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

POSTAL RATE AND FEE CHANGES, 2000	Docket No. R2000-1

RESPONSE OF UNITED STATES POSTAL SERVICE WITNESS YACOBUCCI TO INTERROGATORIES OF TIME WARNER INC. (TW/USPS-T25—1-6)

The United States Postal Service hereby provides the responses of witness Yacobucci to the following interrogatories of Time Warner Inc.: TW/USPS-T25—1-6, filed on February 28, 2000.

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

Anthony Alverno
Attorney

475 L'Enfant Plaza West, S.W.
Washington, D.C. 20260-1137
(202) 268-2997; Fax –6187
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TW/USPS-T25-1. Please refer to the "Productivities" spreadsheet page in LR-I-90, at line 17, which shows a productivity of 99.4 for manual opening of carrier route (CR) containers, and an adjusted productivity of 111 assuming a volume variability factor of 0.896. Refer also to footnote 1 which states that this is the "manually dump sacks" productivity used by witness Eggleston, USPS-T-26.

a. Please confirm that you use this productivity only for your scenario 47 which represents carrier route sacks, containing mail to a single carrier route. If not confirmed, where else do you use this productivity?

b. Please confirm that for regular rate Periodicals this productivity leads to a modeled per piece cost of 3.205 cents for mail in carrier route sacks.

c. Please confirm that you use the productivity rate referred to above as if it were a per bundle productivity rate. If not confirmed, please explain.

d. Please confirm that the 99.4 productivity used by witness Eggleston refers to sacks per hour, not bundles per hour.

e. Please confirm that according to the mail characteristics data in LR-I-87, there are 5,127,572 regular rate Periodicals CR sacks per year, containing 7,226,008 bundles, or 1.409 bundles per sack.

f. Would it be more appropriate, in your calculation of the cost of CR sacks for regular rate Periodicals, to replace the 99.4 sacks per hour productivity that you use with a 99.4*1.409 = 140.05 bundles per hour productivity, giving a carrier route sack cost of 2.275 cents per piece, rather than 3.205 cents per piece? If you disagree, please explain.

g. Please confirm that, with the test year wage rate, piggyback cost factor and premium pay adjustment that you use for CR sacks, the 99.4 sacks per manhour implies a cost of about 46 cents per sack for manually dumping sacks, not including costs of handling and transportation to get the sack to where it needs to be dumped, or of recycling the sack so it can be used again by a postal customer, or of handling and eventually delivering the contents that were in the sack. If you cannot confirm, please explain and indicate what you believe the costs are of dumping a sack.

h. Please confirm that regardless of the mechanized or manual method used for bundle sorting and the automated, mechanized or manual method used for piece sorting, all sacks containing Periodicals bundles must be manually

dumped. If not confirmed, please describe any other methods used to extract Periodicals mail from sacks.

RESPONSE:

a. Confirmed.

b. This productivity leads to a modeled unit volume variable cost of 3.205 cents and a CRA-adjusted unit volume variable cost of 8.815 cents for Periodicals Regular Rate flats in carrier route containers.

c. Confirmed.

d. Confirmed.

e. Confirmed.

f. Technically, the 99.4 *sacks per hour* productivity should be converted to a *packages per hour* productivity. However, this adjustment is not absolutely necessary as it, by itself, does not materially affect the calculated costs by rate category. The following table presents Periodicals Regular Cost Averages – Actual using the existing productivity and the modified productivity.

	Periodicals Regular Cost Averages – Actual		
Rate Category	Proposed Using Existing Productivity	Modified Using Adjusted Productivity	Percentage Changed
1=Basic, Nonautomation	22.781 cents	22.818 cents	0.16%
2=Basic, Automation	21.493	21.527	0.16%
3=3-Digit, Nonautomation	18.332	18.360	0.15%
4=3-Digit, Automation	17.898	17.924	0.15%
5=5-Digit, Nonautomation	13.133	13.150	0.13%
6=5-Digit, Automation	13.572	13.590	0.13%
7=Carrier Route	8.640	8.611	(0.33%)

The "modified using adjusted productivity" cost averages were calculated using a conversion factor of 1.409 packages per Periodicals Regular Rate sack which results in a productivity of 140 packages per hour. Please note that the model uses the productivity for both Periodicals Regular Rate and Periodicals Nonprofit mail. Thus, if a packages per hour productivity figure is used in the analysis, either a weighted-average packages per hour productivity or two distinct packages per hour productivities should be used for cost modeling purposes.

g. Not confirmed. The 99.4 sacks per hour productivity implies costs for manually dumping sacks of 40.6 cents per Periodicals Regular Rate carrier route sack and of 40.5 cents per Periodicals Nonprofit carrier route sack.

h. It is my understanding that *the contents* in all sacks containing Periodicals packages must be manually dumped out.

