

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, 2001

Docket No. R2001-1

RESPONSE OF UNITED STATES POSTAL SERVICE  
WITNESS BOZZO TO INTERROGATORIES OF UNITED PARCEL SERVICE  
(UPS/USPS-T14-11 through 21)

The United States Postal Service hereby provides the responses of witness Bozzo to the following interrogatories of United Parcel Service: UPS/USPS-T14-11 through 21, filed on December 10, 2001.

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

Respectfully submitted,

UNITED STATES POSTAL SERVICE

By its attorneys:

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RESPONSE OF UNITED STATES POSTAL SERVICE WITNESS BOZZO TO  
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**UPS/USPS-T14-11.**

The following questions are about negative values for Total Piece Handlings ("TPH").

- (a) Explain whether it is possible for TPH to take on negative values.
- (b) Describe in detail the circumstances under which TPH may take on negative values.
- (c) Explain whether the circumstances described in part (b) are likely to be common or uncommon.
- (d) Provide a specific explanation for each of the following examples of negative values for TPH. In particular, for each example, explain:
  - (i) *Of the weeks that are aggregated to construct the quarter, how many show negative TPH?*
  - (ii) *What is the total TPH for the weeks in the quarter for which TPH is negative?*
  - (iii) *What were the specific circumstance in the MODS system that resulted in the recording of the negative TPH for these examples?*

**TABLE 1 – EXAMPLES OF NEGATIVE TPH**

Site ID	MODS Operation	Time Period	TPH
77	08	1996, qtr 4	-2,190
210	12	2000, qtr 4	-4,762
121	17	1999, qtr 1	-2,955

**Response.**

- a. While it is not possible for actual TPH to take on negative values in a given period, measured TPH can take on negative values. Note that in operations where TPH is used as the output measure for the operation, observations with negative TPH are excluded from the regression sample.
- b. It is my understanding that negative values of MODS variables would result primarily from mis-entered manual adjustments to the MODS data.

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- c. Negative values of TPH are rare. Please see the table provided in Attachment A to this response.
- d. (i)-(ii) I aggregated AP data to construct my quarterly dataset. The APs with negative TPH, and the TPH for those APs, are reported below.

Site ID	MODS Operation	Time Period	AP(s) with Negative TPH	Total TPH (000) in Negative TPH AP(s)
77	08	PQ4, FY 1996	AP 13	-2,259
121	17	PQ1, FY 1999	AP 2	-7,278
210	12	PQ4, FY 2000	AP 12	-9,866

(iii) I am not aware of the specific circumstances of these examples.

Quarterly Observations

Operation group	<u>hrs &lt; 0</u>	<u>fbp &lt; 0</u>	<u>tpb &lt; 0</u>	<u>tpf &lt; 0</u>	<u>tpb &gt; tpf</u>	<u>fbp &gt; tpf (tpb for manual)</u>	<u>hrs &gt; 0 while tpf &lt; 0 (tpb for manual)</u>
	DBCS	0.01%	0.30%	0.07%	0.03%	0.98%	0.88%
MPBCS	0.05%	0.81%	0.23%	0.16%	0.91%	11.20%	0.13%
OCR	0.00%	0.17%	0.09%	0.05%	0.29%	27.63%	0.02%
FSM 881	0.02%	0.17%	0.01%	0.01%	5.90%	35.69%	0.00%
FMS 1000	0.03%	0.09%	0.03%	0.03%	1.80%	16.38%	0.03%
LSM	0.14%	2.50%	0.56%	0.18%	0.86%	1.66%	0.09%
SPBS Other	0.00%	20.83%	0.06%	0.08%	3.03%	0.00%	0.08%
SPBS Priority	0.08%	0.04%	0.45%	0.38%	2.29%	22.61%	0.30%
Manual Flats	0.01%	0.04%	0.03%	n/a	n/a	0.33%	0.02%
Manual Letters	0.02%	0.03%	0.03%	n/a	n/a	0.29%	0.03%
Manual Parcels	0.11%	0.01%	0.01%	n/a	n/a	1.09%	0.01%
Priority	0.08%	0.38%	0.39%	n/a	n/a	1.49%	0.32%
Total BCS	0.02%	0.00%	0.02%	0.03%	1.16%	1.21%	0.03%
Total FSM	0.01%	0.03%	0.00%	0.00%	5.87%	28.62%	0.00%
Total SPBS	0.00%	0.22%	0.10%	0.08%	3.26%	0.92%	0.08%

