

1914

Instructions for cost keeping

United States. Department of Commerce. Lighthouse Service

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DEPARTMENT OF COMMERCE

LIGHTHOUSE SERVICE

INSTRUCTIONS
FOR COST KEEPING



1914

EFFECTIVE JULY 1, 1914

WASHINGTON
GOVERNMENT PRINTING OFFICE

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INSTRUCTIONS FOR COST KEEPING

1. **The object of this system of cost keeping** is to furnish correct information as to the actual cost of every important feature of the work of the Lighthouse Service. This information is of value in preparing estimates, in planning work, in effecting economies, and in comparing the efficiency of different districts, vessels, apparatus, methods, etc. The proposed system is made as simple as practicable, in order to avoid expense and to avoid obscuring the important facts. Separate costs will be kept only of the more important features and classes of expenditures; certain general operating costs, such as tender service and administration, will not be distributed, and liabilities will not be charged in the costs except as hereinafter stated. Expenditures of materials, supplies, and labor will be charged the same as expenditures of money.

2. **Features.**—Cost accounts will be kept for the following classes of features having account numbers, either individually or in groups, as explained hereinafter:

- District offices.
- District depots.
- Tenders.
- Light vessels.
- Light and fog signal stations.
- Post lights.
- Daymarks and spindles.
- Lighted buoys.
- Unlighted buoys.
- Miscellaneous.
- River district aids.

These features will be designated by name, as explained hereinafter.

3. **General accounts.**—With this system it is necessary to keep the five general accounts named and described below. These general accounts have no account numbers. The left-hand sheet will be used for debit entries and the right-hand sheet for credit entries. Red ink should not be used in entering credits on ledger sheets for any of the general accounts. These accounts will be designated as follows:

Stock and Stores.

Bills Payable.

Transfer of Property.

Transfer of Charges.

Adjustments.

4. **Stock and Stores.**—This is an important account and will require careful attention in making charges. Under this account will be charged the value of all supplies and materials purchased for stock or received for stock from other sources. Charges and credits to Stock and Stores will be made from invoices and not from vouchers. All stock acquired, including clothing for crews of vessels, is to be charged to this account when received and accepted, except buoys, buoy lanterns, and buoy appendages and fixtures. All Shipments in Transit passing through a depot will be entered in the ledger account of Stock and Stores for that depot from proper invoices. When depot keepers certify bills for articles received at the depot, they should in all cases give the number of the Incoming Invoices covering such bills. When bills for articles received at depots are certified by persons other than the keepers, a reference should be made to the Incoming Invoice covering before bill is paid. When

supplies and materials are issued from Stock and Stores for use of the work in the district, the invoice value of same must be credited to Stock and Stores and charged to the feature receiving the materials or supplies. The ledger page for the account must show the totals on both debits and credits during the month and the balance on hand at the end of the month. The monthly summary of this account will be kept in the last three columns of the debit or left-hand sheet, so as to show the amount received and amount issued each month, and balance on hand at end of month for each depot. Separate Stock and Stores accounts will be kept for the lamp shop, for each depot, and for the office if general supplies are kept therein, but it is not desired that stock accounts should be kept for the different tenders in the district. If an exigency of the service demands that a tender should deliver oil, paints, or other necessary supplies to any station or light vessel from the supplies of the tender, such supplies shall be delivered, an invoice prepared by the tender, and one copy sent to the office. These articles will then be credited to the tender and charged to the proper feature. All receipts of and issues from stock must be supported by suitable written evidence, which must, so far as possible, be the original papers. All invoices of materials received must be numbered consecutively for Stock and Stores and kept in a separate folder for each depot. These numbers should be entered under "Source No." on the proper stock card. All goods issued from stock must be invoiced and such invoices numbered consecutively and be filed in numerical order in a separate folder, the same as for articles received. The number of the invoice must be entered under "Invoice No." on the proper stock card and on the proper ledger sheet to the left of the amount entered and in the proper column.

“Shipments in Transit” include all property received at a depot and held there temporarily for some vessel, light station, or other feature, except buoys, buoy lanterns, and buoy appendages.

5. Bills Payable.—To ascertain the amount of unpaid bills in the district for materials and supplies that have been delivered for stock, an account under this designation shall be kept in the same manner as Stock and Stores. Credit this account with the value of articles purchased after they have been received and have been charged to Stock and Stores and an invoice prepared therefor by the depot keeper. Debit this account from the voucher when such bills have been paid. The credit balance will show the outstanding liabilities for materials and supplies that have been delivered for stock. Neither time sheets nor bills for contract work should be entered in this account, nor bills for material and supplies which have not been delivered or charged to Stock and Stores. Entries in the Bills Payable account should only be made from properly prepared and checked Incoming Invoices and from corresponding paid vouchers.

Care should be exercised that all shipments received at depots, either for stock or as Shipments in Transit, are charged to the Stock and Stores account for the proper depot except buoys and buoy appendages, fixtures, and Pintsch gas, and that articles sent direct to stations or vessels are not charged to Stock and Stores. When posting paid vouchers to Bills Payable, the corresponding Incoming Invoices should be checked for discrepancies as to amounts, etc., and for any omissions of incoming invoices or items therein.

6. Transfer of Property.—The Bureau will order the transfer, whenever expedient, of certain classes of property

from one district to another, and it will be necessary to keep an account in each district office of these transfers. This account, designated "Transfer of Property," will be operated in the same manner as Stock and Stores. The value of all shipments made to the general depot or to other districts, or received therefrom, must be entered under this account. Shipments from one district to another should be entered under this account and invoiced in the usual manner. A separate entry should be made on the ledger sheet for each transfer shipment made, and it must show the other district involved in the transaction in the "Invoice No." column. Credit this account with the value of the property received by transfer, and debit it with the value of the property issued for transfer. Property transferred must be invoiced on Form 27 at the value at which it is carried on the stock cards regardless of its condition, and must be entered at its invoiced value by the district receiving it.

When buoys, buoy lanterns, or buoy appendages are transferred to another district they should be invoiced at the same value as if new. In such cases debit Transfer of Property and credit the proper account number in buoyage. The cost of repairs made at the general depot to this class of property when received from other districts should be invoiced and charged in the cost-keeping system to the district from which the articles were received. Since this account is a balancing account, it should be closed each month, and the balance must not be carried forward from month to month.

7. Transfer of Charges.—In order to ascertain the actual cost of work in each district, the Bureau will inform the districts of the payments made in Washington which are chargeable to each of them. The more important items

paid for in Washington for the districts are freight charges, Government transportation requests, repairs to vessels made by the Navy Department, charges from Division of Publications and the Division of Supplies, and other items that are paid for by transfer of funds. These items, when covered by invoices or accounts, submitted by the Navy Department or other branch of the Government furnishing articles or rendering service, should be taken up in the cost-keeping records upon receipt of such invoices or accounts. The Bureau upon making settlement will send out a confirmatory notice which should be compared with the entry made in the district, but care should be taken to avoid duplicate entries. In case of discrepancy between the district's entry and the Bureau's notice, which can not be reconciled, request the Bureau's advice. Also request instructions in case a notice is received covering a charge that is inapplicable or unjust. No notice will be sent from the Bureau covering invoices from the Division of Supplies or Division of Publications. This account, designated "Transfer of Charges," will be operated in the same manner as Stock and Stores. Credit it with the amounts of payments made in Washington, or by other districts, and debit the proper features. Debit this account with the amount of payments made for other districts. The debit or credit balance to be reported on the balance sheet. Since this account is a balancing account, it should be closed each month, and the balance must not be carried forward from month to month.

