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

Postal Rate and Fee Changes, 2000	Docket No. R2000-1

DIRECT TESTIMONY OF MARC A. SMITH ON BEHALF OF THE UNITED STATES POSTAL SERVICE

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AUTOBIOGRAPHICAL SKETCH

My name is Marc A. Smith. I have been employed by the Postal Service since February, 1987, as an Economist in the Cost Attribution group of Finance. In Docket No. R97-1 I provided (in testimony and by library reference): Standard A dropship discount cost avoidances, mail processing costs by shape, the development of base year and test year plant and mail processing equipment costs, piggyback factors and other inputs needed for the worksharing avoided costs and projections of Classification Reform's impact on FY97 clerk and mailhandler costs.

In Postal Rate Commission Docket No. MC95-1, I testified for the Postal Service on First-Class letter mail processing costs. In Docket No. R94-1, I worked in support of the base year witness Dana W. Barker regarding facility-related and mail processing equipment-related costs. In Docket No. R90-1, I provided testimony on behalf of the Postal Service to improve the development of plant and equipment costs and the new development of piggyback factors for specific mail processing operations to better determine the indirect costs for cost avoidance calculations. In Docket No. R87-1 I worked in support of Paul R. Kleindorfer's testimony on the peak load cost issue.

Prior to coming to the Postal Service, I was a Senior Economist with the New York Department of Public Service. I testified as an expert witness in numerous electric and telephone rate proceedings, primarily on the marginal costs of electricity. This testimony was in support of both retail and co-generation electric rate proposals. In 1981, I served as an economist at the Interstate Commerce Commission. There, I worked on modifying railroad regulations to conform with the Staggers Rail Act of 1980.

I received a B.A. with honors in Economics from the George Washington University in 1975. I received a M.A. in Economics from the University of Michigan in 1978. While at the University of Michigan, I completed all requirements toward a Ph. D in Economics except the dissertation. As a graduate student, I served as a teaching fellow, in introductory economics and econometrics courses. I also worked as a research assistant at the Institute for Social Research in Ann Arbor, Michigan on a study of electric utility load management and peak load pricing experiments.

My papers and publications are as follows:

Evaluation of the Federal Energy Administration's Load Management and Rate Design Demonstration Projects, with Daniel Hill et al., Electric Power Research Institute,1979.

Analysis of Residential Response to Time-of-Day Prices, with Daniel Hill et al., Electric Power Research Institute, 1981.

"The Effect of Maintenance Requirements in Peak Load Pricing", with Mark Reeder. Presented at the Advanced Workshop in Regulation and Public Utility Economics, May, 1983.

"Pricing Rivalry Between Railroads in the Transportation of Coal in Western United States in the 1970s." Presented at the Advanced Workshop in Regulation and Public Utility Economics, May, 1984.

"Econometric Evaluation of Electric Utility Operation and Maintenance Expenses" in Proceedings of the Fifth NARUC Biennial Regulatory Information Conferences, National Regulatory Research Institute, September 3-5, 1986 pp. 1871 - 1912.

"Peak-Load Pricing in Postal Services" with Michael A. Crew and Paul R. Kleindorfer, Economic Journal, September, 1990.

"The Analytical Basis for Cost Measurement at the United States Postal Service" with Michael D. Bradley and Jeffrey L. Colvin. Presented at the Advanced Workshop in Regulation and Public Utility Workshop in Cooperstown, NY, May 1991.

"Measuring Product Costs for Ratemaking: The United States Postal Service," with Michael D. Bradley and Jeffrey L. Colvin, edited by Michael A. Crew and Paul R.

Kleindorfer Regulation and the Nature of Postal and Delivery Service. Boston: Kluwer Academic Publishers, 1993, pp. 133-157.

"Peak Loads and Postal Services: Some Implications of Multi-Stage Production" with Michael A. Crew and Paul R. Kleindorfer, edited by Michael A. Crew and Paul R. Kleindorfer Managing Change in Postal and Delivery Industries. Boston: Kluwer Academic Publishers, 1997, pp. 42-64.

I. PURPOSE AND SCOPE OF TESTIMONY, AND GUIDE TO SUPPORTING DOCUMENTATION

There are three main purposes of my testimony. First, I provide methodology and inputs necessary to determine the volume variable equipment and facility-related costs by subclass for both the base year and test year for witnesses Meehan, USPS-T-11, and Kashani, USPS-T-14. Second, I provide piggyback factors which are used to incorporate indirect costs into the cost avoidance estimates for the purposes of setting worksharing discounts as well as to compute final adjustments. These are used by witnesses Miller, USPS-T-24, Yacobucci, USPS-T-25, Eggleston, USPS-T-26, Crum, USPS-T-27, Daniel, USPS-T-28, Campbell, USPS-T-29, and Davis, USPS-T-30. Third, I calculate mail processing costs by shape, both labor and indirect, by cost pool. These costs are also used in determining the cost avoidance estimates for developing worksharing discounts, by many of the same witnesses as use piggyback factors listed above. This testimony updates my work in these same areas in Docket No. R97-1, using methods similar to, or the same as, I used in that docket.

Part II of my testimony is on equipment and facility-related costs. The equipment-related costs which I provide for the base year are mail processing equipment depreciation (component 20.1[1]), interest expense (component 20.5), maintenance labor (component 11.2), and parts & supplies (component 16.3.2), which account for about 2.7 percent of accrued costs. I divide these costs by

equipment type using data from our accounting and engineering records into 21 cost pools. I also provide the variabilities and distribution keys to be used for each of these 21 cost pools, in order to relate these costs to subclasses. For the test year I provide mail processing equipment depreciation divided into the 21 cost pools, based on data from our accounting system and capital budget.

The facility-related costs in the base year and test year are for space provision and space support. The space provision costs are rents (component 15.1), depreciation (component 20.3) and interest (component 20.5). The space support costs are fuel and utilities (component 15.2), custodial services labor (component 11.1), contract cleaners (component 11.1.2), building equipment maintenance labor (component 11.3), custodial supplies and services (component 16.3.1) and building security (component 18.1.2). I divide these costs into cost pools (or by activity) based on the FY1992 facility survey, updated using information on equipment deployments. I also prescribe variabilities and distribution keys for these cost pools. In addition, I provide assistance to rollforward witness Kashani, USPS-T-14, on relating cost reductions and other programs costs to subclass. This part of my testimony is supported by USPS LR-I-83, "Equipment and Facility-Related Costs."

Part III of my testimony contains the presentation of piggyback and related factors. There are four sets of factors:

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[1] This component number refers to the numbering system for cost components used in the Summary Description, USPS LR-I-1, and in the segments and component report (e.g., see witness Meehan, USPS-T-11, Exhibit USPS-11A).

1. piggyback factors by major function,
2. piggyback factors used for final adjustments,
3. mail processing operation specific piggyback factors,, and
4. premium pay factors.

A piggyback factor is, in general terms, the ratio of total volume variable costs to volume variable labor costs for a specific function (e.g. city carrier) or operation (e.g. OCR). Total costs, as contained in the numerator, include labor, supervisor, administrative, facility-related and equipment-related costs. Labor costs, in the denominator, would be all non-supervisory, non-administrative labor cost associated with the function or operation. Piggyback factors are employed in cost studies to augment labor cost estimates to add the costs associated with supervisors, administration, facility-related and equipment-related.

The first set of piggyback factors (or ratios) are provided for major functions (e.g., mail processing, window service, city delivery, rural delivery, vehicle service drivers, and accounting) for each subclass[2] for the test year and in some cases the base year. The second set of piggyback factors are those provided for the test year final adjustments performed by witness Daniel, USPS-T-28 and Davis, USPS-T-30. The third set of piggyback factors are provided for specific mail processing operations, operations defined to be consistent with the cost pools for mail processing labor for both the base year and test year. The

final set of factors are premium pay factors, which reflect the premium pay adjustment as shown in the Workpaper A-2, pages 1-4 of witness Meehan, USPS-T-11. These factors are used in worksharing-related cost studies to reflect the premium pay adjustment. This part of my testimony is supported by USPS LR-I-77, "Development of Piggyback and Related Factors."

Part IV of my testimony concerns Mail Processing Unit Costs by Shape for the base year and test year. These costs are inputs in developing costs avoided due to worksharing. Unit costs by shape are base year or test year volume variable mail processing unit costs by shape and presort level. In addition, these costs have been developed for letter shape mail based on automation and non-automation as well as by indicia for First-Class single-piece letters. These costs include piggyback or indirect costs as well. These costs are provided by cost pool. This part of my testimony is based on USPS LR-I-81, "Mail Processing Unit Costs by Shape."

[2] These types of piggyback factors are computed for each row of the test year (before rates) or base year segments and components reports, which are USPS-14H and USPS-11A respectively.

II. EQUIPMENT AND FACILITY-RELATED COSTS IN THE BASE AND TEST YEAR

This part of my testimony relates to the results shown in my Attachments 1 to 9. Attachments 1-3, 6 and 7 divide, or can be used to divide, the accrued equipment and facility-related costs by function in order to form cost pools (or costs by activity). The volume variability and distribution key for each cost pool as specified in Attachments 4, 5 and 8 are used to relate these costs to the subclasses for the base year and test year as inputs for witnesses Meehan, USPS-T-11, and Kashani, USPS-T-14. The variabilities and distribution keys in Attachments 4, 5, and 8 as well as from Attachment 9 are also used to distribute cost reductions and other program costs related to new equipment deployments and programs by witness Kashani, USPS-T-14. The detailed calculations of the results shown in Attachments 1 to 9 are contained in USPS LR-I-83 and are summarized in sections II.A and II.B below.

A. Mail Processing Equipment-Related Costs

The mail processing equipment-related costs that I develop are mail processing equipment depreciation (component 20.1), interest expense (component 20.5)[3], maintenance labor (component 11.2), and parts & supplies (component 16.3.2). The accrued costs in the base year for depreciation,

[3] This refers to the portion of interest expense which is related to mail processing equipment. Interest expense is composed of three components: interest on retirement liabilities, interest on debt, and other interest. Interest on debt has the same variability and distribution as total depreciation on equipment, vehicles, land and buildings. As a result interest on debt can be apportioned to equipment, vehicles and facilities in proportion to depreciation expenses for these categories. See USPS LR-I-1, page 20-5.

interest, maintenance labor, and parts & supplies are respectively in millions $551.7, $57.2, $763.2, and $233.0, which is about 2.7 percent of accrued cost.[4] This is an update of the work presented in Docket No. R97-1 in USPS LR-H-127, and follows much the same approach.

1. Development of Cost Pools for Base Year and Test Year

The first step in determining the volume variable costs by subclass associated with any cost segment or component is to identify costs by cost pool or activity. Mail processing equipment, of course, includes many different types of equipment, with different purposes and uses. In my Docket No. R90-1 testimony twelve cost pools were defined (see Exhibit USPS-8D). As new equipment has been deployed we have added to these categories. We currently have 21 categories as listed and described in USPS LR-I-83, pages IV-9 to IV-12.[5] These are the same cost pools used in Docket No. R97-1, except that new equipment have been included in these categories due to actual and anticipated deployments.[6] Each cost pool is intended to reflect a distinct "activity" as much as possible.

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[4] See USPS LR-I-77, pages III-14 to III-16.
[5] The testimony of witness Kingsley, USPS-T-10, contains a description of much of this equipment.
[6] The equipment added to these categories since Docket No. R97-1 are Robots (for tray handling), Automated Flats Sorting Machine (called AFSM 100), and the SPBS Feed System.

Attachment 1 shows the division of maintenance labor and parts & supplies into 20 categories for the base year.[7] This is done using Engineering's data, Maintenance Activity, Reporting and Scheduling (MARS) for FY98. This data tracks maintenance work hours, parts and supplies by equipment type, for plants and other facilities. Maintenance labor costs by equipment category are calculated to include an apportionment of supervisor and administrative costs. The calculation of these costs by equipment category is shown in USPS LR-I-83, part II (see pages II-4 and II-5 in particular), and summarized in Attachment 1.

Attachment 2 shows the base year depreciation costs for 20 of the 21 equipment categories.[8] The depreciation by equipment category is calculated using FY98 equipment accounting records. Pages IV-9 to IV-12 of USPS LR-I-83, show the equipment contained in each of the 21 categories.