AP Observations

Operation group	<u>hrs &lt; 0</u>	<u>fbp &lt; 0</u>	<u>tpb &lt; 0</u>	<u>tpf &lt; 0</u>	<u>tpb &gt; tpf</u>	<u>fbp &gt; tpf (tpb for manual)</u>	<u>hrs &gt; 0 while tpf &lt; 0</u>
	DBCS	0.01%	0.26%	0.04%	0.02%	0.77%	0.80%
MPBCS	0.03%	0.74%	0.11%	0.07%	0.59%	11.43%	0.06%
OCR	0.01%	0.14%	0.06%	0.05%	0.16%	27.82%	0.03%
FSM 881	0.01%	0.18%	0.02%	0.01%	4.95%	35.60%	0.01%
FMS 1000	0.01%	0.08%	0.02%	0.01%	1.27%	17.01%	0.01%
LSM	0.06%	2.10%	0.26%	0.07%	0.37%	1.56%	0.03%
SPBS Other	0.01%	31.03%	0.07%	0.07%	1.79%	0.00%	0.07%
SPBS Priority	0.12%	0.06%	0.28%	0.22%	1.32%	20.18%	0.16%
Manual Flats	0.00%	0.05%	0.04%	n/a	n/a	0.33%	0.03%
Manual Letters	0.01%	0.02%	0.01%	n/a	n/a	0.29%	0.01%
Manual Parcels	0.13%	0.04%	0.04%	n/a	n/a	1.09%	0.04%
Priority	0.06%	0.26%	0.26%	n/a	n/a	1.49%	0.20%
Total BCS	0.01%	0.01%	0.03%	0.02%	0.77%	1.05%	0.02%
Total FSM	0.00%	0.02%	0.01%	0.01%	4.90%	28.91%	0.01%
Total SPBS	0.02%	0.18%	0.08%	0.07%	1.95%	1.08%	0.07%

Percentages are of positive observations. Source: USPS-LR-I-179.

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**UPS/USPS-T14-12.**

The following questions are about negative values for Total Pieces Fed ("TPF").

- (a) Explain whether it is possible for TPF to take on negative values.
- (b) Describe in detail the circumstances under which TPF may take on negative values.
- (c) Explain whether the circumstances described in part (b) are likely to be common or uncommon.
- (d) Provide a specific explanation for each of the following examples of negative values for TPF. In particular, for each example, explain:
  - (i) Of the weeks that are aggregated to construct the quarter, how many show negative TPF?
  - (ii) What is the total TPF for the weeks in the quarter for which TPF is negative?
  - (iii) What were the specific circumstance in the MODS system that resulted in the recording of the negative TPF for these examples?

**TABLE 2 – EXAMPLES OF NEGATIVE TPF**

SiteID	MODS Operation	Quarter	TPF
52	08	1995, qtr 3	-535
210	12	1998, qtr 4	-41,323
156	18	1995, qtr 2	-884,184

**Response.**

- a. It is not possible for actual TPF to take on negative values in a given period, but measured TPF can take on negative values. Note that in operations where TPF is used as the output measure for the operation, observations with negative TPF are excluded from the regression sample.
- b. Please see the response to UPS/USPS-T14-11(b).
- c. Negative values of TPF are rare. Please see the table provided in Attachment A to the response to UPS/USPS-T14-11.

