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| POSTAL RATE AND FEE CHANGES, 2006 | : | Docket No. R2006-1 |

DIRECT TESTIMONY
OF
MICHAEL W. MILLER
ON BEHALF OF THE
UNITED STATES POSTAL SERVICE

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ASSOCIATED LIBRARY REFERENCES

USPS-LR-L-43: Flats Mail Processing Cost Models

This library reference contains the cost models that are used to develop Test Year 2008 volume variable mail processing unit cost estimates by rate category for First-Class Mail presort flats, Periodicals Outside County flats, and Standard Mail Regular flats. In Docket No. R2005-1, flats cost models were contained in USPS-LR-K-43 and were described in testimony USPS-T-19.

USPS-LR-L-44: Flats Coverage Factors

This library reference contains the results from a recent coverage factor study. Coverage factors are estimates of the percentage of test year mail volume that will have access to the various equipment and technologies. These estimates have been developed using Base Year 2005 Origin Destination Information System - Revenue, Pieces and Weights (ODIS-RPW) data. Flats coverage factors were last calculated in Docket No. R2005-1, USPS-LR-K-44.

USPS-LR-L-45: Standard Mail Hybrids and Parcels Cost Estimates

This library reference contains a cost study that estimates the additional mail processing unit costs required to process Standard Mail hybrids and parcel-shaped mail pieces.

# DIRECT TESTIMONY
# OF
# MICHAEL W. MILLER

## AUTOBIOGRAPHICAL SKETCH

My name is Michael W. Miller. I am an Economist in Special Studies at the United States Postal Service. Special Studies is a unit of Corporate Financial Planning in Finance at Headquarters. I have testified before the Postal Rate Commission on ten previous occasions.

Most recently, I testified as the Parcel Return Service (PRS) cost witness (USPS-T-2) in Docket No. MC2006-1.

In Docket No. R2005-1, I presented two direct testimonies on behalf of the Postal Service. The first testimony covered First-Class Mail, Periodicals, and Standard Mail flats mail processing unit cost estimates (USPS-T-19). The second testimony presented Parcel Post, Bound Printed Matter, and Media Mail / Library Mail non-transportation cost estimates (USPS-T-20).

In Docket No. C2004-1, I testified as a rebuttal witness in opposition to the Time Warner, et al. complaint case (USPS-RT-1).

In Docket No. R2001-1, I sponsored two separate testimonies as a direct witness on behalf of the Postal Service. The first testimony presented First-Class Mail letters/cards and Standard Mail letters mail processing unit cost estimates and worksharing related savings estimates, the Qualified Business Reply Mail (QBRM) worksharing related savings estimate, the nonstandard surcharge/nonmachinable surcharge cost studies, and the Business Reply Mail (BRM) fee cost studies (USPS-T-22). The second testimony presented First-Class Mail, Periodicals, and Standard Mail flats mail processing unit cost estimates (USPS-T-24).

In Docket No. R2000-1, I testified as the direct witness presenting First-Class Mail letters/cards and Standard Mail letters mail processing unit cost estimates and worksharing related savings estimates (USPS-T-24). My testimony also included the cost study supporting the nonstandard surcharge. In that same docket, I also testified

as a rebuttal witness (USPS-RT-15). My rebuttal testimony contested key elements of the worksharing discount proposals presented by several First-Class Mail intervenors, as well as the Office of the Consumer Advocate (OCA).

In Docket No. R97-1, I testified as a direct witness concerning Prepaid Reply Mail (PRM) and QBRM mail processing cost avoidance estimates (USPS-T-23). In that same docket, I also testified as a rebuttal witness concerning the Courtesy Envelope Mail (CEM) proposal presented by the OCA (USPS-RT-17).

Prior to joining the Special Studies unit in January 1997, I served as an Industrial Engineer at the Margaret L. Sellers Processing and Distribution Center in San Diego, California. In that capacity, I worked on field implementation projects. For example, I was the local coordinator for automation programs in San Diego such as the Remote Bar Coding System (RBCS) and the Delivery Bar Code Sorter (DBCS). I was also responsible for planning the operations for a new Processing and Distribution Center (P&DC) that was activated in 1993. In addition to field work, I have completed detail assignments within the Systems/Process Integration group in Engineering. My primary responsibility during those assignments was the development of Operating System Layouts (OSL) for new facilities.

Prior to joining the Postal Service, I worked as an Industrial Engineer at General Dynamics Space Systems Division, where I developed labor and material cost estimates for new business proposals. These estimates were submitted as part of the formal bidding process used to solicit government contracts.

I was awarded a Bachelor of Science degree in Industrial Engineering from Iowa State University in 1984 and a Master of Business Administration from San Diego State University in 1990. I also earned a Professional Engineer registration in the State of California in 1990 and a Methods Time Measurement (MTM) "blue card" certification in 2004.