Attachment 3 shows the test year depreciation costs for 20 of the 21 categories. The test year depreciation is projected by category using the base year costs as a starting point and then augmenting this with information from the capital budget. Significant deployments are anticipated on DBCS, flats sorting equipment, RBCS, and SPBS equipment as discussed by witness Kingsley, USPS-T-10.

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[7] The 17st category, Tray Transport & Staging Systems is apportioned among certain piece distribution equipment based on the relative number of each. In the base year (BY) this includes OCR, MPBCS, DBCS, and LSM. In the test year (TY) this includes FSM instead of LSM. The costs for the 21 categories are shown in USPS LR-I-83, Page II-6 and the apportionment of the Tray Transport and Staging Systems costs is shown at page II-7.

[8] See USPS LR-I-83, page IV-3 to see the costs for all 21 categories.

2. Variability of Mail Processing Equipment-Related Costs

My testimony continues the past practice of applying the same variability to equipment-related costs as the variability of the labor operating the equipment.[9] This assumes that there is a constant proportion of labor and equipment-related costs for the marginal and accrued costs.

The mail processing labor variabilities for the equipment categories are developed by using witness Bozzo's econometric variabilities and non-econometric variabilities from witness Van-Ty-Smith, both of which are shown in witness Van-Ty-Smith, USPS-T-17, Table 1. The variabilities by equipment category, which are shown in my Attachment 4, are either the same as the labor variabilities in Table 1 of witness Van-Ty-Smith or an averaging of two or more of these variabilities.[10] The latter occurs for equipment categories for which the labor operating the equipment is contained in more than one of the labor cost pools. This is the same procedure as used in Docket No. R97-1.[11]

3. Distribution of Mail Processing Equipment-Related Costs

My testimony continues the past practice of distributing equipment-related costs to subclass based on the distribution of the labor operating the equipment.[12] For instance, in the case of automated letter sorting equipment (e.g., OCR, DBCS) I rely on the logic that the machine time by subclass is, for

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[9] See Docket No. R97-1, USPS LR-H-127, Part III and USPS LR-H-1 at page 20-2.

[10] Attachment 4 is supported by the calculations in USPS LR-I-83, part III.

[11] See USPS LR-H-127, part III.

[12] See Docket No. R97-1, USPS LR-H-127, Page IV-8 and USPS LR-H-1 at page 20-2.

the most part, proportionate to the equipment operators labor time by subclass. The time the operators spend loading and sweeping the mail from the equipment for each subclass is likely a good indicator for the machine time for each subclass. Therefore, the labor time by subclass should be a good or at least reasonable basis for equipment cost distribution. Attachment 5 shows the distribution keys used for each of the 20 equipment categories.[13]

4. Distribution of Cost Reductions and Other Programs Costs

Cost Reductions and Other Programs for FY99 to FY2001, are generally associated with new equipment deployments. In some cases they reflect management initiatives to improve operations in a certain area, as discussed in USPS LR-I-127. These equipment deployments and initiatives that affect mail processing labor (component 3.1) or mail processing equipment maintenance labor (component 11.2) are distributed to subclasses using the same variabilities and distribution keys as used for the equipment-related costs discussed above. In addition, because many equipment deployments reduce manual sorting costs, the distribution for manual letter sorting and manual flat sorting costs are used as distribution keys for the savings associated with equipment deployments. An example of this is the new Automated Flats Sorting Machine (AFSM 100), whose deployment is anticipated to reduce the amount of manual sorting of flats.[14] As a result, the distribution of the projected savings from the AFSM 100 is based on

[13] See USPS LR-I-1 at page 11-3 for a description of these distribution keys and also see USPS LR-I-83, page IV-8.

the proportions of labor time by subclass for the manual sorting of flats. Attachment 9, Page 2 shows the variabilities I provided for manual letter sorting and manual flats sorting, to be used in the manual sorting distribution keys. These variabilities are calculated as described above for the variabilities for the equipment categories. Finally I provide a Function 4 mail processing labor key to be used for distributing the savings of the program intended to reduce such costs.[15]

B. Facility-Related Costs

The facility-related costs that I develop for the base year and test year are space provision and space support. The space provision costs are rents (component 15.1), depreciation (component 20.3) and interest (component 20.5).[16] The space support costs are fuel and utilities (component 15.2), custodial services labor (component 11.1), contract cleaners (component 11.1.2), building equipment maintenance labor (component 11.3), custodial supplies and services (component 16.3.1) and building security (component 18.1.2). The accrued costs in the base year for rents, depreciation and interest for space provision are respectively in millions, $633.2, $624.5, and $64.8. The accrued maintenance and custodial labor, contract cleaners, fuel & utilities,

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[14] See witness Kingsley, USPS-T-10 at page 11.
[15] See witness Kashani's, USPS-T-14, Appendix A and LR-I-127 for a description of the distribution keys used for Cost Reductions and Other Programs.
[16] As noted above in footnote 3, this is for the portion of interest which is treated as variable and distributed the same as facility depreciation.

custodial building supplies, and USPS protection force costs in the base year are, respectively in millions, $1,203.0, $57.4, $435.8, $120.2 and $75.6. These accrued costs for space provision and space support costs account for over five percent of the base year accrued costs. As has been done since Docket No. R90-1 and earlier, the development of variable space provision costs by subclass employs imputed rents, capped at book cost, as described below.[17]

1. Development of Cost Pools

The first step in the development of cost pools for facility-related costs involves determining the Postal Service facility space by activity or function and determining imputed rents (or market rental value) for this space. Attachments 6 and 7 show the base year and test year estimated facility space and imputed rents for each function, which is called "Space Category."

The results in Attachments 6 and 7 are based on the FY1992 facility survey.[18] The FY1992 estimates of facility space by space category are adjusted to reflect the base year and test year, based on information on equipment deployments and overall Postal Service facility space growth. For categories in which we have information on equipment deployments, such as space categories 13 to 18 in Attachment 6, the estimated square feet is adjusted in

[17] This is an update of the work presented in Docket No. R97-1 in USPS LR-H-127. It is also based on work in Docket No. R94-1 in library references USPS LR-G-120 and USPS LR-G-137.

[18] This work is described in Foster Associates, Inc., Facility Cost Development Update, December 1993, which is USPS LR-G-120 in Docket No R94-1.

which we have information on equipment deployments, such as space categories 13 to 18 in Attachment 6, the estimated square feet is adjusted in proportion to the amount of deployment.[19] In the remaining categories, square feet are assumed to grow at the same rate as overall facility space, net of the space adjustments made for equipment deployments. The imputed rents for each category are updated from FY1992, to reflect the changes in facility space just discussed, but also to reflect changes in the rental rates, using the DRI rent-residential index. The methods used to project base year and test year square footage and imputed rents by space category for Attachments 6 and 7, are the same as used in Docket No. R97-1.[20]

The square feet and imputed rent estimates in Attachments 6 and 7 are used to determine the cost pools for both space provision and space support costs. The determination of space provision costs by cost pool or space category, however, is more complex, reflecting the PRC's decisions in Docket Nos. R76-1 and R90-1.

The base year space provision costs by space category are the imputed rents in Attachment 6, which are used in place of the accrued or "book" space provision costs (rents, depreciation, and interest), with the caveat that the

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[19] In addition, space categories for operations which are effected by equipment deployment (such as manual letter sorting) are also adjusted, given available information. For instance, the space allotment for Carrier Sequence Barcode Sorters (CSBCS) was assumed to lead to an offsetting reduction in manual letter sorting space. See Docket No. R97-1, USPS LR-H-127, page I-5.

[20] See USPS LR-H-127, Parts I and V.

rents for each of the space categories are reduced by the ratio of "book" costs to volume variable imputed rents. This reduction of volume variable imputed rents, sets it equal to "book" costs – thus capping imputed rents at "book" costs. Test year space provision costs are based on the imputed rents in Attachment 7, in the same fashion. In both the base year and test year, the volume variable imputed rents exceed the "book" costs and are therefore capped at "book" cost.

The development of the space support costs by cost pool or space category is based on the square footage for each category shown in Attachments 6 and 7. For instance, for the base year, the accrued costs of maintenance and custodial labor, contract cleaners, fuel & utilities, custodial building supplies, and USPS protection force are divided into cost pools on the basis of relative square footage in Attachment 6. Likewise the test year space support costs are divided into cost pools using the square footage from Attachment 7.

2. Variability of Facility-Related Costs

My testimony provides the variabilities for each of the space categories. These are shown in Attachment 8 and also are described in the Summary Description, USPS LR-I-1, pages 15-2 and 15-3. These variabilities stem from

[21] Volume variable imputed rents are computed by multiplying the variabilities for each space category, as described in the next section, times the category imputed rent and summed for all categories.

Docket No. R76-1, USPS-T-9 and USPS-T-16. Variabilities for new categories stemming from the 1992 space survey were the same as the most similar former category. These variabilities are unchanged from those used in Docket No. R97-1.[22]

3. *Distribution of Facility-Related Costs*

My testimony also provides the distribution key for each of the space categories. These are shown in Attachment 8 and, with the exception of Registry as discussed below, are also described in the Summary Description, USPS LR-I-1, pages 15-3 and 15-4. This continues the past practice of distributing facility-related costs to subclass based the distribution of the labor using the space.[23] For example, in the case of a Delivery Barcode Sorter (DBCS), I rely on the logic that the facility space usage by subclass within the DBCS operation is proportionate to the equipment operators labor time by subclass. Thus, if for the Postal Service, as a whole 40 percent of the DBCS operator time is spent loading and sweeping Standard A letters, then this is a good indicator that 40 percent of the utilization of DBCS is for Standard A letters. Therefore, 40

[22] See USPS LR-H-127, page I-9.

[23] See Docket No. R97-1, USPS LR-H-127, Part I-9 and USPS LR-H-1 at page 15-4 to 15-5. There is at present, as has been true previously, some exceptions to this practice of relying on the distribution of the labor costs utilizing space for distribution of the costs for that space. Priority Mail operations space is such a case. All Priority Mail manual sorting operations space, is distributed to Priority Mail, without regard to the IOCS tally distribution within Priority Mail manual sorting operations. See Attachment 8 and the above cited references.

percent of the DBCS space provision and space support costs should be distributed to Standard A letters.

As indicated above, these distribution keys are unchanged from those used in Docket No. R97-1, with the exception of the distribution key for Registry. In previous cases Registry space has been distributed entirely to the Registry subclass. This however, is in conflict with the labor distribution key for Registry personnel which shows that only 56 percent of the MODS Registry labor distribution is for Registry.[24] Instead the MODS 18, Registry labor distribution key is used for distributing Registry facility-related costs.

[24] See witness Van-Ty-Smith, USPS-T-17, Table 3, MODS 18, Registry Cost Pool.

III. PIGGYBACK FACTORS AND PREMIUM PAY FACTORS

Attachments 10 to 16 contain the various piggyback factors, premium pay factors, and related costs provided by my testimony. Piggyback factors are used to incorporate indirect costs into the cost avoidance estimates for the purpose of setting worksharing discounts as well as to compute final adjustments. There are four main sets of factors: piggyback factors by major function and subclass in Attachments 10 and 11 for the base year and test year, respectively; piggyback factors used for final adjustments in Attachment 12; mail processing operation specific piggyback factors in Attachments 13 and 14 for the base year and test year, respectively; and premium pay factors in Attachment 15. Attachment 16 contains some additional piggyback factors and related costs, which are also used in developing cost avoidance estimates. The detailed calculations of the results shown in Attachments 10 to 16 are contained in USPS LR-I-77. The methodology used is essentially the same as that employed in Docket No. R97-1 in USPS LR-H-77 and PRC LR-8.

Generally, piggyback factors are ratios of total volume variable cost to volume variable labor cost for specific functions or operations (e.g. city carriers or OCRs). Total costs, as contained in the numerator, include labor, supervisor, administrative, service-wide benefits, facility-related and equipment-related costs. Labor costs, in the denominator, would be all non-supervisory, non-administrative labor cost associated with the function or operation. The total cost and labor costs used in calculating the test year (or alternatively for the base year) piggyback factor are those developed in the test year costs of witness

Kashani, USPS-T-14, (or alternatively base year costs of witness Meehan, USPS-T-11).[25] An example, which is discussed more fully in the next section, is the test year mail processing piggyback factor for First-Class Mail, single-piece letters & parcels of 1.564. This ratio indicates that in the average mail processing operation, for every dollar of labor costs for First-Class single-piece letters & parcels, the Postal Service incurs 56.4 cents of supervision, administrative costs, service-wide benefits, facility-related costs and equipment-related costs. Piggyback factors are employed in cost avoidance studies to augment labor cost estimates by adding the costs associated with supervisors, and administration, as well as facility-related costs and equipment-related costs, in the same way such costs are treated in the development of base year and test year costs by witnesses Meehan and Kashani.