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- d. (i)-(ii) I aggregated AP data to construct my quarterly dataset. The APs with negative TPH, and the TPH for those APs, are reported below.

Site ID	MODS Operation	Time Period	AP(s) with Negative TPF	Total TPF (000) in Negative TPF AP(s)
52	08	PQ3, FY 1995	AP 8	-542
156	18	PQ2, FY 1995	AP 6	-961,939
210	12	PQ4, FY 1998	AP 12	-44,478

(iii) I am not aware of the specific circumstances of these examples. Note that I do not use (or recommend use of) TPF data for manual operations such as group 08; see the response to UPS/USPS-T14-16.

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**UPS/USPS-T14-13.**

The following questions are about negative values for First Handling Pieces ("FHP").

- (a) Explain whether it is possible for FHP to take on negative values.
- (b) Describe in detail the circumstances under which FHP may take on negative values.
- (c) Explain whether the circumstances described in part (b) are likely to be common or uncommon.
- (d) Provide a specific explanation for each of the following examples of negative values for FHP. In particular, for each example, explain:
  - (i) Of the weeks that are aggregated to construct the quarter, how many show negative FHP?
  - (ii) What is the total FHP for the weeks in the quarter for which FHP is negative?
  - (iii) What were the specific circumstance in the MODS system that resulted in the recording of the negative FHP for these examples?

**TABLE 3 – EXAMPLES OF NEGATIVE FHP**

Site ID	MODS Operation	Quarter	FHP
240	01	1998, qtr 1	-356
69	06	1998, qtr 1	-36,114
206	11	1997, qtr 1	-16,749

**Response.**

- a. It is not possible for actual FHP to take on negative values in a given period, but measured FHP can take on negative values. Note that I do not directly use FHP data in my analysis, but screens of the type I employ in my analysis would eliminate such observations from the regression samples.
- b. Please see the response to UPS/USPS-T14-11(b).
- c. Negative values of FHP are rare. Please see the table provided in Attachment A to the response to UPS/USPS-T14-11.

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- d. (i)-(ii) I aggregated AP data to construct my quarterly dataset. The APs with negative FHP, and the FHP for those APs, are reported below.

Site ID	MODS Operation	Time Period	AP(s) with Negative FHP	Total FHP (000) in Negative FHP AP(s)
69	06	PQ1, FY 1998	AP 1	-48,568
206	11	PQ1, FY 1997	AP 3	-32,184
240	01	PQ1, FY 1998	APs 1-3	-356

(iii) I am not aware of the specific circumstances of these examples. Note that for the FSM operations (group 11) at site 206, both TPH and TPF are positive in PQ1, FY 1998.



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**UPS/USPS-T14-14.**

The following questions are about negative values for HRS (hours).

- (a) Explain whether it is possible for HRS to take on negative values.
- (b) Describe in detail the circumstances under which HRS may take on negative values.
- (c) Explain whether the circumstances described in part (b) are likely to be common or uncommon.
- (d) Provide a specific explanation for each of the following examples of negative values for HRS. In particular, for each example, explain:
  - (i) Of the weeks that are aggregated to construct the quarter, how many show negative HRS?
  - (ii) What is the total HRS for the weeks in the quarter for which HRS is negative?
  - (iii) What were the specific circumstance in the MODS system that resulted in the recording of the negative HRS for these examples?

**TABLE 4 – EXAMPLES OF NEGATIVE HRS**

<u>Site ID</u>	<u>MODS Operation</u>	<u>Quarter</u>	<u>HRS</u>
89	05	1997, qtr 3	-24,610
178	17	1995, qtr 3	-990
7	08	1998, qtr 2	-363

**Response.**

- a. It is not possible for actual workhours to take on negative values in a given period, but measured workhours can take on negative values. Note that the screens I employ eliminate such observations from the regression samples.
- b. Please see the response to UPS/USPS-T14-11(b).
- c. Negative values of workhours are rare. Please see the table provided in Attachment A to the response to UPS/USPS-T14-11.

