

ORDER NO. 741

UNITED STATES OF AMERICA
POSTAL REGULATORY COMMISSION
WASHINGTON, DC 20268-0001

Before Commissioners:

Ruth Y. Goldway, Chairman;
Mark Acton, Vice Chairman;
Dan G. Blair;
Tony L. Hammond; and
Nanci E. Langley

Modification of Analytical Principles
in Periodic Reporting
(Proposals Nine through Twelve)

Docket No. RM2011-5

ORDER CONCERNING ANALYTICAL PRINCIPLES
FOR PERIODIC REPORTING
(PROPOSAL NINE)

(Issued June 3, 2011)

I. INTRODUCTION

In Order No. 203, the Commission adopted periodic reporting rules pursuant to 39 U.S.C. 3652.¹ Those rules require the Postal Service to obtain advance approval, in a notice and comment proceeding under 5 U.S.C. 553, whenever it seeks to change the analytical principles that it applies in preparing its periodic reports to the Commission required by section 3652.

¹ Docket No. RM2008-4, Notice of Final Rule Prescribing Form and Content of Periodic Reports, April 16, 2009 (Order No. 203).

On December 20, 2010, the Postal Service filed a petition to initiate an informal rulemaking proceeding to consider four proposals to change analytical methods approved for use in its periodic reports to the Commission.² The four proposals were labeled Proposals Nine through Twelve. Proposals Ten through Twelve were resolved in Order No. 724 issued May 5, 2011. Proposal Nine is addressed in this Order.

Proposal Nine would incorporate new input data and assumptions, and a new bundle sorting cost methodology into the First-Class Mail presort letters and Standard Mail presort letters mail processing cost models. The Postal Service recommends that these proposed modifications be relied upon in Docket No. RM2010-13. That docket is examining technical issues relating to the calculation of the costs avoided by worksharing. The Commission approves Proposal Nine, as filed except for (1) manual incoming secondary and post office box walling productivities (existing method retained); (2) remote barcode system leakage rate (RBCS) (the current methodology is retained); and (3) post office box destination percentage (the alternative methodology using Carrier Piece Count data is adopted).

II. PROPOSAL

In Proposal Nine, the Postal Service proposes to incorporate new input data and a new bundle sorting cost methodology into the First-Class Mail presort letters and Standard Mail presort letters mail processing cost models. Specifically, the Postal Service seeks to incorporate the following inputs into the First-Class Mail presort letters and Standard Mail presort letters mail processing cost models: (1) automation density table; (2) manual density table; (3) post office box destination percentage; (4) plant carrier route finalization percentage; (5) manual incoming secondary and post office box walling productivities; (6) remote barcode system leakage rate; and (7) bundle sorting

² Petition of the United States Postal Service Requesting Initiation of a Proceeding to Consider Proposed Changes in Analytic Principles (Proposals Nine – Twelve), December 20, 2010 (Proposal Nine).

cost methodology. *Id.* at 2. The Commission discusses the proposed changes in the order summarized above.

A. Automation Density Table

The Postal Service often processes letter mail deposited with it to finer sort levels. Generally, it can identify the class of letter mail that it has processed to a particular sort level (*e.g.*, First-Class Mail), but cannot identify the specific product within that class (*e.g.*, single-piece or presort). In lieu of directly measuring the proportion of letter mail that it has processed to a particular sort level that was entered as single-piece or presort, the Postal Service proposes to revise the First-Class Mail presort letters and Standard Mail presort letters automation density tables to incorporate the assumption that the presort letter volume finalized to the 5-digit level in all outgoing operations is zero.³ *Id.* at 3.

As corroboration for the validity of applying this assumption to First-Class Mail presort letters, the Postal Service cites what it considers analogous results for Standard Mail presort letters. According to the automation density table presented in 2008, the proportion of outgoing Standard Mail presort letters finalized to the 5-digit level was very small (1.2 percent and 0.0 percent for the outgoing primary and outgoing secondary operations, respectively). *Id.*

In evaluating the results for First-Class Mail that were shown in the 2008 automation density table, the Postal Service concludes that the substantial percentage of First-Class Mail letters finalized to the 5-digit level in outgoing operations is likely a reflection of a substantial presence of single-piece mail in web “end-of-run” (webEOR) volumes. The Postal Service considers it unlikely that presort makes up a significant percentage of the letters finalized to the 5-digit level since only one overflow mixed automated area distribution center tray is permitted for non-automation machinable and