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TW/USPS-T25-2. Please confirm each of the following, or explain if you cannot confirm.

a. Your model assumes that the bundle sorting productivity rate for a given container presort level is the same whether the container is a sack or a pallet.

b. Your model assumes that a sack and a pallet with the same presort level, both containing flats bundles of the same class, have the same probability of being sent to a mechanized rather than a manual bundle sorting operation.

c. Your model assumes that bundle sorting productivity rates are the same for containers with mixed ADC, ADC and 3-digit presort.

d. Your model assumes that Periodicals and First Class sacks and pallets with mixed ADC, ADC and 3-digit presort all have the same probability (64.1%) of being sent to a mechanized bundle sorting operation with an appropriate sort scheme.

e. In particular, your model assumes that a mixed ADC Periodicals sack has a 64.1% chance of being entered on a mechanized bundle sorting machine (e.g., SPBS [Small Parcel and Bundle Sorter]) that runs a mixed ADC sort scheme, and that a mixed ADC Standard A sack has a 74.2% chance of being entered on a mechanized bundle sorter running a mixed ADC sort scheme.

f. Your model does not account for the possibility that managers in some facilities equipped with SPBS's may choose not to enter sacked bundles on the SPBS's, even if they use the SPBS's for bundles on pallets.

g. Your model assumes that in every type of bundle sorting operation ten percent of bundles break, regardless of whether the bundles come from sacks or from pallets or from a previous bundle sorting operation, and regardless of whether the given operation is mechanized or manual.

h. Your model assumes that for each bundle that breaks, the pieces in that bundle are entered at a piece sorting operation corresponding to the sort level of the container that the bundle was in.

i. Your model does not account for the possibility that broken bundles may be recovered, for examples [sic] by an SPBS employee putting a rubber band around the pieces from the breaking or already broken bundle.

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j. Your model assumes that, once a flat has been through its first piece sorting operation, then even if it may need several additional sorts (e.g., a piece sorted at an ADC scheme that placed it in a 3-digit tray or bundle) there are no further opening unit costs incurred for that piece. For example, in the case of a piece sorted into a 3-digit tray, your model assumes no costs are incurred in getting that tray to the next flat sorting operation.

RESPONSE:

a. Confirmed.

b. Confirmed. USPS LR-I-90, Flats Mail Processing Cost Model, does not differentiate mailflows of sacked packages from mailflows of palletized packages.

c. Confirmed. The model assumes that mechanized package handling productivities are the same for MADC, ADC, and 3-digit containers. The model also assumes that manual package handling productivities are the same for MADC, ADC, and 3-digit containers.

d. Not confirmed. The model uses data from USPS LR-I-88, Flats Bundle Study, that indicate that Periodicals *packages* in MADC, ADC, and 3-digit containers have a 64.1% probability of being handled in a mechanized package handling activity with an appropriate sort scheme. As separate data do not exist for First-Class packages, the model uses the Periodicals data as proxies for First-Class data.

e. Not confirmed. The model uses data from USPS LR-I-88 that indicate that a MADC Periodicals *package* has a 64.1% chance and that a MADC Standard Mail (A) *package* has a 74.2% chance of being handled in a mechanized package handling activity.

f. Not confirmed. The model uses average data that represent the average test year facility and that should account for varied local management decisions across and within facilities.

g. Confirmed.

h. Confirmed.

i. Not confirmed. Though the model does not explicitly develop costs for specific package recovery activities, it does take into account the possibility that broken packages may be recovered and may continue to be handled as packages.

The model uses manual package handling productivities from USPS LR-I-88. These productivities were derived by measuring the time it took to handle observed packages, even if that handling involved some form of package recovery. Hence, these productivities account for any package recovery.

In addition, the model uses mechanized package handling productivities from USPS LR-I-88. These productivities were derived using MODS data. Some unknown portion of the time spent recovering broken packages should be accounted for in the MODS data as employees recovering broken packages may be clocked into the mechanized package handling operation.

In addition, it is my understanding that any costs caused by the recovery of broken packages should be accounted for in the aggregate mail processing CRA costs.

In addition, the model uses a 10% bundle breakage rate that represents that 90% of packages within a given package handling activity continue to be

handled as packages, regardless if some fraction of the 90% inadvertently broke and were subsequently recovered.

