

USPS-RT-9

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

POSTAL RATE AND FEE CHANGES, 2006

Docket No. R2006-1

REBUTTAL TESTIMONY  
OF  
L. PAUL LOETSCHER  
ON BEHALF OF THE  
UNITED STATES POSTAL SERVICE

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## **Autobiographical Sketch**

My name is L. Paul Loetscher. I am a Vice President at Christensen Associates, which is an economic research and consulting firm located in Madison, Wisconsin. I joined Christensen Associates in 1995 as a Staff Economist. In 1997 I was promoted to Economist; in 1999 I became a Senior Economist, and in 2005 I was promoted to Vice President. My education includes a B.A. in economics from Colorado State University in 1990 and an M.A. in economics from Michigan State University in 1993. I earned an M.A. by completing coursework and qualifying examinations for a Ph.D., but did not complete a dissertation. While a graduate student at Michigan State University, I was a teaching assistant for four years. I was an instructor for Intermediate Microeconomics, Labor Economics, and Principles of Microeconomics.

Much of my work at Christensen Associates has dealt with the statistical issues related to the estimation of mail volumes and mail characteristics. In Docket R2005-1, I presented testimony (USPS-T-32) on the size distribution of Periodicals sacks. In Docket MC2004-2, I presented testimony (USPS-T-3) on the size distributions and density of Priority Mail parcels. In Docket No. R2001-1 and R2005-1, I presented testimonies (USPS-T-41/R2001-1, USPS-T-32/R2005-1) on the measurement of domestic mail volumes by shape, ounce increment, and rate element, and the measurement of the entry profile of Outside County Periodicals mail pieces.

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**I. Purpose of Testimony**

The purpose of my testimony is to explain why the testimony presented by MMA witness Bentley in this docket is incorrect in asserting that the accounting method estimates of High Volume QBRM presented in USPS-LR-L-34 are flawed, and in concluding that the Commission should continue to use the High Volume QBRM estimates from previous cases.<sup>1</sup> My testimony will refute witness Bentley’s claims and explain how the study presented in USPS-LR-L-34 represents an improvement to the accounting method estimates of High Volume QBRM presented by witness Miller in Docket No. R2001-1<sup>2</sup> and by witness Bentley in Docket No. R2000-1.<sup>3</sup> Specifically, my testimony will demonstrate how the prior studies suffered from sample selection bias and measurement bias. Finally, my testimony will show that, in contrast to witness Bentley’s assertions, High Volume QBRM is often received in relatively low volumes, and that offices choose the most cost-effective counting methods based on the amount of High Volume QBRM they receive.

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<sup>1</sup> See Direct Testimony of Richard E. Bentley on Behalf of Major Mailers Association, DST Mailing Services, Inc. and Association for Mail Electronic Enhancement, Inc. (MMA-T-1), Docket No. R2006-1, at p. 28 and Appendix II  
<sup>2</sup> See Docket No. R2001-1, USPS-LR-J-60  
<sup>3</sup> See Testimony of Richard E. Bentley on Behalf of Keyspan Energy (KE-T-1), Docket No. R2000-1, EXHIBIT\_KE-1D.xls

1 **II. High Volume QBRM Isn't Always Received in "High Volumes"**

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3 In his testimony, MMA witness Bentley seems to be unaware of certain  
4 fundamental aspects of the High Volume QBRM rate category. First, witness  
5 Bentley mischaracterizes High Volume QBRM customers because he assumes  
6 that they consistently receive high volumes of QBRM. Despite its name, and  
7 despite witness Bentley's representations, in reality many High Volume QBRM  
8 customers do not actually receive a "high volume" on any given day. In the  
9 context of mail volumes, the term "high volume" elicits thoughts of large presort  
10 service bureaus, large national magazines, catalogue mailers, and major banks  
11 that submit hundreds of millions, or in some cases billions, of pieces each year.  
12 However, in reality, many High Volume QBRM customers have annual volumes  
13 measured in the tens of thousands of pieces, not millions. Furthermore, volumes  
14 can be highly sporadic: the pieces may all arrive in a relatively short time frame,  
15 with virtually no volume at other times, or the volume may be spread somewhat  
16 evenly throughout the year.

