

**BEFORE THE
POSTAL RATE COMMISSION**

POSTAL RATE AND FEE CHANGES, 2006

DOCKET NO. R2006-1

**RESPONSES OF UNITED PARCEL SERVICE WITNESS NEELS
TO INTERROGATORIES OF UNITED STATES POSTAL SERVICE
(USPS/UPS-T1-1 through 5)
(September 27, 2006)**

Pursuant to the Commission's Rules of Practice, United Parcel Service hereby files the responses of UPS witness Kevin Neels to the following interrogatories of the United States Postal Service: USPS/UPS-T1-1 through 5.

Respectfully submitted,

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USPS/UPS-T1-1. Please refer to your testimony at page 12, lines 7-9. Please also refer to USPS-T-12 at page 46, lines 6-13, where Dr. Bozzo states:

In the CRA, A is estimated (as shares of handlings by subclass, i.e., distribution keys) from In-Office Cost System (IOCS) data. The process makes use of the most widely-known function of IOCS: producing estimates of proportions of handlings of the subclasses of mail (see also USPS-T-46, Section II.B.1). It is important to note that the IOCS-based distribution key analysis is updated annually with the current year's IOCS sample data, as are the calculations of total labor costs by operation and (potentially) the variabilities. [Footnotes omitted.]

Do you disagree with Dr. Bozzo's characterization of the CRA methods? If so, please state the basis for your disagreement.

Response:

I disagree with parts of Dr. Bozzo's characterization, and agree with other parts.

I disagree that the matrix A is estimated from In-Office Cost System data. As I understand it, the IOCS measures the subclass composition of the mail stream at different stages of processing. I am unaware of any aspect of the IOCS that tracks an individual mail piece and counts the number of handlings that it receives as it passes through the various processing operations. I agree that the most widely-known function of IOCS is to produce estimates of the proportions of costs attributable to the various subclasses of mail. I agree that the IOCS-based distribution key analysis and the calculations of total labor costs by operation are updated in every general rate case. I do not know whether they are updated in other years.

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USPS/UPS-T1-2. Please refer to your testimony at page 12, lines 3-4. Please also refer to USPS-T-12 at page 26, lines 10-21. For each of the sorting operation activities listed by Dr. Bozzo (runtime, quasi-allied labor, setup and take-down, waiting for mail, “overhead” activities, and other not-handling activities), please provide your operational explanation why each would (or should) depend on volumes of mail other than the piece handlings of mail processed within the cost pool for a sorting operation. If you have no operational explanation(s) in any case, please so indicate.

Response:

This interrogatory requests information in six areas. I have organized my responses accordingly.

a) Runtime.

The primary manner in which the number of piece handlings in one MODS pool might influence runtime in another is by altering the composition and characteristics of the mail stream in the latter pool. In Dr. Bradley’s Docket No. R-97 mail processing testimony this possibility was recognized explicitly by the inclusion in his variability models of the “manual ratio” variable.¹ The same variable appears in Dr. Bozzo’s Docket No. R-2000-1 mail processing variability models.² In Docket No. R-2001-1, Dr. Bozzo dropped the manual ratio from his models for automated and mechanized operations, but retained it in his models for manual letter and flats processing.³

Evidence presented in my testimony in this proceeding indicates that the installation of AFSM100 machines altered the cost structure of the Manual Flats and

¹ Docket No. R97-1, USPS-T-14, pp. 16-17.

² Docket No. R2000-1, USPS-T-15, pp. 116-17.

³ Docket No. R2001-1, USPS-T-14, pp. 47-49.

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FSM1000 cost pools, indicating that effects such as those modeled by Drs. Bradley and Bozzo persist to this day.

b) Quasi-Allied Labor

Dr. Bozzo has indicated in his direct testimony that he uses this term to refer to “activities, particularly moving mail and equipment into and out of the operations, that are similar to LDC 17 allied labor operations but which are carried out by employees clocked into the sorting operation.”⁴ I would expect the amount of time required for such activities to be sensitive to the overall degree of crowding and congestion at the plant (since Dr. Bozzo’s definition implies that these activities take employees outside of the area of the sorting operation and into the plant at large). For this reason, time devoted to quasi-allied activities for a specific sorting operation could be expected to be sensitive to the overall level of activity at the plant.

c) Setup and Take-Down

As an example, see the testimony of Witness McCrery in which he describes a situation in which small volumes of flats will be processed manually when the volume does not justify setting up and sweeping a scheme.⁵ In this case, the volume processed manually affects the setup and take-down time for the alternative automated operation.

d) Waiting for Mail

⁴ USPS-T-12, p. 29.

⁵ USPS-T-42, p. 19, lines 28-30.

