

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 MODEN TO INTERROGATORY OF  
THE OFFICE OF THE CONSUMER ADVOCATE  
(OCA/USPS-T4-9, 10(A), (C-PART), 11, 12, 13(A), 14-16(A), (B), (D), & 17)

The United States Postal Service hereby provides the response of witness Moden to the following interrogatory of the Office of the Consumer Advocate: OCA/USPS-T4-9, 10(a), (c-part), 11, 12, 13(a), 14, 15, 16(a), (b), (d), and 17, filed on September 3, 1997. Interrogatories OCA/USPS-T4-10(b), (c-part), 13(b) were redirected to witness Bradley and interrogatory OCA/USPS-T4-16(c) was redirected to witness Degen.

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

Respectfully submitted,

UNITED STATES POSTAL SERVICE

By its attorneys:

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OCA/USPS-T4-9. Please refer to the description of MODS beginning at page 15 of your testimony.

- a. Please confirm that MODS is not a sampling system. If you confirm, please confirm that MODS estimates are not subject to sampling error. If you do not confirm, please describe in detail the sampling plan and estimation procedures used for MODS.
- b. Please confirm that MODS data are subject to nonsampling error. If you confirm, please describe the types of nonsampling error affecting MODS data and provide any studies relating to the magnitude of this nonsampling error. If you do not confirm, please provide any studies or documents used to establish the absence of nonsampling error.
- c. Please provide a comparison of nonsampling error for MODS relative to nonsampling error in the major statistical sampling systems (IOCS, RPW, TRACS, and the City/Rural Carrier Systems).

**RESPONSE:**

- a. Confirmed. MODS is not a sampling system and as such is not subject to sampling error.
- b. Confirmed that MODS is subject to non-sampling error. The MODS data in general are subject to error associated with the entry of the data or malfunctions of the communications between systems. For MODS workhour quantities, these should be minimal because the MODS workhours are derived from the payroll system. However, at the three-digit operation level, MODS hours data may be recorded against the wrong operation because workers may be clocked into an operation different from the one in which they are actually working. The MODS TPH data are subject to non-sampling error from conversion factors used to estimate TPH from weight, container counts, or feet of mail in manual operations. The only studies of non-sampling errors of which I am aware are library references H-220 and H-236. These studies are of limited relevance. H-220 discusses FHP while TPH is used in

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this case. H-236 involves only 25 facilities, possibly selected to maximize the chance of finding problems. For example, just one of these facilities -- Baltimore, a multi-floor facility served by elevators -- accounted for over a third of instances where personnel were clocked into allied operations but working elsewhere.

- c. I am not able to compare non-sampling errors for MODS to other major data systems because I am not aware of any studies related to non-sampling error other than those mentioned in part b above. MODS data is important in operations management. In my experience, field personnel exercise considerable care to ensure accuracy and, I have been told, witness Bradley's models suggest that the data set is indeed accurate.

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OCA/USPS-T4-10. Please refer to page 2 of the December 1996 National Coordination Audit of Mail Volume Measurement and Reporting Systems, included in library reference H-220. This states:

Our audit of MODS scale transactions at 20 P&DSs revealed large variances between the mail pieces projected from MODS and actual pieces run for FHP volume. MODS low level of accuracy as an indicator of mail volume resulted from inadequate conversion factors, improper data input by employees, and scales out of tolerance. Management's lack of confidence in daily MODS data diminished the usefulness of the MODS system as a management tool. We recommended the elimination of the MODS scale weight system for volume data collection.