## I. PURPOSE AND SCOPE OF TESTIMONY

This testimony describes the development of the Test Year (TY) 2008 First-Class Mail presort flats, Periodicals Outside County flats, and Standard Mail Regular flats volume variable mail processing unit cost estimates by rate category. The First Class Mail presort flats and Standard Mail Regular flats mail processing unit cost estimates have been provided to witnesses Taufique (USPS-T-32) and Kiefer (USPS-T-36), respectively, to support rate design, and have also been provided to witness Page (USPS-T-23) for purposes of calculating final adjustments. The Periodicals Outside County flats mail processing unit cost estimates have been provided to witness Tang (USPS-T-35) to support rate design.

This testimony also describes the development of mail processing unit cost estimates for First-Class Mail presort parcels and Standard Mail "hybrids" and parcel-shaped mail pieces. These estimates have been provided to witnesses Taufique (USPS-T-32) and Kiefer (USPS-T-36), respectively, to support rate design.

## II. GUIDE TO TESTIMONY

The flats mail processing cost models can be found in USPS-LR-L-43. In addition to USPS-LR-L-43, I am also sponsoring library references USPS-LR-L-44 and USPS-LR-L-45. Library reference USPS-LR-L-44 contains the results from a recent flats coverage factor analysis, which is an input to the cost models. Library reference USPS-LR-L-45 contains Standard Mail "hybrids" and parcels mail processing unit cost estimates.

The cost models rely on data inputs that have been generated by other postal witnesses. Witness Van-Ty-Smith (USPS-T-11) provides wage rates (USPS-LR-L-55), premium pay factors (USPS-LR-L-55), and volume variability factors (USPS-T-11, Table 1); witness Bozzo (USPS-T-12) provides base year Management Operating Data System (MODS) productivity figures (USPS-LR-L-56); witness Smith (USPS-T-13) provides piggyback factors (USPS-LR-L-52) and mail processing unit cost estimates by shape (USPS-LR-L-53); and witness Loetscher (USPS-T-28) provides First-Class Mail presort flats, Periodicals Outside County flats, and Standard Mail Regular flats mail characteristics data (USPS-LR-L-32, USPS-LR-L-91, and USPS-LR-L-92, respectively). Base Year (BY) 2005 Revenue, Pieces and Weights (RPW) mail volumes by shape are also contained in the models and can be found in USPS-LR-L-77.

In developing the cost estimates, I have also relied upon data from previous rate cases. The acceptance rates and mail piece distribution density tables in the models can be found in Docket No. R2001-1, USPS-LR-J-63. The bundle distribution density tables, subsequent bundle breakage factors, incoming secondary percentage mechanized bundle handling, and number of bundle handlings can be found in Docket No. R2000-1, USPS-LR-I-88. The initial bundle breakage factors can be found in Docket No. R2000-1, USPS-LR-I-297.

My test year First-Class Mail presort flats, Periodicals Outside County flats, and Standard Mail Regular flats volume variable mail processing unit cost estimates by rate category have been provided to witnesses Taufique (USPS-T-32), Tang (USPS-T-35), and Kiefer (USPS-T-36), respectively. My First-Class Mail parcel mail processing unit cost estimates have been provided to witness Taufique (USPS-T-32). My mail processing unit cost estimates for Standard Mail “hybrids” and parcels have been

provided to witness Kiefer (USPS-T-36). The First-Class Mail presort flats and Standard Mail Regular flats mail processing unit cost estimates have also been provided to witness Page (USPS-T-23) for purposes of calculating final adjustments.

## III. FLATS TOTAL MAIL PROCESSING UNIT COST ESTIMATES

This section of my testimony describes the flats mail processing unit cost estimates by rate category, which were last calculated in Docket No. R2005-1, USPS-LR-K-43. In this docket, these estimates are contained in USPS-LR-L-43. Many changes that have been made to the cost models involve simple updates of cost model inputs (e.g., productivity figures). In other cases, the mail flow model itself had to be modified to accommodate the changes.

### A. TEST YEAR FLATS MAIL PROCESSING TECHNOLOGIES

The flats cost models estimate mail processing unit costs by rate category. In TY 2008, the Postal Service will be relying on the same flats technologies described in Docket No. R2005-1, USPS-T-19, Section III.A, whose affect on the cost models were discussed in that testimony at pages 6-7. Flats bundle sorting activities will be performed using the Automated Package Processing System (APPS), the Small Parcel and Bundle Sorter (SPBS), the Linear Integrated Parcel Sorter (LIPS), or manual operations. Flats piece distribution activities will be performed using the Automated Flats Sorting Machine Model 100 (AFSM100), the Upgraded Flats Sorting Machine Model 1000 (UFSM1000), or manual operations. In addition, all scheduled AFSM100 modifications that have been approved by the Board of Governors will have been completed by the midpoint of the test year.[1]

### B. COST MODEL CHANGES

In the instant proceeding, the flats cost models have been changed in three primary ways: 1) the results of new mail characteristics studies have been incorporated, 2) First-Class Mail presort parcels mail processing unit cost estimates have been included to support the Postal Service's proposal for shape-based rates, and 3) the Standard Mail Regular rate categories have been fully de-averaged.

