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the loss is not recognized for ratemaking purposes. The Director reviews non-pilotage activities to determine if any adversely impact the provision of pilotage service, and may make ratemaking adjustments or take other steps to ensure the provision of pilotage service.

(6) Medical, pension, and other benefits paid to pilots, or for the benefit of pilots, by the Association are treated as pilot compensation. The amount recognized for each of these benefits is the cost of these benefits in the most recent union contract for first mates on Great Lakes vessels. Any expenses in excess of this amount are not recognized for ratemaking purposes.

(7) Expense items that are not reported to the Director by the Association are not considered by the Director in ratemaking calculations.

(8) Expenses are appropriate and allowable if they are reasonable, and directly related to pilotage. Each Association must substantiate its expenses, including legal expenses. In general, the following are not recognized as reasonable expenses for ratemaking purposes:

- (i) Undocumented expenses;
- (ii) Expenses for lobbying;
- (iii) Expenses for personal matters;
- (iv) Expenses that are not commensurate with the work performed; and
- (v) Any other expenses not directly related to pilotage.

(9) In any Great Lakes pilotage district where revenues and expenses from Canadian pilots are commingled with revenues and expenses from U.S. pilots, Canadian revenues and expenses are not included in the U.S. calculations for setting pilotage rates.

(10) Reasonable profit sharing for non-pilot employees of pilot associations will be allowed as an expense for ratemaking purposes. Profit sharing that benefits pilots will be treated as part of pilot compensation.

[60 FR 18370, Apr. 11, 1995. Redesignated at 61 FR 32655, June 25, 1996, and further redesignated by USCG-1998-3976, 63 FR 35139, June 29, 1998]

§ 404.10 Ratemaking procedures and guidelines.

(a) Appendix A to this part is a description of the types of analyses per-

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formed and the methodology followed in the development of a base pilotage rate. Ratemaking calculations in appendix A of this part are made using the definitions and formulas contained in appendix B of this part. Appendix C of this part is a description of the methodology followed in the development of annual reviews to base pilotage rates. Pilotage rates actually implemented may vary from the results of the calculations in appendices A, B and C of this part, because of agreements with Canada requiring identical rates, or because of other circumstances to be determined by the Director. Additional analysis may also be performed as circumstances require. The guidelines contained in § 404.05 are applied in the steps identified in appendix A to this part.

(b) A separate ratemaking calculation is made for each of the following U.S. pilotage areas:

- Area 1—the St. Lawrence River;
- Area 2—Lake Ontario;
- Area 4—Lake Erie;
- Area 5—the navigable waters from South East Shoal to Port Huron, MI;
- Area 6—Lakes Huron and Michigan;
- Area 7—the St. Mary's River; and
- Area 8—Lake Superior.

[60 FR 18370, Apr. 11, 1995. Redesignated and amended at 61 FR 32655, June 25, 1996, and further redesignated and amended by USCG-1998-3976, 63 FR 35139, 35140, June 29, 1998]

APPENDIX A TO PART 404—RATEMAKING ANALYSES AND METHODOLOGY

Step 1: Projection of Operating Expenses

(1) The Director projects the amount of vessel traffic annually. Based upon that projection, the Director forecasts the amount of fair and reasonable operating expenses that pilotage rates should recover. This consists of the following phases:

- (a) Submission of financial information from each Association;
 - (b) determination of recognizable expenses;
 - (c) adjustment for inflation or deflation; and
 - (d) final projection of operating expenses.
- Each of these phases is detailed below.

Step 1.A.—Submission of Financial Information

(1) Each Association is responsible for providing detailed financial information to the Director, in accordance with part 403 of this chapter.

Step 1.B.—Determination of Recognizable Expenses

(1) The Director determines which Association expenses will be recognized for rate-making purposes, using the guidelines for the recognition of expenses contained in §404.05. Each Association is responsible for providing sufficient data for the Director to make this determination.