17 In addition, witness Bentley fails to recognize that the Postal Service does  
18 not have a stated minimum volume requirement for eligibility for High Volume  
19 QBRM rates. Thus, High Volume QBRM customers could have an annual  
20 volume ranging from zero pieces to hundreds of millions of pieces. Customers  
21 choose to pay the Basic QBRM rate or the High Volume QBRM rate based on  
22 the volume of QBRM mail they *expect* to receive each quarter, not necessarily on  
23 the volume of mail they *actually* receive each quarter. Witness Bentley seems to

1 ignore this crucial distinction, as demonstrated by his response to USPS/MMA-  
2 T1-15(b), where he stated, “I do not understand how an office can process and  
3 deliver High Volume QBRM but does not receive a ‘significant volume of  
4 QBRM.’” In fact, because there is no minimum volume requirement for High  
5 Volume QBRM eligibility, offices could reasonably receive insignificant volumes  
6 of QBRM on certain days, or during certain times of the year.

7 A QBRM customer’s choice to pay the High Volume QBRM rate versus  
8 the Basic QBRM rate is theoretically based on what is known as the “break even”  
9 volume level. At this volume level, the total postage under Basic QBRM rates is  
10 equal to the total postage under High Volume QBRM rates. Above this level,  
11 total postage under High Volume QBRM rates is less than under the Basic  
12 QBRM rates; below this level, total postage under Basic QBRM rates is less than  
13 under the High Volume QBRM rates. Under the current rates and fees structure,  
14 the “break even” quarterly volume level is 36,538 pieces, and can be calculated  
15 as the High Volume QBRM quarterly fee divided by the difference between the  
16 Basic QBRM per piece fee and the High Volume QBRM per piece fee, or:

17 
$$1900.00/(0.06-0.008) = 36,538 \text{ pieces.}^4$$

18 If a QBRM customer *expects* more than 36,538 pieces in any given quarter, then  
19 the customer should choose to pay the High Volume QBRM fee to pay the least  
20 in combination of postal fees and postage; if the customer *expects* fewer pieces,  
21 then the customer should choose the Basic QBRM rates. However, the  
22 recipient’s total volume does not dictate the rate paid. The rate paid is a *choice*  
23 on the recipient’s part, a choice perhaps made in the absence of full information.

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<sup>4</sup> See Domestic Mail Manual 507.8.0

1 The population of pieces that pay High Volume QBRM rates can include pieces  
2 from accounts with less than 150,000 pieces annually, which is about four times  
3 the quarterly “break even” volume. High Volume QBRM rates may be paid by  
4 BRM accounts with less than 50,000 pieces annually, in cases where the  
5 recipient has strong seasonal volume and chooses High Volume QBRM rates in  
6 only one quarter. Low annual volumes may also occur when the recipient has  
7 chosen High Volume QBRM rates based on an overestimation of the volume of  
8 mail ultimately received.

9

10 **III. The Studies in Docket Nos. R2000-1 and R2001-1 Excluded Lower**  
11 **Volume Recipients from the Analysis of High Volume QBRM**

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13 In his testimony, the only reason that Bentley gives to support his  
14 contention that the results from the BRM Practices Study are flawed is that they  
15 differ from his analysis in Docket No. R2000-1 and witness Miller’s analysis in  
16 Docket No. R2001-1.<sup>5</sup> However, a review of witness Bentley’s and witness  
17 Miller’s work shows that these two studies excluded accounts that received  
18 relatively low volumes. Thus, the previous studies underestimated the volume of  
19 High Volume QBRM that is counted manually. Unlike the study methodology  
20 used in developing the USPS-LR-L-34 results, the analyses conducted to  
21 estimate the accounting practices of High Volume QBRM in Docket Nos. R2000-  
22 1 and R2001-1 did not analyze High Volume QBRM in total and in isolation, but  
23 rather looked at the accounting practices of BRM received in high volumes. As

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<sup>5</sup> See MMA-T-1, Docket No. R2006-1, at p. 28-29

1 discussed in Section II above, there is a significant difference between High  
2 Volume QBRM and BRM received in high volumes, which witness Bentley  
3 ignores in his testimony.

