ORIGINAL

BEFORE THE
POSTAL RATE COMMISSION
WASHINGTON, D.C. 20268–0001

POSTAL RATE AND FEE CHANGES, 1997

Docket No. R97–1

UNITED STATES POSTAL SERVICE
INTERROGATORIES AND REQUESTS FOR PRODUCTION OF DOCUMENTS TO
UNITED PARCEL SERVICE WITNESS NEELS
(USPS/UPS–ST1—1–3)

Pursuant to rules 25 and 26 of the Rules of Practice and Procedure and rule 2 of the Special Rules of Practice, the United States Postal Service directs the following interrogatories and requests for production of documents to United Parcel Service witness Neels: USPS/UPS–ST1—1–3.

Respectfully submitted,

UNITED STATES POSTAL SERVICE

By its attorneys:

Daniel J. Foucheaux, Jr.
Chief Counsel, Ratemaking

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February 13, 1998

USPS/UPS-ST1-1. Please refer to page 3, lines 6 and 7 of your supplemental testimony.

a. Please confirm that the specification of the equation that you estimated for your supplemental testimony in response to NOI No. 4 is given by:

$$\begin{aligned}\ln HRS = {} & \left[\delta_1 + \delta_2 L\right] \ln TPH + \left[\delta_3 + \delta_4 L\right] (\ln TPH)^2 \\ & + \delta_5 \ln MANR + \delta_6 (\ln MANR)^2 + \delta_7 t_1 + \delta_8 t_1^2 \\ & + \delta_9 t_2 + + \delta_{10} t_2^2 + \delta_{11} [\ln TPH * \ln MANR] \\ & + \delta_{12} [\ln TPH * t_1] + \delta_{13} [\ln TPH * t_2] \\ & + \delta_{14} [\ln MANR * t_1] + \delta_{15} [\ln MANR * t_2] \\ & + \sum_{i-1}^{12} \lambda_i D_i + \varepsilon\end{aligned}$$

Where the variables are defined as in USPS-T-14, the D*j* are seasonal dummies, and the δ and λ are parameters to be estimated.

If you do not confirm, please provide the exact functional form of the equation that you estimated for that supplemental testimony.

b. Please confirm that the "volume variability" or "elasticity" associated with this specification would be found by calculating the derivative of ln HRS with respect to lnTPH and lagged lnTPH. If you do not confirm, please explain in full.

c. Please confirm that this derivative is given by:

$$\frac{\partial \ln HRS}{\partial \ln TPH} = \delta_1 + \delta_2 + 2*[\delta_3 + \delta_4](\ln TPH) + \delta_{11}[\ln MANR] + \delta_{12}[t_1] + \delta_{13}[t_2]$$

If you do not confirm, please provide what you think to be the correct derivative.

d. Please confirm that when the data are "mean centered" that the above derivative reduces to :

$$\frac{\partial \ln HRS}{\partial \ln TPH} = \delta_1 + \delta_2$$

If you do not confirm, please explain why you have used this formula to calculate volume variabilities in both your initial and supplemental testimonies.

e. Please confirm that this mean centered form implicitly assumes evaluation of the regression equation at the global mean. That is, please confirm that the complete form of the derivative of ln HRS with respect to log TPH and lagged log TPH, when the data are mean centered, is given by:

$$\frac{\partial \ln HRS}{\partial \ln TPH} = \delta_1 + \delta_2 + 2*[\delta_3 + \delta_4](\ln TPH - \ln \bar{TPH})$$

$$+ \delta_{11}[\ln MANR - \ln \bar{MANR}]$$

$$+\delta_{12}[t_1 - \bar{t}_1] + \delta_{13}[t_2 - \bar{t}_2],$$

where the "bar" notation signifies the global or overall mean from the data set on which the regression was estimated. If you do not confirm, please provide what you think is the correct complete derivative in this case.

f. Please confirm that one obtains the simplified derivative (that is presented in part d.) by evaluating the complete form of the derivative (that is presented in part e) at the global mean values from the data set on which the regression was estimated:

$$\frac{\partial \ln HRS}{\partial \ln TPH} = \delta_1 + \delta_2 + 2*[\delta_3 + \delta_4](\ln \bar{TPH} - \ln \bar{TPH})$$

$$+ \delta_{11}[\ln \bar{MANR} - \ln \bar{MANR}]$$

$$+\delta_{12}[\bar{t}_1 - \bar{t}_1] + \delta_{13}[\bar{t}_2 - \bar{t}_2]$$

If you do not confirm please provide the mathematics of how the simplified derivative presented in part d is derived from the complete derivative presented in part e.

g. Please confirm that if the complete derivative is evaluated at any point other than the global mean of the data on which the regression equation was estimated, then the simplified form of the derivative (as given in part d.)is not applicable. If you do not confirm please explain how the simplified form of the derivative (as given in part d.) is applicable when evaluating the derivative at points other than the global mean of the data on which the regression equation was estimated.

USPS/UPS-ST1-2. Please refer to page 3, line 6 of your testimony. Please confirm that each of the site-specific regressions estimated for your supplemental testimony were estimated on only the data for that site. If you do not confirm, please explain how the regressions could be site-specific.

USPS/UPS-ST1-3. Please refer to page 2, line 18 of your supplemental testimony.

a. Please confirm that the "mean centering" you performed in estimating the equations for your supplemental testimony was around the global means for the entire data set for each activity, across all sites, and not on a site-specific basis. If you do not confirm, please identify where in your workpapers the site-specific mean centering is performed.

b. Please confirm that the complete form of the derivative of ln HRS with respect to log TPH and lagged log TPH when site specific equations are run on site-specific data that are globally mean centered is given by:

$$\frac{\partial \ln HRS_i}{\partial \ln TPH_i} = \delta_1 + \delta_2 + 2 * [\delta_3 + \delta_4](\ln TPH_i - \ln \overline{TPH})$$

$$+ \delta_{11}[\ln MANR_i - \ln \overline{MANR}]$$

$$+ \delta_{12}[t_{1i} - \overline{t}_1] + \delta_{13}[t_{2i} - \overline{t}_2],$$

where the "bar" notation signifies the global mean from all of the data for an activity (across all sites) and the "i" subscript refers only to the data from site i (the data on which the regression was estimated). If you do not confirm, please provide what you think is the correct complete derivative in this case.

c. Please confirm that the complete derivative, in this case, reduces to the simplified derivative given (by $\delta_1 + \delta_2$) only if the site-specific mean just happens to equal the global mean. If you do not confirm, please provide the mathematics of how the complete derivative reduces to the simplified derivative when the site-specific mean does not equal the global mean.

d. Please confirm that the site-specific means for the sites included in your estimated equation do not equal the global or overall mean. If you do not confirm, please provide a listing of all sites for which the site-specific means equal the global means for the variables in the regression equations.

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon all participants of record in this proceeding in accordance with section 12 of the Rules of Practice.

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