CT-91/1

*A-2*

THE COMPETITION TRIBUNAL

IN THE MATTER of an application by the
Director of Investigation and Research for orders
pursuant to section 92 of the <u>Competition Act,</u>
R.S.C. 1985, c.C-34, as amended;

AND IN THE MATTER of the acquisition by
Hillsdown Holdings (Canada) Limited of 56% of
the common shares of Canada Packers Inc.

B E T W E E N:

THE DIRECTOR OF INVESTIGATION AND RESEARCH

Applicant

-and-


HILLSDOWN HOLDINGS (CANADA) LIMITED,
MAPLE LEAF MILLS LIMITED,
CANADA PACKERS INC. and ONTARIO RENDERING
COMPANY LIMITED

Respondents


**REBUTTAL AFFIDAVIT OF THOMAS W. ROSS**
**(filed by the Applicant)**

## REBUTTAL AFFIDAVIT OF THOMAS W. ROSS

I, Thomas W. Ross, of the Township of Rideau, in the Province
of Ontario, make oath and say as follows:

## I.   Background

1.   I am an Associate Professor in the Department of Economics at
Carleton University.  On August 1, 1991 I swore an affidavit in
this matter.  This earlier affidavit describes my background and
qualifications.   The purpose of this rebuttal affidavit is to
address points made in affidavits filed by the Respondents on
August 2, 1991 as they affect and relate to my analysis of this
case.

## II.   The Relevant Market

2.   The Respondents' experts provide no analysis on the question of
market definition.  They have chosen to view, or have assumed, the
market as that for the free market rendering of red meat by-
products.    Some  even  focus  on  beef  by-products.    My  views
concerning the relevant product market for the purpose of analysis
of this merger are set out in my earlier affidavit.

3. The Respondents' experts argue in favour of the merger by referring to the declining nature of the industry;  but there is reason to doubt that there is such a serious decline.  I understand that Dr. David D. Smith will address this point in some detail in his Rebuttal Affidavit.

4. It would be even more difficult to support claims of a declining market if one defined the market to include the captive and free market rendering of all materials including poultry by-products.  (See, e.g. Groenewegen Affidavit, Table 3.11, p. 23 and Rothsay  Strategic Plan 1991, pp. 3 and 9.)

5. In his affidavit, Dr. Fred D. Bisplinghoff reports that (paragraph 14):

"Normally renderers can only economically pick up raw material within a seventy-five mile radius of the plant.  There is a point of diminishing returns due to overtime hours, spoilage of raw material, and insufficient time to maintain trucks."

He goes on to describe how, through the use of receiving stations, a plant's reach can be extended to 200 to 250 miles, but notes that this "significantly increases the hauling costs as it adds reload and station costs to the route cost".  This would appear to support a definition of the relevant geographic market as being Southern Ontario (west of Kingston).  It also suggests that even absent problems crossing the border, Darling might be at a significant competitive disadvantage competing for material in the Toronto-Hamilton-Kitchener area if forced to do so from Detroit.

## III. Barriers to Entry

6.    Respondents' experts have not argued that entry into this industry would be easy.  In fact, the affidavit of Dr. Earl E. Shannon makes it clear that regulatory barriers are not insignificant.  In paragraph 13 he states that it could well take 18 months to get a Certificate of Approval to expand Moorefield and that obtaining the appropriate wastewater equipment and installing it could take another 12 to 18 months.  All together, he expects it to take three years before the expanded facilities are ready.

7.    I have no reason to expect that new entrants would have an easier time of this process, so I view this as support for my opinion that regulatory barriers are significant impediments to new entry in this market.

## IV.  Substantial Lessening of Competition

8.    Very little attention is paid in the Respondents' experts' affidavits to the effects on competition of the merger.

9.  In his affidavit, Dr. Groenewegen asserts that the market for beef by-products is very competitive and that "there will be no negative impact of the Rothsay/Orenco merger on the derived demand for inedible red meat material in Ontario" (p. v).  In support of these claims he points to the fact that beef material is of higher

end-product value and he seems to feel that this higher value is sufficient to guarantee that the market will be vigorously contested. However, it is certainly possible to have a monopoly of a valuable product. Dr. Groenewegen does not provide theoretical or empirical support for the causal link between the high value of these products and the degree of competition in this market.

10. Dr. van Duren's first paragraph indicates that mergers such as this "must be allowed in Canada's red meat industry if firms in the Canadian industry are to survive and be competitive with their U.S.A. counterparts." (p. 1) However, she apparently comes to this conclusion with no analysis of the effects of the merger on competition in the relevant market.

