

THE COMPETITION TRIBUNAL

IN THE MATTER OF THE *COMPETITION ACT*, R.S.C. 1985, c.C-34, and the *Competition Tribunal Rules* SOR 94-290, as amended;

AND IN THE MATTER OF an inquiry pursuant to subsection 10(1)(b) of the *Competition Act* relating to the proposed acquisition of ICG Propane Inc. by Superior Propane Inc.;

AND IN THE MATTER OF an application by the Commissioner of Competition under section 92 of the *Competition act*.

BETWEEN:

THE COMMISSIONER OF COMPETITION

Applicant

- and -

SUPERIOR PROPANE INC. and ICG PROPANE INC.

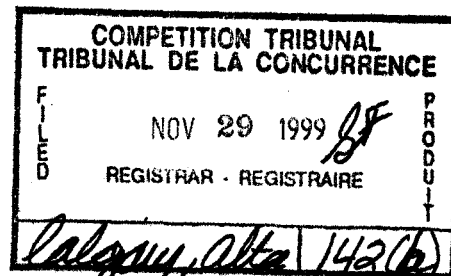
Respondents

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AND GUSTAVO E. BAMBERGER**

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Counsel to Superior Propane Inc. and ICG Propane Inc.

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**AFFIDAVIT OF DENNIS W. CARLTON
AND GUSTAVO E. BAMBERGER**

I, DENNIS W. CARLTON, of the City of Glencoe, in the State of Illinois, economist,
and I, GUSTAVO E. BAMBERGER, economist, of the City of Chicago, in the State of
Illinois, economist, MAKE OATH AND SAY:

1. We have been asked by counsel to Superior Propane Inc. and ICG Propane Inc. to evaluate the Expert Report of Professor Michael Ward served by the Commissioner of Competition (the "Commissioner") on August 30, 1999 (the "August 30, 1999").
2. Attached hereto and marked as Exhibit "A" is a true copy of our report, which represents the work we have done and analyses made with respect to the Commissioner's August 30, 1999 Report.

Subscribed and sworn to before me,
this 27th day of September, 1999.

Margaret J. Kush
Notary Public

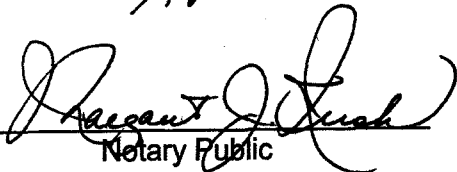
My Commission expires: 7-26-03

Dennis W. Carlton
Dennis W. Carlton
Gustavo E. Bamberger
Gustavo E. Bamberger




This is Exhibit "A" to the Affidavit of Dennis W. Carlton and Gustavo E. Bamberger

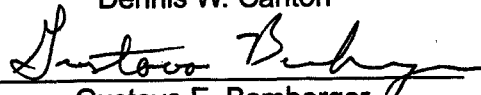
Subscribed and sworn to before me,
this 27th day of September, 1999.



Notary Public

My Commission expires: 7-26-03



Dennis W. Carlton


Gustavo E. Bamberger



**REBUTTAL REPORT OF DENNIS W. CARLTON AND GUSTAVO E. BAMBERGER
TO THE REPORT OF PROFESSOR MICHAEL WARD**

I. INTRODUCTION.

1. We previously submitted a Rebuttal Report ("Carlton/Bamberger Report") to the Commissioner's expert reports filed August 18, 1999, in this proceeding on behalf of Superior Propane Inc. ("Superior") and ICG Propane Inc. ("ICG"). The Commissioner later filed a report by Professor Michael Ward on August 30, 1999. In this rebuttal report, we respond to Professor Ward's report.

2. Professor Ward analyzes the effect of the proposed merger on three types of propane customers – residential, industrial and automotive. Professor Ward purports to show that the proposed merger of Superior and ICG "is likely to raise average [propane] prices by 8% or more" or "by less than 4%", depending on the elasticity of demand for propane (Ward, at 36). Based on his estimates, Professor Ward argues that – based on his eight percent price increase estimate – the proposed merger "is likely to yield a deadweight loss of \$3.8 million" (Ward, at 36).¹

3. In this report, we show that Professor Ward's estimates of likely price increases cannot be relied on to evaluate the proposed merger for two primary reasons.