8. Adjustments.—This general account has been adopted for the purpose of consolidating under one head in the Monthly Balance Sheet, entries for special or unusual transactions. For example, the value of property

in stock when condemned for any reason, shall be credited to Stock and Stores and debited to the proper item in this account. On both the debit and credit sides of this account, the items listed may be treated in practically the same manner as account numbers under features by inserting the letters (*a*) to (*m*) in the ledger in place of the account numbers. This account will be closed each month and balances not carried forward. Items in this account shall be shown individually on the Monthly Balance Sheet.

The following entries may be made under this general account when they can not be properly debited or credited to other features:

- (*a*) Discount and penalty.
- (*b*) Value of moorings, etc., recovered.
- (*c*) Property found on hand and taken up in stock.
- (*d*) Miscellaneous receipts.
- (*e*) Adjusting book value of stock and stores for "overs."
- (*f*) Adjusting book value of stock and stores for "shorts."
- (*g*) Refunds for overpayments.
- (*h*) Condemned property taken from stock.
- (*i*) Value of articles lost in transit to or from depot.
- (*j*) Correction of errors in previous calculations.
- (*k*) Errors and omissions not located for current month.
- (*l*) Discarded equipment returned from stations to stock.
- (*m*) Cement bags, etc., returned to dealer for credit.

9. **Blanks used.**—Most of the forms used in connection with the system have instructions printed thereon, but ad-

ditional information is given below concerning the following forms:

- Stock Card.
- Invoice of Articles.
- Time Sheet.
- Ledger Sheet.

10. **Stock card.**—A stock card shall be prepared for each article of stock carried at depots, lamp shops, or at offices, and the property should be listed under the principal name or noun. A separate stock card shall be prepared for each particular class of articles, supplies, tools, utensils, etc., on hand. Separate files, or divisions, shall be kept for the office, lamp shop, and for each depot in the district. Small stocks of miscellaneous screws, nails, tacks, repair parts, etc., kept in district lamp shops, may be entered on single stock cards as “assorted” instead of preparing a separate card for each size when the value of the assortment is less than \$5.

Cards must be prepared for the office furniture and fixtures, typewriters, adding machines, mimeographs, and such other office equipment as is owned by the Lighthouse Service. Stock cards shall not be prepared for items of stationery, blank forms, books, and expendable office supplies which are furnished by the Department at Washington, nor for the office records of the district. Stock cards shall not be used for Shipments in Transit.

In preparing stock cards, select the unit which is generally used in buying or issuing the articles. Experience has demonstrated that the actual cost price should be used as a unit price. The unit price on each lot of goods received should be used until such lot has been issued, except in certain cases where it is preferred to average the different active unit prices on the card and use the averaged price

thus obtained for the unit price. In all ordinary cases the unit price should be stated to the nearest tenth of a cent.

Stock cards should be balanced as to quantities as frequently as practicable, and as time each day will permit. Quantity balances should not be again entered on cards that have not been changed since last balanced. The value balances on stock cards need not be calculated and entered except just prior to taking the annual inventory, when all cards in class 1 should be balanced so as not to delay the taking of the inventory.

11. Classes of property.—With the exception of class 6 stock cards should be prepared as described below for the following classes of property and each class of stock card should be kept separate from those for other classes:

Class 1. Issuable or expendable materials or supplies.

Class 2. Working equipment, fixtures, and fittings at depots and shops.

Class 3. Working tools for repair and construction work.

Class 4. Buoys, buoy lanterns, and buoy fixtures and appendages.

Class 5. Condemned property.

Class 6. Shipments in transit.

Class 7. Office furniture and office equipment.

Class 1.—This class embraces such items of property as lenses, lens lanterns, oil engines, striking machines, lumber, hardware, lamps, cordage, flags, paints, oils, packing, window glass, chimneys, wicks, boats in stock at depots, etc. This class of property will include all the articles listed in Form 37, excepting buoys, buoy lanterns, and buoy fixtures and appendages. It should also include articles not in use at depots, such as desks, chairs, clocks,

etc., which must be entered on stock cards and given an estimated value if the actual value is unknown. When articles of this character are in use at depots they should be carried as class 7 property. Classes 1 and 6 are the only classes of property the value of which should be carried in the Stock and Stores account in the ledger.

Class 2.—This class embraces what may be termed working equipment or fixed property at depots and shops, such as lathes, shapers, drill presses, planers, stationary forges, steam hammers, power saws, cranes, hoisting engines, etc. Such items should be listed as follows: "One 10-inch engine lathe, complete," which will include the small tools, shafting, pulleys, etc., that are used in operating this particular lathe. The values entered on the cards for this class of property should be the actual cost, if known, and if not, the estimated present cost. Cards for this class of property should be kept for inventory purposes only.

Class 3.—This class embraces what may be termed hand or movable working tools, such as shovels, picks, hoes, sledges, handsaws, wrenches, crowbars, hammers, pinchers, hose carts, scows, pile drivers, rollers, etc.; that is, tools that actually have been issued and used for repair and construction work. New tools of this class when received should be charged to Stock and Stores. New tools issued to vessels or stations to remain as part of their equipment should be priced and charged to such vessels and stations, and Stock and Stores credited, and the tools taken up on the property returns of the vessel or station to which issued. New tools issued to working parties in the field should be credited to Stock and Stores and charged to account No. 56, under depot, and taken up on this class of stock cards. When used tools are issued to working parties they should be invoiced on Form 27 without values. The return of

such property to the depot should be covered by incoming invoices, and proper entries made on the cards both for issues and receipts. By this method accountability for this class of property can be readily traced and located. Cards for this class of property should be kept for inventory purposes only.

Class 4.—This class embraces buoys, buoy lanterns of all kinds, buoy chain, sinkers, ballast balls, and other fixtures and appendages and repair parts for lighted and unlighted buoys. The cards for this class of property must be filed separately and the articles stored separately, as far as practicable. This class of property shall be invoiced in the same manner as is required for Class 3 property, and the cards kept for inventory purposes only.

Class 5.—This class embraces all articles received at the depot that have been surveyed and condemned on vessels or at stations, shops, or depots, and such articles should be placed in a portion of the depot set aside for that purpose. A card should be kept for these condemned articles showing the date received and a general description of the article written across the card. Entries on this card should be made as shown under paragraph 17. Where articles received at depot through survey are to be taken up for reissue, etc., they should be entered under the class of property cards to which they pertain.

Class 6.—This class embraces articles that have been received at the depot for a special work of construction or repairs or for maintenance, and are to remain at the depot temporarily before they are taken to the final point of destination. Such shipments should not be put on cards but should be recorded in a book ruled and kept as shown in table on next page.

RECORD OF SHIPMENTS IN TRANSIT.

Date received.	Incoming invoice number.	Brief description of the shipment.	For station, vessel, etc.	Total value of invoice.	Date shipped out.	Outgoing invoice number.	Remarks.
1914.					1914.		
Mar. 20	143	Engineer supplies	Orchid.....	\$87.54	Mar. 22	3154	1 bundle pipe, 2 boxes.
Mar. 21	150	Oil, engine.....	Wolf Trap.....	450.00	Mar. 25	3168	Includes 1 box fittings.
Mar. 22	158	Cordage.....	L. V. No 80....	75.00			2 coils.

This method of handling Shipments in Transit will require a minimum of labor, furnish satisfactory information as to such shipments, and materially help to prevent discrepancies between office and depot records, if carefully followed.

Class 7.—This class embraces office furniture and office equipment in use at offices, depots, and shops, and consists of such items as desks, chairs, tables, typewriters, adding machines, addressographs, mimeographs, filing cases, drawing tables, drawing boards, clocks in use, surveying instruments, drawing instruments, barometers, technical books, etc. Desks, tables, chairs, etc., should be identified by number and such number should be shown on the stock cards. This identifying number should be pasted or stamped on the furniture so that it can not be easily removed, and the stock card should state in what room or shop each piece of furniture can be found. Stock cards for furniture should be arranged separately for offices, depots, and the different shops. Cards for this class of property should be kept for inventory purposes only.

