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

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

RESPONSE OF UNITED STATES POSTAL SERVICE
WITNESS RAMAGE TO INTERROGATORY OF
THE MAJOR MAILERS ASSOCIATION
(MMA/USPS–T2–1)

The United States Postal Service hereby provides the response of witness

Ramage to the following interrogatory of the Major Mailers Association:

MMA/USPS–T2-1, filed on March 3, 2000.

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

Respectfully submitted,

UNITED STATES POSTAL SERVICE

By its attorneys:

Daniel J. Foucheaux, Jr.
Chief Counsel, Ratemaking

Kenneth N. Hollies

CERTIFICATE OF SERVICE
I hereby certify that I have this day served the foregoing document upon all
participants of record in this proceeding in accordance with section 12 of the Rules of
Practice.

Kenneth N. Hollies

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March 17, 2000

MMA/USPS-T2-1. On page 3 of your prepared testimony you indicate that one purpose of your testimony is to discuss the reliability of major cost estimates that are generated from the In-Office Cost System. In Table 1, entitled "CV's For Mailprocessing Costs" and Table 2, entitled "CV's For City Carrier In Office Costs," you list the MODS-based estimated mean distributed costs and coefficients of variation.

(a)   Please refer to Library References LR-I-81 and LR-I-137. How accurate are the individual MODS cost pool data shown in those Library References for First-Class single piece letters, single piece metered letters, presort automated letters, and presort non-automated letters, presort carrier route letters, and presort non-carrier route letters. Please explain your conclusions regarding the accuracy of the individual MODS cost pool data.

(b)   Please explain the meaning of the coefficient of variation (.46% for First-Class letters and parcels and 1.22% for presort letters and parcels) as that term is used in your Table 1.

(c)   Please explain the meaning of the coefficient of variation (.69% for First-Class letters and parcels and 1.35% for presort letters and parcels) as that term is used in your Table 2.

(d)   According to the Postal Service's institutional response to MMA/USPS-T24-3(a), the average weight of a metered letter is .57 ounces. According to LR-I-91a, the average weight of a presorted letter is .62 ounces. Are the MODS cost pools presented in LR-I-162a (which comes from LR-I-61) sufficiently reliable to accurately reflect differences in mail processing costs for two categories of mail of the same shape, but that experience differences in the average weight of .05 ounces? Please explain your answer and provide any documents that support your conclusions.

(e)   According to USPS witness Miller's response to MMA/USPS-T24-1(a), heavy weight metered letters (weighing between 3.5 and 13 ounces) "might be affecting" the cost pool estimates, causing those costs to be 64% higher than for automated presort letters that weigh up to 3.3362 ounces. According to LR-I-91b, First-Class single piece letters weighing between 3.5 and 13 ounces comprise .16% of all single piece letters. Are the MODS cost pools presented in LR-I-162a sufficiently reliable to accurately reflect differences in mail processing costs for two categories of mail of the same shape, but that experience differences in the upper weight limit for such a small number of pieces? Please explain your answer.

(f)   When aggregate MODS cost data are broken down to the specific cost pool levels that are shown, for example, in LR-I-162a, which is more accurate: the individual cost pool data amounts or the sum of the individual cost pool data amounts? Please provide an explanation for your conclusions regarding this matter.

RESPONSE:

(a)   I have not studied this matter and am not familiar with these library references. I

have provided CVs for base year IOCS cost estimates in Tables 1-3 of my

testimony at the subclass level. It is not feasible to produce CVs at all other

levels of disaggregation or for all other estimates. In my response to

ANM/USPS-T2-13, I have provided a generalized variance function (GVF) that

may be useful for approximating sampling error for other IOCS based cost

estimates. This GVF is appropriate for cost estimates at the national level,

across cost pools. We have not developed CVs at the cost pool level and the

GVF was not developed from cost pool level estimates. It is possible that the

GVF could under- or over-state variances at the cost pool level due to

differences in cost pool variability factors and due to the proportion of the cost

pool total due to direct mail IOCS dollar weighted tallies.

(b)-(c) The meaning of the column labeled "CV" in Tables 1 to 3 of my testimony is the

same. The CV column refers to the estimate of the coefficient of variation for the

corresponding cost estimate provided in the column labeled "Cost Est." of the

table. This is a measure of the amount of variation one could expect due to

sampling alone. See page 6, lines 15-20. The CV is calculated by dividing the

standard deviation (column labeled "Std Deviation") by the cost estimate. Thus,

if the CV estimate were 10%, then the standard deviation estimate is 10% the

magnitude of the cost estimate.

For the "Letters and Parcels" row of Table 1, the CV is 0.46 percent. This means

that for this row, the standard deviation is approximately 0.46 percent of the size

of the cost estimate. This is verified by dividing the estimated standard deviation

(22,659) by the cost estimate (4,972,053) as follows:

(22659)/(4972053) = 0.004557 = 0.4557 percent, or approximately 0.46 percent.

The other CVs reported in Tables 1-3 have similar meaning.

(d)   See my response to part (a) of this interrogatory, above. Although the IOCS

does record the weight of the mailpiece for observations in which the sample

employee was handling a piece of mail, it does not measure distinctions in

weight as small as 0.05 ounces. In question 23G, the weight is recorded in half

ounce increments up to 4 ounces, and then in whole ounce increments for

weights over 4 ounces. See page 16-1 of the F-45, USPS-LR-I-14.

(e)   See my response to part (a) of this interrogatory, above.

(f)   See my response to part (a) of this interrogatory, above. However, general

statements can be made regarding sums of estimates and their sampling errors.

For example, if the estimates are not correlated[1], then the CV of a sum would be

$$cv(x+y) = (x^2 cv(x)^2 + y^2 cv(y)^2)^{0.5} / (x+y).$$

For the IOCS estimates and CVs reported in my testimony, it is often the case

that $cv(x+y) < min(cv(x), cv(y))$, however, one can construct examples for which

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[1] This will underestimate (overestimate) the sampling error if the two estimates are
highly positively (negatively) correlated.

$cv(x+y) > cv(x)$.[2] In addition, the IOCS generalized variance function may provide additional insights regarding the reliability of individual estimates and of their sums.

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[2] For example, if x and y are uncorrelated, x=100, cv(x)=.2, y=100, and cv(y)=.1, then $cv(x+y)$=.11.

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DECLARATION

I, Mark F. Ramage, hereby declare under penalty of perjury that the foregoing answers are true and correct to the best of my knowledge, information and belief.

Mark F. Ramage

Date: _____