

DOCKET SECTION

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

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POSTAL RATE COMMISSION
OFFICE OF THE SECRETARY

POSTAL RATE AND FEE CHANGES, 1997

Docket No. R97-1

RESPONSE OF UNITED STATES POSTAL SERVICE
WITNESS WADE TO INTERROGATORIES OF
THE OFFICE OF THE CONSUMER ADVOCATE AND
THE MAGAZINE PUBLISHERS ASSOCIATION
(OCA/USPS-T20-1-3, MPA/USPS-T20-7-12, MPA/USPS-T13-1.d)

The United States Postal Service hereby provides responses of witness Wade to the following interrogatories: OCA/USPS-T20-1-3 and MPA/USPS-T20-7-9, filed on September 16, 1997, and MPA/USPS-T20-10-12, and MPA/USPS-T13-1.d (redirected from witness Bradley), filed on September 17, 1997.

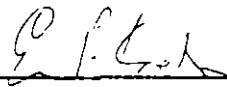
Each interrogatory is stated verbatim and is followed by the response.

Respectfully submitted,

UNITED STATES POSTAL SERVICE

By its attorneys:

Daniel J. Foucheaux, Jr.
Chief Counsel, Ratemaking



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September 30, 1997

**RESPONSE OF USPS WITNESS WADE TO INTERROGATORY FROM THE
OFFICE OF THE CONSUMER ADVOCATE**

OCA/USPS-T20-1. Your workpaper F, pages 1 and 5, indicates that problems with four facility observations and the hours scheduled for spotter activities which were discovered too late to adjust the base year estimate of volume variability on your exhibit 2 would result in an increase in the volume variability of cost segment 8, vehicle service driver (VSD) costs, from 59.86% to 61.18%.

- a. Please confirm that if the higher variability of 61.18% were used the new base year attribution for cost segment 8 used by witness Alexandrovich in his workpaper B-8(w/s 8.1 1, col. 3, note c) would increase from \$245.555 million to \$251.012 million, or \$5,457 million. If not, please explain.
- b. In your opinion, based upon the information now available to you, is the appropriate variability for cost segment 8, vehicle service drivers 61.18%?

Response:

- a. I can confirm the mathematics of this calculation. The base year cost segment 8 costs are \$410.284 million. Multiplying this amount by 0.5986 yields \$245.555 million. If instead 0.6118 is used, the estimate is \$251.012 million.
- b. At the time of preparation of Workpaper F, 61.18% is the estimate I would have proposed had the corrections been made in time for the base year estimate. However, in my opinion, the revision from 59.86% to 61.18% was a minor change that did not constitute a material difference from the base year estimate, especially in view of the 95% confidence interval for the estimate.

Subsequent to the preparation of Workpaper F, I discovered additional data modifications that needed to be made. As discussed in my response to DMA/USPS-T20-2-b, after correcting an apparent load factor transcription error in the data for Facility 47, and then re-estimating the Restricted Translog Model on page 13 of LR-H-261, the volume variability

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estimate becomes 67.11% before adjusting for BMC spotter hours as in Workpaper F,
Exhibit 2 Revised. After adjustment for BMC spotter hours, the estimate would now be
61.35%. Again, I view this as a minor change from the base year estimate.

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OCA/USPS-T20-2. Please refer to your testimony at page 21 discussing "spotter" hours and your exhibit 2.

- a. Please confirm that if your exhibit 2 were revised to reflect the revision of your study to eliminate the problem observations and non-confirmable spotter workhours discussed in the above interrogatory, total spotter costs on exhibit 2 would be \$36,636,916 or 8.93% of the total vehicle service driver costs. If not, please explain.
- b. Your testimony at page 21 states your study assumes that volume variability for spotter workhours is zero. Based upon your observation, experience and intuition following this study, do you believe the variability of spotter workhours to be greater than zero?
- c. Based upon your observation, experience and intuition following your study, please state what you would expect upon full analysis of spotter workhours to be the volume variability to the nearest 10%.
- d. Did you undertake any analysis to determine the variability of spotter costs in your studies? If so, please state what results you obtained and why you did not include the results in your testimony.
- e. Are there any plans to undertake a study of the variability of the spotter costs in the near future?

Response:

- a. Confirmed.
- b. I believe that it is likely that spotter workhour variability is greater than zero. I do not have a basis for concluding how much greater than zero it might be. Therefore, as I stated in my testimony at page 21, lines 18 and 19, zero variability is merely an assumption. I pointed out in footnote 17 how earlier treatments of VSD volume variability had assumed that only load time was volume variable, leaving a much larger block of VSD hours assumed to have zero variability. I proposed the assumption because it was consistent with earlier assumptions of zero variability for blocks of VSD hours and because I viewed developing data which could be used in developing an estimate to be beyond what I could accomplish for this proceeding.