- Professor Ward concedes that his methodology estimates merger-related price increases that "do not include possible price reductions from merger efficiencies, entry or supply-side substitution." This concession undercuts Professor Ward's entire analysis because the Commissioner's other experts concede that the merger

1. Professor Ward's analysis is based on the same information we used in our prior reports. Professor Ward reports that a "new data set from customer billing information was compiled but not used due to lack of time" (Ward, at 10). We have used the Superior customer billing information to calculate average prices per month by branch, and we have repeated our analysis using these data. We find that the results are substantially unchanged if average monthly prices are calculated from the customer billing information. See Appendix A for these regression results.

likely will generate efficiencies; entry takes place; and propane suppliers that supply one propane end use likely can supply other propane end uses.

- Professor Ward's analysis effectively assumes that independent retailers provide almost no competition for Superior and ICG. But we have shown that independent retailers, in the aggregate, are more of a constraint on Superior's prices than is ICG.

Finally, we show that even if Professor Ward's estimate of merger-related deadweight loss is accepted (and it should not be), his estimate is far smaller than the Commissioner's experts' estimated efficiencies.

I. PROFESSOR WARD FAILS TO JUSTIFY THE 'NO EFFICIENCIES, ENTRY OR SUPPLY-SIDE' ASSUMPTIONS UNDERLYING HIS ANALYSIS.

4. As Professor Ward readily concedes, his analysis is based on the assumptions that (1) the proposed merger generates no efficiencies; (2) no entry would take place in response to a merger-induced price increase; and (3) that relatively larger merger-induced price increases for one propane end use would not induce suppliers to start supplying more to that end use and less to other, less profitable propane end uses. Professor Ward presents no evidence in support of his assumptions; indeed, he makes no attempt to justify these assumptions.

5. Professor Ward's failure to justify his assumptions is a critical omission because his estimates are not valid if his assumptions are not valid. In particular, if his assumptions are not valid, the price increases he estimates will overstate any potential merger-related price increase. For example, if the proposed merger generates efficiencies that reduce the marginal cost of supplying propane, ignoring those efficiencies will lead to overstated price increases.

6. Professor Ward's price simulation analysis is based on a technique first described in an article entitled "Competitive Analysis with Differentiated Products."² In that

2. Jerry Hausman, Gregory Leonard and J. Douglas Zona, "Competitive Analysis with

article, the role of merger-induced efficiencies is directly addressed, and the authors explain how the role of efficiencies can be included in the analysis. For example, in a section of their paper entitled "Price Changes Arising from Mergers," the authors present an equation that "makes the role of post-merger induced efficiencies and the decrease in competitive pressure on the merging goods quite clear. . . . Any decreases in marginal cost will be reflected proportionately in a decrease in the post-merger prices."³ The authors conclude that "[t]he overall effect on post-merger prices then trades off the price decreases which arise from efficiencies and the price increases created by the increased post-merger market power."⁴ Indeed, they point out that "decreased marginal costs can lead to lower post-merger prices."⁵ Professor Ward has not even attempted to account for the price-reducing effect of efficiencies on his estimated price increases. Thus, his estimated increases are overstated and unreliable.

7. To illustrate the importance of efficiencies to Professor Ward's analysis, we have repeated the analysis reported in his Table 7 under the assumption that the merger will reduce marginal costs. First, we assume that the merger will reduce the merged firm's marginal costs by four percent; we then repeat the analysis under the assumption that the merged firm's marginal costs will fall by six percent.⁶

(...continued)

Differentiated Products," *Annales D'Economie et de Statistique*, No. 34, 1994.