12. Receipts for property.—Lenses, lens lanterns, post lanterns, etc., brought from stations for repair should be receipted for to the keeper on Form 27 by the employee receiving the articles. The same invoice form should be signed by the depot keeper or storekeeper when the articles are received, and the articles should be entered on the proper stock cards. Stock cards should also be prepared for medicine chests and libraries kept at depots, whether complete or not. Suitable notes showing condition may be entered on such stock cards. Every article of property that is in the custody of a storekeeper except "Shipments in Transit" should appear on a stock card in one of the following classes: Stock and Stores card, In-

ventory card, Condemned Property card. Shipments in Transit will be kept only on the book record for such shipments.

13. **Keepers of depots.**—Keepers of lighthouse depots, except at the general depot at Tompkinsville, N. Y., act in a dual capacity. As keepers of the lighthouse depot, they should use inventory cards in accounting for the property they use in the performance of their duties as depot keepers, such as trucks, shovels, brooms, hammers, nail pullers, steel brushes, paint brushes, buoy scrapers, etc. They also act as storekeepers, and in that capacity they are responsible for all the property in their charge that should be carried on the stock cards. Supplies for use at depots and shops should be issued on Form 27 to depot keepers, blacksmiths, carpenters, etc., the same as to light keepers or to vessels.

14. **Arrangement of property.**—Property at district depots, shops, etc., should be systematically arranged and classified. Where practicable, separate spaces should be provided for buoy material, working tools, condemned property, and property belonging to light stations or vessels. Property belonging to vessels stored at lighthouse depots should not be entered on the stock cards so long as it is carried on the inventory of the vessels to which it belongs. Such property should be kept in a separate locker when practicable.

15. **Arrangement of stock cards.**—Stock cards should be arranged in approximately the same order as Form 37 or each class of stock cards may be arranged in one alphabetical list.

16. **Lost property.**—Certificates of lost property must be prepared on Form 28 to cover leakage, breakage, and loss of supplies. After such certificates have been ap-

proved, invoices should be prepared and entries made in red ink on the proper stock cards. The invoice must refer to the certificate of lost property covering same. A Lost Property card is to be kept for such items and entries thereon made as follows:

Lost Property Card.

4/10/14—50 gallon mineral oil—Leakage—Cert. No. 28.

4/13/14—10 4th-order chimneys—Breakage—Cert. No. 29.

4/20/14—1 12-inch Stillson wrench—Lost—Cert. No. 30.

17. Condemned property.—A stock card for condemned property is to be kept for articles that have been surveyed, condemned, and delivered to the place set apart for condemned articles. When articles carried on stock cards are condemned an invoice should be prepared, the proper card should be credited in red ink, and a corresponding entry made on the Condemned Property card. When condemned articles from stations or vessels are brought to the depot, they should immediately be entered on a Condemned Property card. A suitable place at depots should be assigned in which to keep condemned property received from light stations or vessels after having been properly surveyed, and sent to the depot for public sale or other disposition. After property has been listed for survey, and the survey made and approved, such property should be dropped from the property returns at light stations or on vessels or from the stock cards at depots. Before property is offered at public sale it should be properly classified and listed in suitable lots. Bureau authority must be obtained before public property can be sold. It is not desired that condemned property be itemized on cards, but may be entered as "Lot of condemned

property," where several articles are included, and a reference made to the list of same on Form 25, which should be kept on file.

Condemned Property Card.

- 4/11/14—C. P. 19—500 pounds old rope from tender *Sunflower*.
- 4/16/14—C. P. 20—1 16-foot center yawl from Sand Island Station.
- 4/18/14—C. P. 21—6 4th-order lamps from the lamp shop.
- 4/20/14—C. P. 22—3 wheelbarrows from depot.

18. Invoice of articles, outgoing shipments.—This form, No. 27, will be used for invoicing general articles for outgoing shipments. If properly prepared, it will show the account numbers and the value to be charged to each. A separate invoice should be prepared for each feature. The values of invoices may be summarized and the total amount of each account number entered on the ledger sheet and such summary should be shown on the face or back of the invoice, to be used in checking.

When minor expenditures are made for materials or supplies amounting to only a few cents in each case, in making repairs to illuminating apparatus, etc., instead of making a separate invoice for each feature at the time the expenditure is made, one invoice may be made at intervals of a month or less, for all such materials and supplies. The requirement of separate invoices for each feature will be waived in this case, but all the features and account numbers with proper charges must be shown on the single invoice.

19. Invoice of articles, incoming shipments.—For incoming surplus materials and supplies received from different features in the district, Form 27, Invoice of Articles, should be used. Field men should be supplied with this form, and when so used it should be prominently marked "INCOMING."

When surplus articles are returned from any feature and placed in Stock and Stores, such feature should be credited and Stock and Stores charged with the value of the surplus articles. Surplus articles must be invoiced, with proper account number and invoices, priced, values extended, and checked before value entries shall be made on the records. These credits should be entered in the ledger in red ink.

Articles once delivered at a station for use at that station shall be considered, for cost-keeping purposes, as belonging to that station, and when they are returned to stock the proper feature must be credited with their value.

When a type of illuminating apparatus or fog-signal apparatus at a light or fog-signal station is changed, the discarded apparatus, such as lenses, engines, boilers, Crosbys, and boats, will, unless condemned, be taken into Stock and Stores at an estimated value and properly tagged, for reissue, but in order to avoid inequitable credits to features, the light or fog-signal station will not be credited with the value of the apparatus, the credit being made to Adjustment, account under item (l) for balancing purposes.

20. Time sheet.—This form should be prepared by field men in accordance with the instructions printed thereon. The summaries of time sheets should be shown on the office copy of the pay roll by feature and account number. At the end of each pay period field men in charge of working parties will submit on Form 46 a time sheet embracing their own time during the month, made out in the same manner as those for hired labor, except that the first column is to be used for the *feature* instead of name of employee, thus obviating the necessity of making a separate time sheet for each station. If considered desirable by

a district office, on account of the character of work in hand, time sheets for hired labor may be made in the same manner as for foremen, etc., using a sheet for each person. These time sheets are required in order that field men's time can be distributed to stations and their subdivisions in the same manner as hired labor. Travel expense, subsistence, etc., of contract or temporary field men are also to be charged to their proper subdivision in the same manner as hired labor; and in submitting travel-expense accounts, etc., employees should show the amount chargeable to each subdivision of work in their charge.

21. **Ledger.**—One side of each of two ledger sheets will be required for each feature for which an account is kept. A journal will not be used. The totals of features, both for maintenance and repairs and improvements, as well as the grand totals, will be entered monthly; and aggregate totals only, and not totals for each month, will be shown. When the ledger entries for a particular month are completed they will be added to the total figures for the previous months of the fiscal year and the aggregate totals entered. This plan will give the totals at the end of any monthly period desired. The net charges to features under item 21 of the monthly balance sheet will be obtained, as shown on Specimen Balance Sheet, page 23. When additional sheets are needed for any feature they will be inserted within the original sheets, always using a full set of two sheets for each insertion. Totals on both sheets should always be kept in one horizontal line. Both sides of original sheets will be used in this system.

In case a keeper or keepers have charge of a group of lights, the salaries should be divided in proportion to the relative importance or order of the lights, as decided by the inspector. A signed statement must be prepared each

year by the inspector, showing these divisions, for the guidance of the cost-keeping clerk and information of the examiner. It is suggested that the ratio decided upon be on a basis of 10 per cent or a multiple thereof. Ration allowance and repairs to dwellings of such keepers should be charged to such lights of the group as would ordinarily require a dwelling. Supplies should be charged to the particular light by which consumed. Repairs to any light of a group kept by one set of keepers shall be charged directly to the light repaired.