For further illustration, consider a hypothetical situation where, within a given package handling activity, 30% of packages break and the packages are not recovered, 20% of packages break and the packages are recovered, and 50% of packages do not break. For this illustration, it is reasonable to use a bundle breakage rate of 30%. Hence, 70%, the sum of the 20% and 50%, is the percentage of packages that continues to flow as packages.

j. Not confirmed. As the model considers the opening unit CRA cost pools' (1OPBULK and 1OPPREF) costs to be worksharing-related, both package and piece handling activities proportionally incur opening unit costs.

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TW/USPS-T25-3. Footnote 1 on the "Productivities" spreadsheet page in LR-I-90 gives Manprod.xls and Mechprod.xls in LR-I-88 as your sources for manual and mechanized bundle sorting productivity rates.

a. Please confirm that your model assumes a manual bundle sorting productivity rate of 178 bundles per manhour for both mixed ADC, ADC and 3-digit containers. If not confirmed, please explain.

b. Please confirm that the manual bundle sorting productivity rates shown in Manprod.xls are as follows:

   (1) Outgoing Primary: 75.66 bundles per hour;

   (2) ADC: 170.73 bundles per hour,

   (3) Incoming Primary: 210.63 bundles per hour.

c. Please confirm, or explain if not confirmed, that a mixed ADC container generally would go to an outgoing primary sort, an ADC container to an ADC sort and a 3-digit container to an incoming primary sort.

d. Please confirm that the standard error estimated in Manprod.xls for the 75.66 outgoing primary productivity is 11.89.

e. Given that the purpose of your model was to determine the cost differential between presort levels, are you not defeating that purpose by ignoring the large differences in manual bundle sorting productivity between different presort levels that is shown in LR-I-88?

f. Please confirm that according to LR-I-90 and LR-I-87 there are no mixed ADC Periodicals pallets, or at least not any detectable number of such pallets, and that mixed ADC bundle sorting of Periodicals therefore must refer to sacked mail only. If not confirmed, please explain.

g. Is it possible that the fact that mixed ADC bundle sort operates on sacked mail only, requiring the frequent dumping of sacks and encountering more bundle breakage, is the reason why the outgoing primary bundle sort productivity appears to be so much lower than for the other presort levels?

RESPONSE:

a. Confirmed.

b. Confirmed. The Outgoing Primary manual package handling productivity is developed based on one observation. Please refer to the worksheet entitled *'Observations'* in the workbook entitled *'MANPROD.XLS'* in the executable file entitled *'Manual Productivity.exe'* in USPS LR-I-88 to determine the number of observations by scheme.

c. Confirmed.

d. Confirmed. Please refer to my response to part (b) of this interrogatory. Please refer to USPS LR-I-88, pages 8-11 for a discussion on developing national estimates and standard errors for manual package handling productivities.

e. Not using different manual package handling productivities does not, as the question suggests, "defeat" the purpose of determining presortation-related savings. The model captures presortation-related savings due to many effects. These effects include the number of package handling activities, the number of piece handling activities, the degree of bundle breakage, the costs of specific package handling activities, and the costs of specific piece handling activities.

Manual package handling productivities are one set of data among many that may influence these effects. Different manual package handling productivities can result in different presortation-related savings, but may explain only part of the presortation-related savings.

Further, the differences in the reported manual package handlings productivities were considered when designing the model. An average was used for the following reasons:

- There is one Outgoing Primary and three ADC observations. Hence, an average in this case may provide a more reliable estimate.

- Underlying activities within Outgoing Primary, ADC, and Incoming Primary manual package handling operations are assumed to be reasonably similar.

f. Confirmed. When USPS LR-I-87 data were collected, the Postal Service did not allow preparation of Periodicals packages on MADC pallets. Further, the Postal Service does not currently allow preparation of Periodicals packages on MADC pallets.

g. It is possible that the theory presented in the question explains part of the differences between manual package handling productivities. However, ADC and Incoming Primary manual package handling activities also operate on sacked mail. As such, the theory may not sufficiently explain the entire differences between the Outgoing Primary, ADC, and Incoming Primary manual package handling productivities. Moreover, the fact that there is only one observation for the Outgoing Primary manual package handling productivity may explain more of the difference.