#### 1. MAIL CHARACTERISTICS STUDIES

Witness Loetscher (USPS-T-28) describes the recent First-Class Mail presort flats (USPS-LR-L-32), Periodicals Outside County flats (USPS-LR-L-91), and Standard

Mail Regular flats (USPS-LR-L-92) mail characteristics studies. The data collected in these studies include: machinability (i.e., AFSM100 compatibility), container presort level, bundle presort level, and bundle size by rate category. These data were used to estimate bundle sorting costs and to determine the entry profile (i.e., first piece distribution operations) for each rate category.

## 2. FIRST-CLASS MAIL PRESORT PARCELS COST ESTIMATES

Pages 4 through 8 were added to USPS-LR-L-43 in order to estimate the additional mail processing unit costs required to process First-Class Mail presort parcels. These estimates are developed based on the assumption that parcels are processed as individual mail pieces in bundle sorting operations. The coverage factors (page 27 of L-43) and bundle data (pages 37 and 38 of L-43) are used to "flow" 10,000 mail pieces through the four levels of bundle sorting operations. The mail pieces are then sorted to the carrier level in the parcel sorting operation at the Delivery Unit. The additional costs required to process these mail pieces is calculated to be the difference between the parcel mail processing unit cost estimates and the flats mail processing unit cost estimates. The results are contained in USPS-LR-L-43, page 4 and in Table 1 below.

## 3. FULLY DE-AVERAGED STANDARD MAIL RATE CATEGORIES

The current Standard Mail Regular Nonletters rate categories are: nonautomation basic, nonautomation 3/5-digit, automation basic, and automation 3/5-digit. In the instant proceeding, the Postal Service proposes that these rate categories be fully de-averaged into eight rate categories: nonautomation mixed Area Distribution Center (ADC), nonautomation ADC, nonautomation 3-digit, nonautomation 5-digit, automation mixed ADC, automation ADC, automation 3-digit, and automation 5-digit. The Standard Mail portion of USPS-LR-L-43 (pages 74 - 112) has therefore been modified to accommodate this request. The Standard Mail characteristics data are structured to reflect the proposed rate categories.

[1] These modifications include: the Flats Identification Code Sort (FICS) system, the Automatic Tray Handling System (ATHS), and the Automatic Induction (AI) system.

## C. COST METHODOLOGY

In the past few dockets, a hybrid cost methodology has been used to estimate flats mail processing unit cost estimates by rate category.[2] A hybrid cost methodology is again relied upon in this docket.

### 1. CRA MAIL PROCESSING UNIT COSTS

The flats cost analyses rely upon shape-specific Cost and Revenue Analysis (CRA) mail processing unit costs, which are reported separately for First Class Mail, Periodicals Outside County, and Standard Mail Regular by cost pool in the In-Office Cost System (IOCS).[3] These CRA mail processing unit costs are subdivided into 63 cost pools. Each cost pool represents a specific mail processing task performed at Bulk Mail Centers (BMCs), Management Operating Data System (MODS) plants, or non-MODS plants. The costs are "mapped" to each cost pool using the methodologies described by witness Van-Ty-Smith (USPS-T-11).

Each cost pool has been classified into one of two categories: proportional or fixed. The proportional cost pools contain the costs for piece or bundle distribution operations that have actually been modeled. The flat sorting machine ("AFSM100") cost pool is an example of a proportional cost pool.

The fixed cost pools contain the costs for activities that have not actually been modeled. The bulk mail entry and verification ("LD79") cost pool is an example of a fixed cost pool.

### 2. MODEL-BASED MAIL PROCESSING UNIT COSTS

When it is not possible to isolate CRA mail processing unit costs at the rate category level, an alternative method of cost estimation is needed. In this testimony, cost models are used to de-average the CRA mail processing unit cost categories. Cost models have been developed for each rate category. For example, cost models have been created for the First-Class Mail flats nonautomation presort, mixed Area Distribution Center (ADC) automation presort, ADC automation presort, 3-digit

[2] See Docket No. R2005-1, USPS-LR-K-43; Docket No. R2001-1, USPS-LR-J-61; and Docket No. R2000-1, USPS-LR-I-90. A hybrid cost methodology indicates that a combination of engineering cost models and Cost and Revenue Analysis (CRA) data are used to develop the mail processing unit cost estimates by rate category.
[3] USPS-LR-L-43, pages 3 (First-Class Mail), 41 (Periodicals), and 76 (Standard Mail).

automation presort, and 5-digit automation presort rate categories. These models are then used to de-average the CRA mail processing unit costs for “First-Class Mail presort flats."

Each of the flats cost models consists of two spreadsheets: a mail flow spreadsheet and a cost spreadsheet. These spreadsheets are used to calculate model costs. For First Class Mail, Periodicals Outside County, and Standard Mail Regular separately, a weighted model cost for all the rate categories being de-averaged is then computed using base year mail volumes and tied back to the CRA using adjustment factors.

