

Appendix H

Estimated Ticket Price Increase for Ferry/Excursion Businesses

Air Resources Board (ARB) staff estimated the ticket price increase for typical ferry and excursion vessel businesses assuming that the new equipment costs associated with compliance with the Commercial Harbor Craft Regulation are passed on to the passengers. The estimated new equipment costs associated with implementation of the regulation for these typical ferry and excursion boats are presented in this appendix along with the expected increase in ticket price.

New equipment costs are the estimated out-of-pocket costs for purchasing and installing a new engine (engine replacement cost), new ferry costs associated with adding after-treatment technology, recordkeeping, and reporting. The compliance costs for a ferry or excursion business will vary depending on the number and type of commercial harbor craft in their fleet and the compliance options chosen. Options include replacing the existing engine with a new engine, demonstrating that the existing engine meets the applicable emission limits, equipping the commercial harbor craft with a diesel emission control system, or implementing an alternative compliance plan that could include a combination of the above options. If engine replacement is chosen, a large portion of these costs are an existing cost of doing business that would occur with or without the regulation when an engine reaches the end of its service life. Engine replacement was assumed to be the chosen compliance option for this estimated ticket price increase analysis. This is the most expensive option and so represents a worst case.

The ticket price increase was estimated in two different ways. The first estimate was based on data obtained from the 2004 Statewide Commercial Harbor Craft Survey, documented in Appendix D. The other estimate was based on a hypothetical excursion company owning a single vessel and having to replace the propulsion and auxiliary engines at the same time. Based on these two estimates, the ticket price increase is expected to be between 5 to 10% of the annual sales.

Estimate Based on 2004 Survey Data

ARB staff conducted a survey in 2004 of California harbor craft owners and operators to gather data on vessel use and engine information. Staff was able to obtain Dun & Bradstreet credit and business report information on only three of the ferry/excursion companies which responded to the survey. These three businesses represent the range of business sizes, including a large, medium, and small ferry/excursion company. Estimated new equipment costs were based on the fleet description provided in the survey responses for these companies. An average annual new equipment cost was estimated for the years over which compliance would be required. The average new equipment cost ranged from

between three to five percent of the average annual sales for these three companies. These costs are presented in Table H-1 below.

Table H-1: Potential Increase in Ferry/Excursion Vessel Ticket Prices

Company	Sales (3 Yr. Avg.) (\$)	Average Annual New Equipment Cost (\$)	Ticket Price Increase (%)
A: Large	\$ 30,226,850	\$1,024,563	3.4%
B: Medium	\$ 6,300,000	\$ 289,009	4.6%
C: Small	\$ 2,700,000	\$ 108,000	4.0%

Estimate Based on Hypothetical Ferry or Excursion Business

A worst case hypothetical example was generated to confirm this estimated range of ticket price increase. ARB staff estimated the costs to a small excursion company with a single older vessel. This vessel was assumed to have two 400 horsepower propulsion engines and a single 50 horsepower auxiliary engine. It was assumed that all the engines would need to be replaced at the same time. Also, staff assumed that this replacement would be a more difficult installation with a cost at the high end of the expected range. The cost for replacement for the propulsion engines was assumed to be \$300 per horsepower and the auxiliary engine replacement cost was assumed to be \$240 per horsepower. This resulted in a total new equipment (engine replacement) cost of \$252,000. The resulting new equipment cost was assumed to be amortized over 10 years at an interest rate of 5%. This results in an annualized cost of \$32,635, as shown in Table H-2 below.

Table H-2: Hypothetical Excursion Business Costs

Engine Type	# Engines	Hp/ Engine	Total Hp	New Equipment Cost (\$)	Annualized New Equipment Cost 10 yr. Amortization (\$)
Main	2	400	800	\$240,000	\$31,081
Auxiliary	1	50	50	\$12,000	\$1,554
Total	3		850	\$252,000	\$32,635

A hypothetical annual sales estimate was calculated. The following assumptions were made to determine this estimate;

- o \$40 per ticket,
- o maximum capacity of 40 passengers,
- o average passenger fill rate of 50%,
- o 3 trips per day,
- o 5 days per week for 26 weeks per year.

Using these assumptions, the annual ticket sales would be \$312,000. If the annualized cost of \$32,635 was passed on to the passengers through a ticket

price increase, the resulting increase in ticket price would be 10.5%, or an increased ticket price of \$44, as shown in Table H-3.

Table H-3: Hypothetical Excursion Business Ticket Sales

Assumptions:	\$40	Ticket price
	40	Max passenger per trip
	50%	Average passenger fill
	3	trips per day
	5	days per week
	26	weeks per year
Sales and Ticket Price Increase:	\$312,000	Sales per year
	10.5%	Increase in ticket price
	\$44	New ticket price