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d. (i)-(ii) I aggregated AP data to construct my quarterly dataset. The APs with negative workhours, and the workhours for those APs, are reported below.

Site ID	MODS Operation	Time Period	AP(s) with Negative HRS	Total HRS (000) in Negative HRS AP(s)
7	08	PQ2, FY 1998	AP 6	-578
89	05	PQ3, FY 1997	AP 9	-26,605
178	17	PQ2, FY 1995	APs 7-8	-1,022

(iii) I am not aware of the specific circumstances of these examples.

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**UPS/USPS-T14-15.**

The following questions are about intermittent gaps in the MODS data series for particular sorting activities, where an intermittent gap is defined as a non-positive value or values in between positive values.

- (a) Explain whether it is possible for the Total Piece Handlings (“TPH”), Total Pieces Fed (“TPF”), hours (“HRS”), or First Handling Pieces (“FHP”) series for a particular site to have intermittent gaps, as defined above.
- (b) Describe in detail the circumstances under which such gaps can occur.
- (c) Explain whether the circumstances described in part (b) are likely to be common or uncommon.
- (d) Provide a specific explanation for each of the following examples of intermittent gaps in the MODS data series:

**TABLE 5.1 – INTERMITTENT GAPS FOR TPH**

Site ID	MODS Operation	Start Date	Gap Length (in qtrs)
189	08	1997, qtr 1	3
86	11	1995, qtr 2	6
94	17	1999, qtr 2	6

**TABLE 5.2 – INTERMITTENT GAPS FOR HRS**

Site ID	MODS Operation	Start Date	Gap Length (in qtrs)
197	01	1998, qtr 1	9
226	03	1998, qtr 2	8
179	07	1997, qtr 2	3

**Response.**

- a. Yes.
- b. It is my understanding that gaps in the data series may result from non-reporting (missing observations) for various reasons (see, e.g., Docket No. R2000-1, Tr. 15/6391), seasonality of some operations, or relocation of equipment.

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- c. Gaps in the data series are relatively uncommon.
- d. *I am not aware of the specific circumstances of these examples. However, I do not agree that all of the examples listed represent "intermittent gaps" in the data. Sites 86, 179, and 197 do not appear to have the listed operations in regular operation; you appear to have identified some "noise" in the data rather than gaps as such. Site 226 appears not to regularly use the SPBS operations in group 03, but regularly reports hours and volumes in group 04 (and hence group 12).*

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**UPS/USPS-T14-16.**

The following questions are about Total Piece Handlings ("TPH") and Total Pieces Fed ("TPF") in manual operations.

- (a) Should TPH equal TPF in manual operations?
- (b) Describe in detail the circumstances that would cause TPH to differ from TPF in manual operations.
- (c) Provide a specific example for each of the following examples where TPH does not equal TPF in a manual operation:

**TABLE 6 – TPH NOT EQUAL TO TPF IN MANUAL OPERATIONS**

Site ID	MODS Operation	Year and Quarter	TPF	TPH
29	05	1995, qtr 3	28	3,158
243	05	1996, qtr 2	-1	6,307
248	07	1997, qtr 1	103	1,015

**Response.**

- a.-c. No. Since, in principle, manual operations do not yield rejects, manual TPH and TPF are conceptually identical, and most sites do not report manual TPF. I am not aware of the use to which other sites put the TPF field for manual operations, and thus do not use manual TPF data.

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**UPS/USPS-T14-17.**

The following questions are about the relationship between Total Pieces Fed ("TPF") and Total Piece Handlings ("TPH") in automated/ mechanized operations.

