMOVE	1
HUDSON	Y	DBN	REBUILT UTILIZED SPS, RECOVERED NON CG SPS, REMOVED	REBUILD/REMOVE	1
HUDSON	Y	DBN	REBUILT UTILIZED SPS, RECOVERED OLD SPS, REMOVED TR	REBUILD/REMOVE	1
HUDSON	Y	DBN	REBUILT UTILIZED SPS, RECOVERED OLD SPS, REMOVED TR	REBUILD/REMOVE	4
HUDSON	Y	DBN	REBUILT UTILIZED SPS, REMOVED TRUB	REBUILD/REMOVE	2
HUDSON	Y	DBN	REBUILT UTILIZED SPW, RECOVERED OLD SPC AND TRLB	REBUILD/REMOVE	1
HUDSON	Y	DBN	REBUILT UTILIZED SPW, RECOVERED OLD SPS & SPC,REMOV	REBUILD/REMOVE	1
HUDSON	Y	DBN	REBUILT UTILIZED SPW, RECOVERED OLD SPS, REMOVED TR	REBUILD/REMOVE	3
HUDSON	Y	DBN	REBUILT UTILIZED SPW, RECOVERED OLD SPW	REBUILD/REMOVE	4
HUDSON	Y	DBN	REBUILT UTILIZED SPW, REMOVED TRLB	REBUILD/REMOVE	1
HUDSON	Y	DBN	REBUILT UTILIZED SPW, REMOVED TRUB	REBUILD/REMOVE	18
HUDSON	Y	DBN	REBUILT UTILIZING A SPW, RECOVERED OLD SPC, REMOVED	REBUILD/REMOVE	1
HUDSON	Y	DBN	REBUILT UTILIZING A SPW, RECOVERED OLD SPC,FOUND IN	REBUILD/REMOVE	1
HUDSON	Y	DBN	REBUILT UTILIZING A SPW, RECOVERED OLD SPS AND TRUB	REBUILD/REMOVE	1
HUDSON	Y	DBN	REBUILT UTILIZING A SPW, RECOVERED OLD SPS, RECOVER	REBUILD/REMOVE	1
HUDSON	Y	DBN	REBUILT UTILIZING A SPW, RECOVERED OLD SPS, REMOVED	REBUILD/REMOVE	1
HUDSON	Y	DBN	REBUILT UTILIZING A SPW, RECOVERED OLD SPW	REBUILD/REMOVE	7
HUDSON	Y	DBN	REBUILT UTILIZING A SPW, RECOVERED OLD SPW AND TRUB	REBUILD/REMOVE	2
HUDSON	Y	DBN	REBUILT UTILIZING A SPW, RECOVERED TRUB	REBUILD/REMOVE	26
HUDSON	Y	DBN	REBUILT UTILIZING A SPW, RECOVERED WRECKAGE, DETERI	REBUILD/REMOVE	1
HUDSON	Y	DBN	REBUILT UTILIZING A SPW, RECOVERED WRECKAGE, REMOVE	REBUILD/REMOVE	2
HUDSON	Y	DBN	REBUILT UTILIZING A SPW, REMOVED OLD SPS, REMOVED T	REBUILD/REMOVE	2
HUDSON	Y	DBN	REBUILT UTILIZING A SPW, REMOVED TRUB	REBUILD/REMOVE	8
HUDSON	Y	DBN	REBUILT UTILIZING ASPS, RECOVERED OLD SPC AND TRUB	REBUILD/REMOVE	1
HUDSON	Y	DBN	REBUILT UTILIZING ASPS, RECOVERED OLD SPS AND TRUB	REBUILD/REMOVE	1
HUDSON	Y	DBN	REBUILT UTILIZING ASPS, RECOVERED TRUB	REBUILD/REMOVE	2
HUDSON	Y	DBN	REBUILT UTILIZING ASPS, RECOVERED WRECKAGE, REMOVED	REBUILD/REMOVE	1
HUDSON	Y	DBN	REBUILT UTILIZING ASPS, REMOVED TRUB	REBUILD/REMOVE	1
HUDSON	Y	DBN	REBUILT UTILIZING SPW, REMOVED TRUB	REBUILD/REMOVE	2
HUDSON	Y	DBN	REBUILT, USING SPS, CUT OLD SPS A WATER EDGE TOP RE	REBUILD/REMOVE	1
HUDSON	Y	DBN	REBUILT/RELOCATED, RECOVERED OLD SPS CUT BY NOAA DI	REBUILD/REMOVE	2
HUDSON	Y	DBN	RELOCATED AID	REBUILD/REMOVE	1
HUDSON	Y	DBN	RELOCATED AID DUE TO ROCK LEDGE, UTILIZED SPW	REBUILD/REMOVE	1
HUDSON	Y	DBN	RELOCATED AID UTILIZED SPS, DISCONTINUED TEMP BUOY	REBUILD/REMOVE	1
HUDSON	Y	DBN	RELOCATED AID UTILIZING A A SPW, REMOVED TRUB	REBUILD/REMOVE	1
HUDSON	Y	DBN	RELOCATED UTILIZING A SPW, REMOVED OLD PVC PILE, RE	REBUILD/REMOVE	1
HUDSON	Y	DBN	STRAIGHTENED	REBUILD/REMOVE	9
HUDSON	Y	DBN	STRAIGHTENED SPS	REBUILD/REMOVE	5
HUDSON	Y	DBN	STRAIGHTENED SPS AND REPLACED DAYBOARDS	REBUILD/REMOVE	1
HUDSON	Y	DBN	STRAIGHTENED, CLEANED DAYBOARDS	REBUILD/REMOVE	1
HUDSON	Y	DBN	STRAIGHTENED, LEVELED DAYBOARDS	REBUILD/REMOVE	1
HUDSON	Y	DBN	STRAIGHTENED, REPLACED DAYBOARDS	REBUILD/REMOVE	4
HUDSON	Y	DBN	RECOVERED OLD SPC	REMOVE	1
HUDSON	Y	DBN	RECOVERED OLD SPS, SET TRUB DUE TO DARKNESS	REMOVE	1

WLIC	WLIC Needed?	Aid Type	Indicated Action	Derived Action	Count
HUDSON	Y	DBN	REMOVED (02) SPS STRUCTURES CUT OFF BY NOAA DIVERS	REMOVE	1
HUDSON	Y	DBN	REMOVED OLD SPS CUT BY NOAA	REMOVE	1
HUDSON	Y	DBN	REMOVED SPS STRUCTURES CUT OFF BY NOAA DIVERS	REMOVE	2
HUDSON	Y	DBN	REMOVED TWO OLD SPW STRUCTURES FROM STA LAUDERDALE	REMOVE	1
HUDSON	Y	DBN	WRECKAGE REMOVAL, RECOVERED OLD SPC	REMOVE	1
HUDSON	Y	DBN	WRECKAGE REMOVAL, RECOVERED OLD SPS	REMOVE	2
HUDSON	Y	DBN	ATTEMPTED TO REBUILD, UNABLE DUE TO WX, SET TRUB	REPAIRED	2
HUDSON	Y	DBN	INCREASED HIEGHT OF STEEL PILE	REPAIRED	1
HUDSON	Y	DBN	RENUMBERED, REPLACED DAYBOARDS (WLIC REQUEST FOR PR	REPAIRED	1
HUDSON	Y	DBN	REPAIRED PILING AND REPLACED DAYBOARDS	REPAIRED	1
HUDSON	Y	DBN	REPAIRED PLATFORM	REPAIRED	1
HUDSON	Y	DBN	REPLACED PLATFORM, REMOVED OLD CONCRETE PLATFORM	REPAIRED	1
HUDSON	Y	DBN	STRAIGHTENED, REPLACED DAYBOARDS, REMOVED TRUB	REPAIRED	1
HUDSON	Y	DBN	UNABLE TO REBUILD DUE TO WX SET TRUB	REPAIRED	1
HUDSON	Y	LT	DISCONTINUED AID, REMOVED OLD SPS	DISCONTINUED	1
HUDSON	Y	LT	ESTABLISHED AID UTILIZING ASPS	ESTABLISHED	1
HUDSON	Y	LT	ESTABLISHED AID UTILIZING ASPS, DISCONTINUED TEMP L	ESTABLISHED	1
HUDSON	Y	LT	ESTABLISHED LT UTILIZING AMPS AND 5 FT TOWER SECTIO	ESTABLISHED	1
HUDSON	Y	LT	ESTABLISHED SPS LT	ESTABLISHED	1
HUDSON	Y	LT	ESTABLISHED UTILIZING ASPS	ESTABLISHED	1
HUDSON	Y	LT	CONDUCTED SURVEY OF SHOAL, SHOAL STILL EXISTS, MSG	INSPECTION	1
HUDSON	Y	LT	SERVICED LT, WAS FLASHING DURING DAYLIGHT, BAD D.L.	INSPECTION	1
HUDSON	Y	LT	REBUILT AID UTILIZING ASPS	REBUILD	1
HUDSON	Y	LT	COMPLETED REBUILD OF MPS	REBUILD	1
HUDSON	Y	LT	COMPLETED REBUILDING LT 7	REBUILD	1
HUDSON	Y	LT	CONVERTED OLD SPS DBN TO SPS LT	REBUILD	1
HUDSON	Y	LT	CONVERTED SPS TO AMPS STRUCTURE	REBUILD	1
HUDSON	Y	LT	CONVERTED TO MPS	REBUILD	1
HUDSON	Y	LT	MAJOR RENOVATION/REPLACED CROSS MEMBERS/REBUILT PLA	REBUILD	1
HUDSON	Y	LT	REBUILT AID UTILIZING A SPS, CUT OLD SPS ABOVE WATE	REBUILD	1
HUDSON	Y	LT	REBUILT AID UTILIZING ASPS, CUT OLD SPS OFF AT WATE	REBUILD	1
HUDSON	Y	LT	REBUILT MPW PLATFORM AND REPLACED LADDER	REBUILD	1
HUDSON	Y	LT	REBUILT PLATFORM AND LADDER ON MPW	REBUILD	1
HUDSON	Y	LT	REBUILT UTILIZING A SPS, CUT OLD SPS ABOVE WATERLIN	REBUILD	1
HUDSON	Y	LT	REBUILT UTILIZING AMPS	REBUILD	1
HUDSON	Y	LT	REBUILT UTILIZING ASPS, CUT OFF OLD SPS ABOVE WATER	REBUILD	2
HUDSON	Y	LT	REBUILT UTILIZING ASPS, OLD SPS DETERIORATED	REBUILD	1
HUDSON	Y	LT	REBUILT/RELOCATED MPS	REBUILD	1
HUDSON	Y	LT	REBUILT/RELOCATED SPS	REBUILD	1
HUDSON	Y	LT	REPLACED/REBUILT PLATFROM, REPLACED DAYBOARDS	REBUILD	1
HUDSON	Y	LT	CUT AND REMOVED OLD MPS, DROVE 2 PILES OF NEW MPS	REBUILD/REMOVE	1
HUDSON	Y	LT	REBUILD UTILIZING A MPS, RECOVERED OLD CAST IRON MP	REBUILD/REMOVE	1
HUDSON	Y	LT	REBUILD UTILIZING A MPW, RECOVERED OLD SPS AND TRLB	REBUILD/REMOVE	1
HUDSON	Y	LT	REBUILT AS MPS WITH 5 FT TWR, RECOVERED OLD MPW	REBUILD/REMOVE	1
HUDSON	Y	LT	REBUILT AS SPS, RECOVERED 4 OF 5 MPS WRECKAGE,REMOV	REBUILD/REMOVE	1
HUDSON	Y	LT	REBUILT AS SPW, RECOVERED OLD SPC, REMOVED TRUB	REBUILD/REMOVE	1
HUDSON	Y	LT	REBUILT AS SPW, RECOVERED OLD SPS, REMOVED TRUB	REBUILD/REMOVE	2
HUDSON	Y	LT	REBUILT AS SPW, SEARCHED FOR OLD SPC, REMOVED TRUB	REBUILD/REMOVE	1
HUDSON	Y	LT	REBUILT MPS LT, REMOVED WRECKAGE	REBUILD/REMOVE	1
HUDSON	Y	LT	REBUILT MPS LT, REMOVED WRECKAGE	REBUILD/REMOVE	3
HUDSON	Y	LT	REBUILT MPS, REMOVED MPS WRECKAGE	REBUILD/REMOVE	5
HUDSON	Y	LT	REBUILT UTILIZED MPS, REMOVED TRLB (HAD BEEN REMOVE	REBUILD/REMOVE	1
HUDSON	Y	LT	REBUILT UTILIZED SPS, RECOVERED OLD SPC, REMOVED TR	REBUILD/REMOVE	1
HUDSON	Y	LT	REBUILT UTILIZED SPS, RECOVERED OLD SPS, REMOVED TR	REBUILD/REMOVE	3
HUDSON	Y	LT	REBUILT UTILIZED SPW, RECOVERED OLD SPS, REMOVED TR	REBUILD/REMOVE	2
HUDSON	Y	LT	REBUILT UTILIZED SPW, REMOVED TRUB	REBUILD/REMOVE	2
HUDSON	Y	LT	REBUILT UTILIZING (02) SPW, RECOVERED TRUB	REBUILD/REMOVE	1
HUDSON	Y	LT	REBUILT UTILIZING A SPS, RECOVERED OLD MPW	REBUILD/REMOVE	1
HUDSON	Y	LT	REBUILT UTILIZING A SPS, RECOVERED OLD SPS, REMOVED	REBUILD/REMOVE	1
HUDSON	Y	LT	REBUILT UTILIZING A SPW, RECOVERED OLD SPC, REMOVED	REBUILD/REMOVE	2
HUDSON	Y	LT	REBUILT UTILIZING A SPW, RECOVERED OLD SPS, REMOVED	REBUILD/REMOVE	1
HUDSON	Y	LT	REBUILT UTILIZING A SPW, RECOVERED OLD SPS, REMOVED	REBUILD/REMOVE	1