- a. Would the types of errors summarized in this National Coordination Audit be considered as nonsampling errors? Please explain.
- b. Please confirm that the MODS data used by witness Bradley to develop cost pool variability estimates relied on data subject to the problems noted above. If you do not confirm, please explain all steps taken to remove inaccuracies from the historical MODS data used by witness Bradley.
- c. If management lacks confidence in MODS data, then how can confidence be placed in the use of MODS data to develop cost pool variability estimates? Please explain.
- d. Over the past nine fiscal years, has the level of management confidence in MODS data increased or decreased? Please provide any documents or studies related to your response.
- e. Over the past nine fiscal years, has the overall level of reliability of MODS data increased or decreased? Please provide any documents or studies related to your response.
- f. The Postal Inspection Service conducted this audit at 20 MODS sites. These sites are listed on page 4 of the audit report. Please explain whether the sites chosen by the Postal Inspection Service are representative of activities at other MODS sites.

**RESPONSE:**

- a. Yes. MODS is not a sampling system so that any error would, of necessity, be a non-sampling error.
- b. Redirected to witness Bradley.
- c. MODS is a key operational data system for the USPS and the data is used by all levels of operational management. Therefore I do not agree that management lacks

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confidence in the data. The fact that the Inspection Service chose to conduct a major field audit is, in my estimation, evidence of the system's importance and management's reliance on it. The remainder of this question is redirected to witness Bradley.

- d. I have not noticed any significant change in management's confidence in MODS data over the last 9 years. I am not aware of any documentation other than library references H-220 and H-236.
- e. I am not aware of any studies of the overall reliability of MODS data other than those I have referenced above in my answer to part d. Although the MOD system includes data in addition to hours and TPH, I understand that the testimonies of witnesses Bradley and Degen only rely on these two variables. Hours data have been based on the same clocking system that is used for payroll for the entire nine-year period. I am not aware of any changes in clocking reliability over the period. The TPH data are primarily based on machine counts. There has been an increase in the use of machine counts over this period due to increased automation, which would improve the overall reliability of workload data. I understand that incorrect but consistent conversion factors in non-machine operations would preserve the pattern that the econometric model seeks to estimate.
- f. The "activities" performed at those sites are generally representative of the activities performed at other MODS sites. There may, however, be specific differences depending on a particular site's network responsibilities. For example, some sites are ADCs, AADCs, or concentration centers while others do not perform those functions.

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OCA/USPS-T4-11. Please refer to page 8 of the December 1996 National Coordination Audit of Mail Volume Measurement and Reporting Systems, included in library reference H-220. This states:

Observations at all 20 sites were made to determine the methods used by employees weighing mail into the SWS. Our review disclosed a number of inconsistencies regarding the application of tare weights at over half the sites audited.

- a. Please describe the various possible (correct and incorrect) applications of "tare weights" in the mail weighing process.
- b. Over the nine fiscal years' worth of MODS data used by witness Bradley to produce cost pool variabilities, has the proportion of MODS sites that improperly use tare weight data increased or decreased? Please explain and provide any documents or studies related to your response.

**RESPONSE:**

- a. Tare weights are the weights of the containers themselves that must be subtracted from the total weight when mail is weighed in a container. I assume that correct application of tare weights means subtracting the correct tare weight and incorrect application means subtracting the incorrect tare weight or not subtracting the tare weight at all.
- b. I am not aware of any studies of the application of tare weights upon which an answer could be based.

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OCA/USPS-T4-12. Please refer to page 8 of the December 1996 National Coordination Audit of Mail Volume Measurement and Reporting Systems, included in library reference H-220. This states that at one of the 20 audited sites, the Scale Weight System (SWS) was not used to determine FHP volumes. Instead, FHP volumes were computed by counting the number of trays and multiplying by 534 pieces.

- a. Please confirm that this procedure overstates FHP volume by 66 percent. If you do not confirm, please explain.
- b. Please provide an estimate of the number of MODS sites that currently use this procedure (i.e., multiplying by 534). Please provide any documents or studies related to your response. If the answer is not known, then please confirm that the best available information is that one in twenty sites uses this procedure.
- c. Over the nine fiscal years' worth of MODS data used by witness Bradley to produce cost pool variabilities, has the proportion of MODS sites that use this procedure (i.e., multiplying by 534 instead of using SWS) increased or decreased? Please explain and provide any documents or studies related to your response.