4 Contrary to what witness Bentley would like the Commission to believe,  
5 analyzing BRM received in high volumes is not the same as analyzing High  
6 Volume QBRM. For example, the accounts that receive the highest volumes of  
7 BRM include accounts with non-qualified BRM pieces, nonletter BRM pieces,  
8 and Basic QBRM rated pieces. More importantly, looking at just the accounts  
9 that receive large volumes of BRM mail excludes pieces that pay High Volume  
10 QBRM rates, but are received in relatively low volumes. By including non-High  
11 Volume QBRM accounts that receive high volumes of BRM pieces, and  
12 excluding the High Volume QBRM accounts that receive low volumes, these  
13 analyses produced biased estimates that underestimated the amount of High  
14 Volume QBRM that is counted manually.

15 In Docket No. R2000-1, Postal Service witness Campbell provided QBRM  
16 volumes for the top 75 QBRM accounts, as measured by QBRM volume received  
17 in the first 3 quarters of FY 1998, and between AP 6 of FY 1999 and AP 5 of FY  
18 2000.<sup>6</sup> In that docket, witness Bentley, on behalf of Keyspan, augmented this  
19 sample with the volumes of two additional QBRM accounts that were not  
20 reported in the PERMIT system in FY1999 and FY2000. In witness Bentley's  
21 augmented sample, the smallest account volume was 874,379 pieces, which is  
22 over 5 times the current break even volume level for High Volume QBRM, as

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<sup>6</sup> See Response of United States Postal Service Witness Campbell to Interrogatories of Keyspan Energy, KE/USPS-T29-49, Docket No. R2000-1 (April 14, 2000).

1 described above. Moreover, many accounts with an annual volume less than  
2 874,379 are eligible for High Volume QBRM rates, but were excluded from both  
3 witness Campbell's and witness Bentley's samples.<sup>7</sup>

4 In Docket No. R2001-1, witness Miller looked at the accounting practices  
5 of the 151 largest BRM accounts in FY 2000. The sample comprised the largest  
6 150 accounts reporting in the PERMIT system, and an additional large BRM  
7 account that did not report in the PERMIT system.<sup>8</sup> The sample was not  
8 restricted to High Volume QBRM accounts, and the smallest account  
9 investigated had a FY 2000 BRM volume of 506,348 pieces, or over 3 times the  
10 current break even level for High Volume QBRM. Eligible low volume accounts  
11 were also excluded from witness Miller's sample.<sup>9</sup>

12 The exclusion of eligible low volume accounts results in selection bias.  
13 Selection bias occurs when the variable used to select a sample (in this case  
14 annual volume) is correlated with the characteristic being measured (the  
15 proportion of pieces counted manually). In the data used by witness Miller and  
16 the data used by witness Bentley, there is clearly a correlation between annual  
17 volume and the proportion of pieces that are manually counted. Low volume  
18 accounts are significantly more likely to be counted manually. In witness Miller's  
19 data, 9.3 percent of BRM was counted manually for accounts between 500,000  
20 and 600,000 pieces. For accounts having more than 600,000 pieces, none of the  
21 pieces were counted manually. In witness Bentley's data, 33.6 percent of the

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<sup>7</sup> See KE-T-1, Docket No. R2000-1, EXHIBIT\_KE-1D.

<sup>8</sup> See Direct Testimony of Michael W. Miller (USPS-T-22) on Behalf of United States Postal Service, USPS-T-22, Docket No. R2001-1, at page 38, lines 21-23.

<sup>9</sup> See USPS-LR-J-60, Docket No. R2001-1.