³ In the downflow density models, letter mail that is finalized to the 5-digit level next flows to the incoming secondary operation.

automation mailings. The Postal Service notes that this issue also affects the Standard Mail presort letter model because it takes the density values from the First-Class Mail presort letter model and applies that to the input sub system and output sub system operations in the Standard Mail model. *Id.*

The Postal Service's response to Chairman's Information Request No. 2 provides additional support for the proposal.⁴ It demonstrates that almost 90 percent of the First-Class Mail volume processed in outgoing letter operations is single-piece. The Postal Service also identifies Origin Destination Information System (ODIS) data that support its position that single-piece mail has a high likelihood of originating and destinating in the same service area. *Id.* at 5. It contends that both facts imply that little First-Class Mail letter mail flowing from outgoing operations directly into incoming secondary operations is presorted mail.

Participants' views. Pitney Bowes and the Public Representative support the proposed change.⁵ Nonetheless, the Public Representative asserts that the assumption that the volume finalized to the 5-digit level in all outgoing operations is zero is as likely to understate the percentage finalized to the 5-digit level as the current density value is to overstate it. *Id.* at 3-4.

Commission analysis. The regulations that limit a presort First-Class Mail mailing to one overflow tray, coupled with the fact that 90 percent of outgoing First-Class Mail letter volume is single-piece, and the fact that a large portion of single-piece mail is turnaround mail that goes straight to an incoming secondary sort, all support the assumption that virtually all of the mail flowing out of outgoing letter sorting operations directly into incoming secondary operations are single-piece First-Class Mail letters

⁴ Response of the United States Postal Service to Questions 1-6 of Chairman's Information Request No. 2, February 25, 2011 (Response to CHIR No. 2). The Postal Service filed an accompanying Motion for Late Acceptance of Responses of the United States Postal Service to Chairman's Information Request No. 2. The motion is granted.

⁵ Comments of Pitney Bowes Inc., January 28, 2011, at 2 (Pitney Bowes Comments); Comments of the Public Representative in Response to Order No. 625, January 28, 2011; *see also* Corrected Comments of the Public Representative in Response to Order No. 625, March 7, 2011, at 4 (PR Comments).

rather than presort letters.⁶ For these reasons, the Commission finds that the proposed modification of the automation density table to assume that no presort letters flow from outgoing sorting operations to the incoming secondary operation is likely to improve the accuracy of the letter cost avoidance models and is accepted. As the Public Representative points out, this is an oversimplification, but, on balance, it is likely to improve the accuracy of the presort letter cost model.

B. Manual Density Table

The Postal Service proposes new density values⁷ for the manual outgoing primary operation (MODS operation number 030) and for the manual outgoing secondary and manual incoming managed mail program (MMP) operations (MODS operation numbers 040 and 043, respectively). Proposal Nine at 3-6; Response to CHIR No. 2 at 11-16. The proposal would replace densities from a study performed in 1999. As with the automation density table, the Postal Service proposes that the manual density table incorporate the assumption that the percentage of presorted letter mail flowing from the outgoing primary operation to the incoming secondary 5-digit level is zero. Response to CHIR No. 2, question 2 at 11. In doing so, it rejects the results of two special studies of the density of manual letter mail flows.

In 2008, the Postal Service contacted the 40 processing plants from the 1999 study to gather data on the density of manual letter mail flows.⁸ In 2010, it conducted another study, contacting the 40 processing plants involved in the 2008 study and 11 additional plants. Only 10 of the 51 plants contacted could provide data on manual

⁶ These facts also raise questions about the accuracy of the density of presort letters from outgoing operations into downstream operations other than the incoming secondary operation. Nonetheless, the relative distribution to other downstream operations is not affected by the proposal so it neither improves nor harms their accuracy.

⁷ See MANUAL_DENSITY_TABLE_PROPOSAL_NINE.xls.