3. Hausman, Leonard and Zona, at 175 (emphasis added).
4. Hausman, Leonard and Zona, at 175.
5. Hausman, Leonard and Zona, at 175.
6. We derive our estimates using equation 11 of Hausman, Leonard and Zona. In his Table 6, Professor Ward reports "own price elasticity estimates" for Superior and ICG that range between -1.93 and -3.87. These estimates imply that marginal cost as a percentage of retail price varies between 48.2 and 74.2 percent. (In general, $(P-MC)/P = 1/e$ for a profit-maximizing firm, where P represents price per unit; MC represents marginal cost per unit; and e represents a firm's own-price elasticity of demand (in absolute value). This equation can be rewritten as $MC/P = (e-1)/e$, which can be used to determine marginal cost as a percentage of price.) Thus, if the average retail price of a liter of propane is 28.1 cents (as reported by Professor Ward), marginal cost per liter equals 13.5 to 20.9 cents per liter. A four percent reduction in marginal cost would therefore equal roughly 0.5 to 0.8 cents per liter. If the merged firm sold 2.2 billion liters of propane per year, a four percent reduction in marginal costs would imply total marginal cost savings of roughly \$11 to \$18 million per year; a six percent reduction in marginal costs therefore would imply total marginal cost savings of roughly \$17 to \$27 million per year. We have not attempted to estimate precisely

8. Table 1 reports the price increases implied by Professor Ward's methodology if the merger leads to a four percent reduction in marginal costs. For example, Professor Ward estimated an 11.8 percent price increase for ICG residential sales if the demand elasticity for propane is -1.5 (and ICG competes with independent retailers). If, however, the merger leads to a reduction in marginal cost of four percent, that price increase falls to 7.3 percent (i.e., it falls by 4.5 percentage points). If the demand elasticity for propane is -2.5 (and ICG competes with independent retailers), Professor Ward estimates that ICG will increase its residential prices by 1.4 percent. If, however, the merger leads to a reduction in marginal cost of four percent, Professor Ward's estimates and methodology imply that ICG will reduce its price by -2.7 percent. Indeed, 13 of the 36 price increases reported in Professor Ward's Table 7 are negative if the merger reduces marginal costs by four percent.

9. For each of the 36 estimated price effects, a reduction in marginal cost of four percent reduces Professor Ward's estimate by more than four percent. Professor Ward bases his estimate of deadweight loss and transfer on an average price increase of eight percent (see Ward, at 35).⁷ Thus, using Professor Ward's methodology, a merger-related reduction in marginal cost of four percent implies a merger-related average price increase of less than four percent (i.e., eight percent minus more than four percent). Professor Ward's Table 9 suggests

(...continued)

which efficiencies reflect "incremental" cost savings as compared to "fixed" cost savings. However, we note that roughly half of Superior's estimated efficiency gains – about \$16.7 million – are attributable to "field operations." Other types of efficiency gains included in the "Corporate" category also may reflect incremental cost savings. For example, "Procurement" savings, which reflect savings "attributable to volume or quantity discounts," are included in the Corporate category. See Schwindt, Globerman and Kemp, at 2, 18.

7. There appears to be an inconsistency between Professor Ward's elasticity and deadweight loss estimates. He explains that "if propane demand is relatively inelastic, the merger is likely to raise average prices by 8% or more." His Table 7 shows that he predicts price increases of 7.7 to 15.1 percent if the demand elasticity for propane is -1.5 . However, his reported deadweight loss estimate is based on the assumption that "the propane demand elasticity was -2.0 and all prices rose by 8% due to the merger" (Ward, at 34-5). But Table 7 shows that if the propane demand elasticity is -2.0 , all prices rise by less than eight percent (i.e., 3.6 to 7.3 percent). According to Professor Ward's Table 9, an eight percent price increase when the propane demand elasticity is -1.5 implies a deadweight loss of \$2.9 million (as compared to \$3.8 million if the demand elasticity is -2.0).