**a. MAIL FLOW SPREADSHEET**

Each spreadsheet “flows” 10,000 flat-shaped mail pieces through the mail processing network. This network is represented by a series of boxes (operations) and arrows on each spreadsheet that “flow” mail to other operations. Each box is separated into two parts. The right-hand section represents the actual number of physical pieces processed in a given operation. The left-hand section is equal or higher in value and reflects the fact that some pieces are processed through a given operation more than once. The latter values are what is ultimately accessed by the cost sheet and used to calculate model costs. The 10,000 mail pieces are flowed from one operation to the next using various input data that are described below.

**i. BASE YEAR MAIL VOLUMES**

The mail characteristics data described above are used as the starting point in developing mail flow spreadsheets in this docket. The data contained in USPS-LR-L-32 (First-Class Mail), USPS-LR-L-91 (Periodicals Outside County) and USPS-LR-L-92 (Standard Mail Regular) reflect the BY 2005 Revenue, Pieces, and Weights (RPW) mail volumes for flat-shaped mail.

**ii. BUNDLE SORT**

The mail characteristics data are used to estimate the number of bundles finalized and broken in each bundle sorting operation. In addition, the same data used in Docket No. R2005-1 related to the bundle sorting productivities, bundle breakage rates, bundle mail flow densities, and the number of bundle handlings were used in this

docket.[4] The results from the bundle breakage study (USPS-LR-I-297) measured breakage rates for pallets and sacks of 10 percent and 20 percent, respectively. In order to be conservative, the 10 percent figure has been used for both pallets and sacks in my analyses.

**iii. ENTRY PROFILE**

The point at which bundles are broken and finalized is then used to develop an "ENTRY PROFILE" spreadsheet. This spreadsheet translates the number of bundles back into pieces, with the 10,000-piece figure being used for each rate category.

The mail flow spreadsheet for each rate category then pulls these data into the corresponding cell on the "PIECE ENTRY POINTS" section based on whether they are machinable and/or barcoded. The "PCS IN" box at the top of each mail flow spreadsheet sums the data in the "PIECES ENTRY POINTS" cells to ensure that 10,000 mail pieces are entered into the model.

**iv. COVERAGE FACTORS**

In Docket No. R2005-1, the flats cost models were changed to reflect the new technologies described in that case (see USPS-T-19, at pages 4-7). Most of those changes were reflected in new coverage factors. Coverage factors have again been updated in this docket and can be found in USPS-LR-L-44. Coverage factors are estimates of the percentage of test year mail volume that will have access to the various equipment and technologies. Origin Destination Information System - Revenue, Pieces and Weights (ODIS-RPW) volume data were used to perform this analysis. The coverage factors were calculated by dividing the originating / destinating volumes for the "covered" facilities by the total originating / destinating volumes for all facilities.[5]

**v. ACCEPT RATES**

The acceptance rates used in the mail flow spreadsheets reflect the fact that, for a variety of reasons, some mail will not be accepted by the different types of automated flat mail processing equipment and will have to be diverted to manual operations for processing. These accept rates are taken from two sources.

[4] Docket No. R2000-1, USPS-LR-I-88 and LR-I-297.
[5] The "covered" facilities were those facilities that will have the specific equipment or technology by the midpoint of the test year (March 31, 2008).

The FSM "keying accept", "refed/misfaced REC time out," and "total accept rates" were calculated using the same End-Of-Run (EOR) data relied upon in Docket No. R2005-1.[6] The FSM "keying accept" rate is the percentage of mail successfully keyed by employees feeding the machine itself; it is not related to REC keying activities. The UFSM1000 is the only equipment in the mail flow models that allows such keying. The rejects from the automated UFSM1000 operation are assumed to be keyed one time only, except for manual incoming secondary operations.[7] Rejects that occur during keying operations are diverted to manual operations. The "refed/misfaced REC timeout" accept rate reflects the percentage of total mail volume that must be refed through the machine because the REC keyers did not finalize the mail piece before the mail piece "timed out." The models assume that this mail is refed only once. The "total accept rate" represents the total percentage of the AFSM100 mail that is finalized.

The results from engineering studies were also used in the mail flow models. The "BCR accept" rate reflects the percentage of barcoded mail that was accepted on the AFSM100 during engineering tests. The "OCR accept" rate reflects the percentage of non-barcoded mail pieces that were finalized by the AFSM100 in these same tests. Finally, the "REC image finalization rate" represents the percentage of mail for which Data Conversion Operators (DCO) at the REC were able to achieve a finest-depth-of-sort result.

**vi. MAIL FLOW DENSITIES**

A “sort plan” is a software program which designates the bin on mail processing equipment to which each mail piece is sorted based on ZIP Code information. The term “density” refers to the percentage of mail that is sorted to a given bin on a machine using a given sort plan. In the mail flow spreadsheets, automation/mechanization density percentages are used to flow mail to succeeding operations. The cost models rely on the same mail flow density data that were used in Docket No. R2005-1 (USPS-LR-J-63).