11. Professor McFetridge's assessment of the effects on competition is restricted to a thorough study of the welfare effects of a particular price change - a 20% decrease in prices paid for raw material. (p.17) The 20% figure is not a product of his analysis, it was indicated by Mr. S. Peters during his examination for discovery as the minimum price change thought possible by some market participants. (Peters' transcript, pp. 586-7).

12. Professor Trebilcock is the Respondents' expert who most directly addresses the question of the merger's effects on competition. He makes the important point that one must evaluate

the merger in light of what will happen in the future should the merger be blocked. Comparisons to the premerger market may be inappropriate, particularly in industries undergoing important changes in demand, costs and/or technology.

13. Professor Trebilcock goes on to argue that if without the merger Rothsay will become specialized in rendering poultry by-products, it will not compete with Orenco in any case. On this basis, he concludes that the merger cannot substantially lessen competition.

14. In my view, because of supply side substitution as discussed in paragraph 19 of my earlier affidavit, even if Rothsay were to specialize in rendering poultry material, by its ability to switch to rendering red meat by-products it would exert some competitive pressure on Orenco that would be absent if the merger were to be approved.

15. Also, I have seen no direct evidence that, absent the merger, Rothsay would abandon its red meat customers to Orenco (or anyone else). Given the 70% probability of obtaining environmental approvals (according to Dr. Shannon in his affidavit, p. 10), it seems quite possible that Rothsay would expand Moorefield in an attempt to retain as much of their profitable business as they can. Indeed, there is evidence that Rothsay wanted to be able to continue to render red meat material if the acquisition had not

occurred.   (Kosalle transcript, pp. 833-4)

16.  The points made in Professor Trebilcock's final two paragraphs would seem to be less relevant in this market than in many others. If, as he and others have suggested, the final output markets (e.g. for tallow and meal) are very nearly perfectly competitive, how can this merger (or blocking this merger, for that matter) have any effect on competition in these markets?  And how can a merger that reduces competition in the rendering market, resulting in lower prices paid for raw material, improve the competitive positions of the demanders of rendering services (e.g. packing houses and restaurants)?

## V.   Efficiencies

17.  The examination for discovery of the Respondents with respect to their efficiency claims continued on August 15, and there is further information to be provided.  Accordingly, and as provided for in the Competition Tribunal's order dated July 26, 1991, I will defer any specific comments that I may have with respect to such claims until my Supplemental Affidavit to be filed August 30, 1991.

## VI.   The Trade-Off Analysis

18.   The trade-off analysis presented by Professor McFetridge

compares the expected efficiencies attributable to the merger to the social costs of the lessening of competition attributable to the merger. It is my opinion that the social costs attributable to the merger are likely significantly understated in Professor McFetridge's analysis because, in my opinion, the actual price change would likely be substantially greater than those assumed by Professor McFetridge.

19. In my earlier affidavit, I argued that the merger could quite likely change firm behaviour in this market in a dramatic way. I think it is likely that the merged entity will assume the behaviour of a dominant firm with the remaining firms functioning as a (competitive) fringe.

20. If this happens, very large price increases are likely. This is the case, in part, because of the very low elasticities of demand referred to by Professor McFetridge. While low elasticities make for smaller deadweight losses for a given price increase relative to higher elasticities, low elasticities can lead the actual price increase to be very large. In the dominant firm model with linear demand curves, low elasticities produce greater deadweight loss than high elasticities.

21. To demonstrate this point, I construct an example based upon data from this case. Using output figures from Schedules "C" and "D" (Director's document #12, letter to S. Peters from J. Kendry,

dated July 9, 1990), other documents provided by the Respondents and other data from Professor McFetridge's report, I show that the actual price increase and deadweight loss could be very large indeed. For example, if the market is defined to include all material, free market and captive, Darling is assumed to exit the market and the elasticity of demand employed by Professor McFetridge (of 0.23) is used here, the potential price increase could be 130% and the new deadweight loss could exceed $27 million per year.

22. I will borrow much of Professor McFetridge's notation. This is not intended to be a precise estimate of the likely price increases should the merger be approved, but an illustration of the significant price increases possible with a dominant firm.

23. To apply the dominant firm model to this industry, we must first be precise about what price is in this market. Suppose there was only one type of supplier of renderable material, called a packing house or simply a house. It has one kind of renderable material, fat, which it wishes to sell on the international market for its value in tallow. The price for this tallow is fixed to all the parties, being set in a highly competitive market. Suppose a pound of fat produces tallow worth $V$ dollars.