Table 1

**Professor Ward's Estimated Price Increases
If Marginal Costs are Reduced by
Four Percent as a Result of the Merger**

	<u>With Regional and Discount Dealers</u>			<u>Without Regional and Discount Dealers</u>		
	Propane Demand Elasticity					
	-1.5	-2.0	-2.5	-1.5	-2.0	-2.5
ICG						
Residential	7.3%	1.2%	-2.7%	8.6%	0.4%	-3.5%
Industrial	5.8%	0.9%	-1.1%	12.4%	4.1%	0.1%
Automotive	11.7%	5.9%	1.1%	15.9%	6.6%	2.0%
Superior						
Residential	2.8%	-0.4%	-2.0%	3.5%	-0.7%	-2.5%
Industrial	3.9%	0.8%	-1.0%	9.4%	2.4%	-0.6%
Automotive	1.5%	-1.0%	-2.4%	3.5%	-0.7%	-2.6%

that an average price increase of four percent leads to a deadweight loss of only \$1.0 million and a transfer of only \$22.1 million (instead of \$3.8 million and \$40.3 million, as Professor Ward reports for an eight percent price increase).

10. Table 2 shows the results of adopting Professor Ward's estimate and methodology under the assumption that the merger reduces marginal costs by six percent. Under this assumption, Professor Ward's estimates and methodology imply that propane prices will fall for 21 of the 36 categories in his analysis. These estimates imply an average price increase of less than two percent; Professor Ward's Table 9 suggests that an average price increase of two percent (with a propane demand elasticity of -2.0) leads to a deadweight loss of only \$0.2 million and a transfer of only \$11.5 million.

11. Our Tables 1 and 2 account for the effect of efficiencies on estimated price increases using Professor Ward's methodology, but even these results are based on Professor Ward's assumption of no entry in response to a price increase. Professor Ward's failure to address the likelihood of entry is also a critical omission. The authors of the paper Professor Ward relies on explain that their analysis is based on several assumptions, including the assumption that "entry is expected not to occur even if prices are raised (by a relatively small amount) after a merger." The authors caution that "[t]he possibility of entry would change the post-merger analysis in a very significant manner."⁸

12. Not only does Professor Ward fail to justify his assumptions, his assumptions are inconsistent with or contradicted by other reports filed by the Commissioner.

- The rebuttal report of Professors Schwindt and Globerman and Mr. Kemp concedes that the merger will generate substantial efficiencies, including categories that likely reflect marginal (incremental) costs of delivering propane.⁹ (See Schwindt, Globerman and Kemp, at 35).

8. Hausman, Leonard and Zona, at 173 (emphasis added).

9. Even if the efficiencies discussed by Schwindt, Globerman and Kemp are not specific to the

Table 2

**Professor Ward's Estimated Price Increases
If Marginal Costs are Reduced by
Six Percent as a Result of the Merger**

	<u>With Regional and Discount Dealers</u>			<u>Without Regional and Discount Dealers</u>		
	Propane Demand Elasticity					
	-1.5	-2.0	-2.5	-1.5	-2.0	-2.5
ICG						
Residential	5.1%	-0.9%	-4.7%	6.3%	-1.7%	-5.5%
Industrial	3.6%	-1.2%	-3.2%	10.1%	1.9%	-2.0%
Automotive	9.3%	3.7%	-1.0%	13.5%	4.3%	-0.2%
Superior						
Residential	0.7%	-2.4%	-4.0%	1.3%	-2.8%	-4.5%
Industrial	1.7%	-1.3%	-3.1%	7.2%	0.3%	-2.7%
Automotive	-0.6%	-3.1%	-4.4%	1.3%	-2.8%	-4.6%

- The first Globerman and Schwindt report concedes that "it is clear that new entry has taken place" (Globerman and Schwindt Report, at 50).
- The first Globerman and Schwindt report concludes that the "overwhelming majority of recent entrants identified by [Superior] serve more than one customer segment which further supports the appropriateness of evaluating market share changes on an 'all propane' basis" (Globerman and Schwindt Report, at 51). This evidence suggests that a firm that supplies propane to one end use can successfully supply propane to other end uses. Nevertheless, Professor Ward has estimated different merger-induced price increases based on an implicit assumption that different end uses represent separate markets.¹⁰

II. PROFESSOR WARD FAILS TO JUSTIFY AN ASSUMPTION THAT IMPLIES THAT INDEPENDENT RETAILERS DO NOT SIGNIFICANTLY CONSTRAIN SUPERIOR OR ICG'S PRICES.

