

1 Ex _____ (KRA-Rebuttal T)
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4 BEFORE THE WASHINGTON UTILITIES AND
5 TRANSPORTATION COMMISSION

6 KING COUNTY DEPARTMENT OF)
PUBLIC WORKS, SOLID WASTE)
7 DIVISION,)
8 Complainant,)
9)
10 vs.)
11 SEATTLE DISPOSAL COMPANY,)
RABANCO, LTD., d/b/a/EASTSIDE)
12 DISPOSAL AND CONTAINER HAULING)
13 Respondent.)
14 _____)

DOCKET NO. TG-940411
REBUTTAL TESTIMONY OF
KIMBERLY R. ALBERT

15 Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY?

16 A. The purpose of this testimony is to respond to
17 inaccuracies in Mr. Popoff's direct testimony. Contrary
18 to Mr. Popoff's testimony, King County's residential
19 waste generation model isolates the impact on disposal
20 due to price changes from other aspects of recycling
21 programs. Although, as Mr. Popoff states, the price
22 quantity relationship for waste collection is inelastic,
23 this does not mean that it is not responsive to price.
24 In fact, ~~given a .2 elasticity, the relatively large~~

25
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION
No. TG-940411 T-61v

Norm Maleng
Prosecuting Attorney
CIVIL DIVISION
E550 King County Courthouse
Seattle, Washington 98104-2312
(206) 296-9015
FAX (206) 296-0191

1 change in price as a result of Eastside's recently
2 adopted rates will result in a 9% increase in disposal.
3 Mr. Popoff incorrectly states that the demand
4 elasticities will become less elastic over time.

5
6 This testimony also demonstrates that the can weights
7 assigned for Eastside Disposal in determining its 1994
8 rate structure are inconsistent with economic theory,
9 which provides evidence that the those can weights may
10 be inaccurate.

11
12 Q. ON PAGE 14 OF HIS TESTIMONY, LINES 17-25, MR. POPOFF
13 INDICATED THAT NONE OF KING COUNTY'S WITNESSES ISOLATED
14 THE EFFECTS OF INCENTIVE-BASED VARIABLE RATES FROM OTHER
15 ASPECTS OF RECYCLING PROGRAMS. DO YOU AGREE WITH HIS
16 ASSESSMENT?

17
18 A. No. By including both price variables and recycling
19 program variables in my residential waste generation
20 model I was able to isolate the impact on disposal due
21 to price changes from the impacts on disposal due to the
22 availability of curbside recycling programs.
23 Furthermore, the estimated price parameter tells us the
24 change in disposal associated with a change in price.
25 So, we estimated the increase in disposal associated

1 with a reduction in the price of disposal (while holding
2 all of the other variables constant). In estimating this
3 impact, it does not matter whether the rate is referred
4 to as an incentive-based rate or a cost-based rate. Nor
5 does it matter whether we are moving from incentive-
6 based rates to cost-based rates. The point is that as
7 the price of disposal falls, disposal rises. So, we have
8 shown that a reduction in rate incentives do increase
9 disposal.

10
11 **Q. ON PAGE 17, LINES 7-9, OF HIS TESTIMONY, MR. POPOFF**
12 **STATED THAT "KING COUNTY'S WITNESSES ILLUSTRATE THAT THE**
13 **PRICE QUANTITY RELATIONSHIP FOR WASTE COLLECTION SERVICE**
14 **IS INELASTIC, THUS NOT VERY RESPONSIVE TO PRICE". DO**
15 **YOU AGREE THAT THE PRICE QUANTITY RELATIONSHIP IS**
16 **INELASTIC?**

17
18 **A. Yes. An elasticity less than one (in absolute value) is**
19 **referred to as inelastic. My estimated elasticity of -.2**
20 **is less than one (in absolute value) and therefore**
21 **inelastic.**

22
23 **Q. DO YOU ALSO AGREE THAT THE PRICE QUANTITY RELATIONSHIP**
24 **IS "THUS NOT VERY RESPONSIVE TO PRICE"?**

1 A. Although I might technically agree with the statement,
2 it is certainly subject to interpretation and deserves
3 some clarification. The elasticity of $-.2$ indicates that
4 a 50% reduction in price will result in a 10% increase
5 in disposal ($.5 \times .2 = .1$). Thus, although our
6 elasticity estimate indicates that demand is inelastic,
7 we still see measurable reductions in disposal
8 associated with price increases. Conversely, we see
9 measurable increases in disposal associated with price
10 reductions.