Step 1.C.—Adjustment for Inflation or Deflation

(1) In making projections of future expenses, expenses that are subject to inflationary or deflationary pressures are adjusted. Costs not subject to inflation or deflation are not adjusted. Annual cost inflation or deflation rates will be projected to the succeeding navigation season, reflecting the gradual increase or decrease in costs throughout the year. The inflation adjustment will be based on the preceding year's change in the Consumer Price Index for the North Central Region of the United States.

Step 1.D.—Projection of Operating Expenses

(1) Once all adjustments are made to the recognized operating expenses, the Director projects these expenses for each pilotage area. In doing so, the Director takes into account foreseeable circumstances that could affect the accuracy of the projection. The Director will determine, as accurately as reasonably practicable, the "projection of operating expenses."

Step 2: Projection of Target Pilot Compensation

(1) The second step in the Great Lakes pilotage ratemaking methodology is to project the amount of target pilot compensation that pilotage rates should provide in each area. This step consists of the following phases:

- (a) Determination of target rate of compensation;
- (b) determination of number of pilots needed in each pilotage area; and
- (c) multiplication of the target compensation by the number of pilots needed to project target pilot compensation needed in each area. Each of these phases is detailed below.

Step 2.A.—Determination of Target Rate of Compensation

(1) Target pilot compensation for pilots providing services in undesignated waters approximates the average annual compensation for first mates on U.S. Great Lakes vessels. The average annual compensation for first mates is determined based on the most current union contracts, and includes wages and benefits received by first mates.

(2) Target pilot compensation for pilots providing services in designated waters approximates the average annual compensa-

tion for masters on U.S. Great Lakes vessels. It is calculated as 150% of the compensation earned by first mates on U.S. Great Lakes vessels.

Step 2.B.—Determination of Number of Pilots Needed

(1) The basis for the number of pilots needed in each area of designated waters is established by dividing the projected bridge hours for that area by 1,000. Bridge hours are the number of hours a pilot is aboard a vessel providing basic pilotage service.

(2) The basis for the number of pilots needed in each area of undesignated waters is established by dividing the projected bridge hours for that area by 1,800.

(3) In determining the number of pilots needed in each pilotage area, the Director is guided by the results of the calculations in steps 2.A. and 2.B. However, the Director may also find it necessary to make adjustments to these numbers in order to ensure uninterrupted pilotage service in each area, or for other reasonable circumstances that the Director determines are appropriate.

Step 2.C.—Projection of Target Pilot Compensation

(1) The "projection of target pilot compensation" is determined separately for each pilotage area by multiplying the number of pilots needed in that area by the target pilot compensation for pilots working in that area.

Step 3: Projection of Revenue

(1) The third step in the Great Lakes pilotage ratemaking methodology is to project the revenue that would be received in each pilotage area if existing rates were left unchanged. This consists of a projection of future vessel traffic and pilotage revenue.

Step 3.A.—Projection of Revenue

(1) The Director generates the most accurate projections reasonably possible of the pilotage service that will be required by vessel traffic in each pilotage area. These projections are based on historical data and all other relevant data available. Projected demand for pilotage service is multiplied by the existing pilotage rates for that service, to arrive at the "projection of revenue."

Step 4: Calculation of Investment Base

(1) The fourth step in the Great Lakes pilotage ratemaking methodology is the calculation of the investment base of each Association. The investment base is the recognized capital investment in the assets employed by each Association required to support pilotage operations. In general, it is the sum of available cash and the net value of real assets, less the value of land. The investment base will be established through

the use of the balance sheet accounts, as amended by material supplied in the Notes to the Financial Statement. The formula used in calculating the investment base is detailed in Appendix B to this part.

Step 5: Determination of Target Rate of Return on Investment

(1) The fifth step in the Great Lakes pilotage ratemaking methodology is to determine the Target Rate of Return on Investment. For each Association, a market-equivalent return-on-investment (ROI) is allowed for the recognized net capital invested in the Association by its members.

(2) The allowed Return on Investment (ROI) is based on the preceding year's average annual rate of return for new issues of high grade corporate securities.

(3) Assets subject to return on investment provisions must be reasonable in both purpose and amount. If an asset or other investment is not necessary for the provision of pilotage services, that portion of the return element is not allowed for ratemaking purposes.