- (a) Explain whether it is possible for TPF to be less than TPH
- (b) Describe in detail the circumstances under which TPF can be less than TPH.
- (c) Explain whether the circumstances described in part (b) are likely to be common or uncommon.
- (d) Provide a specific explanation for each of the following examples of TPF being less than TPH:

**TABLE 7 – TPF LESS THAN TPH**

Site ID	MODS Operation	Year and Quarter	TPF	TPH
212	01	1996, qtr 4	31,149	61,014
11	12	2000, qtr 2	11,791	17,637
1	17	1996, qtr 2	78,521	119,574

**Response.**

- a. It is not possible for actual TPF to be less than actual TPH, but measured TPF can be less than measured TPH.
- b. Please see the response to UPS/USPS-T14-11(b).
- c. The circumstances are uncommon, but not as rare as negative values of MODS data. Accordingly, in Docket No. R2000-1, I determined that my results were not sensitive to my treatment of those observations. See Docket No. R2000-1, USPS-T-15 at 108, lines 7-13.
- d. I am not aware of the specific circumstances of these examples.

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**UPS/USPS-T14-18.**

The following questions are about the relationship between Total Pieces Fed ("TPF") and First Handling Pieces ("FHP").

- (a) Explain whether it is possible for TPF to be less than FHP.
- (b) Describe in detail the circumstances under which TPF can be less than FHP.
- (c) Explain whether the circumstances described in part (b) are likely to be common or uncommon.
- (d) Provide a specific explanation for each of the following examples of TPF being less than FHP:

**TABLE 8 – TPF LESS THAN FHP**

Site ID	MODS Operation	Year and Quarter	TPF	FHP
3	01	1997, qtr 2	86,168	100,463
156	12	1995, qtr 1	912	9,021
10	19	1998, qtr 3	18,587	21,249

**Response.**

- a. It is not possible for actual TPF to be less than actual FHP, but measured FHP can be less than measured TPF.
- b. In automated and mechanized operations, TPF are obtained from machine counts, whereas FHP generally are converted from weight or containers using nationally standardized conversion factors. The difference between the converted and actual FHP is the primary reason for FHP to exceed TPF. This is a significant reason why I do not recommend the use of FHP data to measure the output of automated and mechanized operations. In manual operations, TPH should be used for an appropriate comparison.

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- c. The circumstances described in part (b) appear not to be especially uncommon for some operations (e.g., OCR) where a relatively large fraction of total pieces fed are first handlings and where subsequent handlings in the same operation are uncommon. For manual operations and other operations (e.g., DBCS) with relatively more subsequent handlings in the same operation (i.e., higher TPF/FHP ratios), it is uncommon for FHP to exceed TPF or TPH.
- d. I am not aware of the specific circumstances of these examples, but would not generally expect measured FHP to be less than measured TPF, as explained above. Please note also that in the SPBS operation (12), TPF (and TPH) will measure bundles of flat-shaped pieces, whereas it is my understanding that FHP conversions for those source/type codes will count the pieces (or copies) in the bundles.



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**UPS/USPS-T14-19.**

The following questions are about the relationship between Total Pieces Fed ("TPF") and hours ("HRS").

- (a) Explain whether it is possible that while TPF is non-positive, HRS is positive.
- (b) Describe in detail the circumstances under which TPF is non-positive, but HRS is positive.
- (c) Explain whether the circumstances described in part (b) are likely to be common or uncommon.
- (d) Provide a specific explanation for each of the following examples of TPF being non-positive and HRS being positive:

**TABLE 9 – TPF NON-POSITIVE AND HRS POSITIVE**

<u>Site ID</u>	<u>MODS Operation</u>	<u>Year and Quarter</u>	<u>TPF</u>	<u>HRS</u>
157	12	1998, qtr 1	0	1,071
2	07	1996, qtr 4	0	14,707
11	07	2000, qtr 1	0	26,063

**Response.**

- a. I would expect that workhours are used productively in normal mail processing operations, so that if actual workhours are positive for a sorting operation, then actual TPF would also be positive. However, it is possible for measured TPF to be non-positive while measured workhours are positive. Additionally, in manual operations, zero TPF is normally reported; see the response to UPS/USPS-T14-16. Thus, an appropriate comparison of this type for manual operations should use TPH.
- b. It is my understanding that TPF (or TPH) and workhours are measured independently—the former via machine counts and the latter via time clock data. Failure to report TPF (or TPH) for an operation with positive workhours could

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lead to the situation described, as could certain types of misreporting of hours or TPF (or TPH). See also the response to UPS/USPS-T14-11(b).