The cost of establishing, repairing, and maintaining each particular aid in the service shall finally be placed in the proper group or class to which it belongs under this system.

At the beginning of each fiscal year an entirely new ledger will be started and the old ledger sheets placed on file.

Since each entry in the ledger will have a reference showing the invoice or voucher number, it will not be necessary to insert words describing the "Materials or service" in a separate column on the ledger sheet which would require much more space.

22. Cost reports.—The reports named and described below are to be sent to the Bureau, as stated.

23. Monthly balance sheet.—A balance sheet on Form 49 for each month shall be prepared and sent to the Bureau by the 15th of the following month. To save much clerical work that might sometimes have to be performed to locate small errors and omissions in obtaining the monthly balance statement, it has been decided to permit, when necessary, an entry not exceeding \$20 to be made on either side of the balance sheet under Adjustments, item (f), "Errors and omissions not located for current month." Amounts expended from appropriations for special works

shall be shown on the balance sheet for each appropriation or special work. When expenditures are made for any station, both from general and special appropriations, separate accounts shall be kept for such stations, the amount from general appropriation shown on balance sheet under No. 21, and the amount from the special appropriation shown on balance sheet under No. 27. The balance sheet must be prepared as indicated herein.

24. Itemized cost report.—An itemized cost report on Form 49a for each **quarter** shall be prepared and sent to the Bureau with the monthly balance sheet for the last month of the quarter. The data for this report should be taken from the cost ledger, the amounts to be distributed under the various heads on Form 49a, as indicated by cost-keeping account numbers printed thereon. The total amount for each feature shown in Form 49a should agree with the amount of net charges to such feature as shown on Form 49, under item 21, for the three months covered.

The amounts required for this report can be readily obtained by placing the total figures of the fiscal year to date in red above the figures for the current quarter, and in the proper columns, in the office copy only, and then subtracting from these totals the totals shown on the preceding report.

Dr. Balance Sheet, District, for April, 1914.

Cr.

1. Total disbursements:				
Paid in district.....	\$29,608.59			\$933.53
Forwarded for payment.....	225.50			263.53
2. Stock and stores on hand as per ledger Apr. 1, 1914.....	19,387.64			3,381.64
3. Bills payable as per ledger Apr. 30, 1914.....	650.00			3,821.47
4. Transfer of property:				9,674.25
From 3d district—				1,460.50
Invoice D 14.....	\$600.00			261.37
Invoice D 15.....	100.00			1,732.68
From 5th district, invoice D 32.....	300.00			1,324.71
5. Transfer of charges:				1,900.00
From Bureau, letter 4/11/14.....	850.00			18,289.96
From 3d district, invoice D 18.....	150.00			500.00
6. Adjustments:				
(a) Discount and penalties... recovered.....	45.00			3,700.00
(b) Value of moorings, etc., and taken up in stock....	55.00			300.00
(c) Property found on hand and taken up in stock....	20.00			
(e) Adjusting book value of stock and stores for overs.	15.00			
(f) Corrections of errors in previous calculations.....	5.00			
(k) Errors and omissions not located for current month	1.01			216.00
Totals.....			52,012.74	52,012.74
21. Net charges to features as follows:				
Office.....			\$81,000.50	
Depots.....			18,205.00	
Tenders.....			27,840.30	
Light vessels.....			81,756.03	
Light and fogsig. stations.			90,756.00	
Post lights.....			9,654.07	
Daymarks and spindles....			1,805.20	
Lighted buoys.....			10,750.25	
Unlighted buoys.....			2,750.00	
Miscellaneous.....			1,005.00	
River district aids.....			18,456.00	
22. Stock and stores on hand as per ledger Apr. 30, 1914.....	1,000.00			
23. Bills payable as per ledger Apr. 1, 1914.....				
24. Transfer of property:				
To 3d district—				
Invoice 138.....			3,450.00	
Invoice 139.....			250.00	
25. Transfer of charges:				
To 4th district, invoice D 36.....				
26. Adjustments:				
(g) Refunds for overpayments.....				13.00
(h) Condemned property taken from stock.....				200.00
(i) Value of articles lost in transit to or from depot.				3.00
27. Special appropriations:				
Lloyd Harbor Light Station.....				216.00
				5,053.10
				52,012.74

It will be noticed that the net charges to features, Item 21, in balance sheet, show both net charges for the month and total net charges to date for fiscal year. By first placing the total figures for the fiscal year to date to the left of the vertical line, the figures for the month can be readily obtained by subtracting the preceding month's totals from the totals for the present month. This method is adopted to obviate the necessity of showing separate monthly totals in the ledger.

25. **Annual cost reports.**—These reports shall be prepared on the proper forms and sent to the Bureau in July of each year as a part of the district annual report of operations, and at such other times as they may be required. The Bureau will furnish special instructions as to the form in which this report is to be prepared.

26. **Arrangement of accounts.**—It is suggested that the sheets in the ledger be arranged so that the general account sheets come first. These sheets may, however, be arranged in the order that it is thought will be the most convenient for each district.

27. **Account numbers.**—The charges to each feature will be subdivided and entered under the proper account numbers. Every item of expenditure must be charged to some feature under the feature name and to some class under an account number. The account numbers that may be used in making charges will be found in this pamphlet, and they are not to be increased or diminished, or other deviations made from this system without special authority from the Bureau.

28. **Caution.**—The account numbers are purely arbitrary, and unless reference is constantly made to the key explaining the numbers there is considerable liability of error in entering charges. It is therefore of prime im-

portance to consult the account number pages frequently and not to trust to memory in making charges.

29. Designating features.—A uniform system must be followed in designating stations or other features by name. Avoid the use of unnecessary phrases, such as lighthouse depot, tender, light station, etc., unless necessary for identification. Use abbreviations freely in all cases.

30. Making charges.—Care must be taken that all items are charged in the cost accounts and that there are no duplications. This will require systematic handling of all invoices and vouchers and thorough familiarity with the system.

A copy of these instructions should be in the hands of all employees in the district who are responsible for any part of the cost-keeping system in order that they may use the proper features and account numbers, and inspectors should require employees under their charge to thoroughly familiarize themselves with such part of these instructions as may affect their work.

Charges should not be made from time sheets or bills, but should be made only from invoices, and from vouchers after they have been paid in the district or forwarded to Washington for payment. In this connection transfer of charges will be considered as an invoice. This method will minimize the liability of making duplicate and incorrect entries.

In cost keeping the word "establishing" applies to the construction of aids which have not heretofore existed. It does not apply to rebuilding or repairing aids which previously existed and have been worn out or carried away. Rebuilding is to be included under "Repairs and improvements."

Field requisitions will not contain definite data for charges, as articles called for may be cut down or changed before the storekeeper's invoice is prepared. Storekeeper's invoices for outgoing or incoming articles will show the data for charges for shipments made or received by him. Bills rendered should have charges properly indicated by the persons checking same. Entries should not be made on the ledger sheets for pay rolls and contract work until after they have been paid or forwarded to Washington for payment.

Bills for contract work should be prorated to the different account numbers of the feature for which the work was performed. Where materials or supplies are purchased for any particular feature, either in the field or by the district office, and are packed and delivered directly to the feature, they should be charged directly to the proper account numbers under that feature and not to Stock and Stores. Bills for contract work and pay rolls, when paid, should be charged directly to the proper feature and should not be entered in Bills Payable account. Articles purchased for stock should be charged to Stock and Stores from invoices made out as soon as the articles are received at the depot. Such invoice should not be held by the depot keeper to await receipt of bill. Depot keepers should be furnished with proper information to enable them to invoice articles when received and to certify bills. All credit entries to features should be made in red ink on ledger sheets. Before entering paid vouchers in the Bills Payable account the cost clerk should see that the articles have been charged to Stock and Stores at the proper depot and that the amounts of both entries correspond.