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Time spent waiting for mail should depend in part on when mail arrives at the plant. Given a set of arrival times at the plant, however, time spent within a particular sorting operation waiting for mail should also depend upon how long it takes employees clocked into allied operations to open containers, separate mail, and deliver it to the direct sorting operations. That time, in turn, will depend upon the overall volume of mail to be opened, separated and delivered.

e) "Overhead" Activities

The answer to this question depends upon where the line is drawn between the overhead associated with a particular sorting operation and the overhead associated with the plant as a whole. In general, I would expect the time and cost required for coordination, scheduling, staffing and other overhead activities to increase with increases in the number of separate activities to be coordinated, and with increases in overall capacity utilization, broadly defined. However, I do not know enough about clocking practices within MODS plants to be able to say with reasonable certainty what portion of such cost increases would be recorded as increased overhead for MODS sorting operations, and what portion would be recorded as increased overhead time in other plant level accounts.

f) Other Not Handling

In USPS-T-12, Dr. Bozzo discusses this category in connection with "Waiting for Mail." This part of the interrogatory therefore draws a distinction not present in the

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portion of Dr. Bozzo's testimony to which it refers. Assuming that this distinction is deliberate and not inadvertent, I will attempt to respond. Since "Other Not Handling" time is a residual category that could cover a large number of different types of situations, it could be influenced in a number of different ways by the volume of mail being processed in other activities. To give one possible example, a mechanical problem with the sorting equipment could force the assigned staff to wait until a repairman comes to correct the problem. How long they would have to wait would depend how busy the repairman was responding to problems at other operations.

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USPS/UPS-T1-3. Please refer to your testimony at page 13, lines 14, to page 14, line 10.

a. Please confirm that, for an econometric analysis using MODS workhours at some level of operational disaggregation (whether or not the Postal Service cost pools) as the dependent variable, “misclocking” introduces an error to the dependent variable. If you do not confirm, please explain.

b. Please confirm that if “misclocking” adds a random error term with mean zero to the dependent variable of an econometric analysis of MODS workhours, the statistical consistency properties of OLS, GLS, and/or instrumental variables (IV) estimators normally is unaffected by the introduction of the error. If you do not confirm, please explain.

c. Please confirm that if “misclocking” adds a random error term with nonzero mean to the dependent variable of an econometric analysis of MODS workhours, the statistical consistency of OLS, GLS, and/or IV estimators normally is only affected to the extent that various regressors (e.g., overall intercept, site-specific intercepts, quarterly dummy variables, trend variables) fail to control for the systematic component of the “misclocking.” If you do not confirm, please explain.

Response:

a. Confirmed.

b. Partially confirmed. The statistical consistency properties of OLS, GLS, and/or instrumental variables (IV) estimators remain unaffected by the addition to the dependent variable of a random error with mean zero in the dependent variable *only if the measurement error in the dependent variable is statistically independent of the explanatory variables.*

If the measurement error is correlated with the explanatory variables, consistency of the OLS, GLS, and/or instrumental variables (IV) estimators will be adversely

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affected. Consider, for example, a simple OLS regression of MODS hours on volume and other control variables:

$$H^* = \beta_o + B_1 Volume + \dots + B_k X_k + u \quad (1)$$

Where u has zero mean and is uncorrelated with the explanatory variables and

H^* represents the actual hours. However, due to the misclocking argument, observed hours H differs from H^*

$$\text{Misclocking error is } e_0 = H - H^*$$

Rearranging the equation (1) gives:

$$H = \beta_o + B_1 Volume + \dots + B_k X_k + u + e_0 \quad (2)$$

or:

$$H = \beta_o + B_1 Volume + \dots + B_k X_k + v \quad (3)$$

From equations (2) and (3), if $Cov(Volume, e_0) \neq 0$, then $Cov(Volume, v) \neq 0$

In that case, asymptotic bias (inconsistency) in $\hat{\beta}_1$, the OLS estimator, will be given by:

$$plim \hat{\beta}_1 - \beta_1 = Cov(Volume, v) / Var(Volume) \quad (4)$$

c. Not confirmed. If misclocking adds a random error with nonzero mean to the dependent variable in an econometric analysis of MODS workhours, its effect on the

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consistency properties of OLS, GLS, and/or instrumental variables (IV) estimators will depend upon whether or not it is correlated with the explanatory variables. See response to USPS/UPS-T1-3(b), above. Assuming that the independence conditions set forth there are met, adding a random error with nonzero mean to the dependent variable in an econometric analysis of MODS workhours introduces a bias into the estimator of the intercept term (See Wooldridge, *Econometric Analysis of Cross Section and Panel Data*, page 71). Consequently, such misclocking would introduce biases into the estimators of the various intercept terms in the model (e.g. overall intercept, site-specific intercepts, quarterly dummy variables, etc.).