WLIC	WLIC Needed?	Aid Type	Indicated Action	Derived Action	Count
HUDSON	Y	LT	REBUILT UTILIZING AMPS, RECOVERED OLD MPW	REBUILD/REMOVE	1
HUDSON	Y	LT	REBUILT UTILIZING ASPS, RECOVERED OLD MPW	REBUILD/REMOVE	1
HUDSON	Y	LT	REBUILT UTILIZING ASPS, RECOVERED OLD SPS	REBUILD/REMOVE	1
HUDSON	Y	LT	REBUILT UTILIZING ASPS, RECOVERED OLD SPS AND TRLB	REBUILD/REMOVE	1
HUDSON	Y	LT	REBUILT UTILIZING ASPS, RECOVERED OLD SPS AND TRUB	REBUILD/REMOVE	1
HUDSON	Y	LT	REBUILT UTILIZING ASPS, RECOVERED OLD SPS, 1 SPS RE	REBUILD/REMOVE	1
HUDSON	Y	LT	REBUILT UTILIZING ASPS, RECOVERED OLD SPS, RECOVERE	REBUILD/REMOVE	1
HUDSON	Y	LT	REBUILT UTILIZING ASPS, RECOVERED TRLB	REBUILD/REMOVE	2
HUDSON	Y	LT	REBUILT UTILIZING ASPS, REMOVED TRUB, SEARCH FOR OL	REBUILD/REMOVE	1
HUDSON	Y	LT	REBUILT UTLIZING ASPS, REMOVED SPS WRECKAGE	REBUILD/REMOVE	1
HUDSON	Y	LT	REBUILT, USING SPS, RECOVERED OLD MPW STRUCTURE	REBUILD/REMOVE	1
HUDSON	Y	LT	REMOVED WRECKAGE, STARTED REBUILDING MPS	REBUILD/REMOVE	1
HUDSON	Y	LT	STRAIGHTENED	REBUILD/REMOVE	1
HUDSON	Y	LT	STRAIGHTENED AID, LEVELED PLATFORM AND DAYBOARDS	REBUILD/REMOVE	1
HUDSON	Y	LT	STRAIGHTENED AND REPLACED LOW MAST KIT	REBUILD/REMOVE	1
HUDSON	Y	LT	STRAIGHTENED AND REPLACED PLATFORM	REBUILD/REMOVE	1
HUDSON	Y	LT	STRAIGHTENED AND SERVICED	REBUILD/REMOVE	1
HUDSON	Y	LT	STRAIGHTENED SPS	REBUILD/REMOVE	1
HUDSON	Y	LT	STRAIGHTENED, LEVELED PLATFORM, LANTERNAND DAYBOA	REBUILD/REMOVE	1
HUDSON	Y	LT	STRAIGHTENED, LEVELED PLATFORM AND SERVICED	REBUILD/REMOVE	1
HUDSON	Y	LT	STRAIGHTENED, SERVICED	REBUILD/REMOVE	1
HUDSON	Y	LT	RECOVERED WRECKAGE OF OLD SPC AND PLATFORM LOCATED	REMOVE	1
HUDSON	Y	LT	REMOVED PREVIOUS WRECKAGE, OLD PILE & PLATFORM	REMOVE	1
HUDSON	Y	LT	REMOVED SPS STRUCTURES CUT OFF BY NOAA DIVERS	REMOVE	1
HUDSON	Y	LT	REMOVED WRECKAGE, ONE PIECE OF PILE REMAINS	REMOVE	1
HUDSON	Y	LT	WRECKAGE REMOVAL, RECOVERED OLD SPC	REMOVE	1
HUDSON	Y	LT	WRECKAGE REMOVAL, RECOVERED OLD SPS	REMOVE	2
HUDSON	Y	LT	CUTTING MPS	REPAIRED	1
HUDSON	Y	LT	FABRICATED AND INSTALLED WOOD DECKING ONTWO PLATFO	REPAIRED	1
HUDSON	Y	LT	ADDED ONE SPW	REPAIRED	1
HUDSON	Y	LT	COMMENCED REMOVAL WITH USN DIVERS CUTTING AID UNDER	REPAIRED	1
HUDSON	Y	LT	CUTTING MPS	REPAIRED	1
HUDSON	Y	LT	DROVE FIRST 2 PILES OF MPS	REPAIRED	1
HUDSON	Y	LT	FINSHED BUILDING MPS, NOAA, NWS, TENDER WORK ORDER	REPAIRED	1
HUDSON	Y	LT	INCREASED HIEGHT OF STEEL PILE	REPAIRED	1
HUDSON	Y	LT	INSTALLED NEW TOWER, LADDER AND DECKING	REPAIRED	1
HUDSON	Y	LT	INSTALLED SPECIAL TEMPLETE CAP, REPLACED DAYB., SER	REPAIRED	1
HUDSON	Y	LT	PLACED MPS TEMPLETE ON AID, WX PROHIBITTED PILE DRI	REPAIRED	1
HUDSON	Y	LT	REBLACED SPECIAL 3 PILE CONCRETE PLATFORM	REPAIRED	1
HUDSON	Y	LT	RENUMBERED, REPLACED DAYBOARDS (WLIC REQUEST FOR PR	REPAIRED	1
HUDSON	Y	LT	REPAIRED DECK AND INSTALLED LADDER	REPAIRED	1
HUDSON	Y	LT	REPAIRED LADDER, PLATFORM AND INSTALLED SAF-T-CLIMB	REPAIRED	1
HUDSON	Y	LT	REPAIRED MPW BY REBUILDING PLATFORM AND REPLACING L	REPAIRED	1
HUDSON	Y	LT	REPAIRED MPW PLATFORM AND REPLACED LADDER	REPAIRED	1
HUDSON	Y	LT	REPAIRED PLATFORM AND ATTACHED SOLAR PANEL	REPAIRED	1
HUDSON	Y	LT	REPLACE PLATFORM ON SPC	REPAIRED	1
HUDSON	Y	LT	REPLACED AND ALIGNED (2) 6NG DAYBOARDS, REPLACED LA	REPAIRED	1
HUDSON	Y	LT	REPLACED BOTTOM LADDER SECTION	REPAIRED	1
HUDSON	Y	LT	REPLACED LADDER	REPAIRED	1
HUDSON	Y	LT	REPLACED LADDER AND REPAIRED STRUCTURE	REPAIRED	3
HUDSON	Y	LT	REPLACED LOW MAST KIT	REPAIRED	3
HUDSON	Y	LT	REPLACED LOWMAST KIT	REPAIRED	2
HUDSON	Y	LT	REPLACED LOWMAST KIT ON SPC	REPAIRED	1
HUDSON	Y	LT	REPLACED MPS PLATFORM AND FA 240	REPAIRED	1
HUDSON	Y	LT	REPLACED MPW PLATFORM	REPAIRED	1
HUDSON	Y	LT	REPLACED PLATFORM	REPAIRED	9
HUDSON	Y	LT	REPLACED PLATFORM AND LADDER	REPAIRED	2
HUDSON	Y	LT	REPLACED PLATFORM AND LADDER INSPECTED SPS STRUCTUR	REPAIRED	1
HUDSON	Y	LT	REPLACED PLATFORM AND MISSING DAYBOARDS	REPAIRED	1
HUDSON	Y	LT	REPLACED TOWER AND LADDER	REPAIRED	1
HUDSON	Y	LT	RE[LACED LOW MAST KIT	REPAIRED	1
HUDSON	Y	LT	RE[LACED PLATFORM AND LADDER	REPAIRED	1

WLIC	WLIC Needed?	Aid Type	Indicated Action	Derived Action	Count
HUDSON	Y	LT	RE[LACED PLATFORM AND SERVICED	REPAIRED	1
HUDSON	Y	LT	SERVICED REPLACED LADDER AND DAYBOARDS	REPAIRED	1
HUDSON	Y	LT	STARTED CUTTING OLD MPS AND REBUILDING NEW MPS	REPAIRED	1
HUDSON	Y	LT	UNABLE TO RECOVER REMAINING 1 PILE DUE TC WX,NOT A	REPAIRED	1
HUDSON	Y	Total			349
HUDSON		Total			663
MALLET	N	DBN	1000 LB SINKER	INSPECTION	1
MALLET	N	DBN	6/LWP	INSPECTION	1
MALLET	N	LB	REPLACED FLASNER	REPLACED	1
MALLET	N	LT	4/LWP	INSPECTION	1
MALLET	N	LT	5/LWP	INSPECTION	1
MALLET	N	LT	FIXED/REPLACED FLASHER	INSPECTION	1
MALLET	N	LT	LWP	INSPECTION	1
MALLET	N	LT	NEW 6K6R'S	INSPECTION	1
MALLET	N	LT	NEW BOARDS/LWP	INSPECTION	1
MALLET	N	LT	REPAIRED HEADER/SERV.	INSPECTION	1
MALLET	N	LT	SCPR/ALL	INSPECTION	1
MALLET	N	LT	SERVICED AID	INSPECTION	1
MALLET	N	LT	SET TRLB/08	INSPECTION	1
MALLET	N	LT	SINKER	INSPECTION	1
MALLET	N	LT	CHECKED ???????	POSITION CHECK	1
MALLET	N	LT	POC CHECK	POSITION CHECK	1
MALLET	N	LT	POS CHECK	POSITION CHECK	21
MALLET	N	LT	POS CHECK/CONFIRMATION	POSITION CHECK	1
MALLET	N	LT	POS CHECK/ON	POSITION CHECK	1
MALLET	N	LT	POS CHECK/ON STA	POSITION CHECK	1
MALLET	N	LT	POS CHECK/ONSTA	POSITION CHECK	1
MALLET	N	LT	POS. CHECK	POSITION CHECK	2
MALLET	N	Port			1
MALLET	N	ULB	MISS ALL/13	ESTABLISHED (MISSI	1
MALLET	N	ULB	MISSING LWP	ESTABLISHED (MISSI	1
MALLET	N	ULB	MISSING/11/LWP	ESTABLISHED (MISSI	1
MALLET	N	ULB	MISSING/12	ESTABLISHED (MISSI	3
MALLET	N	ULB	MISSING/12/SCPR	ESTABLISHED (MISSI	2
MALLET	N	ULB	MISSING/13/SCPR	ESTABLISHED (MISSI	1
MALLET	N	ULB	MISSING/14/SCPR	ESTABLISHED (MISSI	1
MALLET	N	ULB	MISSING/ALL	ESTABLISHED (MISSI	1
MALLET	N	ULB	MISSING/GCFR/13	ESTABLISHED (MISSI	1
MALLET	N	ULB	MISSING/LWP	ESTABLISHED (MISSI	1
MALLET	N	ULB	MISSING/SCPR/12	ESTABLISHED (MISSI	1
MALLET	N	ULB	MISSING/SCPR/13	ESTABLISHED (MISSI	1
MALLET	N	ULB	MISSING/SNPR/9	ESTABLISHED (MISSI	1
MALLET	N	ULB	12/HULL	INSPECTION	2
MALLET	N	ULB	12/HULL/SCPR	INSPECTION	3
MALLET	N	ULB	12/LWP	INSPECTION	1
MALLET	N	ULB	13/LWP	INSPECTION	1
MALLET	N	ULB	13/LWP/ONSTA	INSPECTION	1
MALLET	N	ULB	14 HULL/SCPR	INSPECTION	1
MALLET	N	ULB	ALL	INSPECTION	7
MALLET	N	ULB	ALL 6CFR/13	INSPECTION	4
MALLET	N	ULB	ALL 6CPR/13	INSPECTION	2
MALLET	N	ULB	ALL SCPR/13	INSPECTION	1
MALLET	N	ULB	ALL SCPR/13	INSPECTION	1
MALLET	N	ULB	ALL/13	INSPECTION	7
MALLET	N	ULB	FWP	INSPECTION	1
MALLET	N	ULB	HULL	INSPECTION	9
MALLET	N	ULB	HULL-SNPR	INSPECTION	1
MALLET	N	ULB	HULL/12	INSPECTION	5
MALLET	N	ULB	HULL/13	INSPECTION	5
MALLET	N	ULB	HULL/14/LWP	INSPECTION	1

WLIC	WLIC Needed?	Aid Type	Indicated Action	Derived Action	Count
MALLET	N	ULB	HULL/6CFR/13	INSPECTION	3
MALLET	N	ULB	HULL/6CPR/12	INSPECTION	1
MALLET	N	ULB	HULL/6CPR/13	INSPECTION	2
MALLET	N	ULB	HULL/6CPR/14	INSPECTION	1
MALLET	N	ULB	HULL/7	INSPECTION	1
MALLET	N	ULB	HULL/ALL	INSPECTION	2
MALLET	N	ULB	HULL/ALL/12	INSPECTION	2
MALLET	N	ULB	HULL/ALL/13	INSPECTION	3
MALLET	N	ULB	HULL/SCPR/11	INSPECTION	1
MALLET	N	ULB	HULL/SCPR/12	INSPECTION	2
MALLET	N	ULB	HULL/SCPR/13	INSPECTION	2
MALLET	N	ULB	HULL/SCPR/14/FOUND OFFSTA	INSPECTION	2
MALLET	N	ULB	HULL/SCPR/15	INSPECTION	1
MALLET	N	ULB	HULL/SINKER	INSPECTION	3
MALLET	N	ULB	INP/12	INSPECTION	1
MALLET	N	ULB	INSP./LWP/12	INSPECTION	1
MALLET	N	ULB	INSP/12	INSPECTION	4
MALLET	N	ULB	INSP/ON/12	INSPECTION	1
MALLET	N	ULB	INSP/POS??	INSPECTION	1
MALLET	N	ULB	None	INSPECTION	1
MALLET	N	ULB	ONSTA/INSP/POS CHECK	INSPECTION	1
MALLET	N	ULB	SCPR/12	INSPECTION	1
MALLET	N	ULB	SCPR/12/LWP	INSPECTION	1
MALLET	N	ULB	SCPR/13/LWP	INSPECTION	1
MALLET	N	ULB	SCPR/HULL/12	INSPECTION	4
MALLET	N	ULB	SERV	INSPECTION	9
MALLET	N	ULB	SERV/11	INSPECTION	5
MALLET	N	ULB	SERV/11FT	INSPECTION	1
MALLET	N	ULB	SERV/12	INSPECTION	5
MALLET	N	ULB	SERV/12FT	INSPECTION	14
MALLET	N	ULB	SERV/13	INSPECTION	7
MALLET	N	ULB	SERV/13FT	INSPECTION	1
MALLET	N	ULB	SERV/16	INSPECTION	1
MALLET	N	ULB	SERV/4FT	INSPECTION	1
MALLET	N	ULB	SERV/REPOS/11FT	INSPECTION	1
MALLET	N	ULB	SERVICED/HULL/12	INSPECTION	1
MALLET	N	ULB	SERVICED/HULL/13	INSPECTION	16
MALLET	N	ULB	SERVICED/HULL/14	INSPECTION	3
MALLET	N	ULB	SERVICED/HULL/15	INSPECTION	2
MALLET	N	ULB	SERVICED/HULL/16	INSPECTION	1
MALLET	N	ULB	SINKER/HULL	INSPECTION	1
MALLET	N	ULB	ALL/MOORING LOST/12	MOORING INSPECTION	1
MALLET	N	ULB	CHAIN/6CPR/13	MOORING INSPECTION	1
MALLET	N	ULB	MOOR INSP./7	MOORING INSPECTION	1
MALLET	N	ULB	MOORING/12	MOORING INSPECTION	1
MALLET	N	ULB	MOORINGS	MOORING INSPECTION	8
MALLET	N	ULB	MOORINGS/12	MOORING INSPECTION	1
MALLET	N	ULB	MOORINGS/13	MOORING INSPECTION	1
MALLET	N	ULB	REPLACED SINKER	MOORING INSPECTION	1
MALLET	N	ULB	REPLACED SINKER/13	MOORING INSPECTION	1
MALLET	N	ULB	REPLACED SINKER/15	MOORING INSPECTION	1
MALLET	N	ULB	REPOS/2 SINKERS/11	MOORING INSPECTION	1
MALLET	N	ULB	SCPR SINKER REPLACES/ALL	MOORING INSPECTION	1
MALLET	N	ULB	SINKER/15	MOORING INSPECTION	1
MALLET	N	ULB	SINKER/ALL	MOORING INSPECTION	1
MALLET	N	ULB	SINKER/POS CHECK	MOORING INSPECTION	1
MALLET	N	ULB	MISSING CHECK	POSITION CHECK	1
MALLET	N	ULB	ONSTA/11/LWP	POSITION CHECK	1
MALLET	N	ULB	ONSTA/14/LWP	POSITION CHECK	1
MALLET	N	ULB	POS CHECK	POSITION CHECK	2
MALLET	N	ULB	POS CHECK/HULL/12	POSITION CHECK	1
MALLET	N	ULB	POS. ??????/12	POSITION CHECK	1