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- c. I do not feel that I am qualified to make such an estimate.
- d. No.
- e. I am not aware of any plans.

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OCA/USPS-T20-3. Please refer to your testimony at pages 19-20 and your workpaper D, page 11 concerning the econometric model 5 which you selected as a basis for your VSD variability recommendation.

- a. Please explain why you used a constant variability of 34% for STOPS which does not vary by facility when you did not use a constant STOPS variability for models 3 and 4 considered in your study (WP-D, pages 7 and 9).
- b. Please explain why you used a different constant STOP variability for model 6 (WP-D, page 6).

Response:

- a. The nature of the general models, Model 3 and Model 4, is to include all potential interactions and second-order terms. By doing so, it would almost always be the case that the estimated variability with respect to all variables would vary by facility. The second-order and interactions between stops and the other two variables, CFM and AVGMPH, were statistically insignificant in Model 4. By removing these statistically insignificant terms, Model 5 would therefore exhibit a constant variability with respect to STOPS.
- b. The interaction and second-order terms of Model 6 were the same as Model 5. Thus, STOPS variability from this model is constant across facilities. It is different from the variability in Model 5, because of the addition of the two variables, AVGDIST and AVGCAP, which had been eliminated earlier. This model was run to ensure that leaving them out did not affect the Model 5 results materially. They were both statistically insignificant (the t-statistics of their estimated coefficients were less than one) when added to Model 5 and this was my basis for preferring Model 5 over Model 6.

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MPA/USPS-T20-7. Please refer to Attachment to Response, MPA/USPS-T20-1(n) where the MVS questionnaire guidance states "COL. C - Estimate the average (most frequent occurrence) truck load for all trip types; Choose between 0%, 25%, 50%, 75%, and 100% of capacity" and your response to MPA/USPS-T20-1(d).

- a. Please confirm that the survey provides no further guidance regarding how to calculate average load factor ("Column C") by trip type and truck type.
- b. Please confirm that the United States Postal Service has not performed a study or an audit to ensure that all facilities used the same method to estimate average load factor by truck type and trip type.

Response:

- a. The written materials certainly provided no further guidance. It is my understanding that in some cases phone contact occurred during follow-up, and it is possible that load factor estimation was discussed.
- b. Confirmed.

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MPA/USPS-T20-8. Please refer to USPS-T-20. Workpaper C, Page 5, Annual Totals Section

- a. Please confirm that the amount in the Hours column of the Annual Totals Section should be equal to the amount in the Week Day Hours column plus the amount in the Saturday Hours column.
- b. Please confirm that, for the Form 4533 example shown on Page 5 of workpaper C, the amount in the Hours column is not equal to the amount in the Week Day Hours column plus the amount in the Saturday Hours column.
- c. Please describe the United States Postal Service's general process for checking the quality of data entered into Form 4533.
- d. For the Vehicle Service Driver Study did you perform any additional quality checks on Form 4533 data to ensure there were no errors? If so, what were your rules for determining errors in Form 4533 data and how did you perform such checks?

Response:

- a. Confirmed.
- b. Confirmed.
- c. As far as I know, the USPS has no general process for checking the quality of data entered into Form 4533. To the best of my knowledge, these forms are used by local management for managing VSD operations. Therefore, in order for the information to be useful, there is a local incentive for accuracy.
- d. I did not perform any quality checks on the data entered on Form 4533.

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MPA/USPS-T20-9. Please refer to USPS-T-20, Workpaper C, Page 5 and USPS-T-20, Workpaper A, Page 1.

- a. Can a single route include multiple trip types?
- b. Can a single route include multiple truck types?

Response:

- a. Yes
- b. Yes.

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MPA/USPS-T20-10. Please refer to Exhibit 2, Derivation of Overall LDC 34 volume variability, of your direct testimony where you derive a volume variability for LDC 34 of 59.86 percent and Appendix F, Exhibit 2 Revised or your direct testimony where you derive a volume variability for LDC 34 of 61.18 percent.