**RESPONSE:**

- a. I can confirm that the audit found, for that one site on that one day, the site's improper procedure overstated FHP by 66%.
- b. It is impossible to generalize from an anecdote regarding a single facility and I am not aware of any other studies related to this response. In my judgment, the procedure is rare and, indeed, was highlighted in the audit report because it is so unusual.
- c. I am not aware of any information regarding changes in the number of sites that use the described method over the nine-year period.

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OCA/USPS-T4-13. Please refer to page 8 of the December 1996 National Coordination Audit of Mail Volume Measurement and Reporting Systems, included in library reference H-220. This states that plant productivity based on actual machine count data would be more reliable than First Handling Piece (FHP) data. Management indicated that a Last Handling Piece (LHP) indicator could be an alternative to FHP.

- a. Please provide copies of any studies or documents related to the choice of FHP over LHP or actual machine count data.
- b. Please confirm that FHP was used in each of the nine fiscal years of MODS data that witness Bradley uses to estimate variabilities. If you do not confirm, please list how volumes were determined for each of those nine years.

**RESPONSE:**

- a. The interest in LHP reported in the audit was apparently stated by a field manager.

I am not aware of any serious consideration of LHP in Headquarters, nor of any studies or documents relating to the choice of FHP over LHP.

- b. Redirected to witness Bradley.



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OCA/USPS-T4-14. Please refer to page 9 of the December 1996 National Coordination Audit of Mail Volume Measurement and Reporting Systems, included in library reference H-220. This states, "The conversion rates listed in the MODS Handbook, M-32, have not been updated since the 1980's."

- a. Please state the year that the M-32 conversion rates were last updated.
- b. Please confirm that to the extent that mail composition and density changes over time, the most accurate volumes would be computed from the M-32 conversion factors in the year they were updated and that use of dated conversion factors would reduce the accuracy of computed volumes in each subsequent year. If you do not confirm, please explain.

**RESPONSE:**

- a. I am informed they were last updated in 1986.
- b. I can confirm that to the extent that mail composition and density change over time, the most accurate volumes at a national level would be computed from the M-32 national conversion factors in the year they were updated. However, accuracy need not decline in each subsequent year if composition and density shift back towards the base year. Also, changes in mail composition and density at any one facility could move their composition and density closer to the base year national average, thus improving accuracy at that facility.

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OCA/USPS-T4-15. Please refer to page 2 of the December 1996 National Coordination Audit of Allied Workhours contained in library reference H-236. This report states, "The lack of supervisory control and review of employee clockings resulted in improperly charged workhours to LDC 17. Our review disclosed Management Operating Data System (MODS) workhours reported for opening unit operations were in error approximately 31 percent of the time."

- a. Would these workhour reporting errors be considered as an example of nonsampling error for MODS? Please explain.
- b. This audit examined opening unit operations at the 25 P&DCs listed in Exhibit 1 of the report. Please explain whether the sites chosen by the Postal Inspection Service are representative of activities at other MODS sites.
- c. Over the nine fiscal years' worth of MODS data used by witness Bradley to produce cost pool variabilities, has the error rate in recording workhours increased to the 31 percent level or decreased to that level? Please explain and provide any documents or studies related to your response.

**RESPONSE:**

- a. Yes. MODS is not a sampling system so any errors would, by definition, be non-sampling errors.
- b. See my answer to 10f. above.
- c. Note that LDC 17 represents only a portion of MODS costs, the opening unit is only a portion of LDC 17, and the LR-H-236 study covers a portion of LDC 17 costs at 25 sites that may well have been chosen to maximize the chance of finding management problems. It is improper to conclude from this that the overall MODS clocking error rate is 31 percent, or even that errors in opening unit workhours are 31%. The 31% figure in the audit appears to include both employees clocked into opening units but working elsewhere and employees working in opening units but clocked elsewhere. I would expect the clocking error rate to be much lower for other MODS operations defined for witness Bradley's variability study because allied labor, by its very nature, commonly interacts with several other operations

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while personnel in distribution assignments have a more stable work location. Also, any mis-clocking within a cost pool would be an error in the audit, but, by definition, summarized out of the cost pools used in this case. As to how this has changed, I have no knowledge and I am not aware of any studies that would have addressed this issue.