WLIC	WLIC Needed?	Aid Type	Indicated Action	Derived Action	Count
MALLET	N	ULB	POS. VER. SNPR/12	POSITION CHECK	1
MALLET	N	ULB	POS. VER./ALL SNPR/12	POSITION CHECK	1
MALLET	N	ULB	POS. VER./HULL/SNPR/12	POSITION CHECK	1
MALLET	N	ULB	POS./12	POSITION CHECK	3
MALLET	N	ULB	FOUND DAMAGED REPLACED ALL	REPLACED	1
MALLET	N	ULB	NEW HULL	REPLACED	9
MALLET	N	ULB	NEW HULL/SCPR/13	REPLACED	2
MALLET	N	ULB	REPLACED ALL	REPLACED	1
MALLET	N	ULB	REPLACED HULL/SNPR	REPLACED	1
MALLET	N	ULB	15/RESET/LWP	RESET	1
MALLET	N	ULB	????/OFFSTA/STP	RESET	1
MALLET	N	ULB	FOUND MISSING	RESET	1
MALLET	N	ULB	FOUND OFFSTA/LWP/12	RESET	1
MALLET	N	ULB	MISSING RESET L??	RESET	2
MALLET	N	ULB	OFFSTA	RESET	1
MALLET	N	ULB	OFFSTA SINCKE/SCPR/12	RESET	1
MALLET	N	ULB	OFFSTA/12/RESET	RESET	2
MALLET	N	ULB	OFFSTA/HULL ALL	RESET	1
MALLET	N	ULB	OFFSTA/LWP	RESET	1
MALLET	N	ULB	OFFSTA/RESET ON AP	RESET	1
MALLET	N	ULB	OFFSTA/SINNER/13	RESET	1
MALLET	N	ULB	RELOCATED/ALL	RESET	2
MALLET	N	ULB	REPOS	RESET	4
MALLET	N	ULB	REPOS/11	RESET	1
MALLET	N	ULB	REPOS/HULL ALL/12	RESET	1
MALLET	N	ULB	RESET 8.5 LWP	RESET	1
MALLET	N	ULB	RESET HULL	RESET	1
MALLET	N	ULB	RESET HULL/12	RESET	4
MALLET	N	ULB	RESET HULL/SCFR/12	RESET	2
MALLET	N	ULB	RESET HULL/SNPR/12	RESET	2
MALLET	N	ULB	RESET ON STA/12	RESET	1
MALLET	N	ULB	RESET/12/LWP	RESET	2
MALLET	N	ULB	RESET/14/LWP	RESET	1
MALLET	N	ULB	RESET/15/LWP	RESET	1
MALLET	N	ULB	RESET/16/LWP	RESET	1
MALLET	N	ULB	RESET/19/LWP	RESET	1
MALLET	N	ULB	RESET/ALL	RESET	1
MALLET	N	ULB	RESET/HULL/12	RESET	1
MALLET	N	ULB	SNPR/OFFSTA/12/????	RESET	1
MALLET	N	Total			316
MALLET	Y	DBN	DISCONT.	DISCONTINUED	1
MALLET	Y	DBN	ESTABLISHES	ESTABLISHED	3
MALLET	Y	DBN	DESTROYED/11	REBUILT	1
MALLET	Y	DBN	FOUND DEST. REMOVED TRUB REBUILT	REBUILT	2
MALLET	Y	DBN	FOUND DESTROYED/RBLT/9	REBUILT	1
MALLET	Y	DBN	RBIT/LWP/8	REBUILT	1
MALLET	Y	DBN	RBLT LWP	REBUILT	1
MALLET	Y	DBN	RBLT/11/LWP	REBUILT	1
MALLET	Y	DBN	RBLT/14	REBUILT	1
MALLET	Y	DBN	RBLT/15	REBUILT	1
MALLET	Y	DBN	RBLT/17	REBUILT	1
MALLET	Y	DBN	RBLT/7	REBUILT	1
MALLET	Y	DBN	RBLT/LWP	REBUILT	2
MALLET	Y	DBN	RBLT/LWP/11	REBUILT	1
MALLET	Y	DBN	RBLT/LWP/4	REBUILT	1
MALLET	Y	DBN	RBLT/POS CHECK/DAY ????	REBUILT	1
MALLET	Y	DBN	REBLT	REBUILT	1
MALLET	Y	DBN	REBUILT	REBUILT	1
MALLET	Y	DBN	REBUILT AID	REBUILT	4
MALLET	Y	DBN	REBUILT/5/LWP	REBUILT	1
MALLET	Y	DBN	REBUILT/LWP/12	REBUILT	1

WLIC	WLIC Needed?	Aid Type	Indicated Action	Derived Action	Count
MALLET	Y	DBN	REBUILT/LWP/7	REBUILT	1
MALLET	Y	DBN	RFIP/RBLT/???/3	REBUILT	1
MALLET	Y	DBN	REPAIRED	REPAIRED	1
MALLET	Y	DBN	REPLACED DBDS/LWP	REPAIRED	1
MALLET	Y	LT	SERV. ESTABLISHED NEW	ESTABLISHED	1
MALLET	Y	LT	3 RBLT LWP	REBUILT	1
MALLET	Y	LT	DESTROYED LWP	REBUILT	1
MALLET	Y	LT	FOUND DEST. REMOVED TRUB REBUILT	REBUILT	1
MALLET	Y	LT	FOUND DEST/REBUILT	REBUILT	1
MALLET	Y	LT	RBLT	REBUILT	2
MALLET	Y	LT	RBLT ?????/POS CHECK	REBUILT	1
MALLET	Y	LT	RBLT/10/LWP	REBUILT	1
MALLET	Y	LT	RBLT/12	REBUILT	1
MALLET	Y	LT	RBLT/13	REBUILT	1
MALLET	Y	LT	RBLT/20	REBUILT	1
MALLET	Y	LT	RBLT/4/LWP	REBUILT	1
MALLET	Y	LT	RBLT/DESTR./6	REBUILT	1
MALLET	Y	LT	RBLT/LWP	REBUILT	4
MALLET	Y	LT	RBLT/LWP/1	REBUILT	1
MALLET	Y	LT	RBLT/LWP/4	REBUILT	1
MALLET	Y	LT	RBLT/NO WRECKAGE	REBUILT	1
MALLET	Y	LT	RBLT/WP/11FT	REBUILT	1
MALLET	Y	LT	REBLT	REBUILT	1
MALLET	Y	LT	REBUILT	REBUILT	4
MALLET	Y	LT	REBUILT AID	REBUILT	4
MALLET	Y	LT	REBUILT AID/LWP	REBUILT	1
MALLET	Y	LT	REBUILT CAGE/1	REBUILT	1
MALLET	Y	LT	REBUILT ON OLD STRUCTURE	REBUILT	1
MALLET	Y	LT	REBUILT ON RETURN EVELED LANTERN	REBUILT	1
MALLET	Y	LT	REBUILT RECOVERED WK6TRLB	REBUILT	2
MALLET	Y	LT	REBUILT REMOVED	REBUILT	1
MALLET	Y	LT	REBUILT/10/LWP	REBUILT	1
MALLET	Y	LT	REBUILT/11/LWP	REBUILT	1
MALLET	Y	LT	REBUILT/12	REBUILT	1
MALLET	Y	LT	REBUILT/17	REBUILT	1
MALLET	Y	LT	REBUILT/8/LWP	REBUILT	1
MALLET	Y	LT	REBUILT/LWP/5	REBUILT	1
MALLET	Y	LT	REBUILT/LWP/6	REBUILT	2
MALLET	Y	LT	REBUILT/NO WRECK FOUND/DESTROYED	REBUILT	1
MALLET	Y	LT	REBUILT/ONSTA/4	REBUILT	1
MALLET	Y	LT	REGUILT/ADDED/WIRE	REBUILT	1
MALLET	Y	LT	ADDED REPRO LADDER/LWP	REPAIRED	1
MALLET	Y	LT	ADDED TWO PIKES	REPAIRED	1
MALLET	Y	LT	NEW LADDER	REPAIRED	1
MALLET	Y	LT	REP	REPAIRED	1
MALLET	Y	LT	REPAIRED LADDER	REPAIRED	1
MALLET	Y	LT	REPAIRED LWP	REPAIRED	1
MALLET	Y	LT	REPAIRED/10	REPAIRED	1
MALLET	Y	LT	REPLACED HEADER	REPAIRED	2
MALLET	Y	LT	REPLACED LADDER	REPAIRED	1
MALLET	Y	LT	RPRD	REPAIRED	1
MALLET	Y	LT	RPRD/HEADER/LWP	REPAIRED	1
MALLET	Y	LT	RPRD/LWP/9	REPAIRED	1
MALLET	Y	LT	RELOCATED	RESET	1
MALLET	Y	ULB	RBLT/12	REBUILT	1
MALLET	Y	ULB	REGUILT/20/LWP/?????	REBUILT	1
MALLET	Y	Total			97
MALLET		Total			413
SAGINAW	N	BUOY	Annual Moor	/MOORING	1
SAGINAW	N	BUOY	Annual Moor.	/MOORING	3

WLIC	WLIC Needed?	Aid Type	Indicated Action	Derived Action	Count
SAGINAW	N	BUOY	Annual Mooring	/MOORING	24
SAGINAW	N	BUOY	Annual New Mooring	/MOORING	1
SAGINAW	N	BUOY	Annual- Moor.	/MOORING	2
SAGINAW	N	BUOY	Annual/Moor	/MOORING	4
SAGINAW	N	BUOY	Annual/New Mooring	/MOORING	2
SAGINAW	N	BUOY	Inspect- New Mooring	/MOORING	1
SAGINAW	N	BUOY	Inspect/New Mooring	/MOORING	13
SAGINAW	N	BUOY	Moor. Annual	/MOORING	7
SAGINAW	N	BUOY	Moor/Annual	/MOORING	13
SAGINAW	N	BUOY	Mooring pos. Check	/MOORING	1
SAGINAW	N	BUOY	Mooring re-set	/MOORING	1
SAGINAW	N	BUOY	Mooring reset	/MOORING	3
SAGINAW	N	BUOY	Off STa. Reset Annual/Mooring	/MOORING	1
SAGINAW	N	BUOY	Recieved w/3cr New Mooring	/MOORING	1
SAGINAW	N	BUOY	Relieved/Mooring Insp	/MOORING	1
SAGINAW	N	BUOY	Reset/new boom & moor	/MOORING	2
SAGINAW	N	BUOY	Annual Relief/Mooring	/MOORING/RELIEF	1
SAGINAW	N	BUOY	Annual Relief/New Mooring	/MOORING/RELIEF	1
SAGINAW	N	BUOY	Annual- Relief- Moor.	/MOORING/RELIEF	1
SAGINAW	N	BUOY	Inspect Relief/New Mooring	/MOORING/RELIEF	1
SAGINAW	N	BUOY	Moor/Relief	/MOORING/RELIEF	11
SAGINAW	N	BUOY	Mooring Relief Reset	/MOORING/RELIEF	1
SAGINAW	N	BUOY	Relief Moor	/MOORING/RELIEF	4
SAGINAW	N	BUOY	Relief Mooring	/MOORING/RELIEF	4
SAGINAW	N	BUOY	Relief Replaced Mooring	/MOORING/RELIEF	1
SAGINAW	N	BUOY	Relief- Moor. Annual	/MOORING/RELIEF	4
SAGINAW	N	BUOY	Relief/New Mooring	/MOORING/RELIEF	19
SAGINAW	N	BUOY	Relief	/RELIEF	3
SAGINAW	N	BUOY	Disc B	DISC BUOY	1
SAGINAW	N	BUOY	Removed	DISCONTINUED	1
SAGINAW	N	BUOY	Est/Disc B	ESTABLISHED	1
SAGINAW	N	BUOY	Established	ESTABLISHED	1
SAGINAW	N	BUOY	Inspect	INSPECTION	1
SAGINAW	N	BUOY		None	3
SAGINAW	N	BUOY	Unable to Build	None	1
SAGINAW	N	BUOY	Pos. Check	POSITION CHECK	1
SAGINAW	N	BUOY	Position chk.	POSITION CHECK	1
SAGINAW	N	BUOY	Repaired	REPAIRED	1
SAGINAW	N	BUOY	Repaired Hole	REPAIRED	1
SAGINAW	N	BUOY	Sinking hole Repaired	REPAIRED	1
SAGINAW	N	BUOY	Trubed	REPAIRED	1
SAGINAW	N	BUOY	Relieved	REPLACED	7
SAGINAW	N	BUOY	Relieved w/ l/lr	REPLACED	1
SAGINAW	N	BUOY	Replaced	REPLACED	2
SAGINAW	N	BUOY	Off Sta. Re-set o/s	RESET	1
SAGINAW	N	BUOY	Positioned	RESET	1
SAGINAW	N	BUOY	Posn/check reset	RESET	1
SAGINAW	N	BUOY	Re-set	RESET	1
SAGINAW	N	BUOY	Re-set o/s	RESET	1
SAGINAW	N	BUOY	Re-set unable to posn./wk	RESET	1
SAGINAW	N	BUOY	Reset	RESET	3
SAGINAW	N	BUOY	Reset on AP	RESET	1
SAGINAW	N	BUOY	Reset.	RESET	1
SAGINAW	N	DBN	Found Structurly Sound	None	1
SAGINAW	N	LT	Recovered Wkg. Disc. 5x11 Temp	DISC BUOY	1
SAGINAW	N	LT	Batt.Stolen- Re-lighted	INSPECTION	1
SAGINAW	N	LT	Re-lite	INSPECTION	2
SAGINAW	N	LT	Relighted	INSPECTION	1
SAGINAW	N	LT	Relite	INSPECTION	1
SAGINAW	N	LT		None	8
SAGINAW	N	LT	Ant. Mobile/ Rebuilt	None	1
SAGINAW	N	LT	Recharge	RECHARGED	1

WLIC	WLIC Needed?	Aid Type	Indicated Action	Derived Action	Count
SAGINAW	N	LT	Recharged	RECHARGED	3
SAGINAW	N	Total			188
SAGINAW	Y	DBN	Est	ESTABLISHED	1
SAGINAW	Y	DBN	Est.	ESTABLISHED	1
SAGINAW	Y	DBN	Est/Disc B	ESTABLISHED	73
SAGINAW	Y	DBN	Established	ESTABLISHED	2
SAGINAW	Y	DBN	Rebuild	REBUILT	1
SAGINAW	Y	DBN	Rebuilt	REBUILT	36
SAGINAW	Y	DBN	Rebuilt/no wreck located	REBUILT	1
SAGINAW	Y	DBN	Est/Buoy Rec. Wkg.	REBUILT/REMOVE	1
SAGINAW	Y	DBN	Re-established	REBUILT/REMOVE	1
SAGINAW	Y	DBN	Rebuilt	REBUILT/REMOVE	28
SAGINAW	Y	DBN	Relocated	REBUILT/REMOVE	3
SAGINAW	Y	DBN	by ANT.	REBUILT/REMOVE	1
SAGINAW	Y	DBN	rebuilt	REBUILT/REMOVE	1
SAGINAW	Y	DBN	Raised Four/height	REPAIRED	1
SAGINAW	Y	DBN	Rebuilt Straighted	REPAIRED	1
SAGINAW	Y	DBN	Replaced Boards	REPAIRED	1
SAGINAW	Y	DBN	Replaced DBD	REPAIRED	1
SAGINAW	Y	DBN	Replaced Missing DBN's	REPAIRED	1
SAGINAW	Y	DBN	Replaced missing Day Board	REPAIRED	1
SAGINAW	Y	DBN	Replaced missing Dayboard	REPAIRED	1
SAGINAW	Y	DBN	Replaced pile	REPAIRED	3
SAGINAW	Y	DBN	Straighted	REPAIRED	2
SAGINAW	Y	DBN	Straightened	REPAIRED	2
SAGINAW	Y	DBN	Relocated	RESET	1
SAGINAW	Y	LT		DISCONTINUED	1
SAGINAW	Y	LT		ESTABLISHED	49
SAGINAW	Y	LT	Disc. DBN Established Lt	ESTABLISHED	1
SAGINAW	Y	LT	Est.	ESTABLISHED	1
SAGINAW	Y	LT	Establish	ESTABLISHED	1
SAGINAW	Y	LT	Established	ESTABLISHED	3
SAGINAW	Y	LT	Established 10yds channel ward of work	ESTABLISHED	1
SAGINAW	Y	LT	Extablishment	ESTABLISHED	1
SAGINAW	Y	LT	Rebuild	REBUILT	1
SAGINAW	Y	LT	Rebuilt	REBUILT	112
SAGINAW	Y	LT	Rebuilt White Pine Recovered Wkg.	REBUILT	1
SAGINAW	Y	LT		REBUILT/REMOVE	5
SAGINAW	Y	LT	Rebuilt	REBUILT/REMOVE	73
SAGINAW	Y	LT	Relocated	REBUILT/REMOVE	1
SAGINAW	Y	LT	Replaced	REBUILT/REMOVE	2
SAGINAW	Y	LT	Wreckage on beach Dog River	REBUILT/REMOVE	1
SAGINAW	Y	LT	by ANT	REBUILT/REMOVE	1
SAGINAW	Y	LT	rebuilt	REBUILT/REMOVE	1
SAGINAW	Y	LT	Added New Range Boards	REPAIRED	1
SAGINAW	Y	LT	Added bottem piles	REPAIRED	1
SAGINAW	Y	LT	Brackets Replaced header	REPAIRED	1
SAGINAW	Y	LT	Instal Day	REPAIRED	1
SAGINAW	Y	LT	Installed Batton Piles and Y Brac	REPAIRED	1
SAGINAW	Y	LT	Installed bottom piles	REPAIRED	1
SAGINAW	Y	LT	Leveled Header	REPAIRED	1
SAGINAW	Y	LT	Minor repair	REPAIRED	1
SAGINAW	Y	LT	Rebolted piles replaced header	REPAIRED	1
SAGINAW	Y	LT	Rebuilt Dic TRLB	REPAIRED	1
SAGINAW	Y	LT	Rebuilt Header	REPAIRED	1
SAGINAW	Y	LT	Reolted Piles replaced header	REPAIRED	1
SAGINAW	Y	LT	Repair	REPAIRED	1
SAGINAW	Y	LT	Repaired	REPAIRED	6
SAGINAW	Y	LT	Repaired Battery Box	REPAIRED	1
SAGINAW	Y	LT	Repaired Header	REPAIRED	1
SAGINAW	Y	LT	Repaired Tow Support	REPAIRED	1