24. The house hires the renderer to prepare and sell $Q$ pounds of fat on the international market. It receives for this the value $VQ$

less deductions made to compensate the renderer.

25. For these services the render charges HQ. In other words, the renderer charges H per unit of fat. This leaves the house with a profit of VQ - HQ from its fat.

26. For now, assume that rendering is initially competitive. Then the renderer will just charge enough to recover all its costs (including a reasonable return on investment). The renderer's total costs are the sum of its costs of recycling the fat into tallow (including transportation costs and the cost of capital) of $M(Q)$ plus any payments it made to secure raw material. Suppose it pays $P_R$ per unit for the fat. Therefore the renderer's total cost of recycling Q units of fat will be:    $M(Q) + P_R Q$ .

27. If the market is not initially competitive and economic profits are being earned, for the purposes of this analysis these profits can simply be assumed to be part of $M(Q)$. This will not affect the derivation of the social loss attributable to the merger.

28. Since the renderer actually does the selling of the tallow, to break even it must be true that $VQ = M(Q) + P_R Q$ .    Call this equation Condition 1.

29. We have already noted that the house's profit from the sale of

its fat is VQ - HQ, but we know that what it actually receives is $P_RQ$. So we have $P_RQ = VQ - HQ$. Put another way we can express this in terms of the cost of rendering: $HQ = VQ - P_RQ$. Call this Condition 2.

30. Combining Conditions 1 and 2 we have:

$$HQ = M(Q) + P_RQ - P_RQ = M(Q).$$

The price per unit of rendering services is $H = M(Q)/Q$. Therefore the initial price of rendering services can be simply viewed as the costs of rendering not including payments to receive raw materials. In what follows this is what I mean when I refer to this price.

31. To assess the possible price effects of a move to a dominant firm - competitive fringe behaviour, I make the following assumptions.

(i)     Derived demand for rendering services is linear:

$$H = a - bQ.$$

(ii)    The market is all material (captive and free market) including poultry. A case in which captive and poultry material is excluded will be considered later in this affidavit.

(iii)   Darling is out of the market and its output is initially allocated to firms based upon their market shares. This requires that fringe firms expand output about 14%. A case in which Darling remains in the market will be considered later in this affidavit.

(iv)    After this 14% expansion, the fringe only has capacity
to expand output another 10%.  (This is quite close to
the total expansion of the fringe possible given the
data on excess capacities of Banner and Schneider
provided in Table 4.3, p.35 of Dr. Groenewegen's
affidavit.)

(v)     Unit variable (marginal) costs are constant but less
than average total costs.  I assume that fringe firms
have the same marginal cost as the dominant firm.  If
they have higher marginal costs, the social loss
associated with the restriction of dominant firm output
will be even greater.


32.  The dominant firm model makes the following assumptions about
firm behaviour.  The competitive fringe firms act as price takers.
They take price as given and sell the amount that is most
profitable.  Given the cost assumptions above, they will generally
choose to produce right up to their capacity.  Of course, if the
dominant firm can persuade them to restrict output, the market will
be even less competitive and efficient.


33.  The dominant firm takes the supply of the fringe as given and
then maximizes profit given the "residual demand" left to it.  In
this case, the residual demand is just the market demand curve with
the capacities of the fringe subtracted.  This shifts the market
demand curve to the left in a parallel fashion.

34. To continue we need to estimate the residual demand curve facing the dominant firm. Since it will be linear and we know the current quantities, prices and the fringe supply, we only need an idea of the slope of that curve. Since the demand and residual demand curves are both linear, the slope is a constant.

35. I have considered three possible values for the slope, based on different conjectures about the local elasticity of demand. At current quantities and price the slope of the demand curve, b, can be shown to equal

$$b = H*/(eQ*)$$

where H* is the current market price for rendering services, Q* the total quantity currently supplied in the market and e is the local elasticity of demand for rendering services.

36. I will consider three possible values for e, e = 0.1, e = 0.23 and e = 0.5. For much of his analysis, Professor McFetridge assumes an elasticity of raw material supply of 0.1 which corresponds, as he shows in his appendix (at p. 29) to an elasticity of the demand for rendering services of 0.23 in this case. Because he believes these elasticities could actually be lower, I also present results for e = 0.1. The higher value for e is included to give some sense of the sensitivity of the results to the chosen value of e. These alternative values for e correspond, approximately, to the alternatives considered by Professor McFetridge.