A. Piggyback Factors by Major Function and Subclass

Attachments 10 and 11 contain the base year and test year piggyback factors by major function and subclass. The major functions are shown at the top of the columns. They are mail processing, window service, clerk/messenger, city delivery carrier, vehicle service driver, and rural carrier. Subclasses, of course, are shown as rows of these attachments. These piggyback factors differ

[25] The specific costs which are being referred to are the test year before rates costs of witness Kashani in Exhibit USPS-14H and the base year costs of witness Meehan in Exhibit USPS-11A. It should be noted that all test year piggyback factors developed in my testimony refer to the test year before rates as contained in Exhibit USPS-14H.

from those discussed in section C for mail processing operation specific, in that those are for a specific portion of mail processing and are not differentiated by subclass.

An example of this type of piggyback factor is the test year mail processing piggyback factor for First-Class Mail, single-piece letters & parcels of 1.564. Development of this piggyback factor requires identification of the relevant volume variable costs from the Test Year from witness Kashani as shown in LR-I-77 at pages 157 to 164. The piggyback factor, 1.564, shown at page 157 is the ratio of 8,080,000 in column 36 (total estimated volume variable costs for mail processing) on page 164 to the sum of 5,163,688 and 3,500, columns 1 and 3, respectively, on page 159, which is total volume variable labor costs.

The volume variable labor costs of 5,163,688 and 3,500 (both in thousands) are taken directly from witness Kashani's exhibit USPS-14H at pages 19 and 25. The 8,080,000 cost, from column 36 of page 164, which is total volume variable costs for mail processing, is calculated by summing the different component costs for labor, supervision, administrative, service-wide benefits, facility-related and equipment-related for mail processing shown in pages 159 to 164. Some of these costs such as mail processing supervision costs of 337,070 (at page 159, column 6 of LR-I-77) are also taken directly from witness Kashani's exhibit USPS-14H at page 11.

Often there is a need to dissaggregate the component costs of witness Kashani. An example is the calculation of the mail processing portion of benefits

contained in component 18.3, which is found to be 501,950 in column 22 on page 161 of LR-I-77. Witness Kashani provides the total benefits cost for First-Class single-piece, letters & parcels, of 776,128, as shown at USPS-14H, page 63. To calculate the mail processing portion of this cost for piggyback factor calculations it is necessary to consider the variability and distribution rules used in the development of these costs for witness Kashani's testimony. Component 18.3 benefits, as indicated at USPS LR-I-1 at pages 18-8 to 18-9, is essentially variable to the same degree as composite postal labor costs and is distributed based on the distribution of composite postal labor costs. Therefore the portion of the total benefits costs that is associated with mail processing, for a given subclass, is the equal to the ratio of the volume variable mail processing labor to total composite volume variable postal labor, for that subclass. The disagregation of test year costs, when necessary for the piggyback factors, is done by employing the same methods used is computing the test year costs.

Thus, the basis for the calulations of piggyback factors is provided in the testimonies of witnesses Meehan, USPS-T-11, and Kashani, USPS-T-14, and those testimonies supporting their work. Piggyback factors are intended to reflect their work and the work of those who contribute to the base year and test year costs.

B. Piggyback Factors for Final Adjustments

The final adjustments done by witness Daniel, USPS-T-28, and witness Davis, USPS-T-30, are to reflect mail volume shifts within the subclass or more

specifically the rows of the segments and components reports. An example of such a mail volume shift would be growth in prebarcoding within First-Class, Presort Letters & parcels. As the percentage of pieces in First-Class, Presort Letters & Parcels which are prebarcoded increases from the base year and test year, test year mail processing unit costs can be expected to decrease. Witnesses Daniel and Davis have developed estimates of the mail processing and other labor cost changes due to these mail volume shifts.

The piggyback factors for final adjustments, contained in Attachment 12, are applied to the labor cost changes associated with final adjustments to mirror the development of test year costs that occurs in the rollforward and budget process. The rollforward/budget process for reflecting mail volume growth is to adjust volume variable "direct" or craft labor in proportion to this growth. In addition, certain indirect costs such as for supervision, quality control, equipment maintenance personnel, office and clerical, and time and attendence, are also adjusted in the same way. The final adjustment piggyback factors are applied by witnesses Daniel and Davis to reflect these same changes in indirect costs as would occur for mail volume changes.[26]

[26] See USPS LR-I-77, page 165, which shows the calculation of the numerator of the mail processing final adjustment piggyback factors. For instance for First-Class, single-piece, letters & parcels the numerator is 6,149,942 (from column 42). It is the sum of the preceding columns on that page. The denominator would be the same as discussed above in part A, it is the sum of 5,163,688 and 3,500 (which is 5,167,188) from page 159. The final adjustments piggyback factor for mail processing for this subclass is the ratio of 6,149,942 to 5,167,188 which is 1.190.

C. Mail Processing Operation-Specific Piggyback Factors

Mail processing operation-specific piggyback factors are developed for each of the mail processing labor cost pools provided by witness Van-Ty-Smith.[27] As in the past, the test year factors are provided, see Attachment 14, but in addition, factors for the base year are provided as well in Attachment 13. For the test year, some of the cost pool piggyback factors are dissaggregated as shown in Attachment 14. This is necessary for the mail processing cost models of witnesses Miller, USPS-T-24, and Yacobucci, USPS-T-25. These calculations are shown in detail in USPS LR-I-77, Parts III and IV. The same method is used in these calculations as used in Docket No. R97-1, which are found in USPS LR-H-77, Part II.

As indicated above with respect to the piggyback factors by major function and subclass in section A, calculation of the test year operation-specific piggyback factors also requires identification and often disaggregation of the test year attributable costs of witness Kashani. (The same is true for base year operation-specific piggyback factors in terms of witness Meehan's testimony.) In general even more disaggregation must be done for operation-specific piggyback factors. For the operation-specific piggyback factors, the clerk and mail handler labor costs, facility-related costs, equipment related costs and other indirect costs need to be determined for each cost pool. To obtain mail processing labor costs by cost pool for the base year, for example, we must use the inputs to

[27] See USPS-T-17, Table 1.

witness Meehan's testimony, which is the mail processing labor costs by cost pool from witness Van-Ty-Smith, USPS-T-17. In the case of equipment and facility-related costs, the original inputs to witness Meehan (see Attachments 1, 2, and 6 of this testimony) do not divide costs into the same cost pools as for mail processing labor. As a result, we must do more than just go back to the original inputs on facility and equipment-related costs to obtain costs by mail processing labor cost pool. Below I describe the calculation of the base year operation-specific piggyback factors (which is found in USPS LR-I-77, Part III). This is followed by a discussion of the additional steps needed to compute the test year operation-specific piggyback factors (which is found in USPS LR-I-77, Part IV).

1. Base Year

As indicated above, developing equipment and facility-related costs by cost pool is an important, non-straightforward step needed to compute the operation-specific piggyback factors. To do this we use the same multi-step procedure as employed in Docket No. R97-1.[28] The first step or set of steps, is to develop operation-specific piggyback factors in the same form or "operations" as done prior to Docket No. R97-1.[29] This "old" set of operation-specific piggyback factors predates the development of the mail processing labor cost pools, introduced in Docket No. R97-1, and is a similar but shorter list of about

[28] See USPS LR-I-77, Part II.
[29] See Docket No. MC95-1, USPS LR-MCR-9, part II.

29 operations. The second step is to use these "old" factors to derive the operation-specific piggyback factor by mail processing labor cost pool, using a so-called "cross-walk matrix" as discussed below.

Consider the first step (or set of steps) which is the calculation of the "old" set of operation-specific piggyback factors. The "old" style operation-specific piggyback factors, are for the 29 operations listed on page III-2 of USPS LR-I-77. This page summarizes the calculation of these "old" style operation-specific piggyback factors for the base year, which are shown in column 9. To obtain the base year mail processing labor costs for each of these 29 categories, which is in column 1, we use the "cross-walk matrix," the same one mentioned above to be used in step 2. This "cross-walk matrix" contains the volume variable labor costs for each of the mail processing labor cost pools developed by witness Van-Ty-Smith, divided up into the "old" 29 operations.[30] From this we can compute the volume variable mail processing labor costs for each of the 29 operations, shown in column 1 of page III-2.

Supervisor, service-wide benefits and administrative costs for each of these 29 operations is shown in column 2 of page III-2 (of USPS LR-I-77). These can be computed most readily of any of these costs, based on the calculations supporting the mail processing labor piggyback factors by subclass (these piggyback factors are in Attachment 10). Pages III-18 and III-19 show the

[30] See USPS LR-I-106, Part VI, Table 6 and see witness Van-Ty-Smith, USPS-T-17, Part III.B.1.

calculation of the cost ratios needed to compute these costs for the 29 operations.

The calculation of equipment-related costs and facility related costs shown in the columns 3 to 7 of page III-2, of USPS LR-I-77, for the 29 "old" piggyback factors is accomplished in pages III-8 to III-16. Many of the equipment and facility cost pools, as shown in my Attachments 1, 2, and 6, are the same as many of the 29 piggyback operations listed on page III-2. For example, OCR is a category for equipment-related costs (line 1 of Attachment 1) and it is a category for facility-related costs (line 13 of Attachment 6) as well as one of the 29 operations in the "old" piggyback factors (line 5 of page III-2). In that case there is straightforward assignment of costs into one of the 29 operations. However, equipment cost in the categories General and Logistics: BMC, General and Logistics: Non-BMC, and Mail Transport Equipment must be computed for each of the 29 operations, based on their treatment (variability and distribution) in the base year cost development. For example, as shown in Attachment 5, line 18, General and Logistics: BMC costs are distributed to subclasses in proportion to their respective mail processing labor costs at BMCs. These costs are apportioned to 3 of the 29 operations, shown on page III-2 of USPS LR-I-77, which are BMC operations in proportion to the labor cost for each in column 1. These three operations are Platform-BMC, line 3, Parcel Sorting Machine & NMO Machine, line 11, and Sack Sorting Machine-BMC, line 15. A similar calculation must be done for the facility-related costs for Office Space, Employee Facilities, Mail Processing Equipment Maintenance, and Mail

Transport Equipment Centers on page III-8 of USPS LR-I-77. Once we have all the costs on page III-2 computed we can calculate the piggyback ratio in column 9, which is of course the total costs divided by the labor costs for each of the 29 operations.

The second step, as mentioned above, is to use these 29 "old" factors to derive the operation-specific piggyback factor by mail processing labor cost pool, using the "cross-walk matrix." The "cross-walk matrix" is used to take a weighted average of the 29 "old" operation-specific piggyback factors for each of the mail processing labor cost pools. This gives us the desired result of having the operation-specific piggyback factor for each of the 52 mail processing labor cost pools listed in my Attachment 13. An example of this calculation is that for LDC 41, which is automated sorting at stations and branches. The cross-walk matrix at pages III-32 to III-34 of USPS LR-I-77 shows the percentage of the LDC 41 cost pool labor costs that is associated with each of the 29 "old" piggyback factor operations. In particular, three of these "old" operations, DBCS, CSBCS, and MPBCS account for the bulk of LDC 41 labor costs. The operation-specific piggyback factor for LDC 41, which is 1.926 (from Attachment 13), is mostly an averaging of the "old" piggyback factors for DBCS, CSBCS, and MPBCS, which are 2.216, 1.833, and 1.587 respectively (see page III-2 of USPS LR-I-77).

