Ex _____ (KRA-T)

BEFORE THE WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

KING COUNTY DEPARTMENT OF PUBLIC WORKS, SOLID WASTE DIVISION, Complainant, vs. SEATTLE DISPOSAL COMPANY, RABANCO, LTD., d/b/a/EASTSIDE DISPOSAL AND CONTAINER HAULING Respondent.	DOCKET NO. TG-940411 TESTIMONY OF KIMBERLY R. ALBERT

Q. WHAT IS YOUR NAME AND BUSINESS ADDRESS?

A. My name is Kimberly R. Albert. My business address is King County Solid Waste Division, Room 600, 400 Yesler Way, Seattle, WA. 98104-2637.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by King County as an Economist with the King County Solid Waste Division (KCSWD). I develop econometric models for the KCSWD and am responsible for preparing the Division's tonnage forecasts.

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Q. HOW LONG HAVE YOU HELD THIS POSITION?

A. Since January of 1993.

Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND.

A. I have a B.A., an M.A., and a Ph.D. in Economics from the University of Washington.

Q. ARE YOU FAMILIAR WITH THE SUBJECT MATTER OF DOCKET NO. TG-940411?

A. Yes, I have reviewed King County's Complaint in this matter as well as King County's Petition for Reconsideration of Docket #TG-931585.

Q. WHAT AREAS WILL YOU ADDRESS IN YOUR TESTIMONY?

A. I will address the residential waste generation model and the relationships observed between variable can rates and household disposal and recycling. I will also address the tonnage forecast model and the impact of recycling on disposal at Cedar Hills landfill.

Q. COULD YOU BRIEFLY SUMMARIZE YOUR TESTIMONY?

A. Yes, the residential waste generation model presents strong evidence that price impacts both recycling and disposal. In addition, the tonnage forecast model demonstrates that

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changes in recycling do impact tonnage disposed at the Cedar Hills landfill.

Q. WHO DEVELOPED THE RESIDENTIAL WASTE GENERATION MODEL AND WHEN?

A. I developed the model over a period of eight months and presented it to the KCSWD in a draft staff report in August of 1993.

Q. WHAT IS THE PURPOSE OF THIS MODEL?

A. The residential waste generation model examines the relationship that different variables have on disposal and recycling in King County. The model was intended to identify differences in recycling and disposal between the suburban cities in King County for 1992.

Q. WHAT DATA DID YOU USE TO DEVELOP THE RESIDENTIAL WASTE GENERATION MODEL?

A. I used 1992 data from the KCSWD monthly hauler reports, which are supplied by the haulers to KCSWD staff. I also used 1992 self haul survey data, which was collected by an engineering consulting firm, SCS Engineering, and by KCSWD staff. See Ex ___ (KRA-1)

Q. WHAT TYPE OF MODEL IS THE RESIDENTIAL WASTE GENERATION MODEL?

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A. The residential waste generation model is an econometric model.

Q. IS THE RESIDENTIAL WASTE GENERATION MODEL CONSTRUCTED FROM A STANDARD TYPE OF ECONOMETRIC MODEL?

A. The econometric methods employed are standard. However, each industry is modeled differently. The variables chosen are based on the information available and the purpose of the model.

Q. HOW DID YOU DETERMINE WHAT VARIABLES ARE IMPORTANT IN DESCRIBING RESIDENTIAL WASTE GENERATION?

A. I picked variables based on their statistical significance and their interaction with other variables in the model. Some variables without statistical significance were included because there were theoretical reasons or there were significant interaction with other variables. See Ex ___ (KRA-1)

Q. IN YOUR OPINION, DOES THIS MODEL ADEQUATELY AND DEFENSIBLY MODEL RESIDENTIAL WASTE GENERATION IN KING COUNTY?

A. Yes, I think it is a good model. The variables and method are clear and reliable.

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Q. IS PRICE INCLUDED AS A VARIABLE IN THE RESIDENTIAL WASTE GENERATION MODEL AND IF SO HOW IS PRICE DEFINED?

A. There are two price variables included, a recycling price and a disposal price. The recycling price variable is defined as the subscription fee that customers pay for curbside recycling service. See Ex ___ (KRA-1) Yard waste service is included in this price also. The disposal price variable is defined as the difference between a one can and two can rate in dollars. See Ex ___ (KRA-1) Within the model, the price variables show if there will be a change in recycling or disposal due to a change price. See Ex ___ (KRA-1)

Q. AS DEFINED WITHIN THE MODEL, DOES PRICE IMPACT DISPOSAL?

A. Within the model, both recycling and disposal change due to a change in price. Both variables are statistically significant. See Ex ___ (KRA-1) Therefore, as defined, price definitely impacts recycling and disposal.