1 volume of accounts receiving less than 1 million pieces was counted manually,  
2 while 3.3 percent was counted manually in accounts having more than 4 million  
3 pieces.<sup>10</sup>

4 In neither witness Bentley's Docket No. R2000-1 study nor witness Miller's  
5 Docket No. R2001-1 study was the analysis actually an analysis of High Volume  
6 QBRM. Rather, they were analyses of BRM received in large volumes. Both  
7 studies included non-High Volume QBRM pieces and excluded lower volume  
8 accounts that were eligible for High Volume QBRM rates. But even as proxies  
9 for High Volume QBRM, both analyses were subject to selection bias, and the  
10 selection bias was in the direction of underestimating the proportion of High  
11 Volume QBRM that is counted manually because lower volume recipients were  
12 excluded.

13

14 **IV. In the Docket Nos. R2000-1 and R2001-1 Estimates, Manually**  
15 **Counted Volumes Were Assumed Away**

16

17 The way piece counts were assigned to accounting method in the Dockets  
18 No. R2000-1 and R2001-1 estimates also resulted in measurement bias.  
19 Measurement bias occurs when the instrument used to measure the  
20 characteristic of interest is not accurate in a systematic way, such as when a  
21 scale is not properly calibrated. In Docket No. R2001-1, the High Volume  
22 QBRM rate had not existed long enough to allow witness Miller to conduct a  
23 comprehensive statistical study of the accounting practices of High Volume

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<sup>10</sup> See USPS-LR-J-60, Docket No. R2001-1.

1 QBRM. In his phone survey of the 151 largest BRM accounts, the accounting  
2 method recorded was the accounting method used for the *majority* of each  
3 account's pieces. As a result, in witness Miller's analysis, the total volume for  
4 each account was assigned to one and only one accounting method.

5 Similarly, in witness Bentley's Docket No. R2000-1 analysis, 59 of the 73  
6 accounts measured had no recorded volume that was manually counted. Since  
7 witness Bentley could only obtain the distribution of accounting method by office  
8 and not by individual account, he assumed away the possibility that some portion  
9 of each account could be counted manually. Witness Bentley stated in his  
10 exhibit:

11

12 USPS witness Campbell provided the percentage of QBRM  
13 pieces that were counted by each of the five methods for 74  
14 of the top 77 offices. For each account he indicated the  
15 percentage of QBRM applicable to all of the pieces counted  
16 within that office. During oral cross-examination he indicated  
17 that, at least for the most current data he had recently  
18 retrieved, the method of counting for the particular account  
19 was not the same as the percentages shown for the office as  
20 a whole, but would be one of the non-manual methods that  
21 he had specified. Therefore, where he so indicated, I have  
22 assumed that 100% of the pieces were counted using the  
23 method that Mr. Campbell suggested was appropriate.

24

25 For the older data, collected in 1996, there was a similar  
26 problem. The percentages shown were applicable to all  
27 QBRM counted by an office, and not necessarily for the  
28 large account shown. Because high volume accounts would  
29 tend to exhibit different counting methods from low volume  
30 accounts, I have made a similar adjustment to the 1996  
31 data. I therefore constrained the manual counting  
32 percentage to be zero in those offices that exhibited more  
33 than one counting method and re-allocated that volume to

1 the other methods utilized by the office in the same relative  
2 amounts.<sup>11</sup>  
3

4 Recording volumes in the manner described by witness Bentley precluded the  
5 likelihood that some volume for every account was manually counted.

6 There are a number of reasons that, even for the largest accounts, some  
7 volume would be counted manually. For example, pieces damaged in upstream  
8 processing that are unable to be processed in automation will be counted  
9 manually when the predominant method for counting these pieces is the DBCS  
10 or other machine. Also, volumes received after the main processing window will  
11 likely be counted manually. Finally, accounts with fluctuating daily volumes will  
12 likely be counted manually on low volume days when the volume does not justify  
13 a machine setup to count the mail in a couple of trays.<sup>12</sup> Given the reality of mail  
14 flows, it is improbable that any account would not have some portion counted  
15 manually. Since the Docket Nos. R2000-1 and R2001-1 analyses did not or  
16 could not account for all possible accounting methods that are actually employed,  
17 those studies underestimated of the volume of mail that was manually counted.  
18 Therefore, witness Bentley is incorrect in suggesting that the results of those  
19 studies should be accepted instead of the results from USPS-LR-L-34.