When a lens lantern, post lantern, or lamp, or similar part is received from a light station, if not condemned, it

shall be entered on a stock card at the value of a new lantern, and the station so credited. Should any such article require repairs, the cost of such repairs shall be charged to the station from which the article was received, but not added to the value of the article as shown on the stock card. When returned to the station, the lantern, etc., shall be invoiced at the value of new articles, but the cost of the materials used in repairs may be shown on the invoice for the information of the cost-keeping clerk in making charges.

When a change is being made in the character of any light, as changing a fourth-order light into an acetylene light, the cost of changing is to be charged to the new class of light under the account number for "improvements." Until the new light is put into commission the cost of maintenance should be charged to the old light. Such a light should be reported in the Annual Cost Reports under both classes. The discarded equipment is to be treated as provided in paragraph 19.

When light-vessel or tender chains, swivels, etc., are received at depots after being condemned for further use on light vessels or tenders, if useful for buoyage purposes, they will be charged to the proper feature of buoyage at 50 per cent of the value of new chain, etc., and the light vessel or tender credited.

When acetylene accumulators or tanks are sent to be refilled, they are to be invoiced without price, and the invoice should show the number and size of tanks shipped and the serial numbers on the tanks. The acetylene in filled accumulators received at depots should be taken into Stock and Stores, and invoiced out to stations at its proper value. The tanks are to be considered as tools and equipment after their original cost has been charged to the station for which purchased.

Employees whose services are paid from "Salaries, Lighthouse Service," can not be paid salaries from special appropriations, even though they perform services in connection with work for which special appropriation has been made; but contract and temporary employees whose salaries are paid from "General Expenses, Lighthouse Service," should be paid from special appropriations when engaged on work pertaining to such special appropriations.

When an employee is transferred from one district to another, the traveling expenses should be charged to the district office which pays same.

All disbursements made during a fiscal year must be distributed on the cost-keeping records for that year.

31. Manufacturing articles for stock.—When districts manufacture stock articles such as concrete piles, concrete fence posts, etc., a separate feature in the ledger will be kept for each kind. When this is done the name of the article and the expenditure for any month should be shown on the monthly balance sheet for that month; under the above heading.

When the work is completed the manufactured articles should be taken into Stock and Stores at their proper value for materials and labor.

32. Transportation charges.—Transportation charges, including freight, express, cartage, hauling, etc., should be charged when practicable directly to the feature for which such transportation was performed. When this is impracticable the transportation should be charged to the account No. 362 under Miscellaneous; but care should be exercised that no transportation is charged to this feature if it can properly be placed under some other feature. Where chargeable to a feature having no separate number for transportation charges and the proper account

number can not be determined by the data available as to the materials or supplies transported, such charges may be entered under account number for "other expenses."

Transportation charges on provisions for vessels which commute rations should be paid by the messes out of the commutation allowance and should not appear in the cost-keeping system. In districts that receive mineral oil from the general depot by freight the freight should be included in the unit price for this one item. If the bill of lading does not show these charges the district office receiving the oil must take prompt measures to ascertain such charges from the last carrier, quartermaster, or from the shipper. Care should be exercised that this charge is not entered a second time when transfer of charges are received from the Bureau. Transportation charges for a miscellaneous lot of supplies received for stock can be charged to the account number entitled "Transportation charges not distributable" under Miscellaneous. Except for the oil as above transportation charges shall not be added to the unit prices of supplies in stock at depots. Transportation charges for shipments on materials for repairs should, when practicable, be charged to the same account numbers as the materials transported.

33. Buoyage.—The account numbers under "Buoys" will be charged with the invoiced value of all buoys, buoy lanterns, and buoy fixtures and appendages either purchased or received by transfer, but these invoices will not be entered into Stock and Stores account. In making direct charges of buoy appendages and fixtures it may sometimes be necessary to prorate the amounts among different classes of buoys. Care should be exercised in prorating such costs in order to avoid making improper charges. All paints and other materials issued for buoy-

age from Stock and Stores will be charged to their proper class when issued. Trimming and ironing new spar buoys should be charged to account No. 353. The cost of maintenance of tenders used in changing and relieving buoys and appendages will not appear in this system under Buoyage. The invoice value of all serviceable buoys and appendages transferred to another district will be credited to the buoyage of the district from which shipped, as instructed under Transfer of Property.

The cards representing buoys, buoy lanterns, and buoy fixtures and appendages are to be kept in a separate class. The cards for buoys should show the number of each class of buoys in the district afloat and on shore on separate cards. The cards for appendages and fixtures should show all appendages and fixtures ashore, but not those attached to buoys afloat. These cards should be carried as an inventory account only, without price.

34. Inventory.—An inventory should be taken in January of each year, and be completed not later than the end of that month and by January 15, if practicable, and at such other times as may be ordered. A report must be made to the Bureau of the actual net discrepancy between the value of every item of stock on hand as shown by the inventory and the value as shown on the stock cards, which will be found by taking the sum of the value balances on all of the stock cards. The ledger value of Stock and Stores must also be reported on Form 50. Except when the annual inventory is being taken, the approval of the Bureau must be obtained before making an entry on a card for the purpose of balancing apparent discrepancies. Bureau authority must in all cases be obtained before making adjusting entries in the Stock and Stores accounts in the ledger for the purpose of balancing discrep-

ancies, but entries to correct known errors in posting invoices or in calculations may be made when discovered, provided an invoice setting forth the reasons and giving full references is prepared, entered, and filed with the regular invoices in each case. The correction entries on stock cards must be shown in red ink and, except when taking the annual inventories, must give as authority the date of letter of approval.

35. Special account numbers for fixed aids.—This feature has been adopted to cover works of construction under special appropriations. All construction work not paid from "General expenses" should be charged to special account numbers, which must be referred to the Bureau for approval before the work is started. Each appropriation will be treated as a separate feature. The items for these account numbers are printed hereinafter.

36. Special account numbers for general depot.—A special cost-keeping system for use at the general depot at Tompkinsville, N. Y., is printed in the latter part of this pamphlet.

37. Bureau to be notified.—In connection with the operation of the cost-keeping system, the Bureau should be promptly notified in any of the following cases:

1. When the balance statement for any month is not ready to be forwarded on the 15th of the succeeding month.
2. When the taking of the annual inventory is not in progress by the first week in January of each year.
3. When the annual inventory of each depot and lamp shop where stock is kept has been completed.
4. When any of the directions in these instructions are not understood.

EXPLANATION OF ACCOUNT ITEMS.

38. **District offices.**—"Salaries, technical," include the pay of superintendents, assistant superintendents, draftsmen, and other permanent employees of a technical nature. "Salaries, clerical," will also include messengers, janitors, watchmen, etc. "Transportation of persons" includes cost of railroad tickets, boat fares, street car fares, private conveyance, baggage charges and fees incident to transportation, etc. "Subsistence and other traveling expenses" include meals and all expenses incident to travel, other than transportation.

Special travel by temporary employees for the benefit of works carried on under special appropriations should be paid out of such special appropriations, and so charged in the cost system. Salaries and traveling expenses of other than permanent force (contract and temporary employees) should be charged to the features for the benefit of which travel is incurred. "Books and periodicals" should not include those furnished gratis by outside parties. "Mileage" should be limited to mileage of Navy or Army officers, and should not include livery hire, etc., by them. Such items of expense should be charged to "Transportation of persons" and "Subsistence and other traveling expenses," as outlined above. To avoid preparing vouchers for such small charges, inspectors and superintendents inspecting stations should pay keepers for necessary meals received at the station and take receipts therefor and include the cost in their traveling expenses.