⁸ See Response to CHIR No. 2, question 2 for a detailed discussion of the Postal Service's analysis of manual density data. The Postal Service concludes: "In summary, manual density data are not easily obtained. While attempts to collect data in both the 1999 and 2010 summaries were met with limited success, the Postal Service believes that the revised analysis, as described in Proposal Nine, represents an improvement over the 1999 study." *Id.* at 15.

outgoing primary letter mail sorts. *Id.* at 12. The Postal Service uses these data to estimate manual outgoing primary density values. It applies the August 2010 percentages to the August 2010 MODS volumes for the corresponding plants. *Id.* at 9. After totaling the volumes, the Postal Service recalculates the percentages to estimate density values for the manual outgoing primary operation. It found that the density results for the manual outgoing primary operation were not significantly different from the values in the 2008 manual density table. The Postal Service contends that the density figures provided by the plants in the 2010 study as well as the 2008 study were distorted by the presence of substantial quantities of single-piece mail. *Id.*

For the manual outgoing secondary and incoming MMP operations, the Postal Service was only able to obtain data from two plants and one plant, respectively. Consequently, the Postal Service uses destinating ODIS data for First-Class Mail presort letters and Standard Mail presort letters to estimate the density values for the manual outgoing secondary operation. *Id.* at 7.

The Postal Service explains that the letter cases in the manual outgoing secondary operation are typically structured to distribute mail to the plant level only. As a result, the next operation for mail processed through this operation would either be an incoming MMP operation or an incoming sectional center facility (SCF)/primary operation. *Id.* at 9.

The Postal Service reviewed the August 2010 webMODS reports for each plant to determine which plants maintained a manual incoming MMP operation. When calculating the manual outgoing primary density values, the Postal Service assumes the next operation for a given plant will be the incoming MMP operation if that plant maintains a manual MMP operation and serves multiple plants, or if that plant is not an area distribution center (ADC) but is served by an ADC plant that maintains a manual MMP operation. For the remaining plants, the Postal Service assumes the next operation will be the incoming SCF/primary operation. *Id.* at 12.

The Postal Service also develops new manual incoming MMP density estimates using destinating ODIS data. When calculating the 043 operations density values, the

Postal Service assumes that the next operation for an area ADC plant will be the incoming secondary operation; for a non-ADC plant that is served by other ADC plants that maintain the manual MMP operation, it will be an incoming SCF/primary operation. *Id.*

Participants' views. Pitney Bowes supports the proposed change. Pitney Bowes Comments at 2. The Public Representative concludes that the operational assumptions underlying the adjustment to the manual outgoing secondary operation seem rational. However, he expresses concern that based on the information in Proposal Nine, it appears that the new densities for the manual MMP operation are based on data from a single facility and may not be sufficient to develop national density distributions. PR Comments at 3-4.

Commission analysis. The results of the Postal Service's 2010 study are more representative than the results of the 1999 study upon which current estimates are based. This is largely because the FY 2010 study was able to use the webMODS system to assemble a list of plants that maintained both a manual incoming MMP operation and a manual incoming SCF primary operation. This list was used to make a more refined determination of the probable "next" operation for a given plant's mail of a particular sort level.⁹

The Postal Service's response to CHIR No. 2, question 2, clarifies the methods used to develop the proposed manual densities for each of the affected operations. In particular, it explains that given the lack of direct data available from the plants, the densities for the manual outgoing secondary and incoming MMP operations are developed using systemwide plant-specific ODIS data combined with information about which plants are on the MMP list.¹⁰ The Postal Service's clarification that systemwide, plant-specific ODIS data are used answers the Public Representative's concern that

⁹ See Response to CHIR No. 2, question 2 at 9.

¹⁰ For mail coming out of the 040 and 043 operations, the next operation into which mail is sent is a binary function of whether or not the plant is on the MMP list (or, alternatively, if it is served by an ADC that was on the MMP list).

data for the MMP operation might be based on results for a single plant. These results are more representative of the overall system than the more limited 1999 study which, as noted above, was the source of the current densities. With the Postal Service's clarification, the Commission concludes that the proposed changes to manual densities improve the accuracy of the cost avoidance models and are accepted.

C. Post Office Box Destination Percentage

The Postal Service proposes to update the estimate of letter volume that is delivered to post office boxes. The Postal Service explains that the ODIS data on which the previous estimates were based are no longer available; therefore, it uses Carrier Piece Count (CPC) data instead. The Postal Service estimates the percentage of post office box mail by dividing the CPC post office box volume by the Revenue, Pieces and Weight System (RPW) machine volume. Proposal Nine at 6-7. The RPW machine volume is the total RPW letter volume excluding First-Class Mail and Standard Mail non-machinable letters, Standard Mail saturation letters, and Standard Mail high-density letters.

Participant's views. The Public Representative asserts that it is reasonable to use CPC data for this purpose; however, he points out that the Postal Service did not offer an explanation as to why it was reasonable to use data from a different data system (RPW machine volume) as the denominator. PR Comments at 3. To address this issue, the Postal Service provides an alternative estimate of the post office box percentage using the total CPC volume. Response to CHIR No. 2, question 3.