The data inputs described above are used in the mail flow spreadsheets to “flow” 10,000 mail pieces through a modeled representation of the postal mail processing

[6] Docket No. R2001-1, USPS-LR-J-63, page 15.
[7] It is assumed that UFSM1000 automation incoming secondary rejects would not be keyed on that machine, due to the relatively small volumes that would be rejected for a given ZIP Code, or grouping of ZIP Codes.

network. After the 10,000 mail pieces are finalized in either an automation or manual incoming secondary operation, the finalized mail volumes are totaled for each of those operations and the sum is entered in the “PCS OUT” box at the top of the page. This calculation is performed to ensure that all 10,000 pieces that are entered into the model are also processed through the model.

**b. COST SPREADSHEET**

Each cost spreadsheet accesses the mail volumes from each operation in the corresponding mail flow spreadsheet. This volume information, in conjunction with the other data inputs described below, is used to calculate a mail processing cost estimate for the mail volumes flowing through each operation. Each operation cost is then divided by the "PCS OUT" mail volume in order to determine the weighted operation cost. The sum of these weighted operation costs is the model cost.

**i. MARGINAL (VOLUME VARIABLE) PRODUCTIVITIES**

The productivities used in this docket come from one of two sources. The productivities for manual bundle sorting operations are from a Docket No. R2000-1 study.[8] The other productivities are taken from a study that has been conducted using GFY 2005 MODS data.[9] The marginal productivity values are then calculated by dividing the actual productivity values for each operation by the volume variability factors found in USPS-T-11, Table 1.

**ii. WAGE RATES**

Two separate wage rates are used to calculate model costs. The first wage rate reflects the wages for mail processing employees working at REC sites. The "other mail processing" wage rate is an aggregate rate for all other mail processing employees who do not work at REC sites.[10]

[8] Docket No. R2000-1, USPS-LR-I-88.
[9] Docket No. R2006-1, USPS-LR-L-56.
[10] Docket No. R2006-1, USPS-LR-L-55.

### iii. "PIGGYBACK" (INDIRECT COST) FACTORS

"Piggyback" factors are used to estimate indirect costs.[11] This methodology is consistent with the methodology relied upon by the Commission in past dockets.

### iv. PREMIUM PAY FACTORS

Premium pay factors are used to account for the fact that employees earn "premium pay" for evening and Sunday work hours. As an example, First-Class Mail is processed during the premium pay time periods (Tours 3 and 1) while Standard Mail is processed during regular business hours (Tour 2). Therefore, the First-Class Mail factor is greater than the Standard Mail factor.[12]

### v. BUNDLE SORTING COSTS

The bundle quantities calculated in the "BUNDLE SORT" spreadsheet by operation are used to calculate the bundle sorting costs in the cost spreadsheet for each rate category. Separate productivities are also available for each operation as described above.

### c. CRA ADJUSTMENTS

Separately for First Class Mail, Periodicals Outside County, and Standard Mail Regular, the model costs for each rate category are weighted together using base year mail volumes. The sum of the CRA worksharing related proportional cost pools is then divided by this weighted model cost in order to calculate the CRA proportional adjustment factor. The costs for the remaining fixed cost pool classification are used as fixed adjustments. The total mail processing unit costs are calculated as follows:

((Mail Processing Model Cost) * (Proportional Factor)) + (Fixed Factor)

The mail processing unit cost estimates by rate category can be found in Table 1 below.

## D. PRESORT-ADJUSTED MAIL PROCESSING UNIT COST METHODOLOGY

The actual figures shown in Table 1 are not always an accurate measure of the value associated with the prebarcoding of flat-shaped mail. For example, First-Class Mail has one nonautomation presort rate category. An examination of the mail characteristics for these mail pieces reveals that a great deal of this mail is presorted to

[11] Docket No. R2006-1, USPS-LR-L-52.

either 3-digits or 5-digits. As such, the actual total mail processing unit costs for First-Class Mail nonautomation presort flats are lower than those for First-Class Mail automation mixed ADC presort flats. In order to make a more insightful comparison, the costs for automation mixed ADC presort flats should be compared to the costs for nonautomation presort flats that have been presorted to the same level (in this instance, mixed ADC). Consequently, adjusted costs were developed for First-Class Mail presort flats, Periodicals Outside County flats, and Standard Mail Regular flats.

For First-Class Mail presort flats, adjusted costs were developed for nonautomation presort flats at each presort level (mixed ADC, ADC, 3-digit, and 5-digit). The costs for the automation presort flats rate categories remained the same. The adjusted cost models were developed using the identical entry profile from the corresponding automation mail flow model. For example, for this analysis, the nonautomation mixed ADC mail flow model uses the same entry profile as the automation mixed ADC mail flow model. The only difference is that the mail volumes for barcoded machinable and nonmachinable mail in the automation model were entered as non-barcoded machinable and nonmachinable mail in the nonautomation model. The model costs from these models were adjusted using the actual CRA adjustment factors described above. The results are contained in Table 1 below.