Charge ice, laundry, and drinking water to account No. 34.

39. **Depots.**—A separate account will be kept for each depot and lamp shop. Cost of transportation and subsistence of workmen when engaged in repairs and im-

provements, are to be charged in with labor. Stock and Stores are to be charged to that account and not to depots. Items of leakage, breakage, and loss of supplies (charged to account No. 58) must be covered by "Certificates of lost property." Furniture and equipment include such items as desks, chairs, filing cabinets, water coolers, stoves, clocks, hose carts, hand tools, and working equipment for depot and shop use, and coming under class 2 property.

Working tools for repair and construction work, and other equipment for general use in the district should, when taken out of Stock and Stores for such use, and coming under class 3 property, be charged to this account item.

Power tools and repairs to same should be charged to account No. 55.

General supplies for small boats at depots, and drinking water, ice, and laundry should be charged to No. 59.

Salary and traveling expenses of permanent foremen and mechanics assigned to depots and lamp shops should be charged to the proper account numbers under Depots.

40. **Tenders.**—A separate account will be kept for each tender. "Subsistence and other traveling expenses" include both commuted rations and provisions purchased; also all other expenses incident to travel except transportation. Subsistence of official guests on tenders should be charged to account No. 102, except that of the inspector and other office employees, which should be charged to office under account No. 26. Clothing for crew invoiced from Stock and Stores, if paid for by the employee in cash, shall be credited to Stock and Stores and a balancing entry made under "Adjustments" (g) Refunds for overpayment. If cost of clothing is deducted from pay, Stock and Stores should be credited and account No. 100 charged with the amount. A wireless outfit should be charged as furniture

and equipment. All expenses of tenders are to be charged to this feature, and none of them are to be distributed to the works on which the tenders may be engaged. Barges, pile drivers, scows, etc., when employed on work, should be treated as tenders in this system. Small hand tools furnished engineer, deck, or steward departments should be charged as supplies. Larger tools, such as lathes, presses, grindstones, etc., should be charged to "Furniture and equipment." Fuel for small boats should be charged to account No. 103.

41. **Light vessels.**—A separate account will be kept for each light vessel in the same manner as directed for tenders. Charge establishment of fog signals or new illuminating apparatus to account numbers for improvements.

42. **Light and fog signal stations.**—A separate ledger account will be kept in the ledger for each light and fog-signal station, except that for the following types of lights only one account need be kept for each type:

Acetylene, high pressure.

Acetylene, low pressure.

Electric arc.

Electric incandescent.

Lens lantern, oil.

Post lantern, oil.

Separate ledger accounts for each light, irrespective of classes, may, however, be kept, if desired, by a district office.

Iron lanterns on lighthouses should be charged to buildings. Lens apparatus and machinery includes the lens, pedestals, lamps, clockwork, etc. Fog-signal apparatus and machinery includes fog-signal bells, Crosby signals, oil engines, trumpets, sirens, foghorns, echo boards, boilers, etc. All expenses of boats at stations, except supplies for

maintenance, which should be charged to 209, will be charged to the single number shown, including the purchase of new boats for stations. Charge subsistence and transportation of workmen with labor. (See par. 30, "Making charges.") Account No. 206 covers such items as stoves, cooking utensils, beds, bedding, chairs, tables, hand lamps, boat winches, boat davits, medicine chests, libraries, etc. Charge oil used for lighting the aid and the keepers' dwellings to account No. 203; that for heating watch rooms to 204; that for driving fog signal to 205, and that for hoisting apparatus at stations to 209.

43. Post lights.—Districts, except the three river districts, should keep a separate grouped account for all the "post lights" in the district; that is, lights where the keepers' or attendants' salaries are paid from the appropriation for "General expenses." Such post lights will be kept distinct from the type "Post lantern, oil," listed above.

44. Daymarks and spindles.—A single consolidated account will be kept for all daymarks in the ledger, giving the average number of daymarks in commission during the year.

45. Lighted buoys.—An account will be kept for each of the following classes of lighted buoys: Pintsch, AGA, Willson, consolidating all buoys of each type. The average number of each class will also be given. If the crew of a tender are employed in painting or repairing buoys, only the expense of paints, or materials for repair, should be charged to Buoyage, but if the work is done by contract or by temporary labor, the cost of such labor should be charged also. (See par. 33, "Buoyage.")

46. Unlighted buoys.—An account will be kept for each of the following classes of unlighted buoys: Bell

and whistling, metal, wooden. Each type of buoy should be consolidated in its class. The average number of each class will also be given, counting the number of stations where buoys are maintained and where there is a seasonable change in the type of buoys on account of weather conditions. Such buoy stations should be counted as one-half under each class of buoys. The average number of buoys desired need be only approximate to enable each district to obtain the approximate average cost of each class of buoys maintained during any fiscal year. (See par. 33, "Buoyage.")

47. **Miscellaneous.**—This feature has been adopted to cover several items which are general in character. It should be treated the same as any other feature in this system. Items should not be charged to this feature when they are applicable and distributable to any other specific feature.

48. **River district aids.**—This feature has been adopted to cover the work done in the thirteenth, fourteenth, and fifteenth districts, and these account numbers should not be used in any other district. The three river districts need only the following features: District office, tenders, and river district aids.

On account of the peculiar conditions which obtain in the thirteenth, fourteenth, and fifteenth districts and the comparatively small amounts of stock and stores carried, these districts will not keep the following-named accounts: Stock and Stores; Bills Payable.

All articles covered in class-1 property shall be charged to the proper features direct from paid vouchers or transfer notices, including invoices from other districts, and will not be recorded on stock cards. Other articles, including property covered in classes 2, 3, 5, and 7, shall be entered on stock cards to serve for inventory purposes only.

The distribution to features and account numbers shall be shown on the duplicate vouchers, transfer notices, etc., from which costs are posted.

Form 103 shall be used to record all issues of supplies, etc., to stations, and the reports on this form shall be examined carefully, and used as far as practicable as a check against cost-keeping charges. Form 103 shall also be used to check up property on hand which has been charged to features in the cost-keeping system and is carried by tenders for future delivery at stations.

An inventory of class-1 property shall be taken when convenient—at least once a year—and a report of the results shall be made to the Commissioner.

49. Previous instructions annulled.—All instructions concerning cost keeping contained in circulars, etc., heretofore issued by the Bureau which may conflict with instructions contained herein are annulled.

**FEATURES AND NUMBERS FOR COST-KEEPING SYSTEM
IN LIGHTHOUSE SERVICE.**

Account Nos.	Features.
0 to 19.....	Bureau office.
20 to 49.....	District offices.
50 to 69.....	Depots.
100 to 119.....	Tenders.
150 to 169.....	Light vessels.
200 to 249.....	Light and fog-signal stations.
250 to 259.....	Post lights.
260 to 269.....	Daymarks and spindles.
300 to 319.....	Lighted buoys.
350 to 359.....	Unlighted buoys.
360 to 379.....	Miscellaneous.
380 to 399.....	River district aids.

Bureau Office (0-19).

1. Salaries, administrative
2. Salaries, technical.
3. Salaries, clerical.
4. Transportation of persons.
5. Freight, express, and cartage.
6. Subsistence and other traveling expenses.
7. Telegraph and telephone.
8. Printing stationery (not paid from Bureau appropriations).
9. Printing Bureau publications (not paid from Bureau appropriations).
10. Printing for field service (not paid from Bureau appropriations).
11. Stationery, printed.
12. Stationery, unprinted, and stationery supplies.
13. Furniture and equipment.
14. Books and periodicals.
15. Other Bureau office expenses.
- 16-19. Blank.

District Offices (20-49).

MAINTENANCE.