Step 6: Adjustment Determination

(1) The next step in the Great Lakes pilotage ratemaking methodology is to insert the results from steps 1, 2, 3, and 4 into a formula that is based on a basic regulatory rate structure, and comparing the results to step 5. This basic regulatory rate structure takes into account revenues, expenses and return on investment, and is of the following form:

Line	Ratemaking projections for basic pilotage
1.	+ Revenue (from step 3)
2.	– Operating Expenses (from step 1)
3.	– Pilot Compensation (from step 2)
4.	= Operating Profit/(Loss)
5.	– Interest Expense (from Audit reports)
6.	= Earnings Before Tax
7.	– Federal Tax Allowance
8.	= Net Income
9.	Return Element (Net Income + Interest)
10.	+ Investment Base (from step 4)
11.	= Return on Investment

(2) The Director will compare the projected return on investment (as calculated using the formula above) to the target return on investment (from step 5), to determine whether an adjustment to the base pilotage rates is necessary. If the projected return on investment is significantly different from the target return on investment, the revenues that would be generated by the current pilotage rates are not equal to the revenues that would need to be recovered by the pilotage rates.

(3) The base pilotage revenues that are needed are calculated by determining what change in projected revenue will make the target return on investment equal to the projected return on investment. This "projection of revenue needed" is used in determining the basis for proposed adjustments to the base pilotage rates. The mechanism for adjusting the base pilotage rates is discussed in Step 7 below. The required return, tax, and interest elements may be considered additions to the operating expenses and pilot compensation components of the base pilotage rates.

Step 7: Adjustment of Pilotage Rates

The final step in the Great Lakes pilotage ratemaking methodology is to adjust base pilotage rates if the calculations from Step 6 show that pilotage rates in a pilotage area should be adjusted, and if the Director determines that it is appropriate to go forward with a rate adjustment. Rate adjustments are calculated in accordance with the procedures found in this step. However, pilotage rates calculated in this step are subject to adjustment based on requirements of the Memorandum of Arrangements between the United States and Canada, and other supportable circumstances that may be appropriate.

(2) Pilotage rate adjustments are calculated for each area by multiplying the existing pilotage rates in each area by the rate multiplier. The rate multiplier is calculated by inserting the result from the steps detailed above into the following formula:

Line	Ratemaking projections
1.	+ Revenue Needed (from step 6)
2.	+ Revenue (from step 3)
3.	= Rate multiplier

[60 FR 18370, Apr. 11, 1995. Redesignated and amended at 61 FR 32655, June 25, 1996; 62 FR 5923, Feb 10, 1997. Redesignated and amended by USCG-1998-3976, 63 FR 35139, 35140, June 29, 1998]

APPENDIX B TO PART 404—RATEMAKING DEFINITIONS AND FORMULAS

The following definitions apply to the ratemaking formula contained in this appendix.

(1) Operating Revenue—means the sum of all operating revenues received by the Association for pilotage services, including revenues such as docking, moveage, delay, detention, cancellation, and lock transit.

(2) Operating Expense—means the sum of all operating expenses incurred by the Association for pilotage services, less the sum of disallowed expenses.

(3) Target Pilot Compensation—means the compensation that pilots are intended to receive for full time employment. For pilots providing services in undesignated waters, the target pilot compensation is the average annual compensation for first mates on U.S. Great Lakes vessels. For pilots providing services in designated waters, the target pilot compensation is 150% of the average annual compensation for first mates on U.S. Great Lakes vessels.

(4) Operating Profit/(Loss)—means Operating Revenue less Operating Expense and Target Pilot Compensation.

(5) Interest Expense—means the reported Association interest expense on operations, as adjusted to exclude any interest expense attributable to losses from non-pilotage operations.

(6) Earnings Before Tax—means Operating Profit/(Loss), less the Interest Expense.

(7) Federal Tax Allowance—means the Federal statutory tax on Earnings Before Tax, for those Associations subject to Federal tax.

(8) Net Income—means the Earnings Before Tax, less the Federal Tax Allowance.