11
12 Furthermore, we need to recognize that the price
13 differentials between Eastside Disposal's 1994 rates and
14 their 1993 rates represent a relatively large percentage
15 change in price. The difference between one and two can
16 rates in 1993 was \$3.27. The difference between one and
17 two can rates in 1994 was reduced to \$1.85. Since we
18 are also comparing rates across time we should adjust
19 these prices for inflation. Assuming a 3% inflation
20 rate, the 1993 price can be adjusted to \$3.37 in 1994
21 dollars ($3.27 \times 1.03 = 3.37$). The price differential
22 between 1993 and 1994 now becomes $\$3.37 - \$1.85 = \$1.52$.
23 The percentage change in price is therefore $\$1.52/\3.37
24 $= 45\%$. So, Eastside Disposal's new rates represent a 45%
25 reduction in price (evaluated at the one to two can

1 subscription level) when compared to their 1993 rates.
2 Based upon our elasticity estimate of $-.2$, this 45%
3 reduction in price would imply a 9% increase in disposal
4 ($.45 \times .2 = .09$). Thus, even though the price quantity
5 relationship is inelastic, because the price reductions
6 approved by the WUTC are so large, we expect to see a
7 significant impact on Eastside's customers.
8

9 **Q. MR. POPOFF INDICATES IN HIS TESTIMONY THAT DEMAND**
10 **ELASTICITIES WILL BECOME LESS ELASTIC OVER TIME. DO YOU**
11 **AGREE THAT THIS IS LIKELY?**
12

13 **A.** No, not if we see reductions in the variable rate price
14 structure.
15

16 **Q. CAN YOU EXPLAIN WHY YOU DISAGREE WITH MR. POPOFF?**
17

18 **A.** Yes. It is sometimes asserted in economics that as price
19 rises, the demand becomes less elastic. This represents
20 an upward movement along the demand curve. The intuition
21 behind this assertion is that as consumers reduce the
22 quantity of a given product, due to higher prices, then
23 fewer substitutes are available. So, additional
24 reductions in quantity due to even higher prices become
25 more difficult. In Seattle's case, variable can rates

1 have continued to increase over time. So, it makes sense
2 that their estimated elasticity has gotten smaller over
3 time. As Seattle's variable rates have risen, households
4 have moved upward along their demand curve.

5
6 However, given the current reduction in Eastside's
7 variable can rate structure, we expect to see the
8 opposite effect. The reduced rates increase the quantity
9 of disposal. This represents a downward movement along
10 the demand curve. At the now larger disposal levels we
11 would expect to see a larger (in absolute value) price
12 elasticity.

13
14 **Q. ON PAGE 26, LINES 6-10, MR. POPOFF INDICATES THAT DEMAND**
15 **COULD BECOME LESS ELASTIC OVER TIME DUE TO EITHER PRICE**
16 **INCREASES OR DUE TO AN INWARD SHIFT IN DEMAND. DO YOU**
17 **AGREE THAT AN INWARD SHIFT IN DEMAND WILL REDUCE THE**
18 **PRICE ELASTICITY?**

19
20 **A.** No. I believe that the inward shift in demand he is
21 referring to is due to the availability of lower cost
22 substitutes for disposal. Specifically, I think he is
23 referring to curbside recycling. In my opinion, there is
24 no economic basis for believing that reductions in the

25

1 cost of substitutes will cause demand to become less
2 elastic over time.

3

4 Q. ON PAGE 31, LINES 23-25, AND PAGE 32, LINE 1, MR. POPOFF
5 CONCLUDES THAT KING COUNTY "SHOULD CONCENTRATE ITS
6 RESOURCES AND EFFORTS ON WAYS TO SHIFT DEMAND FOR WASTE
7 COLLECTION SERVICE IN THE COUNTY RATHER THAN ATTEMPT TO
8 MOVE ALONG AN INELASTIC DEMAND FUNCTION." DO YOU AGREE
9 WITH THIS STATEMENT?