For Periodicals Outside County flats and Standard Mail Regular flats, a similar analysis was performed, but the adjustments were made to the automation model costs. Therefore, the nonautomation model costs remained the same. The adjusted cost models were developed using the identical entry profile from the corresponding nonautomation mail flow model. For example, the Periodicals automation basic presort mail flow model uses the same entry profile as the Periodicals nonautomation basic presort mail flow model. The only difference is that the mail volumes for non-barcoded machinable and nonmachinable mail in the nonautomation model were entered as barcoded machinable and nonmachinable mail in the automation model. The model costs from these models were adjusted using the actual CRA adjustment factors as described above. The results are also contained in Table 1 below.

[12] Docket No. R2006-1, USPS-LR-L-55.

## IV. STANDARD MAIL HYBRIDS AND PARCELS COST ESTIMATES

This section of my testimony describes the development of the mail processing unit cost estimates for Standard Mail Regular "hybrid" and parcel-shaped mail pieces. These estimates can be found in USPS-LR-L-45. The cost model contained in USPS-LR-L-45 consists of a modified flats cost model[13] and a modified parcels cost model,[14] combined into one EXCEL workbook.

### A. MODIFIED FLATS COST MODEL

The modified flats cost model is used to estimate two mail processing scenarios. Under the first scenario, it is assumed that the mail pieces are processed in manual flats operations only. Under the second scenario, it is assumed that the mail pieces are processed as individual mail pieces in bundle sorting operations.

#### 1. MANUAL FLATS PIECE DISTRIBUTION

Manual cost models have been developed for all eight rate categories and can be found in USPS-LR-L-45, pages 4 to 19. The data used to develop these models are the same as those relied upon in USPS-LR-L-43, pages 74 to 112, with one exception. In USPS-LR-L-45, the Standard Mail coverage factors found on page 24 were revised to reflect 100-percent manual processing.

The model cost estimates can be found in USPS-LR-L-45, page 2. The Standard Mail flats proportional and fixed CRA adjustment factors from USPS-LR-L-43, page 74, have also been relied upon as adjustment factors in USPS-LR-L-45, page 2. The CRA-adjusted mail processing unit cost estimates by rate category are summarized in column [5] of USPS-LR-L-45, page 1. The additional mail processing unit cost estimates found in column [6] are measured to be the difference between the estimates in column [5] and the average Standard Mail flats mail processing unit cost estimates, calculated in USPS-LR-L-43, found in column [4].

[13] The flats portion of USPS-LR-L-45 can be found on pages 1 through 35 and is a modified version of the USPS-LR-L-43 Standard Mail flats cost model described earlier in this testimony.

[14] The parcels portion of USPS-LR-L-45 can be found on pages 36 through 47 and is a modified version of the USPS-LR-L-46 Parcel Post cost model described in my USPS-T-21 testimony.

### 2. BUNDLE SORTING OPERATIONS PIECE DISTRIBUTION

Four model cost estimates can be found in USPS-LR-L-45, pages 20 to 23, and are developed based on the assumption that the mail pieces are processed as individual mail pieces in bundle sorting operations.[15] The coverage factors (page 24 of L-45) and bundle data (pages 34 and 35 of L-45) are used to "flow" 10,000 mail pieces through the four levels of bundle sorting operations. The mail pieces are then sorted to the carrier level in the parcel sorting operation at the Delivery Unit.

The proportional and fixed CRA adjustment factors in USPS-LR-L-45, page 2, are applied to these model cost estimates in the calculations performed at USPS-LR-L-45, page 1, column [7]. The additional mail processing unit cost estimates found in column [8] are measured to be the difference between the CRA-adjusted estimates in column [7] and the average Standard Mail flats mail processing unit cost estimates, calculated in USPS-LR-L-43, found in column [4].

## B. MODIFIED PARCELS COST MODEL

The modified parcels cost model is used to estimate two mail processing scenarios. In the first scenario, it is assumed that these mail pieces are processed with other machinable parcels on Parcel Sorting Machines (PSM) at Bulk Mail Centers (BMCs). In the second scenario, it is assumed that the mail pieces are processed manually at the BMCs.

### 1. PARCEL SORTING MACHINE PIECE DISTRIBUTION

The parcel cost models are affected not only by the processing methods used, but also by the cubic volume of the mail pieces. Machinable cost estimates were therefore developed for three different sizes of mail pieces: a 4" x 4" x 1" rigid mail piece, a 5" x 12" x 1" rigid mail piece, and an average size Standard Mail parcel.[16]

The cubic volume calculations for a 4" x 4" x 1" mail piece and a 5" x 12" x 1" mail piece can be found on USPS-LR-L-45, page 39. The Postal Service does not

[15] The four cost models differ in that the first operation through which the mail is processed are different. The four entry points are: the outgoing primary bundle sorting operation, the incoming Managed Mail Program (MMP) bundle sorting operation, the incoming 3-digit bundle sorting operation, and the incoming 5-digit bundle sorting operation.