- c. The circumstances described in part (b) are rare. Please see the attachment to the response to UPS/USPS-T14-11.
- d. I am not aware of a specific explanation for the examples in Table 9. However, I would note that the two examples for operation 07 (manual parcels) should use TPH rather than TPF for an appropriate comparison; see the response to part (a), above. According to USPS-LR-J-56 and USPS-LR-J-179, TPH in both operation 07 examples is positive.

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**UPS/USPS-T14-20.**

The mpe.txt (for 93, 94, 95, 96, 97 and 98) files, provided in R2000, provide data on year-end equipment (identified by PCNs) by plant.

- (a) Explain whether it is possible for a facility to have idle equipment.
- (i) What types of equipment are likely to remain idle?
  - (ii) Explain in detail why a piece of mail sorting equipment may remain idle (i.e. not being used to process mail). For example, can mail sorting equipment remain idle because it is temporarily out of use, it is no longer in use, or because it is a new machine that needs to get up and running? List all plausible reasons why mail sorting equipment may remain idle.
  - (iii) Describe the likelihood of each of the reasons for mail sorting equipment to be idle listed above.
  - (iv) If an idle piece of mail sorting equipment is temporarily out of use, what is the average period of time over which it is likely to remain out of use. Explain whether the idle time is likely to be measured in days, weeks, months, or years.
  - (v) If an idle piece of mail sorting equipment is no longer in use, how long would it be stored at the mail sorting facility before it is removed?
  - (vi) How much time does it take for a new machine to be installed and integrated into the plant and begin to process mail?
- (b) Describe in detail the circumstances when at least one DBCS machine is present at a facility, but TPH18 and HRS18 (MODS data for the BCS/DBCS MODS pool) are non-positive?
- (i) Explain whether the circumstances described above are likely to be common or uncommon.
  - (ii) Provide a specific explanation for each of the following examples of instances in which a DBCS machine is present at a facility, but the MODS variables from MODS group 18 are non-positive:

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**TABLE 10.1 – DBCS EQUIPMENT PRESENT BUT ASSOCIATED MODS DATA  
NON-POSITIVE**

<u>Site ID</u>	<u>Year and Quarter</u>	<u>Number of DBCS machines</u>	<u>TPH</u>	<u>HRS</u>
17	1998, qtr 4	4	0	0
46	1996, qtr 1	34	0	0

(c) Describe in detail the circumstances when at least one OCR machine is present at a facility, but TPH01 and HRS01 (MODS data for the OCR MODS pool) are non-positive?

- (i) Explain whether the circumstances described above are likely to be common or uncommon.
- (ii) Provide a specific explanation for each of the following examples of instances in which an Optical Character Reader ("OCR") machine (PCN 960000 or PCN 960010) is present at a facility, but the MODS variables from MODS group 01 are nonpositive:

**TABLE 10.2 – OCR EQUIPMENT PRESENT AND BUT ASSOCIATED MODS DATA  
NON-POSITIVE**

<u>Site ID</u>	<u>Year and Quarter</u>	<u>Number of OCR machines</u>	<u>TPH</u>	<u>HRS</u>
44	1996, qtr 4	2	0	0
310	1998, qtr 1	3	0	0

(d) Describe in detail the circumstances under which when at least one Flat Sorting Machine ("FSM") machine is present at a facility, but TPH11 and HRS11 (MODS data for the FSM MODS pool) are non-positive?