2. Test Year

The calculation is the same as for the base year except that the costs need to be the test year before rates costs from witness Kashani's testimony. This means either obtaining the test year cost from witness Kashani or other testimonies which support his testimony or more often than not, escalating or "rollingforward" the base year costs to be used to develop a test year version of the "old" piggyback factors. These costs are "rolledforward" using an approximation of the methods used by witness Kashani in his testimony. This calculation is done in USPS LR-I-77, Part IV. See in particular pages IV-3, IV-15, and IV-16 to see the "rollingforward" of mail processing labor costs, maintenance labor costs, and parts & supplies costs. This projection of test year costs (or alternatively disaggregation of witness Kashani's costs) approximates the wage escalation, mail volume growth and cost reductions and other programs calculations done by witness Kashani in his development of test year before rates costs which he presents in his Exhibit USPS-14H.

D. Premium Pay Factors

Premium pay factors, contained in Attachment 15, are used to adjust mail processing labor costs to reflect the premium pay adjustment for each subclass that is used in computing base year mail processing labor costs. The premium pay adjustment (or the peak load cost adjustment) is done for night shift differential and Sunday premium for non-BMC mail processing labor costs in the development of base year mail processing labor costs. As shown in Workpaper A-2 of witness Meehan's testimony, USPS-T-11, pages 1-4.1, the volume variable

night shift differential and Sunday premium pay at non-BMCs are deducted from all classes (excluding special services) and redistributed in the following way. Nonplatform volume variable night shift differential and Sunday premium are distributed to "pref mail," or First- Class and Periodicals, in proportion to the non-platform, non-BMC volume variable costs with night shift differential and Sunday premium, respectively, for each subclass and category. Platform volume variable night shift differential and Sunday premium are then distributed to all classes in proportion to platform, non-BMC volume variable costs with night shift differential and Sunday premium, respectively, for each subclass and category.[31] This reduces the night shift differential and Sunday premium pay distributed to "nonpref mail" which is Standard Mail (originally third-class and fourth-class) and generally increases for other classes. The logic of this adjustment and the general methodology employed are the same as those used since Docket No. R87-1.[32]

Page 1 of LR-I-77 shows the calculation of the premium pay factors. They are the ratio of the adjusted to unadjusted mail processing labor costs as shown. The ratio is larger than one for those subclasses whose mail processing labor is increased by the premium pay adjustment and less than one for those subclasses whose mail processing labor costs is decreased by the premium pay adjustment.

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[31] See also USPS-T-11 Workpaper A-1, pages 125-128, USPS -T-11 Workpaper B-3, Worksheet 3.0.13 and USPS LR-I-106, part V.

[32] PRC Op., R87-1, Vol.. 1 at 191 to 193. See also Docket No. R97-1, the responses of witness Alexandrovich at Tr. 13/6981-82, 6988-89, 7025-26, and 7080-7085.

IV. Mail Processing Unit Costs by Shape for Base and Test Year

Attachments 17 and 18 contain base year and test year mail processing unit costs by shape, presort and other breakdowns for many or most First-Class, Periodicals, and Standard Mail (A and B) subclasses or CRA categories. In addition, these attachments contain the First-Class bulk metered letter unit costs, and First-Class Mail presort (non-carrier route) letters and cards unit costs, and Standard A Commercial and Nonprofit (non-carrier route) letters unit costs. The First-Class and Standard A (non-carrier route) presort letters are divided into Automation and Non-automation categories. These costs include piggyback or indirect costs as well. These costs (and these costs by cost pool contained in USPS LR-I-81) are used by witnesses Miller, USPS-T-24, Yacobucci, USPS-T-25, Eggleston, USPS-T-26, Crum, USPS-T-27, Daniel, USPS-T-28, Campbell, USPS-T-29, and Davis, USPS-T-30 in determining the cost avoidance estimates for developing worksharing discounts. The detailed calculations of the results in Attachments 17 and 18 are contained in USPS LR-I-81.[33]

Mail processing costs by cost pool, shape, presort and other breakdowns for the base year and test year provided by my testimony are a disaggregation of the base year costs of witness Meehan and test year costs of witness Kashani, respectively. Unfortunately, the base year and test year models do not contain all the detailed breakdowns that are available from the original input data for mail processing labor costs. As a result, I start with the mail processing labor cost data by cost pool, disaggregated by shape and other characteristics mentioned

above, and apply to these costs the same adjustments that witness Meehan and witness Kashani apply to component 3.1 in their workpapers and models. For the base year this is fairly simple, and consists of adjusting BMC and non-MODS costs for clocking in and out and applying the premium pay adjustment by subclass. For the test year, this gets more complex since there is a need to reflect the wage escalations, mail volume changes by subclass, as well as adjustments for cost reductions, and other programs. The application of piggyback factors by cost pool adds in the indirect costs and completes the process. All of these calculations, including the calculation of the piggyback factors, involve approximations of the calculations done by witnesses Meehan and Kashani. As a result, costs must then be reconciled back to the base year and test year costs and adjusted to be consistent at the subclass level. This is discussed below for both the base year and test year calculations.

Before getting to these calculations, it is useful to describe some of the inputs which I use in these calculations. The most important input is the mail processing labor costs by shape, presort level, and other characteristics. This input is supplied by witness Van-Ty-Smith, USPS-T-17 and is found in USPS LR-I-106, part III, table III.[34] A new addition to this work is now introduced: the division of non-carrier route presort letters and cards costs into automation and non-automation categories. This division is based on IOCS information on piece

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[33] This is an update of USPS LR-H-106 of Docket No. R97-1.

[34] . This analysis corresponds to the calculations done in Docket No. R97-1 in USPS-H-146.

markings (whether or not the letter/card has "Automation" or "Auto" in the indicia or address label), or if the piece has a mailer applied 11-digit barcode.[35]

Volumes by shape, presort, automation vs. non-automation, and indicia are another important input into this calculation. Volumes data is from RPW, Permit-Bravis, and ODIS as shown in part II of USPS LR-I-81 and in USPS LR-I-102.

A. Base Year

For the base year, my calculations are relatively straightforward. I start out with the mail processing labor costs by cost pool by shape, presort, and other breakdowns as developed by witness Van-Ty-Smith as discussed above. I apply to these costs the same adjustments that witness Meehan applies in her workpapers and model. The workpaper adjustments apportion clocking in and out costs to BMC and Non-MODS cost pools.[36] The model adjustment, which is made for all mail processing labor costs, is the premium pay adjustment.[37] The respective cost pool piggyback factor is applied to each cost pool's labor costs to reflect piggyback or indirect costs. Unit costs are obtained by dividing by the volumes by shape and presort. Finally, individual costs by shape and presort are summed to the subclass level and reconciled for any discrepancies between the costs of witness Meehan and the mail processing piggyback factors by subclass. The base year results are shown in Attachment 17.

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[35] IOCS questions which are relied on are in pages 12-11, 13-14, and 13-15 of USPS LR-I-14. The Development of these costs into activity code is discussed in USPS LR-I-12, Appendix B.

[36] Witness Meehan USPS-T-11, WP B-3, W/S 3.1.1, pages 1-4

B. Test Year

This calculation starts out with costs by shape, presort, etc. from witness Van-Ty-Smith, which are then adjusted for clocking in & out and premium pay adjustment, just as the base year calculation starts out. Second, the labor costs for each cost pool are adjusted up or down consistent with the percentage change projected between the base year and the test year. This is to reflect or approximate wage escalation, mail volume changes by subclass, and cost reductions and other programs adjustments that witness Kashani has employed in developing test year before rates costs. These projections by cost pool are made using the same information and process used in developing the operation-specific piggyback factors (see USPS LR-I-77, part IV). At this stage, costs are summed by subclass and reconciled for any differences with test year costs (component 3.1) of witness Kashani, in Exhibit USPS-14H, pages 19-20. This reconciliation will impart the class specific distribution of cost reductions and other programs as well as the affects of volume growth.

Piggyback factors are applied to the reconciled labor costs to reflect total mail processing costs, rather than just labor costs and divided by volume to obtain unit costs. The final step is a reconciliation of these unit costs with the test year mail processing (labor and indirect) cost of witness Kashani for each subclass, in order to be consistent. These calculations are shown in USPS LR-I-81 and the results are shown in Attachment 18 of this testimony.

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[37] Witness Meehan, USPS-T-11, WP A-2.

V. SUMMARY

This testimony has described the methodology, rationale and calculations for:

1. volume variable equipment and facility-related costs for the base year and test year,
2. piggyback factors and premium pay factors, and
3. mail processing (labor and indirect) unit costs by shape, presort, indicia, as well as for automation and non-automation categories.

In general my work in these areas follows past practice and has been accepted by the Postal Rate Commission (PRC) as noted above. The current treatment of equipment and facility-related costs is essentially as emerged from the Docket No. R90-1 consideration of my testimony. While many elements of my testimony in that Docket were not accepted by the PRC, the adoption of the proposed equipment and facility categories along with the treatment of variability and distribution of such costs was accepted.[38] Since that Docket, the treatment of these costs has been enhanced through further refinement of the equipment and facility categories.[39] The 21 equipment categories and 53 facility space

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[38] The PRC did not explicitly address the cost pools that I proposed in Docket No. R90-1. However, their development of equipment and facility-related costs utilized my proposed cost pools to the best of my understanding. In addition, the PRC's endorsement of the new operation-specific piggyback factors at III-1 and their modifications to these in Appendix M of the decision make explicit use of the equipment and facility-related costs with my proposed cost pools.

[39] As noted above, the number of equipment categories in R90-1 was 12 as shown in Appendix M, page 6, which has grown to 21, see Attachment 1. The number of facility related categories, in mail processing alone, was 9 as shown at Appendix M, page 18. The current treatment divides mail processing space up into approximately 30 categories as can be seen in the calculation of operation – specific piggyback factors in USPS LR-I-77, page III-9.

categories provide a strong basis for relating equipment and facility-related costs to subclass. These refinements of equipment and facility-related costs along with the development of mail processing labor cost pools have allowed significant improvement in the development of piggyback factors and costs by shape as well.

List of Attachments

1. Maintenance Labor, And Parts And Supplies For Mail Processing Equipment Catetegories By Equipment Category For FY 1998
2. Mail Processing Equipment Depreciation By Category For FY 1998
3. Mail Processing Equipment Depreciation Costs By Category For FY 2001
4. Mail Processing Equipment Category Variabilities
5. Distribution Keys for Mail Processing Equipment Capital, Maintenance, and Supplies
6. FY 1998 Facility Space Factors
7. FY 2001 Facility Space Factors
8. Variabilities and Distribution Keys for Facility Space Categories
9. Test Year Cost Reductions and Other Programs: Function 4 Distribution Key and Additional Variabilities
10. Base Year Piggyback Factors by Major Function
11. Test Year Piggyback Factors by Major Function
12. Test Year Piggyback Factors for Final Adjustments
13. Base Year Mail Processing Operation-Specific Piggyback Factors
14. Test Year Mail Processing Operation-Specific Piggyback Factors
15. Premium Pay Ratios For Mail Processing Labor Costs
16. Additional Piggyback Factors and Other Costs
17. Base Year Mail Processing Costs by Shape
18. Test Year Mail Processing Costs by Shape

ATTACHMENT 1

MAINTENANCE LABOR, AND PARTS AND SUPPLIES FOR MAIL PROCESSING EQUIPMENT BY CATEGORY FOR FY 1998_1/

Equip. Group	--- Equipment Description ---	Maintenance Labor Costs (CS 11)	Parts & Supplies Costs (CS 16)
1	OCRs	87,794,902	8,506,642
2	MPBCSs	67,926,249	5,388,423
3	DBCSs	204,547,365	14,924,841
4	CSBCSs	9,132,875	4,142,879
5	LSMs	10,072,356	365,651
6	FSMs	61,102,313	3,427,524
	RBCS: WORKROOM	18,906,278	2,216,504
	RBCS: REMOTE ENCODING SITES	14,171,060	1,074,220
7	RBCS TOTAL	33,077,338	3,290,724
8	CFS	15,205,620	2,071,869
9	EDGE, FACE, & CANCEL - LETTERS	100,565,292	9,541,670
10	EDGE, FACE, & CANCEL - FLATS	2,405,074	129,064
11	CULLING	6,132,418	127,684
12	SSMs	15,756,267	1,514,459
13	SPBMs	30,157,869	6,780,266
14	PSMs	12,535,363	7,530,733
15	ACDCS	3,877,715	630,298
16	STRAPPING	12,000,277	966,453
18	GENERAL AND LOGISTICS: BMC	12,542,732	5,364,220
19	GENERAL AND LOGISTICS: NON-BMC	25,655,938	2,152,108
20	MAIL TRANSPORTATION EQUIPMENT	25,066,212	153,068,133
21	POWERED EQUIPMENT	27,657,767	3,085,901
	TOTAL FOR MAIL PROCESSING EQUIPMENT	763,211,943	233,009,541
	NON-MAIL PROCESSING EQUIPMENT	280,639,696	170,422,284
	TOTAL EQUIPMENT	1,043,851,639	403,431,825

_1/ REFER TO USPS LR-I-83, PAGE II-8. THESE ARE COMPONENTS 1298 AND 1297 FOR WITNESS MEEHAN, USPS-T-11.