10

11 A. No. I believe that King County should both concentrate
12 efforts on ways to shift demand for waste collection and
13 attempt to move along the demand function. The two
14 efforts are not mutually exclusive. King County has
15 already worked extensively to shift the demand for solid
16 waste collection and will continue to do so in the
17 future. However, the success of such programs does not
18 preclude the use of variable can rates as an additional
19 means of achieving waste reduction. The current rate
20 structure approved for Eastside significantly reduces
21 the price of disposal from their previously approved
22 rate structure. This represents a step backward that
23 will result in higher disposal levels.

24

25

1 Q. ON PAGE 34 OF HIS TESTIMONY, LINES 9-23, MR. POPOFF
2 DISCUSSES THE SIGNIFICANCE OF THE ELASTICITIES REFERRING
3 TO THE NUMBER OF SUBSCRIBERS RATHER THAN THE WEIGHT OF
4 WASTE. COULD YOU SUMMARIZE THAT PORTION OF HIS
5 TESTIMONY?
6

7 A. Yes. I believe he is saying that as price rises, we
8 would expect to see the average pounds per can rise, so
9 looking only at reductions in subscription levels will
10 overstate the impact associated with price increases.
11

12 Q. DO YOU AGREE WITH THIS ASSESSMENT?
13

14 A. Yes I do.
15

16 Q. SO, ECONOMIC THEORY WOULD INDICATE THAT GIVEN PRICE
17 INCREASES OVER TIME, WE WOULD EXPECT TO SEE INCREASES IN
18 THE AVERAGE POUNDS PER CAN?
19

20 A. Yes, that is correct.
21

22 Q. DOES THIS FACT SEEM INCONSISTENT WITH THE WEIGHTS PER
23 CAN ASSIGNED FOR EASTSIDE DISPOSAL IN DETERMINING ITS
24 1994 RATE STRUCTURE?
25

1 A. Yes, in my opinion, there does seem to be an
2 inconsistency.

3
4 Q. CAN YOU ELABORATE ON THIS INCONSISTENCY?

5
6 A. Yes. Based upon Exhibit ____ (LCD-3), the average weights
7 assigned to a mini-can, one-can, and two cans in
8 determining Eastside's 1994 rate structure represent a
9 significant reduction from previous weight estimations
10 used with the Meeks model.¹ In Exhibit ____ (RGC-3), the
11 reported weights were 26 pounds for a mini-can, 34
12 pounds for 1 can and 51 pounds for 2 cans. So, while
13 economic theory would predict that average pounds per
14 can would be rising with reductions in service levels
15 over time, the assigned weights for determining Eastside
16 Disposal's 1994 rates show a dramatic reduction from the
17 average weights presented in Exhibit ____ (RGC-3).

18
19 Q. SO, IN YOUR OPINION, THE DRAMATIC REDUCTION IN THE
20 ASSIGNED WEIGHTS FOR EASTSIDE DISPOSAL'S CUSTOMERS SEEMS
21 TO BE INCONSISTENT WITH ECONOMIC THEORY. IS THAT
22 CORRECT?

23
24
25 _____
¹ See Confidential Exhibit ____ (KRA -3).

1 A. Yes. There appear to be inconsistencies.

2

3 Q. IN YOUR OPINION, DO THESE INCONSISTENCIES PROVIDE
4 EVIDENCE THAT THE WEIGHTS PER CAN BE USED TO DETERMINE
5 EASTSIDE'S RATE MAY BE INACCURATE?

6

7 A. Yes. That is my opinion.

8

9 Q. IF THE ASSIGNED WEIGHT DIFFERENTIALS BETWEEN SERVICE LEVELS ARE
10 INCORRECT, WOULD THE 1994 RATE STRUCTURE APPROVED FOR EASTSIDE
11 TRULY REPRESENT COST-BASED VARIABLE RATES?

12

13 A. No it would not.

14

15 Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY?

16

17 A. YES.

18

19

20

21

22

23

24

25