WLIC	WLIC Needed?	Aid Type	Indicated Action	Derived Action	Count
SAGINAW	Y	LT	Repaired header	REPAIRED	1
SAGINAW	Y	LT	Replaced 2 bottom piles	REPAIRED	1
SAGINAW	Y	LT	Replaced DBD's	REPAIRED	2
SAGINAW	Y	LT	Replaced DBDS	REPAIRED	1
SAGINAW	Y	LT	Replaced Day Board	REPAIRED	1
SAGINAW	Y	LT	Replaced Dayboard	REPAIRED	1
SAGINAW	Y	LT	Replaced Header	REPAIRED	2
SAGINAW	Y	LT	Replaced Tower	REPAIRED	1
SAGINAW	Y	LT	Replaced Tower Rebolted Braces	REPAIRED	1
SAGINAW	Y	LT	Replaced header	REPAIRED	6
SAGINAW	Y	LT	Replaced header Bracket	REPAIRED	1
SAGINAW	Y	LT	Replaced x-bracing & bottom bracing	REPAIRED	1
SAGINAW	Y	LT	Straighted	REPAIRED	1
SAGINAW	Y	LT	Tightened heading	REPAIRED	1
SAGINAW	Y	LT	Relocated	RESET	1
SAGINAW	Y	Total			465
SAGINAW		Total			653

Table: ACTIONS Report: 1

APPENDIX G

COAST GUARD CONTRACT LINE ITEM SPREADSHEET DATA FOR THE COLUMBIA RIVER SYSTEM (D13) AND SAN FRANCISCO BAY (D11)

COAST GUARD CONSTRUCTION CONTRACT BY ACTIVITY

Price and Quantity Totals

APPENDIX G

#	General Category of Work	Type of work	$ Per Unit	Activity	Per Unit Cost: Columbia River System	Per Unit Cost: SF/SP/8 Bays	3	Quantities: Columbia River System	Quantities: SF/SP/8 Bays	3	Total Cost Per Activity: Columbia River System	Total Cost Per Activity: SF/SP/8 Bays	3
1a	Item No. 1: Mobilization-Demobilization	Emergency Orders	$ Per Delivery Order	Mobilize for removal of structure in AREA No 1.	$3,000	$1,150		1	1		$3,000	$1,150	$0
1b		"	"	Demobilize for removal of structure in AREA No 1.	$3,000	$1,150		1	1		$3,000	$1,150	$0
1c		"	"	Mobilize for removal of structure in AREA No 2.	$2,500	$1,150		1	1		$2,500	$1,150	$0
1d		"	"	Demobilize for removal of structure in AREA No 2.	$2,500	$1,150		1	1		$2,500	$1,150	$0
1e		"	"	Mobilize for removal of structure in AREA No 3.		$2,400			1		$0	$2,400	$0
1f		"	"	Demobilize for removal of structure in AREA No 3.		$2,400			1		$0	$2,400	$0
1g		Improper Characteristic Delivery Orders	"	Mobilize for Improper Characteristic Delivery Order in AREA No 1.	$3,000	$1,600		1	1		$3,000	$1,600	$0
1h		"	"	Demobilize for Improper Characteristic Delivery Order in AREA No 1.	$3,000	$1,600		1	1		$3,000	$1,600	$0
1i		"	"	Mobilize for Improper Characteristic Delivery Order in AREA No 2.	$2,500	$1,600		1	1		$2,500	$1,600	$0
1j		"	"	Demobilize for Improper Characteristic Delivery Order in AREA No 2.	$2,500	$1,600		1	1		$2,500	$1,600	$0
1k		"	"	Mobilize for Improper Characteristic Delivery Order in AREA No 3.		$2,600			1		$0	$2,600	$0
1l		"	"	Demobilize for Improper Characteristic Delivery Order in AREA No 3.		$2,600			1		$0	$2,600	$0
2a	Item No 2: Transit Costs		$ Per Nautical Mile	Transit from One Work Location to Another work location on same Delivery Order.	$60	$150		50	60		$3,000	$9,000	$0
3a	Item No. 3: Removals	Emergency Orders	$ Per Structure	Remove damaged single (1) pipe pile structure, including daymark, under Emergency Delivery Order.	$2,200			1			$2,200	$0	$0
3b			"	Remove damaged single (1) pile structure, including platform assembly & ATON equipment, under Emergency Delivery Order.		$2,250			1		$0	$2,250	$0
3c			"	Remove damaged multi-pile structure, including platform assembly & ATON equipment, under Emergency Delivery Order.		$2,550			1		$0	$2,550	$0
3d		"	"	Remove damaged three (3) pipe pile structure, including daymark, under Emergency Delivery Order.	$3,000			1			$3,000	$0	$0
3e		"	"	Remove damaged three (3) pile wood daybeacon structure, including daymark, under Emergency Delivery Order.	$3,000			1			$3,000	$0	$0
3f		"	"	Remove damaged four (4) pile wood structure, incuding platform assembly and ATON equipment, under Emergency Delivery Order.	$3,500			1			$3,500	$0	$0
3g		"	"	Remove damaged four (4) pile steel structure, incuding platform assembly and ATON equipment, under Emergency Delivery Order.	$3,000			1			$3,000	$0	$0

COAST GUARD CONSTRUCTION CONTRACT BY ACTIVITY
Price and Quantity Totals

APPENDIX G

					Per Unit Cost			Quantities			Total Cost Per Activity		
#	General Category of Work	Type of work	$ Per Unit	Activity	Columbia River System	SF/SP/S Bays	3	Columbia River System	SF/ SP /S Bays	3	Columbia River System	SF/SP/S Bays	3
3h		"	"	Remove damaged five (5) pile wood structure, incuding platform assembly and ATON equipment, under Emergency Delivery Order.	$2,200			1			$2,200	$0	$0
3i		"	"	Remove damaged nine (9) pile wood range structure, incuding platform assembly and ATON equipment, under Emergency Delivery Order.	$4,800			1			$4,800	$0	$0
3j		"	"	Remove damaged nine (9) pile wood dophlin structure under Emergency Delivery Order.	$4,800			1			$4,800	$0	$0
3k		"	"	Remove damaged thirteen (13) pile wood dophlin structure under Emergency Delivery Order.	$5,200			1			$5,200	$0	$0
3l		"	"	Remove 30 foot or less sectional steel tower from base structure under Emergency Delivery Order.	$2,500			1			$2,500	$0	$0
3m		Improper Charactersistic Delivery Order	$ Per Structure	Remove damaged single (1) pipe pile structure, including daymark, under IC Delivery Order.	$2,200			1			$2,200	$0	$0
3n			"	Remove damaged single (1) pile structure, including platform assembly & ATON equipment, under IC Delivery Order.		$2,250			1		$0	$2,250	$0
3o			"	Remove damaged multi-pile structure, including platform assembly & ATON equipment, under IC Delivery Order.		$2,710			1		$0	$2,710	$0
3p		"	"	Remove damaged three (3) pipe pile structure, including daymark, under IC Delivery Order.	$3,000			1			$3,000	$0	$0
3q		"	"	Remove damaged three (3) pile wood daybeacon structure, including daymark, under IC Delivery Order.	$3,000			1			$3,000	$0	$0
3r		"	"	Remove damaged four (4) pile wood structure, incuding platform assembly and ATON equipment, under IC Delivery Order.	$3,500			1			$3,500	$0	$0
3s		"	"	Remove damaged four (4) pile steel structure, incuding platform assembly and ATON equipment, under IC Delivery Order.	$3,000			1			$3,000	$0	$0
3t		"	"	Remove damaged five (5) pile wood structure, incuding platform assembly and ATON equipment, under IC Delivery Order.	$2,200			1			$2,200	$0	$0
3u		"	$ per Pile Removed	Remove broken pile from multi-pile wood structures under IC Delivery Order.	$500			1			$500	$0	$0
3v		"	$ Per Structure	Remove damaged nine (9) pile wood dophlin structure under IC Delivery Order.	$4,800			1			$4,800	$0	$0
3x		"	"	Remove damaged thirteen (13) pile wood dophlin structure under IC Delivery Order.	$5,200			1			$5,200	$0	$0
3y		"	"	Remove 30 foot or less sectional steel tower from base structure under IC Delivery Order.	$2,500			1			$2,500	$0	$0
4a	Item No. 4: Materials	Wood Structures	$ Per Pile	Treated Timber Piles for 60' long timber piles.	$800			5			$4,000	$0	$0

COAST GUARD CONSTRUCTION CONTRACT BY ACTIVITY

Price and Quantity Totals

APPENDIX G

#	General Category of Work	Type of work	$ Per Unit	Activity	Per Unit Cost			Quantities			Total Cost Per Activity		
					Columbia River System	SF/SP/S Bays	3	Columbia River System	SF/SP /S Bays	3	Columbia River System	SF/SP/S Bays	3
4b		"	"	Treated Timber Piles for 80' long timber piles.	$1,200			5			$6,000	$0	$0
4c		"	"	Treated Timber Piles for 90' long timber piles.	$1,500			5			$7,500	$0	$0
4d		Platform Structures includes ladder stanchion, cross-bracing, non-range daymark mounting materials, and misc. materials.	$ Per Platform	Platform Materials for five (5) pile wood structure.	$1,200			1			$1,200	$0	$0
4e		"	"	Platform Materials for four (4) pile wood structure.	$1,365			1			$1,365	$0	$0
4f			$ per pile wrapped structure	Pile Wrap Materials (wire, rope, clamps ect.) for five (5) pile wood structure.	$500			1			$500	$0	$0
4g			$ per brace	3" X 12" ladder braces for four (4) pile wood structures.	$100			2			$200	$0	$0
4h			$ per 5' 7" ladder section	Fabricated ladder sections.	100			5			$500	$0	$0
4i			$ per linear foot	Rub boards for four (4) pile structure.	$5			40			$200	$0	$0
4j			$ per daymark mount	Daymark mounting materials for four (4) pile wood structure. Costs for non-range daymark mounting materials included in platform costs.	$50			1			$50	$0	$0
4k			$ per daybeacon structure	Spike grids, bolts, nuts & other hardware for three (3) pile wood daybeacon structure.	$150			1			$150	$0	$0
4l			$ per pile wrapped structure	Pile wrap material (wire, rope, calmps etc.) for nine (9) pile wood structure.	$700			1			$700	$0	$0
4m				Pile wrap material (wire, rope, calmps etc.) for thirteen (13) pile wood structure.	$850			1			$850	$0	$0
4n		Steel Pipe Pile Structures	($ per LF)	40' long stell pipe	$22			400			$8,800	$0	$0
4o			($ per weld)	Prepare and weld pipe sections into pile.	$250			2			$500	$0	$0
4p			$ per pile length	Prepare and Weld pipe sections into pile upto 80LF.		$1,000			10			$10,000	
4q			$ per pile length	Prepare and Weld pipe sections into pile over 80LF.		$1,250			10			$12,500	
4r		Steel Structures	$ per LF	30' long steel H-pile	$22			120			$2,640	$0	$0
4s		"	"	40' long steel H-pile	$22			160			$3,520	$0	$0
4t		"	"	50' long steel H-pile	$22			200			$4,400	$0	$0
4u		"	"	W 8 x 31	$13			264			$3,432	$0	$0
4v		"	($ per weld)	Prepare and Weld H-Pile sections intc pile	$250			4			$1,000	$0	$0
4x		XXXXXXXX	$ per cut	Cut off pipe section, not to exceed ten feet, to obtain desired height of pile (above MHW).		$1,280			1		$0	$1,280	$0

COAST GUARD CONSTRUCTION CONTRACT BY ACTIVITY

Price and Quantity Totals

APPENDIX G

#	General Category of Work	Type of work	$ Per Unit	Activity	Per Unit Cost: Columbia River System	Per Unit Cost: SF/SP/S Bays	3	Quantities: Columbia River System	Quantities: SF/SP/S Bays	3	Total Cost Per Activity: Columbia River System	Total Cost Per Activity: SF/SP/S Bays	3
4y		XXXXXXXX	$ per addition	Add pipe section, not to exceed ten feet, to obtain desired height of pile (above MHW).		$1,280			1		$0	$1,280	$0
4z		XXXXXXXX	$ per platform	Fabricate collision tolerant Pile Structure platform assembly as per ____.		$2,050			2		$0	$4,100	$0
4aa		Steel Structures	$ Per Platform	Fabricated platform materials, including lantern stand, for a single multi-pile structure.	$1,500			3			$4,500	$0	$0
4bb		"	$ per 7' ladder section	Fabricated ladder section	$120			3			$360	$0	$0
4cc		"	$ per ladder bracket	Fabricated single pile ladder bracket.	$150			3			$450	$0	$0
4dd		"	($ per dayboard bracket)	Fabricated single pile range dayboard bracket.	$150			3			$450	$0	$0
4ee		"	($ per ladder bracket)	Fabricated multi-pile ladder bracket.	$150			3			$450	$0	$0
4ff		"	($ per dayboard bracket)	Fabricated multi-pile range dayboard bracket.	$150			3			$450	$0	$0
4gg		"	($ per 10 ft. structure)	Fabricated 10 foot galvanized standard square sectional steel tower, including platform structure.	$4,044			1			$4,044	$0	$0
4hh		"	($ per 15 ft. structure)	Fabricated 15 foot galvanized standard square sectional steel tower, including platform structure.	$4,466			1			$4,466	$0	$0
4ii		"	($ per 20 ft. structure)	Fabricated 20 foot galvanized standard square sectional steel tower, including platform structure.	$6,186			1			$6,186	$0	$0
4jj		"	($ per 25 ft. structure)	Fabricated 25 foot galvanized standard square sectional steel tower, including platform structure.	$6,909			1			$6,909	$0	$0
4kk		"	($ per 30 ft. structure)	Fabricated 30 foot galvanized standard square sectional steel tower, including platform structure.	$7,716			1			$7,716	$0	$0
5a	Item No. 5: Installation	Three (3) Pile Wood Daybeacon	($ per structure)	Install 3 pile daybeacon structure including daymark.	$2,500			1			$2,500	$0	$0
5b		Four (4) Pile Wood Structure	($ per structure)	Install 4 pile range structure, including platform assembly, ladder stanchion, cross-bracing and daymark.	$9,460			1			$9,460	$0	$0
5c		"	$ per 5' 7" ladder section	Install ladder on 4 pile structures.	$100			3			$300	$0	$0
5d		"	$ per LF of rub boards	Install rub boards on 4 pile structures.	$10			40			$400	$0	$0
5e		Five (5) Pile Wood Structure	$ per structure	Install 5 pile wood structure, including platform assembly, ladder stanchion and daymarks.	$4,500			1			$4,500	$0	$0
5f			$ per 5' 7" ladder section	Install ladder on 5 pile structures.	$100			5			$500	$0	$0
5g		Nine (9) Pile Wood Structures	$ Per Structure	Install 9 pile dolphin structure, including pile wraps.	$7,500			1			$7,500	$0	$0