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21 **V. USPS-LR-L-34 Estimates are Unbiased and Based on Sound**  
22 **Statistical Principles, Not Preconceptions**

23

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<sup>11</sup> See Docket No. R2000-1, EXHIBIT\_KE-1G.doc, pages 1-2.

<sup>12</sup> See Rebuttal Testimony of Chris Oronzio, USPS-RT-15, Docket No. R2006-1.

1           The BRM Practices Study in this docket (USPS-LR-L-34) provides  
2 unbiased estimates of the accounting practices of High Volume QBRM and was  
3 conducted using sound statistical methods. The sample design was developed  
4 to avoid bias in both the selection process and the survey instrument. The FY  
5 2004 ODIS BRM data by 3-digit zone was used to develop the sample frame and  
6 ensure that the entire population of BRM mail was included in the frame. No  
7 BRM accounts or BRM pieces were excluded from the sample frame. In Docket  
8 Nos. R2000-1 and R2001-1 the low volume accounts (those more likely to be  
9 manually counted) were excluded. In the sample selection for USPS-LR-L-34, 3-  
10 digit zones were drawn proportional to FY 2004 BRM volume and appropriately  
11 weighted to ensure that each sampled piece represented its share of total BRM  
12 volume. The sample instrument was designed so that the actual accounting  
13 methods used and the actual BRM rate paid by every BRM piece processed by  
14 the sampled offices could be accurately recorded. Thus, it was not necessary to  
15 make assumptions regarding operational practices, nor to use proxies for any  
16 subset of BRM. In the Docket Nos. R2000-1 and R2001-1 studies, the actual  
17 BRM rate was unknown and all pieces were assumed to have been counted  
18 using the predominant method.

19           Using the data collected in the BRM Practices Study, it can be shown that  
20 the Postal Service does not laboriously hand count High Volume QBRM received  
21 in very large volumes day-in and day-out as suggested by witness Bentley.<sup>13</sup>  
22 Instead, the Postal Service appropriately and efficiently uses the DBCS, weight  
23 averaging, special counting machines, or BRMAS software to count High Volume

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<sup>13</sup> See MMA-T-1, Docket No. R2006-1, at page 28, lines 27-28.

1 QBRM when large amounts of High Volume QBRM are received, and uses  
 2 manual counting when the volume of High Volume QBRM is low.

3 In the BRM Practices Study, USPS-LR-L-34, the unit of observation was  
 4 an “office-day,” that is, the mail received by an office on a sample day. Each  
 5 office-day can be mapped to a range of High Volume QBRM volume that is  
 6 received and processed on a particular day. Estimates can be produced that  
 7 show the accounting methods used when the amount of High Volume QBRM  
 8 falls within these ranges of volume. Table 1 below shows the range of  
 9 accounting practices used to count High Volume QBRM, disaggregated by three  
 10 ranges of volume: 500 or fewer pieces per office-day, between 501 and 2,500  
 11 pieces per office-day, and over 2,500 pieces per office-day.<sup>14</sup>