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TW/USPS-T25-4. Are you the witness to whom questions about the survey of managers in selected facilities, described in LR-I-88, should be directed? If yes, please answer the questions below. If no, identify the most knowledgeable witness and direct these questions to that witness.

a. Were managers asked to state separately the degree to which mechanized sorting was used for palletized flat mail and for sacked flat mail? Particularly, if the policy in a given facility were [sic] to sort palletized Periodicals bundles on an SPBS machine while taking sacked Periodicals to a manual opening belt, did the survey provide an easy way for the manager to so indicate?

b. Did the survey ask managers to identify the particular SPBS or LIPS (Linear Integrated Parcel Sorter) sorting schemes they apply to Periodicals and/or Standard A flats bundles?

c. If your answer to any part of a or b above is positive, please identify the relevant survey questions and provide a tabulation of the relevant responses.

d. Did this survey, or any other recent USPS survey, provide information regarding the time it typically takes to set up (1) an SPBS or (2) a LIPS machine for a new sorting scheme, e.g., in order to switch from an ADC scheme to an incoming primary (3-digit) scheme? If yes, please identify all relevant questions asked and provide a tabulation of results.

e. How many facilities, and which percent of total responding facilities with SPBS or LIPS processing systems, specifically stated that they use these systems for outgoing primary distribution of flats bundles?

f. Given the very small percent of Periodicals and Standard A flats bundles that come in mixed ADC containers, the much greater depth of sort achieved with an ADC or 3-digit sort scheme, and the substantial delays involved in switching a mechanized bundle sorting system from one scheme to another, would it not be more efficient to take the small amount of mixed ADC Periodicals and Standard A sacks to a manual sorting belt?

RESPONSE:

Yes, questions about the survey of flat package handling activities described in USPS LR-I-88, Flats Bundle Study, should be directed to me.

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a. The survey did not explicitly ask for the degrees of mechanized handling for palletized flats and for sacked flats. It is conceivable that assumptions could be made and combined with survey data to quantify the degrees. As the entire effort studied complex issues, the survey provided a reasonable means for the survey respondent to indicate local sack and pallet handling policies.

b. Yes.

c. For part (a) of this interrogatory, the relevant study questions and forms in USPS LR-I-88 are question 6 of the Operations Questionnaire (Blue Form) located on page 20, the Identifying Container Flows (Yellow Form) forms located on pages 27-29, and Identifying Bundle Flows (Green Form) forms located on pages 30-34. Please refer to my response to part (a) of this interrogatory. Developing the tabulation would require making new and currently undeveloped assumptions.

   For part (b) of this interrogatory, the study's cover letter (USPS LR-I-88, page 16) requested End-of-Run reports. These reports are tabulated in the Microsoft Excel file entitled *'Final_Density.xls'* which is in the executable file entitled *'Densities and Breakage.exe'* on the diskette accompanying USPS LR-I-88.

d. I am not aware of any surveys that provide such information.

e. It is my understanding that Outgoing Primary distribution of Periodicals and Standard Mail (A) flats packages should be performed at concentration centers, which are usually ADCs. Hence, 16 out of 27, or 59%, of responding ADCs reported that they use mechanized processing systems for Outgoing Primary distribution of Periodicals and/or Standard Mail (A) flats packages.

Please refer to the worksheets entitled *'Prop Mech'* in the workbooks entitled *'Periodicals.xls'* and *'STDA.xls'* in the executable file entitled *'Number of Handlings.exe'* in USPS LR-I-88 to determine the number of responding facilities that reported mechanized Outgoing Primary distribution.

f. Not necessarily. Though there is a very small percentage of Periodicals and Standard Mail (A) flats packages that come in mixed ADC containers, these packages may not be uniformly distributed amongst facilities. It is my understanding that these varied package volumes may or may not justify package handlings in mechanized operations. Factors such as volumes, productivities, depth of sortation, space, and operating windows may affect whether mechanized package handling operations are more efficient than manual package handling operations.

Further, it is my understanding that large facilities may find it efficient to process First-Class, Priority, Periodicals, and Standard Mail (A) volumes on the same mechanized Outgoing Primary scheme. Hence, this avoids any potential "substantial delays involved in switching a mechanized bundle sorting system from one scheme to another." It would be necessary, however, to sweep the containers.

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TW/USPS-T25-5. Please confirm that your mail flow model in LR-I-90 assumes that bundles of regular rate Periodicals contain an average of 12.66 pieces, and that you use the same number for all 47 of your scenarios and for both sacked and palletized mail. Please also confirm that for nonprofit Periodicals you assume 19.47 pieces per bundle for all scenarios and container types. Additionally, please answer the following.

a. According to the mail characteristics study in LR-I-87, what is the average number of pieces per bundle for palletized bundles of regular rate Periodicals?

b. According to the mail characteristics study in LR-I-87, what is the average number of pieces per bundle for sacked bundles of regular rate Periodicals?

c. According to the mail characteristics study in LR-I-87, what is the average number of pieces per bundle for palletized bundles of nonprofit Periodicals?

d. According to the mail characteristics study in LR-I-87, what is the average number of pieces per bundle for sacked bundles of nonprofit Periodicals?