37. Rothsay is the bigger part of the merger (when poultry is included) so I estimated H* from tables relating to Rothsay income statements (Respondents' documents, Schedule 2, Document 47) for 1990.

38. Rothsay gross sales were planned to be $34,433,000 -- this is their VQ. Payments for raw material ($P_R Q$) were expected to total $6,198,000. This leaves all other costs to total

$$M(Q) = \$28,235,000 \quad .$$

Average costs, taking output volumes from Schedule "C" (Director's document #12, letter to Mr. S. Peters from J. Kendry dated July 9, 1990), and multiplying by 52 weeks, are then

$$M(Q)/Q = \$ \ 58.83 \text{ per thousand pounds.}$$

Thus the initial charge for rendering service, H*, is $ 58.83.

39. This is not very different from the number used by Professor McFetridge as the price of rendering services for free market red meat material. He estimate H* to be $122.52 per metric tonne or about $55.69 per thousand pounds.

40. Professor McFetridge estimated the unit variable (or marginal) costs per raw tonne to be $32.83. This is equivalent to a cost of $14.92 per thousand pounds.

41. The three different demand slopes I will consider will then be, using the expression $b = H*/(eQ*)$, with H* = 58.83 and

Q* = 21,367:

| e | b |
|------|--------|
| 0.1 | 0.0275 |
| 0.23 | 0.0120 |
| 0.5 | 0.0055 |

These slopes represent the increase in price that would result from a withdrawal of 1000 pounds of material rendering service per week from the market. As demand is assumed to be linear, these slopes will hold at all prices and since the residual demand curve will just (in the relevant range) be a parallel shift in of the market demand curve, it will have the same slope as that assumed for the market curve.

42. If the fringe expands output to capacity at this initial price the quantity available for the dominant firm, $Q^d$, will be the total market output (21,367 according to "C") less the fringe output (4,487 plus 10% = 4,936). This is 16,431 units. [Note: the number 4,487 is the output the fringe would produce at the original price, after the exit of Darling if Darling output was allocated to it to preserve its market share. To see this, note from Schedule "C" that though the fringe produced 18.4% of total output, it produced 21% of the non-Darling output. If Darling sales were allocated so as to preserve this 21% share of the total market for the fringe, they would have sales of 21% of 21,367 = 4,487.]

43. Now, we have all the information we need to determine the

residual demand curve facing the dominant firm.  It will have one of the three slopes given above, and we know that at a price of $58.83 the quantity going to the dominant firm, $Q^d$, is 16,431.  The residual demand curve is given by  $H = a^d - bQ^d$.  To solve for $a^d$, we can write this as  $a^d = H^* + bQ^d$ and substitute for $H^*$ and $Q^d$.

44.  The profit maximizing price for a firm facing a linear demand curve and constant marginal costs is simply the average of the intercept (in this case $a^d$) and the marginal costs.  This is the new price, call it $H'$.

45.  Table 1 gives the new prices ($H'$) and the percentage change in prices (%CH) in each of the three cases.  Recall that the original price was $58.83 and marginal cost is $14.92.

Table 1

| e | b | $a^d$ | H' | %CH |
|------|--------|--------|--------|------|
| 0.1 | 0.0275 | 510.68 | 262.80 | 347% |
| 0.23 | 0.0120 | 256.00 | 135.46 | 130% |
| 0.5 | 0.0055 | 149.20 | 82.06 | 39% |

46.  These are clearly very large price increases.

47.  It should be noted that if the fringe is able to expand output beyond that assumed here, these price increases will overstate the

real market power of the dominant firm. However, I did not see evidence of substantial excess capacity in the fringe and this model already assumes an expansion in output of over 25% in total (14.3% to take up their share of the Darling output and then 10% more when they become price followers.) The data in Dr. Groenewegen's affidavit (Table 4.3, p.35) indicates that Banner had excess capacity of 500 and Schneider of 350. Using all of this brings fringe output up from 3,926 to 4,776, an increase of about 21.7%.

48. We could take this one step further and calculate the deadweight loss (DWL) generated by these price increases. The added DWL will be given by the expression

$$\text{new DWL} = [(H'-H^*)/b][(H'+H^*)/2 - c] \ .$$

where c is the marginal cost.