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USPS/UPS-T1-4. Please refer to your testimony at page 14, lines 7-8. You characterize it as “surprising” that \$537.6 million in cost was “transferred from Mail Processing to Administration” in BY 2000. Please also refer to USPS-LR-L-9, file “IOCSDataEntryFlowchartFY05.xls, “Q18” tab.

a. Please refer to PRC Op., Docket No. R97-1, ¶3140. Please confirm that the “transfer” is performed to “apportion Segment 3 costs according to the established method” prior to Docket No. R97-1, as recommended by UPS witness Sellick in that proceeding. If you do not confirm, please explain.

b. Please refer to Docket No. R97-1, Tr. 26/14222. Please confirm that, at the time, UPS witness Sellick testified that he did not study the appropriate classification of the transferred (or “migrated”) costs, and that the Postal Service’s approach in Docket No. R97-1 may have been reasonable. If you do not confirm, please explain.

c. Please confirm that in question 18B, “Operational Area,” the parenthetical description of option ‘I’, “Administrative,” is “Including Claims and Inquiry Work, Personnel & Time & Attendance Work, Accounting & Auditing Work, Data Collection & Processing Activities, Procurement, Training, Quality Control/Revenue Protection, General Office Work, Union Business.” If you do not confirm, please explain.

d. Is it “surprising” that mail processing plants would incur costs for some or all of the activities listed in part a? Please explain.

e. To the extent that “administrative” costs incurred at mail processing plants (NOT post offices, stations, branches, or headquarters units) are volume-variable, is it better to treat such costs as representing administration of mail processing activities or as general administration of the Postal Service? Please explain.

Response:

a. Partly confirmed. The Opinion and Recommended Decision from Docket No. R97-1 states that the Commission performs the apportionment for the purpose stated and in the manner demonstrated by Witness Sellick, but I have not inspected the calculations myself to confirm that this is the case.

b. Partly confirmed. Witness Sellick stated that it *may* be reasonable to distribute a certain type of administrative costs, those that are related to a specific mail

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processing operation, in proportion to the subclasses of mail processed in that operation. But he demurred that he had not examined that issue.

c. Confirmed.

d. Assuming you meant part (c) rather than part (a), it is not surprising that administrative costs would be incurred at mail processing plants. What is surprising is that for such a large portion of the time, workers found to be performing those administrative tasks were clocked into mail processing MODS codes, rather than administrative MODS codes. In short, I was surprised at the prevalence of conflicts between MODS and IOCS. Below is the full passage from the Commission's Docket No. R2000-1 Opinion and Recommended Decision on this point.

For MODS offices, the Postal Service again proposes to apportion Segment 3 costs to components according to the MODS record of the activity an employee was clocked into even where it conflicts with the activity that the IOCS data collector actually observed being performed. Resolving all conflicts in favor of MODS data would cause \$72.2 million of IOCS-defined Window Service and \$537.6 million of IOCS-defined Administration costs, to "migrate" to the Mail Processing component. PRC LR-5, CS 3.0 Worksheet 3.01a.

[¶ 3007].

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e. To the extent that “administrative” costs incurred in mail processing plants are volume-variable, my primary concern would be to assure that their variability is accurately measured, and that they are attributed to the mail classes that cause them. I would support whatever treatment could best achieve those primary goals.

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USPS/UPS-T1-5. Please refer to the econometric analysis presented in Section 6 of your testimony.

a. Please provide, in notation similar to Section IV.D. of USPS-T-12, the estimating equation(s) you used in your analysis.

b. Did you explore any alternative model(s) or specification(s) in addition to those provided in Section 6 and/or whose estimating equation(s) are provided in response to part a? If so, for each alternative model or specification, please describe the alternative model or specification, indicate the difference(s) between the alternative and the analysis you present in Section 6, and provide a statement of the reasons for rejecting that alternative.

Response:

a. The estimating equation used in my analysis took the following form:

$$\ln H_{it} = \beta_1 T + \beta_2 \ln D_{it} + \beta_3 \ln V_{lit} + \beta_4 \ln V_{fit} + \beta_5 \ln V_{pit} + \gamma_i + e_{it} \quad (5)$$

where:

H_{it} is the number of labor hours (summed across all of the MODS operations examined by Dr. Bozzo) in plant i during period t .

T is a time trend variable.

D_{it} is the number of delivery points in the territory of plant i during period t .

V_{lit} is the number of letter-shaped first handling pieces for plant i during period t .

V_{fit} is the number of flat-shaped first handling pieces for plant i during period t .

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V_{pit} is the number of parcel-shaped first handling pieces for plant i during period t .

γ_i is the estimated fixed effect for plant i .

e_{it} is a random error term.

b. In addition to the model depicted above in equation (5), I investigated three alternative specifications.

First, I considered shape level versions of the model shown in equation (5). In these versions I took as the dependent variable the total labor hours summed across all of the MODS operations dealing with that specific shape. I included as the sole cost driver the number of first handling pieces for that shape. I regarded the plant level results provided by the equation shown above as superior for the reasons set forth in my direct testimony on pages 49-50.

Second, I considered a version of equation (5) in which Priority Mail first handling pieces appeared as a separate fourth cost driver. Results produced by this version closely resembled those produced by equation (5). I selected equation (5) because it sought to estimate fewer parameters from the data.

Finally, I investigated the use of shape-level RPW volumes as cost drivers in a model otherwise identical to that shown in equation (5). I rejected these results because of concerns about the precision of the RPW data. The Postal Service had warned that at high levels of geographic and/or subclass detail they may be subject to

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high sampling variability (See response to UPS/USPS-T12-14(c) (Tr. 10/2605)).

Inspection of the raw data suggested that such concerns were well-founded.