COAST GUARD CONSTRUCTION CONTRACT BY ACTIVITY

Price and Quantity Totals

APPENDIX G

#	General Category of Work	Type of work	$ Per Unit	Activity	Per Unit Cost: Columbia River System	Per Unit Cost: SF/SP/S Bays	Per Unit Cost: 3	Quantities: Columbia River System	Quantities: SF/SP/S Bays	Quantities: 3	Total Cost Per Activity: Columbia River System	Total Cost Per Activity: SF/SP/S Bays	Total Cost Per Activity: 3
5h		Single Pile Range Structure	"	Install single-pile range structure including platform assembly.		$4,250			1		$0	$4,250	$0
5i		Multi-Pile Range Structure	"	Install multi-pile range structure including platform assembly.		$5,750			1		$0	$5,750	
5j		Four (4) Pile Wood Structure	"	Install 4 pile NON- range structure, including platform assembly, ladder stanchion, cross-bracing and daymark.	$9,460			1			$9,460	$0	$0
5k		Single Pile Lateral Structure	"	Install single pile lateral structure including platform assembly.		$3,225			1		$0	$3,225	$0
5l		Mutli-Pile Lateral Structure	"	Install multi- pile lateral structure including platform assembly.		$4,250			1		$0	$4,250	$0
5m		Single-pile steel structure	$ per structure	Install Single-pile steel day beacon structure, and daymarks	$2,700			1			$2,700	$0	$0
5n		"	"	Install Single-pile steel structure, including platform assembly,ladder stanchions, & daymarks.	$3,000			1			$3,000	$0	$0
5o		"	$ per 7' ladder section	Install ladder on single-pile steel daybeacon structures.	$100			3			$300	$0	$0
5p		Multi-Pile Steel Structures	$ per structure	Install multi-pile steel structure, including platform assembly, ladder stanchions, and daymarks.	$4,200			1			$4,200	$0	$0
5q		"	$ per 7' ladder	Install ladder on multi-pile steel daybeacon structures.	$100			4			$400	$0	$0
5r		"	$ per structure	Install four (4) pile steel range structure, including sectional steel tower, platform, ladder, and daymarks.	$12,000			1			$12,000	$0	$0
5s		Thirteen (13) Pile Wood Structures	$ per structure	Install 13 pile dolphin structure, including pile wrap's	$7,200			1			$7,200	$0	$0
6a	Item No. 6: Repairs	Wood Structures	($ per pile)	Replace a broken pile in a multi-pile wood structure.	$3,000			1			$3,000	$0	$0
6b		"	($ per platform)	Replace a platform assembly on a multi-pile wood structure.	$3,200			1			$3,200	$0	$0
6c		"	($ per ladder section)	Replace a 5' 7" ladder section on a multi-pile wood structure.	$100			1			$100	$0	$0
6d		"	$ per hardware set	Replace the spike grid & through bolt hardware on a 3 pile wood daybeacon structure.	$750			1			$750	$0	$0
6e		"	$ per pile wrap	Replace the pile wrap on a 5 pile wood dolphin structure	$750			1			$750	$0	$0
6f		"	$ per brace or rub board	Replace ladder braces or rub boards on a 4 pile wood structure	$500			1			$500	$0	$0
6g		"	$ per pile wrap	Replace the pile wrap on a 9 pile wood dolphin structure.	$2,200			1			$2,200	$0	$0
6h		"	"	Replace the pile wrap on a 13 pile wood dolphin structure.	$2,700			1			$2,700	$0	$0
6i		Mutli-Pile ATON Structure	$ per repair	Repair multi-pile ATON structure: Install new through bolts, weld new pipe extension in palce.		$2,400			1		$0	$2,400	$0
6j		Platform Replacement	$ per platform	Replace existing damaged platform.		$750			1		$0	$750	$0

COAST GUARD CONSTRUCTION CONTRACT BY ACTIVITY

Price and Quantity Totals

APPENDIX G

#	General Category of Work	Type of work	$ Per Unit	Activity	Per Unit Cost: Columbia River System	Per Unit Cost: SF/SP/S Bays	3	Quantities: Columbia River System	Quantities: SF/SP/S Bays	3	Total Cost Per Activity: Columbia River System	Total Cost Per Activity: SF/SP/S Bays	3
6k		Ladder replacement	$ per ladder extension	Replace existing damaged seven foot ladder extension and support brackets with new seven foot ladder extension and support brackets.		$750			1		$0	$750	$0
6l		Steel Structures	$ per ladder section	Replace the ladder section on a single pipe pile structure	$100			1			$100	$0	$0
6m		"	"	Replace the ladder section on a multi-pipe pile structure	$100			1			$100	$0	$0
7a	Item No. 7: Diving Services		$ per structure	Diving services to cut one wood structure, regardless of number of piles at the mud-line, under either emergency or Improper Characteristics Delivery Order.	$3,200	$1,000		1	4		$3,200	$4,000	$0
8a	Item No. 8: Field Engineering		$ per structure	Perform geodetic surveying	$2,500	$3,500		1	14		$2,500	$49,000	$0
9a	Item No. 9: Buoys	Temporary Buoys	$ per buoy	Retrieve and return temporary buoy to assigned ANT	$1,700			1			$1,700	$0	$0
9b		Salvaged Buoys	$ per set	Remove and deliver ATON sets consisting of : buoy, chain, & sinker to Base		$300			8		$0	$2,400	$0
10a	Item No. 10: Deliver remaining Materials to CG Base [specify] at end of contact.		$ per one delivery	Deliver remaining Materials to CG Base [specify] at end of contact.	$1			1			$1	$0	$0
10b			$ per return	Return pipe (1), platforms (2), & ladder extensions (3) remaining at end of contract.		$100			3		$0	$300	$0
10c			$ per driving pile	Return CTPS Diriving Pile at end of Contract		$100			1		$0	$100	$0
10d			$ per battery	Containerize and transfer batteries incidentally recovered.		$40			2		$0	$80	$0
11a	Item No. 11: Pick up materials.		$ per one pickup	Remaining from last year's contract at CG Base [Specify]	$1			1			$1	$0	$0
11b			"	Pick up 800 LF of Gov't furnished pipe.		$1,300			1		$0	$1,300	$0
11c			$ per 400 LF Increments	Pick up additional Gov't furnished pipe > 800LF.		$1,000			1		$0	$1,000	$0
11d			$ per one pickup	Pick up ten (10) platform assemblies.		$400			1		$0	$400	$0
11e			$ per 5 platform increments.	Pick up additional platforms at 5 platforms per trip min.		$400			1		$0	$400	$0
11f			$ per one pickup	Pick up 5 ladder extensions with 8 single pile ladder brackets & 2 multi-pile ladder brackets.		$100			1		$0	$100	$0
11g			$ per additional ladder extensions.	Pick up additional ladder extensions.		$100			1		$0	$100	$0
11h		Collision Tolerant Pile Structure (CTPS	$ per CTPS	Pick up CTPS & Driving Pile.		$250			2		$0	$500	$0
											$267,810	$149,975	$0

APPENDIX H

BREAKDOWN OF CONSTRUCTION ACTIVITY FOR MALLET, HUDSON, AND SAGINAW

BREAKDOWN OF CONSTRUCTION ACTIVITY

THE MALLET	Single Pile Wd DBN	Three Pile Wood DBN	Wood DBN	Passing Light Only, DBN	Single Pile Wood LT	Three Pile Wood LT	Passing Light Only, LT	4 Pile Wood Platform, LT	8 Pile Wood Platform, LT	Mud Sill, LT	None, LT	Total
Rebuilt /Replaced	16		8	1	35	12		3	1	1	2	79
Repaired	1	4		1	5			1	1			13
Reset							1					1
Discontinued						1						1
Established							3					3
Geodetic Survey												
Diving Services												
Buoys (Temporary)												
Buoys (Salvaged)												
Delivery of Materials to CG Base												
Pick Up of Matrerials to CG Base												
Total	17	4	8	2	40	13	4	4	2	1	2	97

BREAKDOWN OF CONSTRUCTION ACTIVITY

THE HUDSON	Single Pile Wd DBN	Three Pile Wood DBN	Wood DBN	Passing Light Only, DBN	Single Pile Wood LT	Single Pile Steel LT	Passing Light Only, LT	Multi Pile Steel Platform	8 Pile Wood Platform, LT	Mud Sill, LT	One Pile Steel, LT	Total
Rebuil Only												0
Rebuilt & Removals	145				44	2		9				200
Repaired	9				46	1		8				64
Reset												0
Discontinued	11				7	1						19
Established	44				18	1		3				66
Geodetic Survey												0
Diving Services												0
Buoys (Temporary)												0
Buoys (Salvaged)												0
Delivery of Materials to CG Base												0
Pick Up of Matrerials to CG Base												0
Total	209	0	0	0	115	5	0	20	0	0	0	349

BREAKDOWN OF CONSTRUCTION ACTIVITY

THE SAGINAW	Single Pile Wd DBN	Three Pile Wood DBN	Wood DBN	Passing Light Only, DBN	Single Pile Wood LT	Three Pile Wood LT	Passing Light Only, LT	4 Pile Wood Platform, LT	8 Pile Wood Platform, LT	Mud Sill, LT	One Pile Steel, LT	Total
Rebuilt Only	38				71	26		13	2		1	151
Rebuilt & Removals	35				53	20		10	2			120
Repaired	14				27	10		5	1			57
Reset	1				1							2
Discontinued	1				1							2
Established	77				36	13		7	1			134
Geodetic Survey												0
Diving Services												0
Buoys (Temporary)												0
Buoys (Salvaged)												0
Delivery of Materials to CG Base												0
Pick Up of Matrerials to CG Base												0
Total	166	0	0	0	189	69	0	35	6	0	1	466

APPENDIX I

PROJECTED THROUGH-CONTRACT COSTS FOR MALLET, HUDSON, AND SAGINAW

PROJECTED THROUGH-CONTRACT COSTS
HUDSON: Actual 23 Months Log File

APPENDIX I

Unit Costs: 1. Columbia River System

ALL WORK ORDERS	$6,904,244	$3,287,459	$2,393,899	$2,274,459	$2,108,454

JOB COSTS NOT SPECIFIC TO WORK ORDER	**Scenario 1**	**Scenario 2**	**Scenario 3**	**Scenario 4**	**Scenario 5**
Visits Per Trip	1	3	5.80	7	9
Total Number of Trips	349	116	60	50	39
Mob/Demo Costs Per Trip	$5,500	$5,500	$5,500	$5,500	$5,500
Total Mob/Demob Costs	$1,919,500	$639,833	$330,948	$274,214	$213,278
Transit Costs Per Mile	$60	$60	$60	$60	$60
Avg Miles Per Trip	177	197	219	243	267
Total Transit Costs	$3,711,894	$1,374,776	$790,101	$727,395	$622,326
Geodetic Survey & Positionings	$0	$0	$0	$0	$0
Diving Services	$0	$0	$0	$0	$0
Buoys (Temporary)	$0	$0	$0	$0	$0
Buoys (Salvaged)	$0	$0	$0	$0	$0
Delivery of Materials to CG Base	$0	$0	$0	$0	$0
Pick Up of Matrerials to CG Base	$0	$0	$0	$0	$0

From DSS 1-Year Log

5.8	aids/trip
6,550.18	knots * transit time
7,537.95	transit miles
31.00	trips
243.16	miles per trip

JOB COSTS SPECIFIC TO WORK ORDER	Single Pile Wd DBN	Three Pile Wood DBN	Wood DBN	Passing Light Only, DBN	Single Pile Wood LT	Single Pile Steel LT	Passing Light Only, LT	Multi Pile Steel Platform	8 Pile Wood Platform, LT	Mud Sill, LT	One Pile Steel, LT	Total
Costs by Job Order: 3. Removals	$2,200	$3,000	$3,000	$3,000	$2,200	$2,200		$3,000	$4,800	$3,500	$3,500	
4. Materials												
5a,e,g. Installation	$2,500	$2,500	$2,500	$2,500	$2,500	$2,700		$4,200	$7,500	$4,500	$4,500	
5n,p. Installation	$3,000				$3,000	$2,700		$4,200				
6. Repairs	$750	$750	$750	$750	$750	$3,000	$750	$3,200	$3,200			
Work Order: Rebuilt Only	0	0	0	0	0	0	0	0	0	0	0	0
Job Order(s): 5. Installation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0
Total Cost	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0
Work Order: Rebuilt & Removal	145	0	0	0	44	2	0	9	0	0	0	200
Job Order (s): 3. Removal	$319,000	$0	$0	$0	$96,800	$4,400	$0	$27,000	$0	$0	$0	447,200
5. Installation	$362,500	$0	$0	$0	$110,000	$5,400	$0	$37,800	$0	$0	$0	515,700
Total Cost	$681,500	$0	$0	$0	$206,800	$9,800	$0	$64,800	$0	$0	$0	962,900
Work Order: Repaired	9	0	0	0	46	1	0	8	0	0	0	64
Job Order (s): 6. Repairs	$6,750	$0	$0	$0	$34,500	$3,000	$0	$25,600	$0	$0	$0	69,850
Total Cost	$6,750	$0	$0	$0	$34,500	$3,000	$0	$25,600	$0	$0	$0	69,850
Work Order: Reset	0	0	0	0	0	0	0	0	0	0	0	0
Job Order (s): 6. Repairs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0
Total Cost	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0
Work Order: Discontinued	11	0	0	0	7	1	0	0	0	0	0	19
Job Order (s): 3. Removals	$24,200	$0	$0	$0	$15,400	$2,200	$0	$0	$0	$0	$0	41,800
Total Cost	$24,200	$0	$0	$0	$15,400	$2,200	$0	$0	$0	$0	$0	41,800
Work Order: Established	44	0	0	0	18	1	0	3	0	0	0	66
Job Order (s): 5. Installation	$132,000	$0	$0	$0	$54,000	$2,700	$0	$9,600	$0	$0	$0	198,300
Total Cost	$132,000	$0	$0	$0	$54,000	$2,700	$0	$9,600	$0	$0	$0	198,300

Unit Costs: 2. SF/SP/S Bays

ALL WORK ORDERS	$12,278,661	$5,487,747	$3,797,205	$3,598,404	$3,290,586

JOB COSTS NOT SPECIFIC TO WORK ORDER	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5
Visits Per Trip	1	3	5.80	7	9
Total Number of Trips	349	116	60	50	39
Mob/Demo Costs Per Trip	$4,075	$4,075	$4,075	$4,075	$4,075
Total Mob/Demob Costs	$1,422,175	$474,058	$245,203	$203,168	$158,019
Transit Costs Per Mile	$150	$150	$150	$150	$150
Avg Miles Per Trip	177	197	219	243	267
Total Transit Costs	$9,279,736	$3,436,939	$1,975,252	$1,818,486	$1,555,816
Geodetic Survey & Positionings	$0	$0	$0	$0	$0
Diving Services	$0	$0	$0	$0	$0
Buoys (Temporary)	$0	$0	$0	$0	$0
Buoys (Salvaged)	$0	$0	$0	$0	$0
Delivery of Materials to CG Base	$0	$0	$0	$0	$0
Pick Up of Matrerials to CG Base	$0	$0	$0	$0	$0

JOB COSTS SPECIFIC TO WORK ORDER	Single Pile Wd DBN	Three Pile Wood DBN	Wood DBN	Passing Light Only, DBN	Single Pile Wood LT	Single Pile Steel LT	Passing Light Only, LT	Multi Pile Steel Platform	8 Pile Wood Platform, LT	Mud Sill, LT	One Pile Steel, LT	Total
Costs by Job Order: 3. Removals	$2,250				$2,250	$2,250		$2,550	$2,550			
4. Materials												
5.1. Installation	$3,225				$4,250	$3,225		$4,250	$5,750			
5.2. Installation	$3,225				$3,225	$3,225		$4,250	$5,750			
6. Repairs	$750				$750	$2,400		$2,400	$2,400			
Work Order: Rebuilt Only	0	0	0	0	0	0	0	0	0	0	0	0
Job Order(s): 5. Installation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0
Total Cost	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0
Work Order: Rebuilt & Removal	145	0	0	0	44	2	0	9	0	0	0	200
Job Order (s): 3. Removal	$326,250	$0	$0	$0	$99,000	$4,500	$0	$22,950	$0	$0	$0	452,700
5. Installation	$467,625	$0	$0	$0	$187,000	$6,450	$0	$38,250	$0	$0	$0	699,325
Total Cost	$793,875	$0	$0	$0	$286,000	$10,950	$0	$61,200	$0	$0	$0	1,152,025
Work Order: Repaired	9	0	0	0	46	1	0	8	0	0	0	64
Job Order (s): 6. Repairs	$6,750	$0	$0	$0	$34,500	$2,400	$0	$19,200	$0	$0	$0	62,850
Total Cost	$6,750	$0	$0	$0	$34,500	$2,400	$0	$19,200	$0	$0	$0	62,850
Work Order: Reset	0	0	0	0	0	0	0	0	0	0	0	0
Job Order (s): 6. Repairs	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0
Total Cost	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	0
Work Order: Discontinued	11	0	0	0	7	1	0	0	0	0	0	19
Job Order (s): 3. Removals	$24,750	$0	$0	$0	$15,750	$2,250	$0	$0	$0	$0	$0	42,750
Total Cost	$24,750	$0	$0	$0	$15,750	$2,250	$0	$0	$0	$0	$0	42,750
Work Order: Established	44	0	0	0	36	13	0	7	1	0	0	101
Job Order (s): 5. Installation	$141,900	$0	$0	$0	$116,100	$41,925	$0	$16,800	$2,400	$0	$0	319,125
Total Cost	$141,900	$0	$0	$0	$116,100	$41,925	$0	$16,800	$2,400	$0	$0	319,125