49. These totals are given in Table 2:

Table 2

| e | new DWL per week | new DWL per year |
|---|---|---|
| 0.1 | $ 1,082,103 | $ 56.269 million |
| 0.23 | $ 525,089 | $ 27.305 million |
| 0.5 | $ 234,538 | $ 12.196 million |

50. The annual deadweight loss numbers all far exceed the annualized value of the efficiencies claimed by the Respondents according to Professor McFetridge's affidavit (p.26).

51. To repeat an important point, this is not meant to provide a precise estimate of the likely price effects of allowing this merger and the associated social costs. It is intended to demonstrate that should the market behaviour be changed in a fundamental way, that is shift from competitive to dominant firm-type behaviour, truly large price increases are possible, even likely.

52. Finally, it is my opinion that such a shift in behaviour is likely given the market conditions that would exist if the merger was allowed and Darling was forced to exit the market (or shrink and join the fringe, serving a smaller number of customers from its American facilities).

53. In the event that Darling Toronto does not exit, there could still be a very large price increase. The data in Schedule "C" (Director's document #12, letter to S. Peters from J. Kendry, dated July 9, 1990) indicate that the total output of all firms excluding Rothsay, Orenco and Fearmans is 6,546 (thousands of pounds per week). The data in Table 4.3 of Dr. Groenewegen's affidavit indicate that Darling, Banner and Schneider capacities are such

that they could together handle 1,550 more. This means that if the merged firm acted as a dominant firm, the rest of the industry which now includes Darling could produce 8,096. At the old price, the quantity left for the dominant firm is $Q^d = 21,367 - 8,096 = 13,271$.

54. From this, using the expression described above:

$$a^d = H* + bQ^d$$

we can derive the intercept term for the dominant firm's demand curve and then use it to solve for the new price, H', and to go on to derive the deadweight loss from this price increase. The results are given below in Table 3.

## Table 3

### Darling in the Market

| e | b | $a^d$ | H' | %CH | New DWL Per Week | New DWL Per Year |
|---|---|-------|----|----|----------|----------|
| | | | $ | | $ | $million |
| 0.1 | 0.0275 | 423.78 | 219.35 | 273% | 724,780 | 37.689 |
| 0.23 | 0.0120 | 218.08 | 116.50 | 98% | 349,612 | 18.180 |
| 0.5 | 0.0055 | 131.82 | 73.37 | 25% | 135,320 | 7.037 |

55. Even the smallest of these estimates is over three times the level of the efficiencies reported in Professor McFetridge's affidavit (p.26).

56. Finally, it is worth noting that the deadweight losses could be substantial even if we define the market more narrowly to exclude captive material and poultry by-products.

57. To demonstrate this point we can repeat the dominant firm calculations above using data from Schedule "D" (Director's document #12, letter to S. Peters from J. Kendry, dated July 9, 1990) as updated in the Respondents' examination for discovery. (Kosalle transcript, pp. 873-4)  In this case we know that total market output is:  Q* = 13,067.

58. The fact that Q* differs from that in the previous analysis means that for given elasticities the slopes of the demand curves will differ as well.  The slope of the new market and residual demand curves will again be given by the expression $b = H*/(eQ*)$.

59. Of the total output, 4,855 is contributed by the fringe (including, in this example, Darling).  Using the 1,550 of available excess fringe capacity referred to earlier, this brings fringe output under the dominant firm model to 6,405.

60. This leaves the dominant firm with an output of:
$$Q^d = 13,067 - 6,405 = 6,662.$$

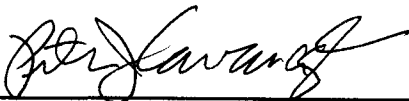61. The new prices and deadweight losses are calculated as before. The results are given in Table 4.

Table 4

Free Market Material, Excluding Poultry - Darling in the Market

| | | | | | New DWL | |
| e | b | $a^d$ | H' | %CH | Per Week | Per Year |
| | | | $ | | $ | $million |
| 0.1 | 0.0450 | 358.62 | 186.77 | 217% | 306,703 | 15.949 |
| 0.23 | 0.0196 | 189.41 | 102.16 | 74% | 144,986 | 7.539 |
| 0.5 | 0.0090 | 118.79 | 66.85 | 14% | 42,697 | 2.220 |

62.  Therefore, even in this extreme case, the deadweight losses associated with dominant firm pricing can be substantial.  In the central case in which the elasticity of demand is assumed to equal 0.23, this loss is well over three times the level of the efficiencies reported in Professor McFetridge's affidavit.

Sworn before me at the
City of Toronto, in the
Province of Ontario, this
16th day of August, 1991.

_____
A Commissioner, etc.
PETER J. CAVANAGH