**Table 1**  
**High Volume QBRM**  
**Accounting Practices by Daily Received Volume**

<b>Accounting Method</b>	<b>Daily Volume of High Volume QBRM</b>		
	<b>&lt;= 500</b>	<b>501 - 2,500</b>	<b>&gt;= 2,501</b>
<b>BRMAS Software</b>	<b>1.01%</b>	<b>2.76%</b>	<b>4.27%</b>
<b>Other Software</b>	<b>0.00%</b>	<b>0.00%</b>	<b>0.00%</b>
<b>EOR From BCS</b>	<b>0.86%</b>	<b>9.23%</b>	<b>68.66%</b>
<b>Special Counting Machine</b>	<b>0.00%</b>	<b>0.00%</b>	<b>16.44%</b>
<b>Manual Counts</b>	<b>98.13%</b>	<b>50.51%</b>	<b>2.08%</b>
<b>Weight Averaging- Letter</b>	<b>0.00%</b>	<b>37.49%</b>	<b>8.54%</b>
<b>Share of HV QBRM Received</b>	<b>13.2%</b>	<b>25.4%</b>	<b>61.4%</b>

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14 Either because of daily or seasonal fluctuations in the recipients’ volume,  
 15 or because the account is near the break even volume, 13 percent of all High  
 16 Volume QBRM is processed on “lower volume” days, when processing offices

<sup>14</sup> Please see USPS-LR-L-193, which explains in more detail how Table 1 was derived from the USPS-LR-L-34 data.

1 receive 500 or fewer pieces. On these days, High Volume QBRM is counted  
2 manually 98 percent of the time. On days when offices receive more than 2,500  
3 pieces of High Volume QBRM, only 2 percent is counted manually. The Postal  
4 Service uses the most cost-effective counting method based on the volume  
5 received, which witness Bentley fails to realize because of his preconception that  
6 all High Volume QBRM is received in large volumes. The actual counting  
7 methods by volume levels, shown in Table 1, make more logical sense than  
8 witness Bentley's isolated view.

9       The results presented in Table 1 also illustrate why witness Bentley in  
10 Docket No. R2000-1 and witness Miller in Docket No. R2001-1 underestimated  
11 the proportion of High Volume QBRM that was counted manually. By sampling  
12 only the largest High Volume QBRM accounts, they selected accounts that were  
13 likely to receive significant volumes of High Volume QBRM daily. The offices  
14 processing this large volume appropriately use non-manual methods of counting  
15 mail. However, the previous estimates incorrectly measured the accounting  
16 practices of low volume days, either by excluding low volume accounts from the  
17 sample or assuming that low volumes are counted the same as high volumes.  
18 Thus, they ignored the reality that offices find it cost-effective to manually count  
19 volumes – even for High Volume QBRM accounts -- on lower volume days. The  
20 BRM Practices Study presented in USPS-LR-L-34 is entirely consistent with this  
21 finding, and it provides a more complete picture of the QBRM and High Volume  
22 QBRM universe than what is offered by MMA witness Bentley.

23

1 **VI. Summary and Conclusions**

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3 Contrary to the assertions by MMA witness Bentley in this docket, the  
4 estimates provided in the Docket No. R2006-1 BRM Practices Study (USPS-LR-  
5 L-34) are the result of a comprehensive study of BRM mail, are based on sound  
6 statistical principles, and correct for biases inherent in the previous two studies.  
7 The results may be inconsistent with witness Bentley's preconceptions regarding  
8 the High Volume QBRM rate category, but they represent an unbiased  
9 consideration of the full range of practices used to count QBRM pieces. Because  
10 of the current rate structure, High Volume QBRM may be received in low  
11 volumes as well as high volumes. The previous studies of High Volume QBRM  
12 in Docket Nos. R2000-1 and R2001-1 did not account for lower volume accounts  
13 or for lower volume days, which have a higher incidence of manually counting.  
14 This sampling bias resulted in the underestimation of the proportion of QBRM  
15 that is manually counted. Further, by recording all volume for an account under  
16 the predominant counting method, these studies failed to record the cost-  
17 effective manual counting of residual volume and the manual counting that  
18 occurs on lower volume days. This measurement bias compounded the  
19 selection bias. As a result, MMA witness Bentley wrongly advocates using  
20 biased studies that underestimate the proportion of High Volume QBRM that is  
21 counted manually. Therefore, the Commission should follow the results in  
22 USPS-LR-L-34, which is based on sound statistical principles.