- (i) Explain whether the circumstances described above are likely to be common or uncommon.
- (ii) Provide a specific explanation for each of the following examples of instances in which an FSM machine (PCN 920000) is present at a facility, but the MODS variables from MODS group 11 are non-positive:

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**TABLE 10.3 – FSM EQUIPMENT PRESENT AND BUT ASSOCIATED MODS DATA  
NON-POSITIVE**

Site ID	Year and Quarter	Number of FSM machines	TPH	HRS
40	1996, qtr 4	3	0	0
164	1996, qtr 2	1	0	0

- (e) Describe in detail the circumstances when at least one Small Parcel Bundle Sorter ("SPBS") machine is present at a facility, but TPH12, HRS12, TPH03, HRS03, TPH04, or HRS04 (MODS data for the SPBS MODS pool) are non-positive?
- (i) Explain whether the circumstances described above are likely to be common or uncommon.
  - (ii) Should a facility with positive TPH03 necessarily have positive TPH04? Explain.
  - (iii) Should a facility with a positive TPH03 or TPH04 necessarily have a positive TPH12? Explain.
  - (iv) Provide a specific explanation for each of the following examples of instances in which an SPBS machine (PCN 930040) is present at a facility, but the MODS variables from MODS group 12, 03, or 04 are non-positive:

**TABLE 10.4 – SPBS EQUIPMENT PRESENT AND BUT ASSOCIATED MODS DATA  
NON-POSITIVE**

Site ID	Year and Quarter	Number of SPBS machines	MODS Group	TPH	HRS
197	1997, qtr 2	3	03	0	0
107	1998, qtr 2	6	04	0	0

- (f) Describe in detail the circumstances under which when at least one Letter Sorting Machine ("LSM") is present at a facility, but TPH02 and HRS02 (MODS data for the LSM MODS pool) are non-positive?
- (i) Explain whether the circumstances described above are likely to be common or uncommon.
  - (ii) Provide a specific explanation for each of the following examples of instances in which an LSM machine (LSM-Multi Pos, PCN 910000 and LSM-Single Pos, PCN 910010) is present at a facility, but the MODS variables from MODS group 02 are non-positive:

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**TABLE 10.5 – LSM EQUIPMENT PRESENT AND BUT ASSOCIATED MODS  
DATA NON-POSITIVE**

<u>Site ID</u>	<u>Year and Quarter</u>	<u>Number of OCR machines</u>	<u>TPH</u>	<u>HRS</u>
3	1998, qtr 4	5	0	0
64	1997, qtr 4	16	0	0

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**Response.**

a. Yes.

- (i) It is not clear what precisely you mean by "remain idle." In principle, any type of equipment may be idle at least for some period of time.
- (ii) The reasons listed in this part of the interrogatory are plausible. I would note that a machine may be temporarily out of use for maintenance reasons or because it is not employed for processing on a particular tour or at a particular time within a tour.
- (iii) All of the reasons listed above are likely reasons why equipment may be idle.
- (iv) It is my understanding that temporarily idled equipment will tend to be out of service for relatively short periods of time.
- (v) Due to space constraints, unused mail processing equipment is normally removed relatively quickly. However, depreciated equipment (such as LSMs and obsolete models of OCRs and FSMs) may not be promptly removed from the PPAM (equipment) records.
- (vi) It is my understanding that assembly, testing, and acceptance of new equipment may take a month.

b. I expect that the circumstances you describe would result primarily from differences in the periodicities of the MODS and PPAM data you compared (see also the response to part a(v), above) or from missing or non-reported MODS data—note that the PPAM data coverage is not limited to facilities reporting MODS (see c(ii), below).

- (i) I would expect material disagreements between the MODS and PPAM data to

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be relatively uncommon. As described below, most of the examples provided do not appear especially anomalous.