Commission analysis. The Postal Service's proposed change relies on data from two data systems, namely CPC and RPW. In theory, use of RPW data as the denominator of the ratio of volume that is delivered to post office boxes is conceptually sound. However, developing the ratio using data from a different data system in the denominator is internally inconsistent and best avoided, when possible.

In response to CHIR No. 2, question 3, the Postal Service provided results using compatible data, *i.e.*, drawn from a single data system. It characterizes the resulting

percentages as within the “general range” of estimates, and notes that the results of the overall cost models are not particularly sensitive to this input. The Commission approves the methodology change using CPC data in lieu of data from two data systems as originally proposed by the Postal Service. Illustratively, under the approved method, the ratio for FY 2010 would be 6.97 percent.

D. Plant Carrier Route Finalization Percentage

The Postal Service proposes to reduce the plant carrier route finalization percentage to zero. Proposal Nine at 7. The Postal Service contends that manual incoming secondary distribution has been decentralized from the plants and moved to the delivery units for all shapes of mail. Consequently, it concludes that only plants that essentially house delivery units have manual incoming secondary operations. While the proposed plant carrier route finalization percentage is a significant reduction from the value currently in the presort letters mail processing cost models, the Postal Service contends that this reflects current operations. Additionally, the Postal Service claims that field observations conducted since Docket No. R2006-1 support the proposed change. *Id.*

Participants’ views. Pitney Bowes and the Public Representative support the proposed change. However, they observe that the Postal Service based its proposed change on assumptions, and that empirical evidence would be preferred. Pitney Bowes Comments at 2; PR Comments at 3.

In response to CHIR No. 2, question 4, the Postal Service provides additional empirical support for its proposal. It explains that the field observations were anecdotal and were obtained by questioning plant managers during field visits to collect data for other studies. In each instance, plant managers responded that they do not maintain manual incoming secondary letter operations. The response also calculates that manual incoming secondary letter sorting at plants makes up only 6 percent of all incoming secondary letter sorting costs at plants. It explains that, given the significantly higher productivity of automated sorting, the percentage of in-plant incoming secondary

letter volume is even smaller. Finally, the Postal Service points to workpapers filed in Docket No. ACR2010 that indicate that 99.6 percent of incoming secondary letter piece handlings are automated.

Commission analysis. The Commission finds that the proposal to reduce the plant carrier route finalization percentage to zero improves the accuracy of the cost models. The assumption that the percentage is zero understates the actual percentage of letters manually finalized at plants, but the understatement is likely to be less than 1 percent. Because the effect of the difference is *de minimis*, and an actual measure of the small percentage of manual secondary sorting in plants that remains is unavailable, the use of a zero assumption is accepted.

E. Manual Incoming Secondary and Post Office Box Walling Productivities

The Postal Service conducted a field study during the summer and fall of FY 2010 to update the following productivity values: the manual incoming secondary productivity performed at delivery units, the post office box Delivery Point Sequence (DPS) "walling" productivity, and the post office box non-DPS "walling" productivity.¹¹ Proposal Nine at 8.

The Postal Service states that manual incoming secondary operations are now performed by mail processing clerks that sort letters to the carrier route level at delivery units. Response to CHIR No. 2, question 4. To estimate a new manual incoming secondary productivity, the Postal Service collected manual incoming secondary productivity data from 18 delivery units.¹² Additionally, the Postal Service adjusted the First-Class Mail presort letters and Standard Mail presort letters mail processing cost models to reflect that manual incoming secondary productivity at MODS sites will no longer be required. Proposal Nine at 9.

The Postal Service collected DPS walling productivity data from two plants,

¹¹ "Walling" is a term that refers to the placement of mailpieces into post office boxes.

¹² See 'LETTER_PRODUCTIVITIES_PROPOSAL_NINE.xls.

eight delivery units, and two retail units. *Id.* It used the collected data to estimate walling productivity. The Postal Service also collected Non-DPS walling productivity data from two plants and ten delivery units and used the data to estimate a new productivity value. To account for non-productive time, the Postal Service divides these productivities by overhead factors from USPS-FY09-7. *Id.*

Participant's views. The Public Representative notes that the Manual Incoming Secondary Letters Sort Productivity, the item with the most observations, has a standard deviation of 34.5 percent. He concludes that this suggests that the productivity varies widely across delivery units. PR Comments at 3.