[16] Under current Domestic Mail Manual (DMM) definitions, a 4" x 4" x 1" mail piece and a 5" x 12" x 1" mail piece could technically be classified as a flat. In this analysis, it is assumed that these mail pieces are "rigid" mail pieces such that they would not be processed on flats sorting equipment with the residual flats mail pieces.

maintain average Standard Mail cubic volume data similar to the Parcel Post data contained in USPS-LR-L-47. An alternate cubic volume estimate therefore had to be developed. In my analysis, I have used a Mail Condition Reporting System (MCRS) conversion factor for Standard Mail Small Parcels and Rolls (SPRs) in hampers to develop such an estimate. In USPS-LR-L-46, page 8, the average cubic volume of Parcel Postal mail pieces is calculated to be 0.541 cubic feet. On that same page, the number of Parcel Post mail pieces per hamper is calculated to be 24.7 pieces. The MCRS conversion factor for Standard Mail SPRs in a hamper is 122 pieces. In USPS-LR-L-45, page 39, I therefore estimate the average Standard Mail parcel cubic volume as follows:

(0.541 cubic feet) * 24.7 pieces / 122 pieces = 0.109 cubic feet

I have developed two cost estimates for each of the three mail piece sizes. The first estimate is based on the assumption that the mail pieces are processed through both an originating and a destinating BMC (see USPS-LR-L-45, pages 40 to 42). The second estimate is based on the assumption that the mail pieces are processed through a destinating BMC only (see USPS-LR-L-45, pages 44 to 46).[17]

The cost estimates for a 4" x 4" x 1" mail piece, a 5" x 12" x 1" mail piece, and an average Standard Mail parcel are summarized in USPS-LR-L-45, page 1, columns [9], [11], and [13], respectively. The additional mail processing unit cost estimates found in columns [10], [12], and [15] are measured to be the difference between the estimates in columns [9], [11], and [13], respectively, and the average Standard Mail flats mail processing unit cost estimates, calculated in USPS-LR-L-43, found in column [4].

The values shown in USPS-LR-L-45, page 1, column [14] reflect the mail processing unit costs which are incurred after the Standard Mail pieces have been sorted to the 5-digit level on the PSMs.

[17] It was discovered late in the rate case development process, after the results of my model were incorporated into the analysis of the downstream witness, that the PPSM and SPSM piggyback factors in USPS-LR-L-45, page 38, are

## 2. MANUAL PARCELS PIECE DISTRIBUTION

Two cost models have been developed which estimate the manual costs for processing an average size Standard Mail parcel. The first cost model is based on the assumption that the mail pieces are processed through both an originating BMC and a destinating BMC (see USPS-LR-L-45, page 43). The second cost model is based on the assumption that the mail pieces are processed through a destinating BMC only (see USPS-LR-L-45, page 47).

The cost estimates for mail pieces processed manually at BMCs are summarized in USPS-LR-L-45, page 1, column [16]. The additional mail processing unit cost estimates found in column [18] are measured to be the difference between the estimates in column [16] and the average Standard Mail flats mail processing unit cost estimates, calculated in USPS-LR-L-43, found in column [4].

The values shown in USPS-LR-L-45, page 1, column [17] reflect the mail processing unit costs which are incurred after the Standard Mail pieces have been sorted to the 3-digit level manually.

incorrect. The MODS-adjusted piggyback factors of 1.756 and 2.464, respectively, should have been used. Details are provided in an addendum to USPS-LR-45.

## V. PROPOSED CHANGES RELATIVE TO PRC METHODOLOGY

To the extent that, in response to Commission Rule 53, I discuss and compare Postal Rate Commission (PRC) versions of costing materials in this testimony, I do not sponsor those materials, or in any way endorse the methodologies used to prepare them. In its Order No. 1380 adopting the roadmap rule, the Commission included the following statements regarding the role played by Postal Service witnesses under these circumstances:

> The comparison required by this exercise cannot be equated with sponsoring the preexisting methodology. It merely identifies and gives context to the proposed change, serving as a benchmark so that the impact can be assessed. … [W]itnesses submitting testimony under Rule 53(c) sponsor the proposed methodological changes, not the preexisting methodology. That they may be compelled to reference the pre-existing methodology does not mean that they are sponsoring it. Order No. 1380 (August 7, 2003) at 7.

Therefore, although I may be compelled to refer to the PRC methodologies and versions corresponding to the Postal Service proposals which are the subject of my testimony, my testimony does not sponsor those PRC materials.

The PRC version of the flats cost models are contained in USPS-LR-L-102. The PRC versions of the Standard Mail hybrids and parcels cost estimates are contained in USPS-LR-L-115. The cost models contained in USPS-LR-L-102 and USPS-LR-L-115 are expressed in the same format as the Postal Service versions found in USPS-LR-L-43 and USPS-LR-L-45, respectively, with the exception that four cost inputs have changed. The PRC version of these costs models rely on different piggyback factors (USPS-LR-L-98), CRA mail processing unit cost estimates by shape (USPS-LR-L-99), volume variability factors (USPS-T-11, Table 5), and premium pay factors (USPS-LR-L-100). All other cost model inputs are identical for both the Postal Service and PRC versions of these cost models.