ATTACHMENT 2

MAIL PROCESSING EQUIPMENT DEPRECIATION BY CATEGORY FOR FY 1998 _1/

Equip. Group	--- Equipment Description ---	Depreciation Costs (CS 20.1)
1	OCRs	79,062,177
2	MPBCSs	20,707,933
3	DBCSs	147,331,120
4	CSBCSs	24,533,527
5	LSMs	870,096
6	FSMs	31,607,011
	RBCS: WORKROOM	50,093,449
	RBCS: REMOTE ENCODING SITES	0
7	RBCS TOTAL	50,093,449
8	CFS	1,937,260
9	EDGE, FACE, & CANCEL - LETTERS	55,473,455
10	EDGE, FACE, & CANCEL - FLATS	238,125
11	CULLING	1,649,431
12	SSMs	5,342,015
13	SPBMs	27,285,909
14	PSMs	8,335,689
15	ACDCS	107,669
16	STRAPPING	2,408,071
18	GENERAL AND LOGISTICS: BMC	36,428,674
19	GENERAL AND LOGISTICS: NON-BMC	49,408,753
20	MAIL TRANSPORTATION EQUIPMENT	0
21	POWERED EQUIPMENT	8,866,675
	TOTAL FOR MAIL PROCESSING EQUIPMENT	551,687,040
	NON-MAIL PROCESSING EQUIPMENT	218,245,180
	TOTAL EQUIPMENT	769,932,220

_1/ SEE USPS LR-I-83, PAGE IV-4. THIS IS COMPONENT 1299 FOR WITNESS MEEHAN, USPS-T-11.

ATTACHMENT 3

MAIL PROCESSING EQUIPMENT DEPRECIATION COSTS BY CATEGORY FOR FY 2001 _1/

Equip. Group	--- Equipment Description ---	(1299) Depreciation Costs (CS 20)
1	OCRs	79,996,125
2	MPBCSs	12,612,886
3	DBCSs	179,361,019
4	CSBCSs	28,762,244
5	LSMs	191,762
6	FSMs	78,599,672
	RBCS: WORKROOM	86,576,287
	RBCS: REMOTE ENCODING SITES	0
7	RBCS TOTAL	86,576,287
8	CFS	6,337,260
9	EDGE, FACE, & CANCEL - LETTERS	62,004,540
10	EDGE, FACE, & CANCEL - FLATS	154,113
11	CULLING	1,643,252
12	SSMs	4,076,785
13	SPBMs	37,512,425
14	PSMs	16,815,615
15	ACDCS	11,001,069
16	STRAPPING	1,931,607
18	GENERAL AND LOGISTICS: BMC	37,128,062
19	GENERAL AND LOGISTICS: NON-BMC	45,711,676
20	MAIL TRANSPORTATION EQUIPMENT	0
21	POWERED EQUIPMENT	8,125,167
	TOTAL FOR MAIL PROCESSING EQUIPMENT	698,541,567
	NON-MAIL PROCESSING EQUIPMENT	451,539,750
	TOTAL EQUIPMENT	1,150,081,317

_1/ SEE USPS LR-I-83, PAGE IV-7. THIS IS COMPONENT 278 FOR WITNESS KASHANI, USPS-T-14.

ATTACHMENT 4

Mail Processing Equipment Category Variabilities

Equip. Group	--- Equipment Description --- (1) Category	(2) Variability	(3) % Change in Distribution Key Total Cost
1	OCRs	0.751	0.331558
2	MPBCSs	0.895	0.117318
3	DBCSs	0.895	0.117318
4	CSBCSs	0.895	0.117318
5	LSMs	0.954	0.048218
6	FSMs	0.817	0.22399
7	RBCS: WORKROOM RBCS: REMOTE ENCODING SITE	1.005 1.005	-0.00498 -0.00498
8	CFS	0.976	0.02459
9	EDGE, FACE, & CANCEL - LETTERS	0.549	0.821494
10	EDGE, FACE, & CANCEL - FLATS	0.549	0.821494
11	CULLING	0.549	0.821494
12	SSMs	0.963491	0.037893
13	SPBMs	0.694595	0.439688
14	PSMs	1	0
15	ACDCS	0.908	0.101322
16	STRAPPING	0.933647	0.071069
17	TRAY TRANSPORT & STAGING SYSTEMS	N/A	
18	GENERAL AND LOGISTICS: BMC	0.978817	0.021641
19	GENERAL AND LOGISTICS: NON-BMC	0.827904	0.207869
20	MAIL TRANSPORTATION EQUIPMENT	0.835207	0.197307
21	POWERED TRANSPORT EQUIPMENT	0.933647	0.071069

Source: USPS LR-I-83, Page III-1.

Note: This is part of component 575 for witness Meehan, USPS-T-11.

DISTRIBUTION KEYS FOR MAIL PROCESSING EQUIPMENT CAPITAL, MAINTENANCE, AND SUPPLIES

LINE NO.	EQUIPMENT CATEGORY	DISTRIBUTION KEY _1/
1	OPTICAL CHARACTER READERS (OCRs)	IOCS TALLIES FOR OCR OPERATION
2	MAIL PROCESSING BARCODE SORTERS (MPBCSs)	IOCS TALLIES FOR MPBCS OPERATION
3	DELIVERY BARCODE SORTERS (DBCSs)	IOCS TALLIES FOR DBCS OPERATION
4	CARRIER SEQUENCE BARCODE SORTERS (CSBCSs)	IOCS TALLIES FOR CSBCS OPERATION
5	LETTER SORTING MACHINE (LSMs)	IOCS TALLIES FOR LSM OPERATION
6	FLAT SORTING MACHINE (FSMs)	IOCS TALLIES FOR FSM OPERATION
7	REMOTE BARCODING SYSTEM	IOCS TALLIES FOR MPBCS OPERATION, IN OSS MODE
8	COMPUTER FORWARDING SYSTEM	IOCS TALLIES FOR CFS OR MARKUP OPERATION
9	EDGER/FACER/CANCELER - LETTERS	IOCS TALLIES FOR LETTER FACER/CANCELER OPERATION
10	EDGER/FACER/CANCELER - FLATS	IOCS TALLIES FOR FLAT FACER/CANCELER OPERATION
11	CULLING	IOCS TALLIES FOR CULLING OPERATION
12	SACK SORTING MACHINE (SSMs)	IOCS TALLIES FOR SSM OPERATION
13	SMALL PARCEL AND BUNDLE SORTER (SPBS)	IOCS TALLIES FOR SPBS OPERATION
14	PARCEL SORTING MACHINE (PSM) /NON-MACHINABLE OUTSIDE MACHINE (NMO)	IOCS TALLIES FOR PSM OR NMO OPERATION
15	AIR CONTRACT DATA COLLECTION SYSTEM (ACDCS)	IOCS TALLIES FOR ACDCS OPERATION
16	STRAPPING	IOCS TALLIES FOR STRAPPING OPERATION
17	TRAY TRANSPORT AND STAGING SYSTEMS	N/A
18	GENERAL AND LOGISTICS, BMC	ALL BMC MAIL PROCESSING LABOR
19	GENERAL AND LOGISTICS, NON-BMC	ALL NON-BMC MAIL PROCESSING LABOR
20	MAIL TRANSPORTATION EQUIPMENT	ALL MAIL PROCESSING LABOR
21	POWERED EQUIPMENT	IOCS TALLIES FOR FORKLIFTS, TOW MOTORS, ETC.

_1/ SEE USPS LR-I-83, PAGE IV-8 FOR MORE DETAILS.

FY 1998 FACILITY SPACE FACTORS

LINE NO.	SPACE CATEGORY	(1) SQUARE FEET	(2) RENTAL VALUE (000s OF $)
1	WINDOW SERVICE	20,691,073	186,279
2	SELF-SERVICE POSTAL CENTER	2,385,712	22,973
3	POST OFFICE BOXES	27,072,937	249,052
4	PRIORITY MAIL	1,856,537	17,657
5	EXPRESS MAIL	1,019,629	10,028
6	MAILGRAMS	-	0
7	COMPUTER FORWARDING SYSTEM	2,184,381	16,676
8	BULK MAIL ACCEPTANCE UNIT	1,624,370	13,388
9	REGISTRY	1,374,166	11,729
10	CLAIMS & INQUIRY	497,665	4,208
11	OTHER ACCOUNTABLES	1,077,515	9,261
12	OTHER NON-ACCOUNTABLES	387,704	3,474
13	OPTICAL CHARACTER READERS (OCRs)	2,434,751	18,638
14	MAIL PROCESSING BARCODE SORTERS (MPBCSs)	3,535,504	26,880
15	DELIVERY BARCODE SORTERS (DBCSs)	9,317,561	71,903
16	CARRIER SEQUENCE BARCODE SORTER (CSBCS)	2,063,589	18,578
17	LETTER SORTING MACHINE (LSMs)	746,018	5,598
18	FLAT SORTING MACHINE (FSMs)	4,061,004	30,978
19	PARCEL SORTING MACHINE & NMO MACHINE	3,547,768	28,289
20	FACER/CANCELER - LETTERS	2,390,520	18,208
21	FACER/CANCELER - FLATS	363,597	2,569
22	CULLING	1,752,402	13,615
23	SACK SORTING MACHINE (SSMs)	2,654,577	20,539
24	SMALL PARCEL AND BUNDLE SORTER	4,244,491	31,099
25	REMOTE BARCODING SYSTEM	1,535,219	30,804
26	MULTISLIDE	971,311	7,276
27	AIR CONTRACT DATA COLLECTION SYSTEM	450,937	3,476
28	CENTRAL BANDING OPERATION - LETTERS	635,297	4,910
29	CENTRAL BANDING OPERATION - FLATS	316,635	2,458
30	OTHER EQUIPMENT	1,675,429	12,903
31	SORTING TO LETTER CASES	6,571,104	54,189
32	SORTING TO FLAT CASES	7,285,603	61,191
33	SORTING TO HANGING SACKS	4,231,770	33,702
34	SORTING TO ROLLING CONTAINERS	10,976,116	93,019
35	SORTING TO PALLETS	431,214	3,016
36	OTHER SORTING OPERATIONS	2,149,182	18,705
37	REWRAP	286,951	2,282
38	POSTAGE DUE	481,702	4,028
39	OTHER MANUAL OPERATIONS	2,609,653	21,511
40	CITY CARRIER	36,184,087	351,634
41	RURAL CARRIER	8,998,803	76,564
42	SPECIAL DELIVERY	199,607	1,646
43	ACCOUNTABLES CAGE	800,466	7,618
44	INTERIOR & EXTERIOR PLATFORM	35,950,530	223,733
45	OFFICE SPACE	36,228,490	300,905
46	MAIL PROCESSING EQUIPMENT MAINTENANCE	3,592,233	28,826
47	OTHER EQUIPMENT MAINTENANCE	723,588	6,075
48	EMPLOYEE FACILITIES	22,354,876	193,481
49	VMF	6,927,718	62,039
50	CVS	5,201,979	34,721
51	VACANT & TENANT	6,436,763	53,275
52	HQ, HQ-FIELD RELATED, AND REGIONAL OFFICES	5,425,832	80,702
53	MAIL TRANSPORTATION EQUIPMENT CENTERS	1,132,108	9,022
54	STORAGE FACILITIES	8,495,849	67,700
	TOTAL	316,544,523	2,683,031

SOURCE: USPS LR-I-83, PAGE I-7. THIS IS USED BY WITNESS MEEHAN, USPS-T-11, AS COMPONENTS 555 AND 562.