13. Professor Ward only investigates the extent to which Superior and ICG compete with each other – his regression models incorporate no information on independent retailers. However, Professor Ward concedes that "for some markets, regional and discount propane dealers exist. These firms are not represented in either demand parameters even though they are likely to exert some competitive pressure on ICG and Superior" (Ward, at 28).¹¹ As we show

(...continued)

- proposed merger, they still must be considered in a merger simulation analysis.
10. Professors Ryan and Plourdes have submitted a report that analyzes the extent to which propane competes with other fuels. Their analysis is based on the implicit assumption that different end uses represent separate markets. Thus, their analysis also is inconsistent with the conclusion of Professors Globerman and Schwindt that an "all propane" market is appropriate. Furthermore, Professors Ryan and Plourdes limit their analysis to only three propane end uses – residential, industrial and commercial. They do not investigate the extent to which propane competes with alternate fuels in the automotive use.
 11. If independent retailers compete with Superior and ICG – as Professor Ward concedes – his regression models are "misspecified." Specifically, his estimated own-price and cross-price elasticities are likely to be biased because he omits an important variable from his analysis – independents' price. Professor Ward's simulated price increases thus are unreliable. For example, if one were interested in investigating the extent to which General Motors and Ford cars are substitutes for each other, an analysis that ignored the prices of Chrysler cars

in this section of our report, Professor Ward effectively assumes away the competitive significance of independent retailers.

14. To include the effect of independents in his merger simulation analysis, Professor Ward assumes – without justification – that independents are less of a substitute for Superior and ICG than Superior and ICG are for each other. Indeed, Professor Ward concedes that his assumption implies that the presence of independent retailers has “little” effect on Superior and ICG’s ability to raise propane prices (Ward, at 29).

15. Professor Ward’s Table 7 shows that, in his analysis, the existence of independent retailers sometimes increases Superior and ICG’s ability to raise propane prices. In particular, Professor Ward estimates 18 “Estimates of Percent Price Increases” for both Superior and ICG. Nine of each of the 18 represent estimated price increases “With Regional & Discount Dealers” in the analysis, and nine represent estimated price increases “Without Regional & Discount Dealers.” For Superior, Professor Ward’s analysis shows that in three of nine cases, Superior can raise price more when it faces independent retailers than when it does not. For ICG, Professor Ward’s analysis shows that in two of nine cases, ICG can raise price more when it faces independent retailers than when it does not. For example, according to Professor Ward’s Table 7, if the demand elasticity for propane is -2.0 , Superior will be able to raise the price of industrial propane by 3.8 percent when it faces independent retailers, and by 3.4 percent when it does not face independent retailers. Professor Ward provides no explanation for this surprising result.

16. Professor Ward presents no empirical evidence in support of his assumption that independents are not good substitutes for Superior and ICG. In contrast, we have shown that independent retailers are more of a constraint on Superior’s prices than is ICG. (See, for example, Report of Dennis W. Carlton, ¶¶ 28-36; Rebuttal Report of Dennis W. Carlton and

(...continued)
would be unreliable.

Gustavo E. Bamberger, ¶¶ 18-20; and Reply Report of Dennis W. Carlton and Gustavo E. Bamberger, ¶¶ 11-14). Thus, Professor Ward's assumption is inconsistent with the empirical evidence.

III. EVEN PROFESSOR WARD'S ESTIMATED DEADWEIGHT LOSS IS FAR SMALLER THAN THE COMMISSIONER'S ESTIMATED EFFICIENCIES.

17. As we have shown, Professor Ward's estimated price increases are based on a variety of unsupported assumptions that are contradicted by the empirical evidence. Thus, they should not be relied on. However, even if his erroneous price increase estimates were accepted, Professor Ward calculates a deadweight loss resulting from the merger of only about \$3.8 million per year. This estimated deadweight loss is less than 20 percent of the Commissioner's experts' estimate of \$20 million in efficiencies resulting from the merger, and less than ten percent of Superior's estimate of merger-specific efficiencies.