- a. Please confirm that the volume variability for Vehicle Service Drivers developed in your direct testimony was 59.86 percent and that this volume variability was based on a volume variability estimate for plants of 65.45 percent. If not confirmed, please explain fully.
- b. Please confirm that the volume variability for vehicle Service Drivers developed in Appendix F of your testimony was 61.18 percent and that this volume variability was based on a volume variability estimate for plants of 66.92 percent. If not confirmed, please explain fully.
- c. Please derive the volume variability for LDC 34 based on a volume variability estimate for plants of 64.77 percent. Please revise Exhibit 2 to reflect this volume variability estimate.
- d. Please confirm that the volume variability for LDC 34 based on a volume variability estimate for plants of 64.77 percent is more accurate than the volume variability estimates in parts a. and b. If not confirmed, please explain.
- e. Please confirm that the volume variability for LDC 34 based on a volume variability estimate for plants of 64.77 percent should be used to estimate volume-variable costs for Cost Segment 8 Vehicle Service Drivers. If not confirmed, please explain fully.

Response:

- a. Confirmed.
- b. Confirmed.
- c. The revised volume variability is 59.21%.

**Exhibit 2. Derivation of Overall LDC 34 Volume Variability
Revised for LR-H-261**

	<u>LDC 34 Total</u>		<u>BMCs</u>		<u>Plants</u>	
	Accrued Costs	Variability	Accrued Costs	Variability	Accrued Costs	Variability
Total	\$410,283,643		\$41,707,379		\$368,576,264	64.77%
Non-Spotter	\$373,646,727	65.02%	\$6,466,078	65.0%	\$367,180,649	65.02%
		91.07%		15.50%		99.62%
Spotter	\$36,636,916	0.00%	\$35,241,301	0.0%	\$1,395,615	0.00%
		8.93%		84.50%		0.38%
Weighted Average		59.21%		10.1%		64.77%

Sources: BMC and Spotter Shares, Workpaper E; Accrued Costs Library Reference H-9, revised plant variability estimate, Workpaper D.

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- d. I would characterize the estimate from part c. as the more reliable and preferred estimate, but not significantly different from the variability in the original testimony. As far as whether it is more accurate, since the “true” volume variability is unknown, I can not say. Based on this model, the 95 percent confidence interval for volume variability is between 53.6 and 76.0 percent. That means that if additional random samples were drawn from the same underlying population having the same structural relationships as this sample, then, on average, 95 percent of samples would produce estimates of volume variability between 53.6 and 76.0 percent.
- e. In responding to DMA/USPS-T20-2-b, an apparent load factor transcription error was discovered in the data for Facility 47. Correcting the error and re-estimating the model from LR-H-261 yields a plant variability for vehicle service drivers of 67.11%. The overall variability from this model is 61.35%. I view this as the preferred estimate of volume variability.

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MPA/USPS-T20-11. Please refer to LR-H-261, Page 2, Lines 14 through 16 where you state: "There were also some additional instances where I noticed that something in the data needed potential correcting (a missing trip indicator or mis-matched vehicle capacity). For seven facilities, I made adjustments to the data where needed."

- a. For each facility where you made a correction please describe how you determined that there was a mistake.
- b. For each facility where you made a correction, please describe how you knew the correct answer.

Response:

Parts a and b are answered together by facility and correction made.

Facility 5: The data for one route which was a tractor-trailer route was listed with a capacity of 0, but also reported a daily mileage of 25. If capacity is 0, CFM will compute as zero. I checked the Form 4533 for this route and determined that the route did service stops with a tractor trailer, so I added a capacity of 2300 representing a tractor trailer.

Facility 32: CFM was not computed for what appeared to be a valid route. Upon checking further, I found that this was the only route for this facility with a vehicle capacity listed as 750 cubic feet (5-ton). The survey form did not indicate that any of the 113 routes had a capacity equivalent to a 5-ton truck, and the spreadsheet calculations for such a case will produce a zero CFM value. On the other hand, 40 of the routes reported vehicle capacities of 875 cubic feet (7-ton). I adjusted the capacity for the route in question to 875 (the closest in capacity to a 5-ton truck reported on the survey form) so that CFM would be calculated.

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Facility 38: CFM was not computed for what appeared to be a valid route. Upon checking further, I found that this route listed zero trips. Upon checking the Form 4533, I found that the route should have been reported as having a single trip instead of zero.

Facility 54: CFM was not computed for what appeared to be several valid routes. Upon checking further, I found that there were 11 routes listed with a vehicle capacity of 750 cubic feet (5-ton truck). The survey form did not indicate any of the routes with a vehicle capacity equivalent to a 5-ton truck, and the spreadsheet calculations in such cases will produce a zero CFM values. On the other hand, the survey did report the use of 7-ton trucks. I therefore adjusted the capacity for these 11 routes to 875 cubic feet (the closest in capacity to a 5-ton truck reported on the survey form) so that CFM would be calculated. I also noticed that one additional route was listed as both a multi-vehicle route and a single-vehicle route. The other route data were consistent with a single-vehicle route so I removed the ambiguous multi-vehicle flag for the route.