20. Salary of inspector (administrative).
21. Salaries, technical.
22. Salaries, clerical.
23. Transportation of persons.
24. Mileage.
25. Freight, express, and cartage.
26. Subsistence and other traveling expenses.
27. Telegraph and telephone.
28. Heat, light, and power.
29. Stationery, etc.

30. Furniture and equipment, including replacements and repairs.
31. Technical books and periodicals.
32. Rent.
33. Other expenses (miscellaneous).
34. Supplies for maintenance not covered above.
- 35-49. Blank.

Depots (50-69).

MAINTENANCE.

50. Pay of permanent force.
51. Pay of temporary labor for maintenance.
52. Transportation of persons.
53. Subsistence and other traveling expenses.
54. Telephone.
55. Heat, light, power, and water.
56. Furniture and equipment, including replacements and repairs, hand tools, etc.
57. Rent.
58. Leakage, breakage, or loss of supplies or other stock.
59. Other expenses, including supplies for maintenance not covered above.

REPAIRS AND IMPROVEMENTS.

60. Labor, repairs, and improvements to buildings.
61. Labor, repairs, and improvements to wharves, sea walls, and grounds.
62. Labor, repairs, and improvements to boilers, power machinery, and power tools.
63. Materials, repairs and improvements to buildings.
64. Materials, repairs, and improvements to wharves, sea walls, and grounds.

- 65. Materials, repairs, and improvements to boilers, power machinery, and power tools.
- 66. Boats, including repairs, improvements, fittings, and new boats.
- 67-69. Blank.

Tenders (100-119).

MAINTENANCE.

- 100. Pay of officers and crew.
- 101. Transportation of persons.
- 102. Subsistence and other traveling expenses.
- 103. Fuel.
- 104. Water.
- 105. Furniture and equipment, including replacements and repairs.
- 106. Rubber boots, oilskins, etc.
- 107. Other expenses (miscellaneous).
- 108. Supplies for maintenance not covered above.
- 109. Blank.

REPAIRS AND IMPROVEMENTS.

- 110. Repairs and improvements to hull, spars, rigging, and derrick.
- 111. Repairs and improvements to boilers and power machinery.
- 112. Moorings.
- 113. Boats, including repairs, improvements, fittings, and new boats.
- 114-119. Blank.

Light Vessels (150-169).

MAINTENANCE.

- 150. Pay of officers and crew.
- 151. Transportation of persons.
- 152. Subsistence and other traveling expenses.

153. Fuel.
154. Water.
155. Illuminants.
156. Furniture and equipment, including replacements and repairs.
157. Rubber boots, oilskins, etc.
158. Other expenses (miscellaneous).
159. Supplies for maintenance not covered above.

REPAIRS AND IMPROVEMENTS.

160. Repairs and improvements to hull, spars, rigging, and rudder.
161. Repairs and improvements to boilers and power machinery.
162. Repairs and improvements to illuminating apparatus and machinery.
163. Repairs and improvements to fog signal apparatus and machinery.
164. Repairs and improvements to submarine signal apparatus.
165. Moorings.
166. Boats, including repairs, improvements, fittings, and new boats.
- 167-169. Blank.

Light and Fog Signal Stations (200-249).

MAINTENANCE.

200. Pay of keepers.
201. Transportation of persons.
202. Ration allowance, subsistence, and other traveling expenses of keepers.
203. Illuminants.

204. Fuel for keepers and watchrooms.
205. Fuel or power for fog signals.
206. Furniture and equipment, including replacements and repairs.
207. Rent of keepers' quarters and of sites, etc.
208. Other expenses (miscellaneous).
209. Supplies for maintenance not covered above.

REPAIRS AND IMPROVEMENTS.

210. Labor, repairs and improvements to lighthouses, towers, fog-signal houses, dwellings, and outbuildings.
211. Labor, repairs and improvements to grounds, sea walls, wharves, walks, drains, etc.
212. Labor, repairs and improvements to illuminating apparatus and machinery.
213. Labor, repairs and improvements to fog-signal apparatus and machinery.
214. Materials, repairs and improvements to lighthouses, towers, fog-signal houses, dwellings, and outbuildings.
215. Materials, repairs and improvements to grounds, sea walls, wharves, walks, drains, etc.
216. Materials, repairs and improvements to illuminating apparatus and machinery, including oil-vapor outfit, accumulators, service lamps, etc.
217. Materials, repairs and improvements to fog-signal apparatus and machinery.
218. Construction of oil or carbide houses, paid from "General Expenses."
219. Construction of outbuildings.
220. Establishing lights paid from general appropriations.

- 221. Establishing fog signals paid from general appropriations, and purchase of sites therefor.
- 222. Submarine fog signals.
- 223. Boats, including repairs, improvements, fittings, and new boats.
- 224-249. Blank.

Post Lights—Lighting of Rivers (230-259).

MAINTENANCE.

- 250. Pay of attendants.
- 251. Transportation of persons.
- 252. Other traveling expenses of attendants.
- 253. Illuminants.
- 254. Rent of site.
- 255. Other expenses (miscellaneous).
- 256. Supplies for maintenance not covered above.

REPAIRS AND IMPROVEMENTS.

- 257. Labor, repairs and improvements.
- 258. Materials, repairs and improvements.
- 259. Establishing lights.

Daymarks and Spindles (260-269).

MAINTENANCE.

- 260. Lease of sites.
- 261. Other expenses (miscellaneous).

REPAIRS AND IMPROVEMENTS.

- 262. Painting.
- 263. Labor, establishing.
- 264. Labor, repairs and improvements.

- 265. Materials, establishing.
- 266. Materials, repairs and improvements.
- 267. Purchase of sites.
- 268-269. Blank.

Buoys, Lighted (300-319).

MAINTENANCE.

- 300. Freight, lighterage, express, etc.
- 301. Illuminants.
- 302. Maintenance by contract.
- 303. Recovery, other than by tender.
- 304. Other expenses (miscellaneous).
- 305. Supplies for maintenance not covered above.

REPAIRS AND IMPROVEMENTS.

- 306. Buoys, buoy lanterns, appendages and fixtures, including accumulators, etc.
- 307. Cleaning and painting.
- 308. Repairs to buoys, lanterns, fixtures, moorings, gas holders, etc.
- 309-319. Blank.

Buoys, Unlighted (350-359).

MAINTENANCE.

- 350. Freight, lighterage, express, etc.
- 351. Maintenance by contract.
- 352. Recovery other than by tender.
- 353. Other expenses (miscellaneous).
- 354. Supplies for maintenance not covered above.

REPAIRS AND IMPROVEMENTS.

- 355. Buoys and buoy appendages and fixtures.
- 356. Cleaning and painting.
- 357. Repairs to buoys, fixtures, moorings, etc.
- 358-359. Blank.

Miscellaneous (360-379).

- 360. Pay for leave of absence and holidays of contract field men, when not engaged on special works.
- 361. Compensation for injuries to employees.
- 362. Medical and surgical attendance, burial expenses, etc.
- 363. Transportation charges on materials not distributable.
- 364. Food furnished shipwrecked persons.
- 365. Clothing furnished shipwrecked persons.
- 366. Library books for stations and vessels.
- 367. Testing and inspecting materials not distributable.
- 368. Experiments, labor and materials.
- 369. Proposal advertisement when paid from G. E.—except for auction sales.
- 370-379. Blank.

River District Aids (380-399).

MAINTENANCE.

- 380. Pay of attendants.
- 381. Illuminants.
- 382. Tools and equipment for repair work and repairs to same.
- 383. Leakage, breakage, and loss of supplies or other stock.
- 384. Other expenses (Miscellaneous).
- 385. Supplies for post lights.
- 386. Supplies for buoys.

REPAIRS AND IMPROVEMENTS.