ATTACHMENT 7

FY 2001 FACILITY SPACE FACTORS

LINE NO.	SPACE CATEGORY	(1) SQUARE FEET	(2) RENTAL VALUE (000s OF $)
1	WINDOW SERVICE	23,380,542	231,846
2	SELF-SERVICE POSTAL CENTER	2,695,812	28,592
3	POST OFFICE BOXES	30,591,935	309,974
4	PRIORITY MAIL	2,097,853	21,976
5	EXPRESS MAIL	1,152,163	12,481
6	MAILGRAMS	-	0
7	COMPUTER FORWARDING SYSTEM	2,468,311	20,756
8	BULK MAIL ACCEPTANCE UNIT	1,835,509	16,663
9	REGISTRY	1,552,783	14,598
10	CLAIMS & INQUIRY	562,352	5,237
11	OTHER ACCOUNTABLES	1,217,572	11,527
12	OTHER NON-ACCOUNTABLES	438,099	4,324
13	OPTICAL CHARACTER READERS (OCRs)	2,434,751	20,529
14	MAIL PROCESSING BARCODE SORTERS (MPBCSs)	3,535,504	29,607
15	DELIVERY BARCODE SORTERS (DBCSs)	10,229,127	86,945
16	CARRIER SEQUENCE BARCODE SORTER (CSBCS)	2,063,589	20,463
17	LETTER SORTING MACHINE (LSMs)	168,522	1,393
18	FLAT SORTING MACHINE (FSMs)	6,126,832	51,477
19	PARCEL SORTING MACHINE & NMO MACHINE	4,008,914	35,209
20	FACER/CANCELER - LETTERS	2,701,245	22,663
21	FACER/CANCELER - FLATS	410,858	3,197
22	CULLING	1,980,183	16,946
23	SACK SORTING MACHINE (SSMs)	2,999,624	25,563
24	SMALL PARCEL AND BUNDLE SORTER	6,211,895	50,131
25	REMOTE BARCODING SYSTEM	1,734,770	38,339
26	MULTISLIDE	1,097,564	9,056
27	AIR CONTRACT DATA COLLECTION SYSTEM	509,551	4,326
28	CENTRAL BANDING OPERATION - LETTERS	717,874	6,111
29	CENTRAL BANDING OPERATION - FLATS	357,791	3,060
30	OTHER EQUIPMENT	1,893,204	16,060
31	SORTING TO LETTER CASES	7,425,230	67,445
32	SORTING TO FLAT CASES	8,232,601	76,160
33	SORTING TO HANGING SACKS	4,781,825	41,947
34	SORTING TO ROLLING CONTAINERS	12,402,815	115,773
35	SORTING TO PALLETS	487,265	3,754
36	OTHER SORTING OPERATIONS	2,428,537	23,281
37	REWRAP	324,249	2,841
38	POSTAGE DUE	544,315	5,013
39	OTHER MANUAL OPERATIONS	2,948,861	26,773
40	CITY CARRIER	40,887,371	437,649
41	RURAL CARRIER	10,168,486	95,293
42	SPECIAL DELIVERY	225,552	2,049
43	ACCOUNTABLES CAGE	904,512	9,481
44	INTERIOR & EXTERIOR PLATFORM	40,623,455	278,461
45	OFFICE SPACE	40,937,546	374,512
46	MAIL PROCESSING EQUIPMENT MAINTENANCE	4,059,159	35,877
47	OTHER EQUIPMENT MAINTENANCE	817,642	7,560
48	EMPLOYEE FACILITIES	25,260,610	240,810
49	VMF	7,828,197	77,215
50	CVS	5,878,143	43,214
51	VACANT & TENANT	7,273,428	66,307
52	HQ, HQ-FIELD RELATED, AND REGIONAL OFFICES	6,131,093	100,443
53	MAIL TRANSPORTATION EQUIPMENT CENTERS	1,279,262	11,228
54	STORAGE FACILITIES	9,600,158	84,260
	TOTAL	358,625,042	3,346,395

SOURCE: USPS LR-I-83, PAGE I-14. THIS IS USED BY WITNESS KASHANI, USPS-T-14, AS COMPONENTS 400 AND 446.

VARIABILITIES AND DISTRIBUTION KEYS FOR FACILITY SPACE CATEGORIES

LINE NO.	SPACE CATEGORY	VARIABILITIES	DISTRIBUTION KEY
1	WINDOW SERVICE	WINDOW LABOR	WINDOW LABOR
2	SELF-SERVICE POSTAL CENTER	0%	N/A
3	POST OFFICE BOXES	100%	DIRECT TO SUBCLASS
4	PRIORITY MAIL	100%	DIRECT TO SUBCLASS
5	EXPRESS MAIL	100%	EXPRESS MAIL OPERATIONS LABOR
6	MAILGRAMS	N/A	N/A
7	COMPUTER FORWARDING SYSTEM (CFS)	80%	CFS AND MARKUP LABOR
8	BULK MAIL ACCEPTANCE UNIT	80%	ACCEPTANCE LABOR
9	REGISTRY	100%	MODS REGISTRY LABOR DISTRIBUTION KEY
10	CLAIMS & INQUIRY	CLAIMS & INQUIRY LABOR	CLAIMS & INQUIRY LABOR
11	OTHER ACCOUNTABLES	80%	OTHER ACCOUNTABLES LABOR
12	OTHER NON-ACCOUNTABLES	80%	OTHER NON-ACCOUNTABLES LABOR
13	OPTICAL CHARACTER READERS (OCRs)	80%	OCR LABOR
14	MAIL PROCESSING BARCODE SORTERS (MPBCSs)	80%	MPBCS LABOR
15	DELIVERY BARCODE SORTERS (DBCSs)	80%	DBCS LABOR
16	CARRIER SEQUENCE BARCODE SORTER (CSBCS)	80%	CSBCS LABOR
17	LETTER SORTING MACHINE (LSMs)	80%	LSM LABOR
18	FLAT SORTING MACHINE (FSMs)	80%	FSM LABOR
19	PARCEL SORTING MACHINE & NMO MACHINE	70%	PSM & NMO MACHICE LABOR
20	FACER/CANCELER - LETTERS	80%	LETTER FACER CANCELER LABOR
21	FACER/CANCELER - FLATS	80%	FLAT FACER CANCELER LABOR
22	CULLING	80%	CULLING LABOR
23	SACK SORTING MACHINE (SSMs)	70%	SSM LABOR
24	SMALL PARCEL AND BUNDLE SORTER	70%	SPBS LABOR
25	REMOTE BARCODING SYSTEM	80%	MPBCS LABOR -- FOR OSS MODE ONLY
26	MULTISLIDE	70%	MULTISLIDE LABOR
27	AIR CONTRACT DATA COLLECTION SYSTEM (ACDCS)	80%	ACDCS LABOR
28	CENTRAL BANDING OPERATION - LETTERS	80%	CENTRAL BANDING LETTERS LABOR
29	CENTRAL BANDING OPERATION - FLATS	80%	CENTRAL BANDING FLATS LABOR
30	OTHER EQUIPMENT	80%	OTHER EQUIPMENT LABOR
31	SORTING TO LETTER CASES	80%	LETTER CASING LABOR
32	SORTING TO FLAT CASES	80%	FLAT CASING LABOR
33	SORTING TO HANGING SACKS	80%	SORTING TO HANGING SACKS LABOR
34	SORTING TO ROLLING CONTAINERS	70%	SORTING TO ROLLING CONTAINERS LABOR
35	SORTING TO PALLETS	80%	SORTING TO PALLETS LABOR
36	OTHER SORTING OPERATIONS	80%	OTHER SORTING OPERATIONS LABOR
37	REWRAP	80%	REWRAP LABOR
38	POSTAGE DUE	80%	POSTAGE DUE LABOR
39	OTHER MANUAL OPERATIONS	80%	OTHER MANUAL OPERATIONS LABOR
40	CITY CARRIER	CITY CARRIER LABOR	CITY CARRIER LABOR
41	RURAL CARRIER	RURAL CARRIER LABOR	RURAL CARRIER LABOR
42	SPECIAL DELIVERY	SPECIAL DELIVERY LABOR	SPECIAL DELIVERY LABOR
43	ACCOUNTABLES CAGE	AVE. OF ROWS 40-42	ACCOUNTABLES CAGE LABOR
44	INTERIOR & EXTERIOR PLATFORM	100%	PLATFORM LABOR DISTRIBUTION KEY
45	OFFICE SPACE	NON-HQ OFFICE LABOR	NON-HQ OFFICE LABOR
46	MAIL PROCESSING EQUIPMENT MAINTENANCE	SAME AS MAINTENANCE LABOR	MAINTENANCE LABOR
47	OTHER EQUIPMENT MAINTENANCE	0%	N/A
48	EMPLOYEE FACILITIES	ALL EMPLOYEES	ALL EMPLOYEE LABOR COSTS
49	VMF	COST SEGMENT 12	COST SEGMENT 12
50	CVS	0	N/A
51	VACANT & TENANT	0	N/A
52	HQ, HQ-FIELD RELATED, AND REGIONAL OFFICES	0	N/A
53	MAIL TRANSPORTATION EQUIPMENT CENTERS	ALL MAIL PROCESSING LABOR	ALL MAIL PROCESSING LABOR
54	STORAGE FACILITIES	0	N/A

SEE USPS LR-I-83, PAGE I-16 FOR MORE INFORMATION.

TEST YEAR COST REDUCTIONS AND OTHER PROGRAMS:
FUNCTION 4 DISTRIBUTION KEY

	FUNCTION 4 MAIL PROCESSING LABOR COSTS (MODS & NON-MODS)	PERCENTAGE OF LABOR COST
FIRST-CLASS MAIL:		
SINGLE-PIECE LETTERS	1,457,328	40.82%
PRESORT LETTERS	433,841	12.15%
SINGLE-PIECE CARDS	51,793	1.45%
PRESORT CARDS	15,676	0.44%
TOTAL FIRST-CLASS		
PRIORITY MAIL	189,475	5.31%
EXPRESS MAIL	27,324	0.77%
MAILGRAMS	0	0.00%
PERIODICALS:		
IN-COUNTY	7,985	0.22%
OUTSIDE COUNTY:		
REGULAR	194,441	5.45%
NON-PROFIT	34,808	0.98%
CLASSROOM	1,905	0.05%
TOTAL PERIODICALS		
STANDARD MAIL (A):		
SINGLE-PIECE RATE	28,822	0.81%
COMMERCIAL STANDARD:		
ENHANCED CARR RTE	120,467	3.37%
REGULAR	624,243	17.49%
TOTAL COMMERCIAL		
AGGREGATE NONPROFIT:		
NONPROF ENH CARR RTE	13,181	0.37%
NONPROFIT	118,879	3.33%
TOTAL AGGREG NONPROFIT		
TOTAL STANDARD (A)		
STANDARD MAIL (B):		
PARCELS ZONE RATE	57,377	1.61%
BOUND PRINTED MATTER	31,026	0.87%
SPECIAL STANDARD	15,434	0.43%
LIBRARY MAIL	3,601	0.10%
TOTAL STANDARD (B)		
US POSTAL SERVICE	47,491	1.33%
FREE MAIL	3,869	0.11%
INTERNATIONAL MAIL	21,734	0.61%
TOTAL MAIL		
SPECIAL SERVICES:		
REGISTRY	7,161	0.20%
CERTIFIED	31,859	0.89%
INSURANCE	1,759	0.05%
COD	554	0.02%
SPECIAL DELIVERY	-	0.00%
MONEY ORDERS	3,655	0.10%
STAMPED ENVELOPES	122	0.00%
SPECIAL HANDLING	15	0.00%
POST OFFICE BOX	2,867	0.08%
OTHER	21,275	0.60%
TOTAL SPECIAL SERVICES		
TOTAL VOLUME VARIABLE	3,569,966	100.00%

SOURCE: SEE USPS LR-I-83, PAGE V-1.
NOTE: THIS IS INTENDED TO BE COMPONENT NUMBER 1442 FOR WITNESS KASHANI, USPS-T-14. THE DISTRIBUTION KEY USED BY WITNESS KASHANI DIFFERS SLIGHTLY DUE TO VERY MINOR CALCULATION ERRORS.

Test Year Cost Reductions and Other Programs:
Additional Variabilities

--- Equipment Description ---

(1) Category	(2) Variability	(3) % Change in Distribution Key Total Cost
MANUAL LETTERS	0.821581	0.217166
MANUAL FLATS	0.892083	0.120972

Source: USPS LR-I-83, Page III-7.