Q. IS THIS CHANGE QUANTIFIABLE?

A. Yes, the model tells us that for every dollar increase in the recycling price there is an estimated .13 pounds/household/day recycling decrease. See Ex ___ (KRA-1) Similarly, for every dollar increase in the disposal price there is an estimated .21 pounds/household/day disposal

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decrease. See Ex ___ (KRA-1) Thus, price measurably impacts recycling and disposal.

Q. TURNING NOW TO THE TONNAGE FORECAST MODEL, WHO DEVELOPED THE MODEL AND WHEN?

A. I developed the model over a period of about eight months and presented the most current results to the KCSWD in April of 1994. The model continues to be updated as we receive additional data on a monthly basis.

Q. WHAT IS THE PURPOSE OF THIS MODEL?

A. Depending on the time frame needed for different projects such as rate studies or landfill life calculations, the tonnage forecast model forecasts solid waste disposal in King County at the Cedar Hills landfill from the present through the required time frame in the future. For landfill life calculations, the time frame is through landfill closure.

Q. WHAT DATA DID YOU USE TO DEVELOP THE TONNAGE FORECAST MODEL?

A. I used KCSWD facility tonnage data from 1977 to 1993. I also included recycling tonnage data, which was estimated by R.W. Beck Engineering Consultants for the period from 1977 to 1987 and for the period from 1988 to 1992 was provided by the Washington State Department of Ecology. See Ex ___ (KRA-2)

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Q. WHAT TYPE OF MODEL IS THE TONNAGE FORECAST MODEL?

A. The tonnage forecast model is an econometric model.

Q. IS THE TONNAGE FORECAST MODEL CONSTRUCTED FROM A STANDARD TYPE OF ECONOMETRIC MODEL?

A. The econometric methods employed are standard. However, each industry is modeled differently. The variables chosen are based on the information available and the purpose of the model.

Q. HOW DID YOU DETERMINE WHAT VARIABLES ARE IMPORTANT IN DESCRIBING TONNAGE DISPOSED?

A. I picked variables based on their statistical significance, their interaction with other variables, and their theoretical importance. In this case, the variables also were restricted by the historical data sets. See Ex ___ (KRA-2)

Q. IN YOUR OPINION, DOES THIS MODEL ADEQUATELY AND DEFENSIBLY MODEL TONNAGE DISPOSED IN KING COUNTY?

A. Yes.

Q. IS RECYCLING INCLUDED IN THE TONNAGE FORECAST MODEL?

A. Yes, there are two equations in the model. One is recycling tonnage, and the other is disposal tonnage. The model

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forecasts both recycling and disposal then adds these together to yield generation. See Ex ___ (KRA-2)

Q. SO IF RECYCLING TONNAGE VARIES, WHAT HAPPENS TO DISPOSAL?

A. The model predicts that changes in recycling definitely impact disposal.

Q. ARE KING COUNTY RECYCLING GOALS ADDRESSED BY THIS MODEL?

A. Yes, the model includes two scenarios, a planned program scenario and a goals based scenario. The planned program scenario forecasts King County tonnage assuming current programs are implemented as planned. See Ex ___ (KRA-2) The goals based scenario forecasts tonnage assuming that King County meets its waste reduction and recycling goals. See Ex ___ (KRA-2) The planned program scenario predicts higher tonnage disposed.

Q. IF KING COUNTY RECYCLING GOALS ARE NOT MET UNDER THE PLANNED PROGRAM SCENARIO AND THERE IS CONSEQUENTLY HIGHER TONNAGE DISPOSED, WHAT HAPPENS TO THE LIFE OF CEDAR HILLS?

A. Based on this scenario, the model predicts that the life of Cedar Hills will be reduced by up to roughly 2.5 years. See Ex ___ (KRA-2)

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Q. ASSUMING NOW THAT THE PLANNED PROGRAM SCENARIO IS PHASED OUT SO THAT RECYCLING PROGRAMS ARE ALSO PHASED OUT, WHAT HAPPENS TO THE LIFE OF CEDAR HILLS?

A. The model does not predict what would happen in this instance. However, the model does clearly show that curbside recycling programs divert approximately 130,000 tons per year from Cedar Hills, which would substantially reduce the landfill life if not diverted. See Ex ___ (KRA-2)

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, this concludes my testimony.

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