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OCA/USPS-T4-16. Please refer to page 10 of the December 1996 National Coordination Audit of Allied Workhours contained in library reference H-236. Out of a total of 25 P&DCs visited, "Several plants had employees who were performing direct distribution functions, but were clocked into LDC 17 operations. This allowed the productivities of direct distribution operations, with specific benchmarks and perceived higher priorities, to be artificially higher." Footnote omitted.

- a. What is the proportion of MODS sites at which employees clock into LDC 17 operations, but perform direct distribution functions?
- b. What is the proportion of employee hours clocked into LDC 17 operations but actually performing direct distribution functions?
- c. Please refer to pages 21 and 25 of library reference H-89. These pages describe data recoding that was performed for the city and rural carrier systems because of implementation of MC95-1 rate categories on July 1, 1996. Some third-class single piece mail was randomly recoded as third-class bulk rate to achieve consistency between PQ 4 volumes for FY 1995 and FY 1996. Did you randomly recode some of the LDC 17 operations workhours as direct distribution operations to account for the fact that some of these employees are really performing direct distribution operations? If not, why not. If so, please describe the recoding process.
- d. Over the nine fiscal years' worth of MODS data used by witness Bradley to produce cost pool variabilities, has the proportion of time that employees were clocked into LDC 17 operations but actually performing direct distribution operations increased or decreased to the current level? Please explain and provide any documents or studies related to your response.

**RESPONSE:**

- a. I am not aware of any other studies on this issue.
- b. I am not aware of any other studies on this issue.
- c. Redirected to witness Degen.
- d. I am not aware of any other studies on this issue.

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OCA/USPS-T4-17. Please refer to page 18 of the December 1996 National Coordination Audit of Allied Workhours contained in library reference H-236. At the 25 selected P&DCs, employees were checked for clocking accuracy. Of the 2,412 employees checked, 128 were working in opening unit operations but clocked into other MODS operations and 616 were clocked into opening unit operations but were found working elsewhere.

- a. Are these clocking error rates typical of the errors that do not involve LDC 17 operations? If not, please explain how prevalent the clocking error rates are for other MODS operations.
- b. Please refer to Exhibit 3 of this audit report. At four of the 25 P&DCs, the number of employees clocked into the opening unit but working in another operation exceeded the number of employees clocked into and working in the same opening unit operation. Would MODS data from these facilities be present in the MODS data sets provided to witness Bradley for variability estimation?
- c. In addition to the four P&DCs referred to in part b of this interrogatory, are there any others in the MODS data sets provided to witness Bradley at which more employees are clocked into an opening unit but working elsewhere than are clocked into and working in the same opening unit operation? Please explain.

**RESPONSE:**

- a. I am not aware of any studies that could provide an answer to this question.

However, "errors" as defined in this audit would be less likely in other operations. If allied labor is serving several operations, they are properly charged to LDC 17, but might have been found by the Inspectors while in only one of their operations and charged as an "error". For example, if allied labor is bringing mail to manual and mechanized flats operations, the Inspectors could have observed them loading flats on the ledges at the flats cases.

- b. Yes. It is my understanding that witness Bradley did not perform any data scrubs to specifically address the mis-clocking problem raised in the audit, however the observations for those sites would have had to pass the scrubs described in USPS-

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T-14 at pages 25-33. I do not know if witness Bradley's scrubs eliminated data for these sites..

- c. I do not know and I am not aware of any studies that could answer that question. It is my understanding that the statistical strength of witness Bradley's results indicate this could not be a serious problem.

DECLARATION

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

Ralph J Moden

Dated: 9/17/97

**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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September 17, 1997