Note: This is part of component 575 for witness Meehan, USPS-T-11.

Attachment 10

BASE YEAR PIGGYBACK FACTORS BY MAJOR FUNCTION

CLASSES, SUBCLASSES, SPECIAL SERVICES	MAIL PROCESSING	WINDOW SERVICE	CITY DELIVERY CARRIER	VEHICLE SERVICE DRIVER	RURAL CARRIER
FIRST-CLASS:-LTRS.& PCLS.	1.520	1.450	1.352	1.544	1.242
PRESORT LETTERS & PCLS.	1.565	1.450	1.352	1.544	1.242
SINGLE-PIECE CARDS	1.481	1.450	1.353	1.528	1.242
PRESORT CARDS	1.484	1.453	1.353	1.539	1.242
TOTAL FIRST-CLASS MAIL	1.528	1.450	1.352	1.544	1.242
PRIORITY MAIL	1.454	1.450	1.417	1.544	1.242
EXPRESS MAIL	1.494	1.450	1.416	1.544	1.241
MAILGRAMS	2.145		1.458	1.000	1.234
PERIODICALS: WITHIN COUNTY	1.424		1.372	1.545	1.242
OUTSIDE THE COUNTY:					
REGULAR	1.468	1.449	1.361	1.544	1.242
NONPROFIT	1.489	1.422	1.364	1.544	1.242
CLASSROOM	1.512		1.373	1.537	1.241
TOTAL PERIODICALS	1.470	1.451	1.362	1.544	1.242
STANDARD(A): SINGLE PIECE	1.539	1.450	1.381	1.538	1.241
ENHANCED CARRIER ROUTE	1.526	1.450	1.361	1.544	1.242
REGULAR	1.510	1.450	1.352	1.544	1.242
TOTAL COMMERCIAL	1.512	1.450	1.356	1.544	1.242
NONPROFIT ENHANCED CAR.ROUTE	1.562	1.444	1.358	1.543	1.242
NONPROFIT	1.515	1.450	1.351	1.543	1.242
TOTAL NONPROFIT	1.520	1.450	1.352	1.544	1.242
TOTAL STANDARD (A)	1.514	1.450	1.356	1.544	1.242
STANDARD(B):PARCELS ZONE	1.530	1.450	1.427	1.544	1.241
BOUND PRINTED MATTER	1.538	1.451	1.440	1.543	1.242
SPECIAL STANDARD	1.553	1.449	1.443	1.544	1.241
LIBRARY RATE	1.534	1.440	1.444	1.541	1.237
TOTAL STANDARD (B)	1.536	1.450	1.436	1.544	1.242
US POSTAL SERVICE	1.497	1.450	1.352	1.543	1.240
FREE MAIL	1.503		1.363	1.545	1.238
INTERNATIONAL MAIL	1.500	1.450	1.391	1.543	1.241
TOTAL ALL MAIL	1.516	1.450	1.359	1.544	1.242
SPECIAL SERVICES:-REGISTRY	1.660	1.450	1.357		1.242
CERTIFIED	1.619	1.450	1.353		1.242
INSURANCE	1.460	1.450	1.354		1.241
C.O.D.	1.880	1.449	1.353		1.241
SPECIAL DELIVERY					
MONEY ORDERS	1.286	1.450			1.241
STAMPED ENVELOPES	1.254	1.449			
SPECIAL HANDLING	2.813	1.454			
POST OFFICE BOX	1.285	1.450	1.332		
OTHER	1.652	1.450	1.349		1.182
TOTAL SPECIAL SERVICES	1.629	1.450	1.353		1.242
TOTAL VOLUME VARIABLE	1.517	1.450	1.358	1.544	1.242
Source: LR-I-77, Part II, Page:	10	43	70	103	129

Attachment 11

TEST YEAR PIGGYBACK FACTORS BY MAJOR FUNCTION

CLASSES, SUBCLASSES, SPECIAL SERVICES	MAIL PROCESSING	WINDOW SERVICE	CLERK/ MESSENGER	CITY DELIVERY CARRIER	VEHICLE SERVICE DRIVER	RURAL CARRIER
FIRST-CLASS:-LTRS.& PCLS.	1.564	1.460	1.586	1.373	1.525	1.245
PRESORT LETTERS & PCLS.	1.600	1.460	1.569	1.371	1.491	1.242
SINGLE-PIECE CARDS	1.504	1.460	1.519	1.368	1.534	1.245
PRESORT CARDS	1.495	1.459	1.467	1.365	1.505	1.243
TOTAL FIRST-CLASS MAIL	1.570	1.460	I.584	1.372	1.511	1.243
PRIORITY MAIL	1.472	1.460	1.580	1.403	1.495	1.243
EXPRESS MAIL	1.516	1.460	1.588	1.419	1.503	1.243
MAILGRAMS	2.261		I.556	1.450	1.000	1.224
PERIODICALS: WITHIN COUNTY	1.474		1.000	1.380	1.530	1.245
OUTSIDE THE COUNTY:						
REGULAR	1.512	1.460	1.500	1.369	1.509	1.244
NONPROFIT	1.527	1.447	1.000	1.373	1.538	1.246
CLASSROOM	1.565			1.386	1.534	1.244
TOTAL PERIODICALS	1.513	1.460	1.526	1.371	1.514	1.244
STANDARD(A): SINGLE PIECE						
ENHANCED CARRIER ROUTE	1.568	1.459	1.000	1.371	1.521	1.244
REGULAR	1.555	1.460	1.000	1.366	1.482	1.242
TOTAL COMMERCIAL	1.556	1.460	1.125	1.368	1.500	1.243
NONPROFIT ENHANCED CAR.ROUTE	1.613	1.459		1.371	1.500	1.243
NONPROFIT	1.554	1.460	1.000	1.367	1.502	1.243
TOTAL NONPROFIT	1.559	1.460	1.000	1.368	1.502	1.243
TOTAL STANDARD (A)	1.557	1.460	1.111	1.368	1.500	1.243
STANDARD(B):PARCELS ZONE	1.546	1.460	1.412	1.429	1.485	1.242
BOUND PRINTED MATTER	1.556	1.460	1.000	1.441	1.499	1.243
SPECIAL STANDARD	1.567	1.460	1.000	1.445	1.502	1.244
LIBRARY RATE	1.557	1.449	1.000	1.445	1.511	1.237
TOTAL STANDARD (B)	1.553	1.460	1.436	1.437	1.490	1.242
US POSTAL SERVICE	1.510	1.460	1.000	1.364	1.538	1.243
FREE MAIL	1.534			1.369	1.500	1.241
INTERNATIONAL MAIL	1.566	1.460	1.588	1.428	1.496	1.244
TOTAL ALL MAIL	1.555	1.460	1.587	1.374	1.501	1.243
SPECIAL SERVICES:-REGISTRY	1.764	1.461	1.571	1.368		1.251
CERTIFIED	1.658	1.460		1.364		1.243
INSURANCE	1.477	1.460		1.364		1.243
C.O.D.	1.970	1.460	1.000	1.363		1.246
SPECIAL DELIVERY						
MONEY ORDERS	1.287	1.460				1.239
STAMPED ENVELOPES	1.246	1.460				
SPECIAL HANDLING	2.952	1.453		1.143		
POST OFFICE BOX	1.288	1.460		1.348		
OTHER	1.590	1.460	1.417	1.298		1.160
TOTAL SPECIAL SERVICES	1.637	1.460	1.512	1.356		1.244
TOTAL VOLUME VARIABLE	1.556	1.460	1.587	1.373	1.501	1.243

Source: LR-I-77, Part II, Page: 157 193 225 257 292 320

Attachment 12

TEST YEAR PIGGYBACK FACTORS FOR FINAL ADJUSTMENTS

CLASSES, SUBCLASSES, SPECIAL SERVICES	MAIL PROCESSING	WINDOW SERVICE	CLERK/ MESSENGER	CITY DELIVERY CARRIER	VEHICLE SERVICE DRIVER	RURAL CARRIER
FIRST-CLASS:-LTRS.& PCLS.	1.190	1.138	1.215	1.121	1.187	1.043
PRESORT LETTERS & PCLS.	1.212	1.138	1.204	1.119	1.174	1.042
SINGLE-PIECE CARDS	1.174	1.138	1.222	1.117	1.194	1.043
PRESORT CARDS	1.175	1.140	1.200	1.115	1.178	1.042
TOTAL FIRST-CLASS MAIL	1.195	1.138	1.213	1.120	1.182	1.042
PRIORITY MAIL	1.127	1.138	1.210	1.122	1.175	1.042
EXPRESS MAIL	1.119	1.138	1.211	1.132	1.177	1.042
MAILGRAMS	1.155		1.222	1.149	1.000	1.048
PERIODICALS: WITHIN COUNTY	1.152		1.000	1.118	1.189	1.043
OUTSIDE THE COUNTY:						
REGULAR	1.163	1.138	1.214	1.115	1.181	1.042
NONPROFIT	1.177	1.128	1.000	1.116	1.193	1.043
CLASSROOM	1.175			1.120	1.188	1.044
TOTAL PERIODICALS	1.165	1.138	1.158	1.115	1.183	1.042
STANDARD(A): SINGLE PIECE						
ENHANCED CARRIER ROUTE	1.178	1.138	1.000	1.115	1.186	1.043
REGULAR	1.176	1.138	1.000	1.115	1.170	1.041
TOTAL COMMERCIAL	1.176	1.138	1.000	1.115	1.178	1.042
NONPROFIT ENHANCED CAR.ROUTE	1.201	1.137		1.117	1.178	1.042
NONPROFIT	1.179	1.138	1.000	1.117	1.178	1.042
TOTAL NONPROFIT	1.181	1.138	1.000	1.117	1.178	1.042
TOTAL STANDARD (A)	1.177	1.138	1.000	1.116	1.178	1.042
STANDARD(B):PARCELS ZONE	1.151	1.138	1.176	1.135	1.172	1.041
BOUND PRINTED MATTER	1.158	1.139	1.000	1.140	1.177	1.042
SPECIAL STANDARD	1.159	1.139	1.000	1.141	1.178	1.042
LIBRARY RATE	1.148	1.138	1.000	1.140	1.182	1.039
TOTAL STANDARD (B)	1.154	1.138	1.154	1.138	1.173	1.042
US POSTAL SERVICE	1.162	1.138	1.000	1.114	1.193	1.042
FREE MAIL	1.151			1.114	1.181	1.040
INTERNATIONAL MAIL	1.189	1.138	1.212	1.145	1.176	1.042
TOTAL ALL MAIL	1.181	1.138	1.211	1.119	1.178	1.042
SPECIAL SERVICES:-REGISTRY	1.126	1.138	1.250	1.115		1.045
CERTIFIED	1.117	1.138		1.113		1.042
INSURANCE	1.113	1.138		1.113		1.042
C.O.D.	1.125	1.138	1.000	1.113		1.043
SPECIAL DELIVERY						
MONEY ORDERS	1.109	1.138				1.040
STAMPED ENVELOPES	1.088	1.138				
SPECIAL HANDLING	1.621	1.133		1.000		
POST OFFICE BOX	1.110	1.138		1.107		
OTHER	1.197	1.138	1.250	1.062		1.000
TOTAL SPECIAL SERVICES	1.153	1.138	1.233	1.108		1.042
TOTAL VOLUME VARIABLE	1.181	1.138	1.211	1.118	1.178	1.042