RESPONSE:

Confirmed. USPS LR-I-90, Flats Mail Processing Cost Model, uses averages of 12.66 pieces per package and 19.47 pieces per package for Periodicals Regular Rate and Nonprofit, respectively.

a. According to USPS LR-I-87 data, the average number of pieces per package for palletized packages of Periodicals Regular Rate mail is 13.82.

b. According to USPS LR-I-87 data, the average number of pieces per package for sacked packages of Periodicals Regular Rate mail is 11.00.

c. According to USPS LR-I-87 data, the average number of pieces per package for palletized packages of Periodicals Nonprofit mail is 20.36.

d. According to USPS LR-I-87 data, the average number of pieces per package for sacked packages of Periodicals Nonprofit mail is 17.17.

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TW/USPS-T25-6. Please explain in as much detail as possible what your model assumes happens and the cost consequences when bundles break. Particularly:

a. Besides pieces in the broken bundle eventually being taken to a piece sorting operation corresponding to the presort level of the bundle sorting operation, does the bundle that breaks incur less, more or the same amount of handling in the bundle sorting operation as bundles that do not break? If it incurs more handling, what precisely are the extra handling steps in (1) a mechanized operation and (2) a manual operation?

b. Do you assume that the individual pieces from a broken bundle will sometimes end up being keyed individually on a SPBS or LIPS machine? If yes, how often do you assume this occurs and how does it affect the SPBS or LIPS productivity rate?

c. In a manual bundle sorting operation, what extra handlings do you assume occur when a bundle breaks?

d. Did you or anyone else at the Postal Service analyze the typical standard operating procedures regarding bundles that break at the time when the survey was taken? If yes, please describe the findings. Please also provide all information you have regarding changes in operating procedures that may affect costs in the test year.

RESPONSE:

My testimony incorporates inadvertent bundle breakage into the modeled mail flow as an enhancement to witness Seckar's model methodology and construct in Docket No. R97-1, USPS-T-26. This recognizes that packages do inadvertently break, thereby causing incremental mail processing costs that vary with respect to the degree of barcoding, piece machinability, package presortation, and container presortation.

Please refer to my testimony (USPS-T-25) at page 12, at 19-23 and at page 16, at 5-10, to my responses to TW/USPS-T25-2 (g), (h), and (i), and to my responses to MPA/USPS-T25-6 (a) and (e) for additional insights/explanations.

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USPS LR-I-90, Flats Mail Processing Cost Model, uses an estimated, average bundle breakage rate of 10% found on the worksheet entitled *'Data.'* The model applies the bundle breakage rate every time a package is handled. The model also adjusts downward the mechanized package handling productivity to account for individual pieces being keyed on the SPBS or LIPS machines. This is a linear adjustment using the average bundle breakage rate (USPS LR-I-90, worksheet entitled *'Productivities'*).

a. The cost model applies the equivalent amount of handling *cost* in the package handling operation to packages that do break as packages that do not break. This is meant as a proxy of the incremental cost within the package handling operation due to broken packages. The model does not explicitly differentiate handling activities within package sorting operations for broken from intact packages.

b. Yes, I assume that individual pieces from broken packages will sometimes be keyed individually on mechanized package handling equipment. This is incorporated into the model by adjusting the mechanized productivities. Please see my introductory response to this interrogatory. This adjustment is a simplified approach that estimates an *effective* packages per hour productivity. This simplified approach does not make any explicit assumptions regarding the frequency of individual pieces from broken packages being keyed on SPBS or LIPS equipment.

c. The manual package handling data were collected by measuring the time it took to effectively sort observed packages within a given package handling activity, even if that sortation involved various or extra underlying movements caused by broken packages. As such, the aggregate data account for any various or extra underlying movements caused by broken packages. This

approach does not enumerate the type of various or extra underlying movements.

d. I am not aware that anyone has performed analyses of the typical operating procedures regarding packages that break at the time when the survey in USPS LR-I-88 was taken.

Please refer to USPS-T-10 for a discussion on changes in operating procedures that may affect test year costs. Further, I am aware of some mail make-up changes (either pending or recently promulgated) published in the *Federal Register* that may affect test year costs. These mail make-up changes include offshore pallets and combining automation and nonautomation mail. For specific directions provided to the field as to the procedure to follow for recovering packages that inadvertently break, please refer to witness Kingsley's response to interrogatory MPA/USPS-T10-6.

DECLARATION

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

David Yacobucci

DAVID YACOBUCCI

Dated: 3/13/00

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.

Anthony Alverno

475 L'Enfant Plaza West, S.W.
Washington, D.C. 20260-1137
(202) 268-2997; Fax –6187
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