**TABLE 1:**
**USPS FLATS / PARCELS TOTAL MAIL PROCESSING UNIT COST ESTIMATES**

| RATE CATEGORY | ACTUAL (CENTS) | PRESORT-ADJUSTED (CENTS) |
|---|---|---|
| **FIRST-CLASS MAIL PRESORT FLATS** | | |
| Nonautomation Flats | 36.459 | --- |
| Nonautomation Mixed ADC Flats | --- | 40.875 |
| Nonautomation ADC Flats | --- | 33.127 |
| Nonautomation 3-Digit Flats | --- | 27.619 |
| Nonautomation 5-Digit Flats | --- | 21.254 |
| Automation Mixed ADC Flats | 38.637 | 38.637 |
| Automation ADC Flats | 31.404 | 31.404 |
| Automation 3-Digit Flats | 26.259 | 26.259 |
| Automation 5-Digit Flats | 20.039 | 20.039 |
| **FIRST-CLASS MAIL PRESORT PARCELS** | | |
| Nonautomation Parcels | 87.523 | --- |
| Automation Mixed ADC Parcels | 118.829 | --- |
| Automation ADC Parcels | 86.455 | --- |
| Automation 3-Digit Parcels | 75.985 | --- |
| Automation 5-Digit Parcels | 49.895 | --- |
| **PERIODICALS OUTSIDE COUNTY FLATS** | | |
| Nonautomation Basic Flats | 29.605 | 29.605 |
| Nonautomation 3-Digit Flats | 22.157 | 22.157 |
| Nonautomation 5-Digit Flats | 14.161 | 14.161 |
| Nonautomation Carrier Route Flats | 9.835 | 9.835 |
| Automation Basic Flats | 25.212 | 28.321 |
| Automation 3-Digit Flats | 21.078 | 20.936 |
| Automation 5-Digit Flats | 14.314 | 13.860 |
| **STANDARD MAIL REGULAR FLATS** | | |
| Nonautomation MADC flats | 23.516 | 23.516 |
| Nonautomation ADC Flats | 19.748 | 19.748 |
| Nonautomation 3-Digit Flats | 17.405 | 17.405 |
| Nonautomation 5-Digit Flats | 13.134 | 13.134 |
| Automation MADC Flats | 24.874 | 22.313 |
| Automation ADC Flats | 20.826 | 18.683 |
| Automation 3-Digit Flats | 18.201 | 16.470 |
| Automation 5-Digit Flats | 12.662 | 12.644 |

**TABLE 2:**
**PRC FLATS / PARCELS TOTAL MAIL PROCESSING UNIT COST ESTIMATES**

| RATE CATEGORY | ACTUAL (CENTS) | PRESORT-ADJUSTED (CENTS) |
|---|---|---|
| **FIRST-CLASS MAIL PRESORT FLATS** | | |
| Nonautomation Flats | 40.051 | --- |
| Nonautomation Mixed ADC Flats | --- | 44.328 |
| Nonautomation ADC Flats | --- | 34.865 |
| Nonautomation 3-Digit Flats | --- | 28.383 |
| Nonautomation 5-Digit Flats | --- | 20.805 |
| Automation Mixed ADC Flats | 41.680 | 41.680 |
| Automation ADC Flats | 32.909 | 32.909 |
| Automation 3-Digit Flats | 26.887 | 26.887 |
| Automation 5-Digit Flats | 19.525 | 19.525 |
| **FIRST-CLASS MAIL PRESORT PARCELS** | | |
| Nonautomation Parcels | 99.575 | --- |
| Automation Mixed ADC Parcels | 136.441 | --- |
| Automation ADC Parcels | 98.290 | --- |
| Automation 3-Digit Parcels | 85.934 | --- |
| Automation 5-Digit Parcels | 55.727 | --- |
| **PERIODICALS OUTSIDE COUNTY FLATS** | | |
| Nonautomation Basic Flats | 34.247 | 34.247 |
| Nonautomation 3-Digit Flats | 25.379 | 25.379 |
| Nonautomation 5-Digit Flats | 15.707 | 15.707 |
| Nonautomation Carrier Route Flats | 10.672 | 10.672 |
| Automation Basic Flats | 28.799 | 32.684 |
| Automation 3-Digit Flats | 23.789 | 23.860 |
| Automation 5-Digit Flats | 15.815 | 15.387 |
| **STANDARD MAIL REGULAR FLATS** | | |
| Nonautomation MADC Flats | 26.028 | 26.028 |
| Nonautomation ADC Flats | 21.629 | 21.629 |
| Nonautomation 3-Digit Flats | 18.895 | 18.895 |
| Nonautomation 5-Digit Flats | 13.832 | 13.832 |
| Automation MADC Flats | 27.696 | 24.604 |
| Automation ADC Flats | 22.866 | 20.374 |
| Automation 3-Digit Flats | 19.661 | 17.794 |
| Automation 5-Digit Flats | 13.229 | 13.304 |