PROJECTED THROUGH-CONTRACT COSTS
MALLET: Actual 15 Months Log File

Unit Costs: 1. Columbia River System

ALL WORK ORDERS	$1,894,942	$963,453	$862,541	$700,539	$657,974

JOB COSTS NOT SPECIFIC TO WORK ORDER	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5
Visits Per Trip	1	3	4	7	9
Total Number of Trips	97	32	24	14	11
Mob/Demo Costs Per Trip	$5,500	$5,500	$5,500	$5,500	$5,500
Total Mob/Demob Costs	$533,500	$177,833	$133,375	$76,214	$59,278
Transit Costs Per Mile	$60	$60	$60	$60	$60
Avg Miles Per Trip	157	175	194	213	235
Total Transit Costs	$914,542	$338,719	$282,266	$177,424	$151,796
Geodetic Survey & Positionings	$0	$0	$0	$0	$0
Diving Services	$0	$0	$0	$0	$0
Buoys (Temporary)	$0	$0	$0	$0	$0
Buoys (Salvaged)	$0	$0	$0	$0	$0
Delivery of Materials to CG Base	$0	$0	$0	$0	$0
Pick Up of Matrerials to CG Base	$0	$0	$0	$0	$0

From DSS 1-Year Log

4	aids/trip
3,371.52	knots * transit time
3,879.95	transit miles
20.00	trips
194.00	*miles per trip*

JOB COSTS SPECIFIC TO WORK ORDER	Single Pile Wood DBN	Three Pile Wood DBN	Wood DBN	Passing Light Only, DBN	Single Pile Wood LT	Three Pile Wood LT	Passing Light Only, LT	4 Pile Wood Platform, LT	8 Pile Wood Platform, LT	Mud Sill, LT	None LT	
Costs by Job Order: 3. Removals	$2,200	$3,000	$3,000	$3,000	$2,200	$3,000		$3,500	$4,800	$3,500	$3,500	
4. Materials												
5. Installation	$2,500	$2,500	$2,500	$2,500	$2,500	$4,500		$4,500	$7,500	$4,500	$4,500	
6. Repairs	$750	$750	$750	$750	$750	$3,200	$750	$3,200	$3,200			
Work Order: Rebuilt /Replaced	15	0	10	1	32	11	0	3	1	1	0	74
Job Order (s): 3. Removal	$33,000	$0	$30,000	$3,000	$70,400	$33,000	$0	$10,500	$4,800	$3,500	$0	$188,200
5. Installation	$37,500	$0	$25,000	$2,500	$80,000	$49,500	$0	$13,500	$7,500	$4,500	$0	$220,000
Total Cost	$70,500	$0	$55,000	$5,500	$150,400	$82,500	$0	$24,000	$12,300	$8,000	$0	$408,200
Work Order: Repaired	2	0	0	0	7	5	0	0	1	0	0	15
Job Order (s): 6. Repairs	$1,500	$0	$0	$0	$5,250	$16,000	$0	$0	$3,200	$0	$0	$25,950
Total Cost	$1,500	$0	$0	$0	$5,250	$16,000	$0	$0	$3,200	$0	$0	$25,950
Work Order: Reset	0	0	0	0	0	0	1	0	0	0	0	1
Job Order (s): 6. Repairs	$0	$0	$0	$0	$0	$0	$750	$0	$0	$0	$0	$750
Total Cost	$0	$0	$0	$0	$0	$0	$750	$0	$0	$0	$0	$750
Work Order: Discontinued	0	0	0	0	0	3	0	0	0	0	0	3
Job Order (s): 3. Removals	$0	$0	$0	$0	$0	$9,000	$0	$0	$0	$0	$0	$9,000
Total Cost	$0	$0	$0	$0	$0	$9,000	$0	$0	$0	$0	$0	$9,000
Work Order: Established	0	0	0	0	1	0	3	0	0	0	0	4
Job Order (s): 6. Repairs	$0	$0	$0	$0	$750	$0	$2,250	$0	$0	$0	$0	$3,000
Total Cost	$0	$0	$0	$0	$750	$0	$2,250	$0	$0	$0	$0	$3,000

PROJECTED THROUGH-CONTRACT COSTS
MALLET: Actual 15 Months Log File

Unit Costs: 2. SF/SP/S Bays

ALL WORK ORDERS	$3,211,905	$1,508,831	$1,334,759	$1,030,304	$953,685

JOB COSTS NOT SPECIFIC TO WORK ORDER	**Scenario 1**	**Scenario 2**	**Scenario 3**	**Scenario 4**	**Scenario 5**
Visits Per Trip	1	3	4	7	9
Total Number of Trips	97	32	24	14	11
Mob/Demo Costs Per Trip	$4,075	$4,075	$4,075	$4,075	$4,075
Total Mob/Demob Costs	$395,275	$131,758	$98,819	$56,468	$43,919
Transit Costs Per Mile	$150	$150	$150	$150	$150
Avg Miles Per Trip	157	175	194	213	235
Total Transit Costs	$2,286,355	$736,798	$705,665	$443,561	$379,491
Geodetic Survey & Positionings	$0	$0	$0	$0	$0
Diving Services	$0	$0	$0	$0	$0
Buoys (Temporary)	$0	$0	$0	$0	$0
Buoys (Salvaged)	$0	$0	$0	$0	$0
Delivery of Materials to CG Base	$0	$0	$0	$0	$0
Pick Up of Matrerials to CG Base	$0	$0	$0	$0	$0

JOB COSTS SPECIFIC TO WORK ORDER	Single Pile Wood DBN	Three Pile Wood DBN	Wood DBN	Passing Light Only, DBN	Single Pile Wood LT	Three Pile Wood LT	Passing Light Only, LT	4 Pile Wood Platform, LT	8 Pile Wood Platform, LT	Mud Sill, LT	None LT	
Costs by Job Order: 3. Removals	$2,250	$2,550	$2,550	$2,550	$2,250	$2,550		$2,550	$2,550	$2,550	$2,550	
4. Materials												
5. Installation	$3,225	$4,250	$4,250	$4,250	$4,250	$5,750		$5,750	$5,750	$5,750	$5,750	
6. Repairs	$750	$750	$750	$750	$750	$2,400	$750	$2,400	$2,400			
Work Order: Rebuilt /Replaced	15	0	10	1	32	11	0	3	1	1	0	74
Job Order (s): 3. Removal	$33,750	$0	$25,500	$2,550	$72,000	$28,050	$0	$7,650	$2,550	$2,550	$0	$174,600
5. Installation	$48,375	$0	$42,500	$4,250	$136,000	$63,250	$0	$17,250	$5,750	$5,750	$0	$323,125
Total Cost	$82,125	$0	$68,000	$6,800	$208,000	$91,300	$0	$24,900	$8,300	$8,300	$0	$497,725
Work Order: Repaired	2	0	0	0	7	5	0	0	1	0	0	15
Job Order (s): 6. Repairs	$1,500	$0	$0	$0	$5,250	$12,000	$0	$0	$2,400	$0	$0	$21,150
Total Cost	$1,500	$0	$0	$0	$5,250	$12,000	$0	$0	$2,400	$0	$0	$21,150
Work Order: Reset	0	0	0	0	0	0	1	0	0	0	0	1
Job Order (s): 6. Repairs	$0	$0	$0	$0	$0	$0	$750	$0	$0	$0	$0	$750
Total Cost	$0	$0	$0	$0	$0	$0	$750	$0	$0	$0	$0	$750
Work Order: Discontinued	0	0	0	0	0	3	0	0	0	0	0	3
Job Order (s): 3. Removals	$0	$0	$0	$0	$0	$7,650	$0	$0	$0	$0	$0	$7,650
Total Cost	$0	$0	$0	$0	$0	$7,650	$0	$0	$0	$0	$0	$7,650
Work Order: Established	0	0	0	0	1	0	3	0	0	0	0	4
Job Order (s): 6. Repairs	$0	$0	$0	$0	$750	$0	$2,250	$0	$0	$0	$0	$3,000
Total Cost	$0	$0	$0	$0	$750	$0	$2,250	$0	$0	$0	$0	$3,000

PROJECTED THROUGH-CONTRACT COSTS
SAGINAW: Derived 21 Months Log File

Unit Costs: 1. Columbia River System

ALL WORK ORDERS	$7,963,493	$3,888,840	$2,952,239	$2,737,908	$2,551,241

JOB COSTS NOT SPECIFIC TO WORK ORDER	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5
Visits Per Trip	1	3	5.50	7	9
Total Number of Trips	466	155	85	67	52
Mob/Demo Costs Per Trip	$5,500	$5,500	$5,500	$5,500	$5,500
Total Mob/Demob Costs	$2,563,000	$854,333	$466,000	$366,143	$284,778
Transit Costs Per Mile	$60	$60	$60	$60	$60
Avg Miles Per Trip	134	149	166	183	201
Total Transit Costs	$3,757,743	$1,391,757	$843,489	$729,015	$623,713
Geodetic Survey & Positionings	$0	$0	$0	$0	$0
Diving Services	$0	$0	$0	$0	$0
Buoys (Temporary)	$0	$0	$0	$0	$0
Buoys (Salvaged)	$0	$0	$0	$0	$0
Delivery of Materials to CG Base	$0	$0	$0	$0	$0
Pick Up of Matrerials to CG Base	$0	$0	$0	$0	$0

From DSS Derived 1-Year Log

5.5 aids/trip
4613.76 knots * transit time
5309.52 transit miles
32 trips
165.922 miles per trip

JOB COSTS SPECIFIC TO WORK ORDER	Single Pile Wood DBN	Three Pile Wood DBN	Wood DBN	Passing Light Only, DBN	Single Pile Wood LT	Three Pile Wood LT	Passing Light Only, LT	4 Pile Wood Platform, LT	8 Pile Wood Platform, LT	Mud Sill, LT	One Pile Steel, LT	
Costs by Job Order: 3. Removals	$2,200	$3,000	$3,000	$3,000	$2,200	$3,000		$3,500	$4,800	$3,500	$3,500	
4. Materials												
5a,e,g. Installation	$2,500	$2,500	$2,500	$2,500	$2,500	$4,500		$4,500	$7,500	$4,500	$4,500	
5n,p. Installation	$3,000				$3,000	$4,200						
6. Repairs	$750	$750	$750	$750	$750	$3,200	$750	$3,200	$3,200			
Work Order: Rebuilt Only	38	0	0	0	71	26	0	13	2	0	1	151
Job Order(s): 5. Installation	$95,000	$0	$0	$0	$177,500	$117,000	$0	$58,500	$15,000	$0	$4,500	$467,500
Total Cost	$95,000	$0	$0	$0	$177,500	$117,000	$0	$58,500	$15,000	$0	$4,500	$467,500
Work Order: Rebuilt & Removal	35	0	0	0	53	20	0	10	2	0	0	120
Job Order (s): 3. Removal	$77,000	$0	$0	$0	$116,600	$60,000	$0	$35,000	$9,600	$0	$0	$298,200
5. Installation	$87,500	$0	$0	$0	$132,500	$90,000	$0	$45,000	$15,000	$0	$0	$370,000
Total Cost	$164,500	$0	$0	$0	$249,100	$150,000	$0	$80,000	$24,600	$0	$0	$668,200
Work Order: Repaired	14	0	0	0	27	10	0	5	1	0	0	57
Job Order (s): 6. Repairs	$10,500	$0	$0	$0	$20,250	$32,000	$0	$16,000	$3,200	$0	$0	$81,950
Total Cost	$10,500	$0	$0	$0	$20,250	$32,000	$0	$16,000	$3,200	$0	$0	$81,950
Work Order: Reset	1	0	0	0	1	0	0	0	0	0	0	2
Job Order (s): 6. Repairs	$750	$0	$0	$0	$750	$0	$0	$0	$0	$0	$0	$1,500
Total Cost	$750	$0	$0	$0	$750	$0	$0	$0	$0	$0	$0	$1,500
Work Order: Discontinued	1	0	0	0	1	0	0	0	0	0	0	2
Job Order (s): 3. Removals	$2,200	$0	$0	$0	$2,200	$0	$0	$0	$0	$0	$0	$4,400
Total Cost	$2,200	$0	$0	$0	$2,200	$0	$0	$0	$0	$0	$0	$4,400
Work Order: Established	77	0	0	0	36	13	0	7	1	0	0	134
Job Order (s): 5. Installation	$231,000	$0	$0	$0	$108,000	$54,600	$0	$22,400	$3,200	$0	$0	$419,200
Total Cost	$231,000	$0	$0	$0	$108,000	$54,600	$0	$22,400	$3,200	$0	$0	$419,200

PROJECTED THROUGH-CONTRACT COSTS
SAGINAW: Derived 21 Months Log File

Unit Costs: 2. SF/SP/S Bays

ALL WORK ORDERS	$13,269,107	$6,088,175	$4,429,786	$4,069,617	$3,746,077

JOB COSTS NOT SPECIFIC TO WORK ORDER	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5
Visits Per Trip	1	3	5.50	7	9
Total Number of Trips	466	155	85	67	52
Mob/Demo Costs Per Trip	$4,075	$4,075	$4,075	$4,075	$4,075
Total Mob/Demob Costs	$1,898,950	$632,983	$345,264	$271,279	$210,994
Transit Costs Per Mile	$150	$150	$150	$150	$150
Avg Miles Per Trip	134	149	166	183	201
Total Transit Costs	$9,394,357	$3,479,392	$2,108,722	$1,822,538	$1,559,283
Geodetic Survey & Positionings	$0	$0	$0	$0	$0
Diving Services	$0	$0	$0	$0	$0
Buoys (Temporary)	$0	$0	$0	$0	$0
Buoys (Salvaged)	$0	$0	$0	$0	$0
Delivery of Materials to CG Base	$0	$0	$0	$0	$0
Pick Up of Matreriais to CG Base	$0	$0	$0	$0	$0

JOB COSTS SPECIFIC TO WORK ORDER	Single Pile Wood DBN	Three Pile Wood DBN	Wood DBN	Passing Light Only, DBN	Single Pile Wood LT	Three Pile Wood LT	Passing Light Only, LT	4 Pile Wood Platform, LT	8 Pile Wood Platform, LT	Mud Sill, One Pile LT	Steel, LT	
Costs by Job Order: 3. Removals	$2,250				$2,250	$2,550		$2,550	$2,550			
4. Materials												
5.1. Installation	$3,225				$4,250	$5,750		$5,750	$5,750			
5.2. Installation	$3,225				$3,225	$4,250		$5,750	$5,750			
6. Repairs	$750				$750	$2,400		$2,400	$2,400			
Work Order: Rebuilt Only	38	0	0	0	71	26	0	13	2	0	1	151
Job Order(s): 5. Installation	$122,550	$0	$0	$0	$301,750	$149,500	$0	$74,750	$11,500	$0	$0	$660,050
Total Cost	$122,550	$0	$0	$0	$301,750	$149,500	$0	$74,750	$11,500	$0	$0	$660,050
Work Order: Rebuilt & Removal	35	0	0	0	53	20	0	10	2	0	0	120
Job Order (s): 3. Removal	$78,750	$0	$0	$0	$119,250	$51,000	$0	$25,500	$5,100	$0	$0	$279,600
5. Installation	$112,875	$0	$0	$0	$225,250	$115,000	$0	$57,500	$11,500	$0	$0	$522,125
Total Cost	$191,625	$0	$0	$0	$344,500	$166,000	$0	$83,000	$16,600	$0	$0	$801,725
Work Order: Repaired	14	0	0	0	27	10	0	5	1	0	0	57
Job Order (s): 6. Repairs	$10,500	$0	$0	$0	$20,250	$24,000	$0	$12,000	$2,400	$0	$0	$69,150
Total Cost	$10,500	$0	$0	$0	$20,250	$24,000	$0	$12,000	$2,400	$0	$0	$69,150
Work Order: Reset	1	0	0	0	1	0	0	0	0	0	0	2
Job Order (s): 6. Repairs	$750	$0	$0	$0	$750	$0	$0	$0	$0	$0	$0	$1,500
Total Cost	$750	$0	$0	$0	$750	$0	$0	$0	$0	$0	$0	$1,500
Work Order: Discontinued	1	0	0	0	1	0	0	0	0	0	0	2
Job Order (s): 3. Removals	$2,250	$0	$0	$0	$2,250	$0	$0	$0	$0	$0	$0	$4,500
Total Cost	$2,250	$0	$0	$0	$2,250	$0	$0	$0	$0	$0	$0	$4,500
Work Order: Established	77	0	0	0	36	13	0	7	1	0	0	134
Job Order (s): 5. Installation	$248,325	$0	$0	$0	$116,100	$55,250	$0	$16,800	$2,400	$0	$0	$438,875
Total Cost	$248,325	$0	$0	$0	$116,100	$55,250	$0	$16,800	$2,400	$0	$0	$438,875