- 387. Establishing post lights.
- 388. Establishing daymarks.
- 389. Post lights, moving, repairing, painting, etc.
- 390. Daymarks, moving, repairing, painting, etc.
- 391. New buoys and appendages.
- 392. Buoys (lighted), establishing, moving, repairing, painting, etc.
- 393. Buoys (unlighted), establishing, moving, repairing, painting, etc.
- 394. Float lights, establishing, moving, repairing, painting, etc.
- 395-399. Blank.

STANDARD SPECIAL ACCOUNT ITEMS FOR FIXED AIDS.

General.

Engineering: Surveys, borings, preparation of plans, printing, advertising, etc.
Inspection: Superintendence in shop and field, office expenses, etc., during progress of work.
Purchase of site and right of way.
Transportation of employees and material.
Compensation for disabilities.

Labor.

Excavation and preparation of site.
Piling.
Concrete, including reenforcement.
Brick and stone masonry.
Structural steel, wrought and cast iron work.
Carpenter work, plastering, and roofing.
Plumbing, heating plant, painting, and wiring.
Riprap and protection of site.
Illuminating apparatus.
Fog-signal apparatus.
Installation or other equipment (hoisting gear, special machinery, etc.).
Boats.
Grounds and cleaning up (roads, walks, water supply, sewers, fences, landings, etc.).
Miscellaneous.

Materials.

Use same items as selected for labor.

The above items are for general use, and such as properly apply to the particular work in hand should be selected therefrom and numbered consecutively. To prevent possible confusion with other works proceeding at the same time, some simple letter of abbreviation, if desired, may be used in connection with the numbers. Separate ledger accounts should be kept for each work, and, if desired by the inspector, separate accounts may be kept for each of the larger structures composing the station, such as tower, fog-signal house, keepers' dwellings, oilhouse, outbuildings, etc. When such separate accounts are kept, separate account numbers should be provided. The items stated will give the cost in sufficient detail for the Commissioner's files, but the Commissioner's approval shall be requested in cases of unusual work not covered by the above list, or where it is desirable to subdivide, modify, or add to the items stated.

In all cases a list of the numbers decided upon shall be forwarded to the Commissioner before work is begun, for approval and for filing and reference, and as soon as practicable after the completion of the work a final itemized cost report shall be submitted to the Commissioner. It will be understood that in works done by contract the charges under each number can be approximate only, based on the figures of the inspecting employees and prorated where necessary.

When oilhouses are erected at light stations and paid for with funds from the appropriation "Oilhouses for light stations," special account numbers should be used. If paid from "General expenses," the cost should be charged to account No. 218 for the proper light station.

**COST-KEEPING SYSTEM FOR GENERAL LIGHTHOUSE
DEPOT, THIRD DISTRICT.**

Job order sheet as now used may be retained by noting the proper account number for each item of labor or material.

General items of expense, belonging to the depot as a whole, shall be kept under the account numbers shown below.

Special Account Numbers for General Depot, Third District.

- 500. Pay of storekeepers.
- 501. Pay of packers.
- 502. Pay of appointed foremen.
- 503. Pay of contract foremen.
- 504. Pay of yardmen.
- 505. Pay of teamster.
- 506. Pay of watch.
- 507. Pay of power house engineers and firemen.
- 508. Fuel for power house.
- 509. Supplies for operation of power house.
- 510. Extra temporary labor, handling and packing stock and shipments.
- 511. Extra regular labor, handling and packing stock and shipments.
- 512. Materials and supplies, handling and packing stock and shipments.
- 513. Temporary labor, repairing and testing oil cases.
- 514. Regular labor, repairing and testing oil cases.
- 515. Materials for repairing and testing oil cases, and oil cases purchased.

516. Extra temporary labor, care of grounds.
517. Extra regular labor, care of grounds.
518. General supplies, and materials for care of grounds, watch, and keep of horse.
519. Tools, jigs, and patterns for shops, and district working equipment.
520. Temporary labor, maintenance of shops.
521. Regular labor, maintenance of shops.
522. Supplies for operation of shops.
523. Supplies for laboratory.
524. Supplies for residences.
525. Fuel for residences.
526. Heat, light, and water.
527. Traveling expenses.
528. Transportation charges.
529. Repairs and fittings for cargo boats, launch, and scow.
530. Leakage, breakage, and loss of supplies.
531. Standard samples, and tests of articles for stock.
532. Labor, repairs to stock articles.
533. Materials, repairs to stock articles.
534. Depreciation in value of stock articles.
535. Adjustments of manufacturing costs to standard prices.
536. Other expenses.
- 537-539. Blank.
540. Labor, repairs and improvements to offices, shops, storehouses, etc.
541. Materials, repairs and improvements to offices, shops, storehouses, etc.
542. Labor, repairs and improvements to wharves, sea walls, and grounds.
543. Materials, repairs and improvements to wharves, sea walls, and grounds.

- 544. Labor, repairs, and improvements to boilers, power tools, and machinery.
- 545. Materials, repairs and improvements to boilers, power tools, and machinery.
- 546. Labor, repairs and improvements to furniture, fixtures, and equipment.
- 547. Materials, repairs and improvements to furniture, fixtures, and equipment.
- 548. Labor, repairs and improvements to residences.
- 549. Materials, repairs and improvements to residences.
- 550. Labor, repairs and improvements to furniture, fixtures, and equipment for residences.
- 551. Materials, repairs and improvements to furniture, fixtures, and equipment for residences.
- 552. Labor, repairs and improvements to laboratory, furniture, and equipment.
- 553. Materials, repairs, and improvements to laboratory, furniture, and equipment.
- 554-559. Blank.

**MANUFACTURE OF ARTICLES AT GENERAL LIGHT-
HOUSE DEPOT, THIRD DISTRICT.**

Establish features for the following:

- Oil cases and parts.
- Small boats and fittings.
- Boat winches.
- Bell strikers.
- Complete fog-signal apparatus (for installation).
- Crosbys.
- Horns for fog signals.
- Oil engines and compressors.
- Heating torches.
- Sirens and parts.
- Lenses.
- Daboll trumpets.
- Revolving lens apparatus complete with lamps.
- Fixed lens apparatus complete with lamps.
- Lens pedestals and clocks.
- Vapor-lamp outfits.
- Vapor lamps and parts.
- 1st-order 5-wick lamps.
- 2d-order 3-wick lamps.
- 3d-order 2-wick lamps.
- 4th-order lamps.
- 5th-order lamps.
- 6th-order lamps.
- Table lamps.
- Bracket lamps.
- Cabin lamps (gimbals).

Light-vessel lamps.
Light-vessel lanterns.
Lens lanterns.
Locomotive headlights.
Post lanterns for oil.
Acetylene post lanterns.
Post light parts (wood).
Post light parts (cast iron).
5-gallon brass cans.
1st-order oil carriers.
2d-order oil carriers.
Strainers for oil carriers.
Oil measures.
Oil strainers.
Lamp feeders.
Service boxes.
Drip pans.
Dustpans.
Match boxes.
Funnels.
Wick boxes.
Tool chests.
Chisels.
Chain hooks.
File scrapers.
Scaling hammers.
Lantern curtains.
Lamp covers.
Lens covers.
Keepers' aprons.
Keys and rings for buoy shackles.
Pintsch buoys and lanterns.
AGA buoys and lanterns.

Willson buoys.
Goodyear buoys.
Bell buoys and parts.
Whistling buoys and parts.
Metal buoy parts.
Spar buoy irons.
Additional articles as needed.

Shop work under each feature to be subdivided into the following account numbers:

400. Experimental work, labor, materials, and supplies.
401. Labor manufacture.
402. Labor improvements.
403. Materials and supplies, manufacture.
404. Materials and supplies, improvements.

Single repair jobs, such as making over lenses sent in from other districts, etc., to be kept as separate features.

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