(9) Return Element (Net Income plus Interest)—means the Net Income, plus Interest Expense. The return element can be considered the sum of the return to equity capital (the Net Income), and the return to debt (the Interest Expense).

(10) Investment Base (separately determined)—means the net recognized capital invested in the Association, including both equity and debt. Should capital be invested in other than pilotage operations, that capital is excluded from the rate base.

(11) Return on Investment—means the Return element, divided by the Investment Base, and expressed as a percent.

Investment Base Formula

(1) Regulatory Investment (Investment Base) is the recognized capital investment in the useful assets employed by the pilot groups. In general, it is the sum of available cash and the net value of real assets, less the value of land. The investment base is established through the use of the balance sheet accounts, as amended by material supplied in the Notes to the Financial Statement.

(2) The Investment Base is calculated using financial data from the Great Lakes pilot associations, as audited and approved by the Director. The Investment Base would be calculated as follows:

<i>Description</i>
Recognized Assets:
+ Total Current Assets
- Total Current Liabilities
+ Current Notes Payable
+ Total Property and Equipment (Net)
- Land

	+ Total Other Assets
	<hr/>
	= Total Recognized Assets
Non-Recognized Assets	+ Total Investments and Special Funds
	<hr/>
	= Total Non-Recognized Assets
Total Assets	+ Total Recognized Assets
	+ Total Non-Recognized Assets
	<hr/>
	= Total Assets
Recognized Sources of Funds	+ Total Stockholders' Equity
	+ Long-Term Debt
	+ Current Notes Payable
	+ Advances from Affiliated Companies
	+ Long-Term Obligations-Capital Leases
	<hr/>
	= Total Recognized Sources
Non-Recognized Sources of Funds	+ Pension Liability
	+ Other Non-Current Liabilities
	+ Deferred Federal Income Taxes
	+ Other Deferred Credits
	<hr/>
	= Total Non-Recognized Sources
Total Sources of Funds	+ Total Recognized Sources
	+ Total Non-Recognized Sources
	<hr/>
	= Total Sources of Funds

(3) Using the figures developed above, the Investment Base is the Recognized Assets times the ratio of Recognized Sources of Funds to Total Sources of Funds.

[60 FR 18370, Apr. 11, 1995. Redesignated at 61 FR 32655, June 25, 1996, and further redesignated by USCG-1998-3976, 63 FR 35139, June 29, 1998]

APPENDIX C TO PART 404—PROCEDURES FOR ANNUAL REVIEW OF BASE PILOTAGE RATES

The ratemaking methodology detailed in appendix A is used by the Director to determine base pilotage rates at least once every five years, as required by §404.1. In the intervening years the Director will review, if warranted by cost changes, recalculate base pilotage rates proposed for coordination with Canada using the following procedures:

Step 1: Calculate the total economic costs for the base period (i.e. pilot compensation expense plus all other recognized expenses plus the return element) and divide by the total bridge hours used in setting the base period rates;

Step 2: Calculate the "expense multiplier," the ratio of other expenses and the return element to pilot compensation for the base period;

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Step 3: Calculate an annual “projection of target pilot compensation” using the same procedures found in Step 2 of appendix A;

Step 4: Increase the projected pilot compensation in Step 3 by the expense multiplier in Step 2;

Step 5: Adjust the result in Step 4, as required, for inflation or deflation;

Step 6: Divide the result in Step 5 by projected bridge hours to determine total unit costs;

Step 7: Divide prospective unit costs in Step 6 by the base period unit costs in Step 1;

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Step 8: Adjust the base period rates by the percentage change in unit costs in Step 7. For example if the total economic costs per bridge hour is \$30.00 for the base period and \$33.00 for the prospective rate period, then the rates established for the base period would be increased by 10% to determine the proposed rates for the prospective rate period, which would then be subject to negotiation with Canada.

[60 FR 18370, Apr. 11, 1995. Redesignated and amended at 61 FR 32655, June 25, 1996, and further redesignated and amended by USCG-1998-3976, 63 FR 35139, 35140, June 29, 1998]