APPENDIX J

SUMMARY OF THROUGH-CONTRACT COSTS FOR MALLET, HUDSON, AND SAGINAW

SUMMARY OF THROUGH-CONTRACT COSTS, MALLET

COST CATEGORY	Columbia River System	Mallet CG Ops *	Mallet 1 **	Mallet 2	Mallet 3	Mallet 4	Mallet 5
ITEM 1: MOBILIZATION/DEMOBILIZATION	$22,000		$533,500	$177,833	$133,375	$76,214	$59,278
ITEM 2: TRANSIT COSTS	$3,000		$914,542	$338,719	$282,266	$177,424	$151,796
ITEM 3: REMOVALS	$64,100		$197,200	$197,200	$197,200	$197,200	$197,200
ITEM 4: MATERIALS	$83,488		$0	$0	$0	$0	$0
ITEM 5: INSTALLATIONS	$64,420		$220,000	$220,000	$220,000	$220,000	$220,000
ITEM 6: REPAIRS	$13,400		$29,700	$29,700	$29,700	$29,700	$29,700
ITEM 7: DIVING SERVICES	$3,200		$0	$0	$0	$0	$0
ITEM 8: FIELD ENGINEERING	$2,500		$0	$0	$0	$0	$0
ITEM 9: BOUYS	$1,700		$0	$0	$0	$0	$0
ITEM 10: DELIVER REMAINING MATERIALS	$1		$0	$0	$0	$0	$0
ITEM 11: PICK UP MATERIALS REMAINING	$1		$0	$0	$0	$0	$0
GRAND TOTAL FOR ALL ITEMS	$257,810	$558,840	$1,894,942	$963,453	$862,541	$700,539	$657,974
ADJUSTED TOTAL		$433,660	$1,515,954	$770,762	$690,033	$560,431	$526,379
Number of Work Orders		97	97	97	97	97	97
Number of Visits Per Trip			1	3	4	7	9
Mob, Dem, & Transits Costs Per Work Order	#DIV/0!	$0	$14,928	$5,325	$4,285	$2,615	$2,176
Other Costs Per Work Order	#DIV/0!	$0	$4,607	$4,607	$4,607	$4,607	$4,607
Total COntract Costs Per Work Order	#DIV/0!	$4,471	$15,628	$7,946	$7,114	$5,778	$5,427

COST CATEGORY	SF/SP/S Bays	Mallet CG Ops	Mallet 1	Mallet 2	Mallet 3	Mallet 4	Mallet 5
ITEM 1: MOBILIZATION/DEMOBILIZATION	$21,000		$395,275	$131,758	$98,819	$56,468	$43,919
ITEM 2: TRANSIT COSTS	$9,000		$2,286,355	$846,798	$705,665	$443,561	$379,491
ITEM 3: REMOVALS	$9,760		$182,250	$182,250	$182,250	$182,250	$182,250
ITEM 4: MATERIALS	$29,160		$0	$0	$0	$0	$0
ITEM 5: INSTALLATIONS	$17,475		$323,125	$323,125	$323,125	$323,125	$323,125
ITEM 6: REPAIRS	$3,900		$24,900	$24,900	$24,900	$24,900	$24,900
ITEM 7: DIVING SERVICES	$4,000		$0	$0	$0	$0	$0
ITEM 8: FIELD ENGINEERING	$49,000		$0	$0	$0	$0	$0
ITEM 9: BOUYS	$2,400		$0	$0	$0	$0	$0
ITEM 10: DELIVER REMAINING MATERIALS	$480		$0	$0	$0	$0	$0
ITEM 11: PICK UP MATERIALS REMAINING	$3,800		$0	$0	$0	$0	$0
GRAND TOTAL FOR ALL ITEMS	$149,975	$558,840	$3,211,905	$1,508,831	$1,334,759	$1,030,304	$953,685
ADJUSTED TOTAL		$433,660	$2,569,524	$1,207,065	$1,067,807	$824,243	$762,948
Number of Work Orders		97	97	97	97	97	97
Number of Visits per Trip			1	3	4	7	9
Mob, Dem, & Transits Costs Per Work Order	#DIV/0!	$0	$27,646	$10,088	$8,294	$5,155	$4,365
Other Costs Per Work Order	#DIV/0!	$0	$5,467	$5,467	$5,467	$5,467	$5,467
Total COntract Costs Per Work Order	#DIV/0!	$4,471	$26,490	$12,444	$11,008	$8,497	$7,865

* Reduced by 67% for non-construction work. ** Reduced by 12/15 months to reflect one year.

SUMMARY OF THROUGH-CONTRACT COSTS, HUDSON

COST CATEGORY	Columbia River System	Hudson CG Ops *	Hudson 1**	Hudson 2	Hudson 3	Hudson 4	Hudson 5
ITEM 1: MOBILIZATION/DEMOBILIZATION	$22,000		$1,919,500	$639,833	$330,948	$274,214	$213,278
ITEM 2: TRANSIT COSTS	$3,000		$3,711,894	$1,374,776	$790,101	$727,395	$622,326
ITEM 3: REMOVALS	$64,100		$489,000	$489,000	$489,000	$489,000	$489,000
ITEM 4: MATERIALS	$83,488		$0	$0	$0	$0	$0
ITEM 5: INSTALLATIONS	$64,420		$714,000	$714,000	$714,000	$714,000	$714,000
ITEM 6: REPAIRS	$13,400		$69,850	$69,850	$69,850	$69,850	$69,850
ITEM 7: DIVING SERVICES	$3,200		$0	$0	$0	$0	$0
ITEM 8: FIELD ENGINEERING	$2,500		$0	$0	$0	$0	$0
ITEM 9: BOUYS	$1,700		$0	$0	$0	$0	$0
ITEM 10: DELIVER REMAINING MATERIALS	$1		$0	$0	$0	$0	$0
ITEM 11: PICK UP MATERIALS REMAINING	$1		$0	$0	$0	$0	$0
GRAND TOTAL FOR ALL ITEMS	$257,810	$801,227	$6,904,244	$3,287,459	$2,393,899	$2,274,459	$2,108,454
ADJUSTED TOTAL		$688,254	$3,602,214	$1,715,196	$1,248,991	$1,186,674	$1,100,063
Number of Work Orders		349	349	349	349	349	349
Number of Visits Per Trip			1	3	5.80	7	9
Mob, Dem, & Transits Costs Per Work Order	#DIV/0!	$0	$16,136	$5,773	$3,212	$2,870	$2,394
Other Costs Per Work Order	#DIV/0!	$0	$3,647	$3,647	$3,647	$3,647	$3,647
Total COntract Costs Per Work Order	#DIV/0!	$1,972	$10,322	$4,915	$3,579	$3,400	$3,152

COST CATEGORY	SF/SP/S Bays	Hudson CG Ops *	Hudson 1**	Hudson 2	Hudson 3	Hudson 4	Hudson 5
ITEM 1: MOBILIZATION/DEMOBILIZATION	$21,000		$1,422,175	$474,058	$245,203	$203,168	$158,019
ITEM 2: TRANSIT COSTS	$9,000		$9,279,736	$3,436,939	$1,975,252	$1,818,486	$1,555,816
ITEM 3: REMOVALS	$9,760		$495,450	$495,450	$495,450	$495,450	$495,450
ITEM 4: MATERIALS	$29,160		$0	$0	$0	$0	$0
ITEM 5: INSTALLATIONS	$17,475		$1,018,450	$1,018,450	$1,018,450	$1,018,450	$1,018,450
ITEM 6: REPAIRS	$3,900		$62,850	$62,850	$62,850	$62,850	$62,850
ITEM 7: DIVING SERVICES	$4,000		$0	$0	$0	$0	$0
ITEM 8: FIELD ENGINEERING	$49,000		$0	$0	$0	$0	$0
ITEM 9: BOUYS	$2,400		$0	$0	$0	$0	$0
ITEM 10: DELIVER REMAINING MATERIALS	$480		$0	$0	$0	$0	$0
ITEM 11: PICK UP MATERIALS REMAINING	$3,800		$0	$0	$0	$0	$0
GRAND TOTAL FOR ALL ITEMS	$149,975	$801,227	$12,278,661	$5,487,747	$3,797,205	$3,598,404	$3,290,586
ADJUSTED TOTAL		$688,254	$6,406,258	$2,863,173	$1,981,150	$1,877,428	$1,716,827
Number of Work Orders		349	349	349	349	349	349
Number of Visits Per Trip			1	3	5.80	7	9
Mob, Dem, & Transits Costs Per Work Order	#DIV/0!	$0	$30,665	$11,206	$6,362	$5,793	$4,911
Other Costs Per Work Order	#DIV/0!	$0	$4,518	$4,518	$4,518	$4,518	$4,518
Total COntract Costs Per Work Order	#DIV/0!	$1,972	$18,356	$8,204	$5,677	$5,379	$4,919

* Reduced by 84% for non-construction work. **Reduced by 12/23 months to relfect one year.

SUMMARY OF THROUGH-CONTRACT COSTS, SAGINAW

COST CATEGORY	Columbia River System	Saginaw CG Ops *	Saginaw 1 **	Saginaw 2	Saginaw 3	Saginaw 4	Saginaw 5
ITEM 1: MOBILIZATION/DEMOBILIZATION	$22,000		$2,563,000	$854,333	$466,000	$366,143	$284,778
ITEM 2: TRANSIT COSTS	$3,000		$3,757,743	$1,391,757	$843,489	$729,015	$623,713
ITEM 3: REMOVALS	$64,100		$302,600	$302,600	$302,600	$302,600	$302,600
ITEM 4: MATERIALS	$83,488		$0	$0	$0	$0	$0
ITEM 5: INSTALLATIONS	$64,420		$1,256,700	$1,256,700	$1,256,700	$1,256,700	$1,256,700
ITEM 6: REPAIRS	$13,400		$83,450	$83,450	$83,450	$83,450	$83,450
ITEM 7: DIVING SERVICES	$3,200		$0	$0	$0	$0	$0
ITEM 8: FIELD ENGINEERING	$2,500		$0	$0	$0	$0	$0
ITEM 9: BOUYS	$1,700		$0	$0	$0	$0	$0
ITEM 10: DELIVER REMAINING MATERIALS	$1		$0	$0	$0	$0	$0
ITEM 11: PICK UP MATERIALS REMAINING	$1		$0	$0	$0	$0	$0
GRAND TOTAL FOR ALL ITEMS	$257,810	$825,233	$7,963,493	$3,888,840	$2,952,239	$2,737,908	$2,551,241
ADJUSTED TOTAL		$708,875	$4,550,567	$2,222,194	$1,686,994	$1,564,519	$1,457,852
Number of Work Orders		466	466	466	466	466	466
Number of Visits Per Trip			1	3	5.50	7	9
Mob, Dem, & Transits Costs Per Work Order	#DIV/0!	$0	$13,564	$4,820	$2,810	$2,350	$1,950
Other Costs Per Work Order	#DIV/0!	$0	$3,525	$3,525	$3,525	$3,525	$3,525
Total COntract Costs Per Work Order	#DIV/0!	$1,521	$9,765	$4,769	$3,620	$3,357	$3,128

COST CATEGORY	Sespe Days	Saginaw CG Ops	Saginaw 1	Saginaw 2	Saginaw 3	Saginaw 4	Saginaw 5
ITEM 1: MOBILIZATION/DEMOBILIZATION	$21,000		$1,898,950	$632,983	$345,264	$271,279	$210,994
ITEM 2: TRANSIT COSTS	$9,000		$9,394,357	$3,479,392	$2,108,722	$1,822,538	$1,559,283
ITEM 3: REMOVALS	$9,760		$284,100	$284,100	$284,100	$284,100	$284,100
ITEM 4: MATERIALS	$29,160		$0	$0	$0	$0	$0
ITEM 5: INSTALLATIONS	$17,475		$1,621,050	$1,621,050	$1,621,050	$1,621,050	$1,621,050
ITEM 6: REPAIRS	$3,900		$70,650	$70,650	$70,650	$70,650	$70,650
ITEM 7: DIVING SERVICES	$4,000		$0	$0	$0	$0	$0
ITEM 8: FIELD ENGINEERING	$49,000		$0	$0	$0	$0	$0
ITEM 9: BOUYS	$2,400		$0	$0	$0	$0	$0
ITEM 10: DELIVER REMAINING MATERIALS	$480		$0	$0	$0	$0	$0
ITEM 11: PICK UP MATERIALS REMAINING	$3,800		$0	$0	$0	$0	$0
GRAND TOTAL FOR ALL ITEMS	$149,975	$825,233	$13,269,107	$6,088,175	$4,429,786	$4,069,617	$3,746,077
ADJUSTED TOTAL		$708,875	$7,582,347	$3,478,957	$2,531,306	$2,325,495	$2,140,616
Number of Work Orders		466	466	466	466	466	466
Number of Visits Per Trip			1	3	5.50	7	9
Mob, Dem, & Transits Costs Per Work Order	#DIV/0!	$0	$24,235	$8,825	$5,266	$4,493	$3,799
Other Costs Per Work Order	#DIV/0!	$0	$4,240	$4,240	$4,240	$4,240	$4,240
Total COntract Costs Per Work Order	#DIV/0!	$1,521	$16,271	$7,466	$5,432	$4,990	$4,594

* Reduced by 84% for non-construction work. ** Reduced by 12/21 months to reflect one year.

APPENDIX K

LIFE CYCLE COST ANALYSIS SPREADSHEETS FOR MALLET, HUDSON, AND SAGINAW

LIFE CYCLE COST, MALLET

WLIC 75	TOTAL	1993	1994	1995	1996	1997	2000	2001	2002	2003	2029	2030	2031	2032
No. Vessels in Fleet														
WLIC 75 Average Full Co	–	1	1	1	1	1	1	1	1	1	1	1	1	1
WLIC 75 Avg % of Cons	–	1	1	1	1	1	1	1	1	1	1	1	1	1
Mallet Annual Full Cost	–	1	1	1	1	1	1	1	1	1	1	1	1	1
Mallet Annual % of Const	–	1	1	1	1	1	1	1	1	1	1	1	1	1
Mallet Thru Contract	–	1	1	1	1	1	1	1	1	1	1	1	1	1
Total	–	4	4	4	4	4	4	4	4	4	4	4	4	4
O&M Costs ('93 $K)														
WLIC 75 Average Full Co	27,956	699	699	699	699	699	699	699	699	699	699	699	699	699
WLIC 75 Avg % of Cons	21,694	542	542	542	542	542	542	542	542	542	542	542	542	542
Mallet Annual Full Cost	22,354	559	559	559	559	559	559	559	559	559	559	559	559	559
Mallet Annual % of Const	17,346	434	434	434	434	434	434	434	434	434	434	434	434	434
Mallet Thru Contract	27,601	690	690	690	690	690	690	690	690	690	690	690	690	690
Capital Costs ('93 $K)														
WLIC 75 Average Full Co	7,700	0	0	0	0	0	0	0	0	7,700	0	0	0	0
WLIC 75 Avg % of Cons	7,700	0	0	0	0	0	0	0	0	7,700	0	0	0	0
Mallet Annual Full Cost	7,700	0	0	0	0	0	0	0	0	7,700	0	0	0	0
Mallet Annual % of Const	7,700	0	0	0	0	0	0	0	0	7,700	0	0	0	0
Mallet Thru Contract	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O&M + Capital (93 $K)														
WLIC 75 Average Full Co	35,656	699	699	699	699	699	699	699	699	8,399	699	699	699	699
WLIC 75 Avg % of Cons	29,394	542	542	542	542	542	542	542	542	8,242	542	542	542	542
Mallet Annual Full Cost	30,054	559	559	559	559	559	559	559	559	8,259	559	559	559	559
Mallet Annual % of Const	25,046	434	434	434	434	434	434	434	434	8,134	434	434	434	434
Mallet Thru Contract	27,601	690	690	690	690	690	690	690	690	690	690	690	690	690
Discounted 1993 $K														
Discount Rate	2%													
Discount Factor	–	1.000	0.980	0.961	0.942	0.924	0.871	0.853	0.837	0.820	0.490	0.481	#####	0.462
WLIC 75 Average Full Co	25,818	699	685	672	659	646	608	596	585	6,890	343	336	329	323
WLIC 75 Avg % of Cons	21,449	542	532	521	511	501	472	463	454	6,762	266	261	256	251
Mallet Annual Full Cost	21,910	559	548	537	527	516	487	477	468	6,775	274	269	263	258
Mallet Annual % of Const	18,417	434	425	417	409	401	378	370	363	6,672	213	208	204	200
Mallet Thru Contract	19,254	690	677	663	650	637	601	589	577	566	338	332	325	319
Discount Rate *	4%													
Discount Factor	–	1.000	0.962	0.925	0.889	0.855	0.760	0.731	0.703	0.676	0.244	0.234	#####	0.217
WLIC 75 Average Full Co	19,588	699	672	646	621	597	531	511	491	5,674	170	164	157	151
WLIC 75 Avg % of Cons	16,366	542	521	501	482	464	412	396	381	5,568	132	127	122	117
Mallet Annual Full Cost	16,705	559	537	517	497	478	425	408	393	5,579	136	131	126	121
Mallet Annual % of Const	14,129	434	417	401	386	371	330	317	305	5,495	106	102	98	94
Mallet Thru Contract	14,204	690	663	638	613	590	524	504	485	466	168	162	155	149
Discount Rate **	7%													
Discount Factor	–	1.000	0.935	0.873	0.816	0.763	0.623	0.582	0.544	0.508	0.088	0.082	#####	0.071
WLIC 75 Average Full Co	13,884	699	653	610	571	533	435	407	380	4,270	61	57	53	50
WLIC 75 Avg % of Cons	11,651	542	507	474	443	414	338	316	295	4,190	47	44	41	39
Mallet Annual Full Cost	11,886	559	522	488	456	426	348	325	304	4,198	49	46	43	40
Mallet Annual % of Const	10,100	434	405	379	354	331	270	252	236	4,135	38	35	33	31
Mallet Thru Contract	9,843	690	645	603	563	526	430	402	375	351	60	56	53	49