Source: LR-I-77, Part II, Page:	165	194	226	258	293	321

BASE YEAR MAIL PROCESSING
OPERATION-SPECIFIC PIGGYBACK FACTORS

COST POOL	PIGGYBACK FACTOR	COST POOL	PIGGYBACK FACTOR
BMCS NMO	1.514	MODS 17 1SCAN	1.545
BMCS OTHR	1.581	MODS 18 BUSREPLY	1.433
BMCS PLA	1.730	MODS 18 EXPRESS	1.509
BMCS PSM	1.729	MODS 18 MAILGRAM	1.437
BMCS SPB	1.572	MODS 18 REGISTRY	1.507
BMCS SSM	1.940	MODS 18 REWRAP	1.466
MODS 11 BCS/	1.903	MODS 18 1EEQMT	1.538
MODS 11 OCR/	1.981	MODS18 FUNC1_SUPPORT	1.507
MODS 12 FSM/	1.469	MODS 19 INTL	1.494
MODS 12 LSM/	1.514	MODS 41 LD41	1.926
MODS 13 MECPARC	1.661	MODS 42 LD42	1.607
MODS 13 SPBS OTH	1.613	MODS 43 LD43	1.399
MODS 13 SPBSPRIO	1.591	MODS 44 LD44	1.387
MODS 13 1SACKS_M	1.693	MODS 48 LD48 EXP	1.511
MODS 14 MANF	1.387	MODS48 FUNC4_SUPPORT	1.491
MODS 14 MANL	1.350	MODS 48 LD48_SSV	1.480
MODS 14 MANP	1.476	MODS 49 LD49	1.469
MODS 14 PRIORITY	1.489	MODS 79 LD79	1.611
MODS 15 LD15	1.582	NON MODSALLIED	1.468
MODS 17 1BULK PR	1.540	NON MODSAUTO/MEC	1.895
MODS 17 1CANCMPP	2.089	NON MODSEXPRESS	1.518
MODS 17 1OPBULK	1.497	NON MODSMANF	1.382
MODS 17 1OPPREF	1.510	NON MODSMANL	1.338
MODS 17 1PLATFRM	1.624	NON MODSMANP	1.423
MODS 17 1POUCHNG	1.544	NON MODSMISC	1.475
MODS 17 1SACKS_H	1.563	NON MODSREGISTRY	1.518

SOURCE: USPS LR-I-77, PAGE III-36 AND III-37

TEST YEAR MAIL PROCESSING
OPERATION-SPECIFIC PIGGYBACK FACTORS

COST POOL	PIGGYBACK FACTOR	COST POOL	PIGGYBACK FACTOR
BMCS NMO	1.532	MODS 17 1SCAN	1.683
BMCS OTHR	1.602	MODS 18 BUSREPLY	1.456
BMCS PLA	1.744	MODS 18 EXPRESS	1.493
BMCS PSM	1.782	MODS 18 MAILGRAM	1.439
BMCS SPB	1.588	MODS 18 REGISTRY	1.489
BMCS SSM	1.935	MODS 18 REWRAP	1.481
MODS 11 BCS/	1.942	MODS 18 1EEQMT	1.548
MODS 11 OCR/	2.001	MODS18 FUNC1_SUPPORT	1.498
MODS 12 FSM/	1.524	MODS 19 INTL	1.511
MODS 12 LSM/	1.552	MODS 41 LD41	1.972
MODS 13 MECPARC	1.696	MODS 42 LD42	1.640
MODS 13 SPBS OTH	1.623	MODS 43 LD43	1.419
MODS 13 SPBSPRIO	1.594	MODS 44 LD44	1.396
MODS 13 1SACKS_M	1.710	MODS 48 LD48 EXP	1.493
MODS 14 MANF	1.433	MODS48 FUNC4_SUPPORT	1.482
MODS 14 MANL	1.360	MODS 48 LD48_SSV	1.475
MODS 14 MANP	1.504	MODS 49 LD49	1.493
MODS 14 PRIORITY	1.495	MODS 79 LD79	1.602
MODS 15 LD15	1.958	NON MODSALLIED	1.487
MODS 17 1BULK PR	1.563	NON MODSAUTO/MEC	1.936
MODS 17 1CANCMPP	2.161	NON MODSEXPRESS	1.495
MODS 17 1OPBULK	1.528	NON MODSMANF	1.432
MODS 17 1OPPREF	1.542	NON MODSMANL	1.347
MODS 17 1PLATFRM	1.651	NON MODSMANP	1.461
MODS 17 1POUCHNG	1.580	NON MODSMISC	1.484
MODS 17 1SACKS_H	1.592	NON MODSREGISTRY	1.495

SOURCE: USPS LR-I-77, PAGE IV-26 TO IV-28

Disaggregation of BCS Cost Pool Piggyback Factor:

Line No.		Disaggregated Piggyback Factor
1	MPBCS	1.573
2	DBCS	2.290
3	CSBCS	1.854
4	Total BCS	1.942

Disaggregation of FSM Cost Pool Piggyback Factor:

Line No.		Disaggregated Piggyback Factor
6	FSM 881	1.519
7	FSM 1000	1.526
8	AFSM 100	1.539
9	Total FSM	1.524

Disaggregation of RBCS Cost Pool Piggyback Factor:

Line No.		Disaggregated Piggyback Factor	FY 2001 Total Cost
10	RBCS: LMLM	2.623	
11	RBCS: OTHER WORKROOM		109,317,075
12	RBCS: REMOTE ENCODING	1.516	
13	TOTAL	1.958	

SOURCE: USPS LR-I-77, PAGE IV-28

Attachment 15

PREMIUM PAY RATIOS FOR MAIL PROCESSING LABOR COSTS

CLASSES, SUBCLASSES, SPECIAL SERVICES	PREMIUM PAY RATIO
FIRST-CLASS:-LTRS.& PCLS.	1.01825
PRESORT LETTERS & PCLS.	1.02342
SINGLE-PIECE CARDS	1.03477
PRESORT CARDS	1.01257
TOTAL FIRST-CLASS MAIL	1.01968
PRIORITY MAIL	1.00332
EXPRESS MAIL	0.99041
MAILGRAMS	1.03614
PERIODICALS: WITHIN COUNTY	0.99962
OUTSIDE THE COUNTY:	
REGULAR	1.01422
NONPROFIT	1.00947
CLASSROOM	0.99846
TOTAL PERIODICALS	1.01316
STANDARD(A): SINGLE PIECE	0.96161
ENHANCED CARRIER ROUTE	0.96152
REGULAR	0.96110
TOTAL COMMERCIAL	0.96115
NONPROFIT ENHANCED CAR.ROUTE	0.96076
NONPROFIT	0.96066
TOTAL NONPROFIT	0.96067
TOTAL STANDARD (A)	0.96109
STANDARD(B):PARCELS ZONE	0.96296
BOUND PRINTED MATTER	0.96097
SPECIAL STANDARD	0.96081
LIBRARY RATE	0.96028
TOTAL STANDARD (B)	0.96197
US POSTAL SERVICE	0.99956
FREE MAIL	0.99294
INTERNATIONAL MAIL	0.99409
TOTAL ALL MAIL	1.00002
SPECIAL SERVICES:-REGISTRY	1.00000
CERTIFIED	1.00000
INSURANCE	1.00000
C.O.D.	1.00000
SPECIAL DELIVERY	
MONEY ORDERS	0.96033
STAMPED ENVELOPES	0.95902
SPECIAL HANDLING	1.00000
POST OFFICE BOX	0.96024
OTHER	1.00000
TOTAL SPECIAL SERVICES	0.99780
TOTAL VOLUME VARIABLE	1.00000

Source: LR-I-77, Page 1 (in Part I)

Attachment 16

Additional Piggyback Factors and Other Costs

Test Year Accounting and Auditing Piggyback Factor	1.530
(Source: LR-I-77, page 352)	
Test Year Window Service Piggyback Factor:	
All subclasses & Spec. Ser. Except P.O. Box	1.460
All subclasses & Spec. Ser. Except P.O. Box, excluding space related	1.266
(Source: LR-I-77, page 192)	
Test Year City Carrier Piggyback Factor, Using Total Special Services Costs:	
Office	1.343
Street	1.360
Total	1.356
(Source: LR-I-77, page 256)	
Test Year Cost per Square Foot:	
Rent	7.84
Facility-Support	6.22
Total	14.06
(Source: LR-I-77, page IV-11)	

BASE YEAR MAIL PROCESSING UNIT COSTS BY SHAPE (CENTS/PIECE)

Subclass	Letters/Cds.	Flats	Parcels/IPPs	All Shapes Row Average	Subclass Average
FC--LTRS SGL PC	11.65	34.51	69.54	14.21	14.21
FC LTR_P C_RT	2.78	-	-	2.78	4.84
FC LTR_P NC_RT	4.48	34.44	170.82	4.91	4.84
FC CARDS SGL PC	9.40	-	-	9.40	9.40
FC CRD_P C_RT	0.95	-	-	0.95	2.23
FC CRD_P NC_RT	2.31	-	-	2.31	2.23
IN COUNTY	2.40	2.03	-	2.03	2.03
PER.REGULR	4.36	11.90	-	11.76	11.76
PER.NONPRF	6.39	6.38	-	6.70	6.70
PER.CLASSR	-	14.03	-	12.94	12.94
STD (A) REG/ENH	1.48	1.14	26.92	1.31	1.31
STD (A) REG/OTH	5.68	11.44	47.11	8.78	8.78
STD (A) NPRF/ENH	2.40	2.74	199.11	2.65	2.65
STD (A) NPRF/OTH	4.59	11.39	68.40	5.91	5.91
STD (B) PARCELS				116.80	116.80
STD (B) BD PRINT				39.48	39.48
STD (B) SPECIAL				65.72	65.72
STD (B) LIBRARY				63.80	63.80

SOURCE: USPS LR-I-81, PAGE I-1

BASE YEAR MAIL PROCESSING UNIT COSTS BY SHAPE (CENTS/PIECE)

	Unit Cost
F-C Single Piece Bulk Entered Metered Letters	9.87
F-C Single Piece Metered Letters	10.15
F-C Presort Automated Letters	3.79
F-C Presort Non-Automated Letters	9.86
F-C Presort Automated Cards	1.87
F-C Presort Non-Automated Cards	3.76
Standard (A) Regular Letters Automated	4.84
Standard (A) Regualr Letters Non-Automated	9.58
Standard (A) Nonprofit Letters Automated	3.74
Standard (A) Nonprofit Letters Non-Automated	6.22
F-C Automated (both CR and non-CR)- Letters	3.76
F-C Automated (both CR and non-CR)- Cards	1.81

SOURCE: USPS LR-I-81, PAGE I-2

TEST YEAR MAIL PROCESSING UNIT COSTS BY SHAPE (CENTS/PIECE)

Subclass	Letters/Cds.	Flats	Parcels/IPPs	All Shapes Row Average	Subclass Average
FC--LTRS SGL PC	12.30	38.11	76.32	15.18	15.18
FC LTR_P C_RT	2.99	-	-	2.99	5.17
FC LTR_P NC_RT	4.77	37.21	188.36	5.24	5.17
FC CARDS SGL PC	10.13	-	-	10.13	10.13
FC CRD_P C_RT	1.02	-	-	1.02	2.44
FC CRD_P NC_RT	2.53	-	-	2.53	2.44
IN COUNTY	2.72	2.06	1.08	2.08	2.08
PER.REGULR	4.70	12.51	28.35	12.38	12.38
PER.NONPRF	6.87	6.70	24.51	7.07	7.07
PER.CLASSR	-	14.79	-	13.64	13.64
STD (A) REG/ENH	1.59	1.21	29.04	1.40	1.40
STD (A) REG/OTH	6.05	12.26	51.30	9.40	9.40
STD (A) NPRF/ENH	2.53	2.87	223.61	2.80	2.80
STD (A) NPRF/OTH	4.90	12.25	76.02	6.34	6.34
STD (B) PARCELS				127.67	127.67
STD (B) BD PRINT				43.54	43.54
STD (B) SPECIAL				73.04	73.04
STD (B) LIBRARY				70.25	70.25

SOURCE: USPS LR-I-81, PAGE I-3

TEST YEAR MAIL PROCESSING UNIT COSTS BY SHAPE (CENTS/PIECE)

	Unit Cost
F-C Single Piece Bulk Entered Metered Letters	10.47
F-C Single Piece Metered Letters	10.77
F-C Presort Automated Letters	4.06
F-C Presort Non-Automated Letters	10.34
F-C Presort Automated Cards	2.07
F-C Presort Non-Automated Cards	4.06
Standard (A) Regular Letters Automated	5.17
Standard (A) Regualr Letters Non-Automated	10.17
Standard (A) Nonprofit Letters Automated	4.01
Standard (A) Nonprofit Letters Non-Automated	6.62
F-C Automated (both CR and non-CR)- Letters	4.02
F-C Automated (both CR and non-CR)- Cards	1.99
F-C Presort and Carrier Route Presort Letters	4.72
F-C Presort and Carrier Route Presort Cards	2.44

SOURCE: USPS LR-I-81, PAGE I-4