(ii) It is not clear precisely how you tabulated the machine counts. In general, though, it would appear that you did so by counting the PPAM records for given PCNs, which is generally inappropriate since there is not a one-to-one correspondence between PPAM records and equipment. I would note that site 17 is excluded from my analysis and that site 46 appears to have started regular DBCS operations later in FY 1996.

c. Please see the response to part (b).

(i) Please see the response to part b(i)

(ii) It appears that you tabulated the machine counts by counting the PPAM records for the given PCNs, which is generally inappropriate since there is not a one-to-one correspondence between PPAM records and pieces of equipment. Site 44 ceased reporting MODS data (see Docket No. R2000-1, Tr. 15/6390). According to the data presented in LR-J-179, site 310's OCR equipment appears to have been removed from the PPAM records between the end of FY 1998 (i.e., beginning of FY 1999) and the end of FY 1999; regular OCR operations; regular OCR operations appear to have ceased there at the end of FY 1997.

d. Please see the response to part (b).

(i) Please see the response to part b(i)

(ii) It appears that you tabulated the machine counts by counting the PPAM records for the given PCNs, which is generally inappropriate since there is not a one-to-one correspondence between PPAM records and pieces of equipment.



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According to the data presented in LR-J-179, site 40's FSM equipment appears to have been removed from the PPAM records as of the end of FY 1996, which is consistent with the end of reported FSM operations as of PQ3, FY 1996. Site 164's FSM equipment had been removed from the PPAM records as of the end of FY 1997.

- e. Please see the response to part (b).
  - (i) Please see the response to part b(i).
  - (ii) Not necessarily. A site that does not employ dedicated SPBS Priority Mail operations, or which only employs dedicated SPBS Priority Mail operations, should only use group 03 or 04 but not the other.
  - (iii) The MODS data for group 12 are defined as the sum of the corresponding data for groups 03 and 04.
  - (iv) It appears that you tabulated the machine counts by counting the PPAM records for the given PCNs, which is generally inappropriate since there is not a one-to-one correspondence between PPAM records and pieces of equipment. Additionally, both of the sites listed in Table 10.4 report SPBS activity (i.e., in the other SPBS group to the one listed in the table). Thus, there is no anomaly in either case.
- f. Please see the response to part (b).
  - (i) Please see the response to part b(i). Note that it appears not to be especially uncommon that sites are slow to remove PPAM records for equipment, such as LSMs, that are likely to be fully depreciated.
  - (ii) It appears that you tabulated the machine counts by counting the PPAM

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records for the given PCNs, which is generally inappropriate since there is not a one-to-one correspondence between PPAM records and pieces of equipment.

Site 3 appears to have terminated LSM operations during FY 1998. According to LR-J-179, site 3 does not appear to have PPAM records for LSM equipment as of the end of FY 1998, thus there is no anomaly. Site 64 appears to be an example of the situation described in response to f(i), above; its LSM appears to have been removed from the PPAM records in FY 2001.

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**UPS/USPS-T14-21.**

The following question is about the upper and lower productivity bounds used to filter the regression sample that forms the basis for the econometric volume variability estimates.

- (a) Explain the method by which the upper and lower bounds for each MODS group are determined.
- (b) Explain the motivation for filtering on productivity.
- (c) If the approach or approaches described in part (a) do not include well established statistical methods for identifying outliers (as described, for example in *Regression Diagnostics: Identifying Influential Data and Sources of Collinearity* by David A. Belsley, Edwin Kuh and Roy E. Welsch, John Wiley & Sons, 1980), explain why these were not used.

Response.

a.-b. Please see Docket No. R2000-1, USPS-T-15 at 80-82 and 110-111.

c. Using "non-sample" information—in this case, operational information on machine and worker capabilities—to identify erroneous data is a statistically.

## DECLARATION

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

A. Thomas Bozzo

Dated: December 26, 2001

**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.

 FOR  
\_\_\_\_\_  
Frank R. Heselton

475 L'Enfant Plaza West, S.W.  
Washington, D.C. 20260-1137  
December 26, 2001