COST PARAMETERS	WLIC 75 Average Full Cost	WLIC 75 Average % of Cnst	Mallet Annual Full Cost	Mallet Annual % of Cnst	Mallet thru Contract
Operating & maint. costs/vessel/year:	Construction Related Work = = = >		77.60%		
Personnel	403	313	399	309	0
Fuel	0	0	0	0	0
M & R	296	230	160	124	690
Total O&M/vessel	699	542	559	434	690
Capital costs/vessel:					
Lead vessel	—	—	—	—	0
Each following vessel	7,700	7,700	7,700	7,700	7,700

* Suggested by OMB for Purchase & Lease Options. ** Suggested by OMB for Cost-Benefit Analysis.

WLIC 160	TOTAL	1993	1994	1995	1996	1997	2000	2001	2002	2003	2029	2030	2031	2032
No. Vessels in Fleet														
WLIC 160 Average Full	–	1	1	1	1	1	1	1	1	1	1	1	1	1
WLIC 160 Avg % of Co	–	1	1	1	1	1	1	1	1	1	1	1	1	1
Hudson Annual Full Cost	–	1	1	1	1	1	1	1	1	1	1	1	1	1
Hudson Annual % of Co	–	1	1	1	1	1	1	1	1	1	1	1	1	1
Hudson Thru Contract	–	1	1	1	1	1	1	1	1	1	1	1	1	1
Total	–	4	4	4	4	4	4	4	4	4	4	4	4	4
O&M Costs ('93 $K)														
WLIC 160 Average Full	32,648	816	816	816	816	816	816	816	816	816	816	816	816	816
WLIC 160 Avg % of Co	28,045	701	701	701	701	701	701	701	701	701	701	701	701	701
Hudson Annual Full Cost	32,049	801	801	801	801	801	801	801	801	801	801	801	801	801
Hudson Annual % of Co	27,530	688	688	688	688	688	688	688	688	688	688	688	688	688
Hudson Thru Contract	49,960	1,249	1,249	1,249	1,249	1,249	1,249	1,249	1,249	1,249	1,249	1,249	1,249	1,249
Capital Costs ('93 $K)														
WLIC 160 Average Full	7,700	0	0	0	0	0	0	0	0	7,700	0	0	0	0
WLIC 160 Avg % of Co	7,700	0	0	0	0	0	0	0	0	7,700	0	0	0	0
Hudson Annual Full Cost	7,700	0	0	0	0	0	0	0	0	7,700	0	0	0	0
Hudson Annual % of Co	7,700	0	0	0	0	0	0	0	0	7,700	0	0	0	0
Hudson Thru Contract	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O&M + Capital ($3 $K)														
WLIC 160 Average Full	40,348	816	816	816	816	816	816	816	816	8,516	816	816	816	816
WLIC 160 Avg % of Co	35,745	701	701	701	701	701	701	701	701	8,401	701	701	701	701
Hudson Annual Full Cost	39,749	801	801	801	801	801	801	801	801	8,501	801	801	801	801
Hudson Annual % of Co	35,230	688	688	688	688	688	688	688	688	8,388	688	688	688	688
Hudson Thru Contract	49,960	1,249	1,249	1,249	1,249	1,249	1,249	1,249	1,249	1,249	1,249	1,249	1,249	1,249
Discounted 1993 $K														
Discount Rate	2%													
Discount Factor	–	1.000	0.980	0.961	0.942	0.924	0.871	0.853	0.837	0.820	0.490	#####	#####	#####
WLIC 160 Average Full	29,091	816	800	785	769	754	711	697	683	6,986	400	392	385	377
WLIC 160 Avg % of Co	25,880	701	687	674	661	648	610	598	587	6,892	344	337	330	324
Hudson Annual Full Cost	28,673	801	786	770	755	740	698	684	670	6,974	393	385	378	370
Hudson Annual % of Co	25,521	688	675	662	649	636	599	587	576	6,881	337	331	324	318
Hudson Thru Contract	34,850	1,249	1,225	1,200	1,177	1,154	1,087	1,066	1,045	1,025	612	600	589	577
Discount Rate *	4%													
Discount Factor	–	1.000	0.962	0.925	0.889	0.855	0.760	0.731	0.703	0.676	0.244	#####	#####	#####
WLIC 160 Average Full	22,003	816	785	755	726	698	620	596	573	5,753	199	191	184	177
WLIC 160 Avg % of Co	19,634	701	674	648	623	599	533	512	493	5,675	171	164	158	152
Hudson Annual Full Cost	21,695	801	770	741	712	685	609	585	563	5,743	195	188	181	174
Hudson Annual % of Co	19,369	688	662	636	612	588	523	503	484	5,667	168	161	155	149
Hudson Thru Contract	25,710	1,249	1,201	1,155	1,110	1,068	949	913	878	844	304	293	281	271
Discount Rate **	7%													
Discount Factor	–	1.000	0.935	0.873	0.816	0.763	0.623	0.582	0.544	0.508	0.088	#####	#####	#####
WLIC 160 Average Full	15,557	816	763	713	666	623	508	475	444	4,329	71	67	62	58
WLIC 160 Avg % of Co	13,916	701	655	612	572	535	437	408	381	4,271	61	57	54	50
Hudson Annual Full Cost	15,344	801	749	700	654	611	499	466	436	4,322	70	66	61	57
Hudson Annual % of Co	13,732	688	643	601	562	525	429	401	374	4,264	60	56	53	49
Hudson Thru Contract	17,817	1,249	1,167	1,091	1,020	953	778	727	679	635	109	102	95	89

COST PARAMETERS		WLIC 160 Average Full Cost	WLIC 160 Average % of Cnst	Hudson Annual Full Cost	Hudson Annual % of Cnst	Hudson thru Contract
Operating & maint. costs/vessel/year:	Construction Related Work = = = = >			85.90%		
Personnel		438	376	438	376	0
Fuel		0	0	0	0	0
M & R		378	325	363	312	1249
Total O&M/vessel		816	701	801	688	1249
Capital costs/vessel:						
Lead vessel		—	—	—	—	0
Each following vessel		7,700	7,700	7,700	7,700	0

* Suggested by OMB for Purchase & Lease Options. ** Suggested by OMB for Cost-Benefit Analysis.

LIFE CYCLE COST, SAGINAW

APPENDIX K

WLIC 160	TOTAL	1993	1994	1995	1996	1997	2000	2001	2002	2003	2029	2030	2031	2032
No. Vessels in Fleet														
WLIC 160 Average Full Cost	–	1	1	1	1	1	1	1	1	1	1	1	1	1
WLIC 160 Avg % of Const	–	1	1	1	1	1	1	1	1	1	1	1	1	1
Saginaw Annual Full Cost	–	1	1	1	1	1	1	1	1	1	1	1	1	1
Saginaw Annual % of Const	–	1	1	1	1	1	1	1	1	1	1	1	1	1
Saginaw Thru Contract	–	1	1	1	1	1	1	1	1	1	1	1	1	1
Total	–	4	4	4	4	4	4	4	4	4	4	4	4	4
O&M Costs ('93 $K)														
WLIC 160 Average Full Cost	32,648	816	816	816	816	816	816	816	816	816	816	816	816	816
WLIC 160 Avg % of Const	28,045	701	701	701	701	701	701	701	701	701	701	701	701	701
Saginaw Annual Full Cost	33,009	825	825	825	825	825	825	825	825	825	825	825	825	825
Saginaw Annual % of Const	28,355	709	709	709	709	709	709	709	709	709	709	709	709	709
Saginaw Thru Contract	67,480	1,687	1,687	1,687	1,687	1,687	1,687	1,687	1,687	1,687	1,687	1,687	1,687	1,687
Capital Costs ('93 $K)														
WLIC 160 Average Full Cost	7,700	0	0	0	0	0	0	0	0	7,700	0	0	0	0
WLIC 160 Avg % of Const	7,700	0	0	0	0	0	0	0	0	7,700	0	0	0	0
Saginaw Annual Full Cost	7,700	0	0	0	0	0	0	0	0	7,700	0	0	0	0
Saginaw Annual % of Const	7,700	0	0	0	0	0	0	0	0	7,700	0	0	0	0
Saginaw Thru Contract	0	0	0	0	0	0	0	0	0	0	0	0	0	0
O&M + Capital (93 $K)														
WLIC 160 Average Full Cost	40,348	816	816	816	816	816	816	816	816	8,516	816	816	816	816
WLIC 160 Avg % of Const	35,745	701	701	701	701	701	701	701	701	8,401	701	701	701	701
Saginaw Annual Full Cost	40,709	825	825	825	825	825	825	825	825	8,525	825	825	825	825
Saginaw Annual % of Const	36,055	709	709	709	709	709	709	709	709	8,409	709	709	709	709
Saginaw Thru Contract	67,480	1,687	1,687	1,687	1,687	1,687	1,687	1,687	1,687	1,687	1,687	1,687	1,687	1,687
Discounted 1993 $K														
Discount Rate	2%													
Discount Factor	–	1.000	0.980	0.961	0.942	0.924	0.871	0.853	0.837	0.820	#####	#####	#####	#####
WLIC 160 Average Full Cost	29,091	816	800	785	769	754	711	697	683	6,986	400	392	385	377
WLIC 160 Avg % of Const	25,880	701	687	674	661	648	610	598	587	6,892	344	337	330	324
Saginaw Annual Full Cost	29,343	825	809	793	778	762	718	704	691	6,994	405	397	389	381
Saginaw Annual % of Const	26,096	709	695	681	668	655	617	605	593	6,898	348	341	334	327
Saginaw Thru Contract	47,071	1,687	1,654	1,621	1,590	1,559	1,469	1,440	1,412	1,384	827	811	795	779
Discount Rate *	4%													
Discount Factor	–	1.000	0.962	0.925	0.889	0.855	0.760	0.731	0.703	0.676	#####	#####	#####	#####
WLIC 160 Average Full Cost	22,003	816	785	755	726	698	620	596	573	5,753	199	191	184	177
WLIC 160 Avg % of Const	19,634	701	674	648	623	599	533	512	493	5,675	171	164	158	152
Saginaw Annual Full Cost	22,189	825	793	763	734	705	627	603	580	5,759	201	193	186	179
Saginaw Annual % of Const	19,794	709	682	655	630	606	539	518	498	5,681	173	166	160	154
Saginaw Thru Contract	34,726	1,687	1,622	1,560	1,500	1,442	1,282	1,233	1,185	1,140	411	395	380	365
Discount Rate **	7%													
Discount Factor	–	1.000	0.935	0.873	0.816	0.763	0.623	0.582	0.544	0.508	#####	#####	#####	#####
WLIC 160 Average Full Cost	15,557	816	763	713	666	623	508	475	444	4,329	71	67	62	58
WLIC 160 Avg % of Const	13,916	701	655	612	572	535	437	408	381	4,271	61	57	54	50
Saginaw Annual Full Cost	15,686	825	771	721	674	630	514	480	449	4,334	72	68	63	59
Saginaw Annual % of Const	14,026	709	663	619	579	541	441	413	386	4,275	62	58	54	51
Saginaw Thru Contract	24,065	1,687	1,577	1,473	1,377	1,287	1,051	982	918	858	148	138	129	121

COST PARAMETERS	160 Average Full Cost	WLIC 160 Average % of Cnst	Saginaw Annual Full Cost	Saginaw Annual % of Cnst	Saginaw thru Contract
Operating & maint. costs/vessel/year:	nstruction Related Work = = = = = >		85.90%		
Personnel	438	376	438	376	0
Fuel	0	0	0	0	0
M & R	378	325	387	333	1,687
Total O&M/vessel	816	701	825	709	1,687
Capital costs/vessel:					
Lead vessel	—	—	—	—	0
Each following vessel	7,700	7,700	7,700	7,700	0

* Suggested by OMB for Purchase & Lease Options. ** Suggested by OMB for Cost-Benefit Analysis.

APPENDIX L

PROJECT TRAVEL

September 21-22, 1993, U.S.C.G. WLIC Experts Conference
National ATON Training Center, Yorktown, Virginia

Attendees:

LT Tom Flynn, Fifth District (oan)
CWO Lenny Cruz, Commanding Officer, USCGC SLEDGE
LTJG Bill Wise, Seventh District (oan)
CWO Mark Allen, Commanding Officer, USCGC HUDSON
BMC Chuck Unkrich, Eighth District (oan)
BMCM Jerry Alverson, Officer-in-Charge, USCGC CLAMP

LCDR Mitch West, G-NSR
Kip Brown, Volpe National Transportation Systems Center
Mark Bucciarelli, Volpe National Transportation Systems Center
Flavio Leo, Volpe National Transportation Systems Center

February 22, 1994, Briefing of Preliminary Results to Fifth Coast Guard District
Portsmouth, VA

Attendees:

CAPT John Vaughn, Chief, Fifth District (oan)
LCDR Bill Southwood, Deputy Chief, Fifth District (oan)
LT Tom Flynn, Fifth District (oan)
Mr. John Walters, Fifth District (oan)

LCDR Mitch West, G-NSR
Kip Brown, Volpe National Transportation Systems Center
Flavio Leo, Volpe National Transportation Systems Center

February 23, 1994, Briefing of Preliminary Results to Eighth Coast Guard District New Orleans, LA

Attendees:

CAPT James Force, Chief, Eighth District (oan)
CDR John Gentile, Deputy Chief, Eighth District (oan)
LT Steve Hadley, Eighth District (oan)
BMC Chuck Unkrich, Eighth District (oan)

LCDR Mitch West, G-NSR
Kip Brown, Volpe National Transportation Systems Center
Mark Bucciarelli, Volpe National Transportation Systems Center
Flavio Leo, Volpe National Transportation Systems Center

February 24, 1994, Briefing of Preliminary Results to Seventh Coast Guard District Miami, FL

Attendees:

CAPT Brian Hadler, Chief, Seventh District (oan)
LCDR Howard Van Houten, Deputy Chief, Seventh District (oan)
LCDR Gene Gray, Seventh District (oan)
LTJG Bill Wise, Seventh District (oan)
BMCS Bob Hunsacker, Seventh District (oan)

LCDR Mitch West, G-NSR
Kip Brown, Volpe National Transportation Systems Center
Mark Bucciarelli, Volpe National Transportation Systems Center

*U.S. GOVERNMENT PRINTING OFFICE: 1994-501-810/00015