Facility 60: I noticed that total time block times in column FI of Facility 60's spreadsheet exceeded the route time listed in the spreadsheet in column EG (from Form 4533) for two routes. Both of these routes are 4-hour routes, but the time blocks added to 4.8 hours. The corrections were made by reviewing the Form 4533 data for the two routes. I also noticed that there were route data for two routes in rows 73 and 74 of the spreadsheet, but which did

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not have calculations carried completely through the spreadsheet. I merely copied the appropriate formula cells to these rows to make the corrections.

Facility 61: As for two of the routes for Facility 60, I noticed that the total time listed for one route was 8.1 hours. I reviewed the Form 4533 and corrected the data in the time blocks.

Facility 88: I noticed that CFM was not computed for a route with otherwise complete data. The vehicle capacity was entered as 1025 cubic feet, the capacity of a 7/9 or 9-ton truck. Since no trucks were listed on the survey form for this capacity, I adjusted the truck capacity to 7-ton (or 875 cubic feet), the closest reported truck capacity on the survey. I also noticed that another route was listed as both single-vehicle and multi-vehicle. As for Facility 54 the other route data were consistent with this as a single-vehicle route, so the multi-vehicle flag was removed. I also noticed that a route listed as a multi-vehicle route split between a 2-ton and a 5-ton truck had spotter time listed instead of time in the 2-ton truck. I made this correction by moving the time block into the 2-ton area from the spotter area.

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MPA/USPS-T20-12. Please refer to LR-H-261, Page 2 where it states; "The implicit assumption in the spreadsheets was that none of on-call time would be driving time."

- a. Please list all "implicit assumptions" underlying the calculation of variables used in your regressions.
- b. Please confirm that "implicit assumptions" reduce the precision of your estimates of the variables used in your regressions.
- c. Is it possible that the "implicit assumptions" used to calculate the variables used in your regressions bias any of the variables upward? Please explain fully.
- d. Is it possible that the "implicit assumptions" used to calculate the variables used in your regressions bias any of the variables downward? Please explain fully.

Response:

- a. The implicit assumptions that I can identify are:
 1. the respondent to the VSD survey form was knowledgeable enough to provide meaningful estimates for the facility,
 2. that respondents to the VSD survey had no biases in reporting estimates or had any incentive to provide other than their best estimates,
 3. that estimates of load factors by knowledgeable personnel (as opposed to direct measurements over the course of the year) would be sufficiently accurate,
 4. the average statistics for the facility reported on the survey form can be appropriately applied to individual route statistics from Form 4533,
 5. that when a driver's route uses more than one vehicle, that times allotted to each vehicle can be used to apportion mileage,
 6. that routes of a particular type not scheduled with Form 4533 have characteristics similar to those scheduled using the form,

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7. that the number of unique stops provides an adequate characterization of the network serviced by VSD, and
 8. that the average driving speed as measured from routes reporting individual stop time (loading time) and time between stops (driving time) on Form 4533 is a reasonably accurate measure for the routes where such data are not available (i.e., where routes are not scheduled with form 4533, or for routes which have blocks of time listed as "on-call" or "report to supervisor" time, where they may cover varying points as requested by a dispatcher).
-
- b. Confirmed. In general, any assumptions made in developing the concepts used in the regression models will reduce the precision of the concepts relative to a more direct measurement of the concepts.
 - c. While it is possible that the implicit assumptions could bias the calculation of a particular variable, I can think of no specific implications of the implicit assumptions that would bias the estimates of individual concepts upward.
 - d. While it is possible that the implicit assumptions could bias the calculation of a particular variable, I can think of no specific implications of the implicit assumptions that would bias the estimates of individual concepts downward.

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REDIRECTED FROM WITNESS BRADLEY**

MPA/USPS-T13-1

- d. Please confirm that in his study of the volume-variability of vehicle service driver costs, witness Wade's analysis relies on the estimated actual volume of mail on a route (see his Workpaper C at page 2, lines 16-17). If you do not confirm, please explain.

Response:

Confirmed.

DECLARATION

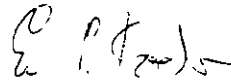
I declare under penalty of perjury that the foregoing answers are true and correct to the best of my knowledge, information, and belief.

Date: 7-30-97

Stu M. White

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.



Eric P. Koetting

475 L'Enfant Plaza West, S.W.
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September 30, 1997