In response to CHIR No. 2, question 5, the Postal Service provides further details regarding how the study was conducted, an explanation of why the observed productivities vary significantly, and the similarity of the operations performed at the time of the study underlying the instant proposal and the operations performed when the previous study was done in 1995. The productivities are calculated from a relatively small number of observations. The Postal Service explains that the primary limitation on the sample size was that the postal analysts taking the samples could only obtain one observation per day. It also notes that there were “a few instances” where unrealistically high productivities were recorded, and that these data were excluded from the study. Response to CHIR No. 2, question 5. The Postal Service explains that the experience of the employee performing the operation and the amount of time pressure the employee is under to complete the task can cause the large range of productivities observed in the study. *Id.* at 22-24.

Commission analysis. The Commission finds that the proposed updates of the manual incoming secondary and walling productivities are not sufficiently likely to improve the results of the letter cost models and does not accept them. The wide range of observed productivities, combined with the relatively small sample size, raises serious concerns about the representativeness of the results. There have been no changes in the equipment or methods used for these operations since the 1995 study was performed, and unfortunately the Postal Service is unable to perform a comparison

of the sampling methods and statistical properties of the 1995 and 2010 studies. *Id.* at 25. The Commission appreciates the Postal Service's efforts to update the inputs to cost models, particularly where changes in operations or equipment have rendered the existing data obsolete. However, in this instance, the new study is of questionable statistical reliability, and it is not clear that it would improve upon the study that it would replace.

F. Remote Barcode System Leakage Rate

"Leakage rate" refers to the percentage of mail for which an image of the address is lifted and is sent to the Remote Computer Recognition processor or the Remote Encoding Center; however, the resulting barcode is never retrieved from the decision storage unit, either because the system went down in the interim, or the processing window closed, and the mailpiece was sorted manually. Response to CHIR No. 2, question 6. The Postal Service proposes to use the Operations leakage target of 5 percent in the presort letter mail processing cost models. Proposal Nine at 10.

The Postal Service claims that measuring leakage has become difficult due to changes in the Postal Service's data collection systems. The Postal Service points out that the method that it proposes is identical to the methodology used in Docket No. R2000-1. *Id.*

Participant's views. The Public Representative questions the reasonableness of using a 5 percent leakage rate instead of the 8.26 percent figure developed in 2005. He adds that the finalization rate in 2010 was 91.89 percent, which undermines the assumption that a 5 percent leakage rate would be more accurate. PR Comments at 4.

In response to CHIR No. 2, question 6, the Postal Service provides an extensive history of the trends in the measured leakage rate since Docket No. R97-1. It explains that over time the leakage rate settled to levels that approached the target of 5 percent until a series of changes in software and procedures for re-running rejected letters inflated the leakage rate. Response to CHIR No. 2, question 6.

Commission analysis. The Postal Service has not provided adequate support for use of the 5 percent Operations leakage target as a proxy for the actual leakage rate in the letter cost models. Historical leakage rates provided by the Postal Service show, with the exception of a single accounting period in 1999, that the leakage rate remained in excess of 5 percent. Thus, the Commission does not accept the use of the 5 percent Operations leakage target. To the extent that measurement of the leakage rate is useful for operations' managers to readily identify anomalies in their methods for processing letters (*id.* at 31), the Postal Service may wish to explore the issue more fully. Given the alternatives available, the leakage rate in the current letter models, while not ideal due to its age, remains preferable to the assured 5 percent leakage rate.

G. Bundle Sorting Cost Methodology

The current method of modeling letter bundle costs uses a piece volume estimate from the non-automation mailing statements and then applies an average pieces per bundle conversion factor. An estimate of bundle sorting productivity at the opening unit is then applied to the probability of a letter bundle sort occurring at any of three different operations.¹³ Due to operational changes, the Postal Service proposes a new bundle sorting methodology to be used in the mail processing cost models. Proposal Nine at 10. According to the Postal Service, only a small percentage of letters is now entered as bundles and, consequently, bundle sorting operations that are used exclusively to process letter bundles are rare. The Postal Service contends that letter bundles are typically either processed with flats bundles or are processed in manual piece distribution operations. *Id.*

The proposed methodology uses data from the manual density table to estimate the number of bundle handlings. The Postal Service develops bundle sorting cost estimates using the same methodology relied upon to estimate piece distribution costs

¹³ See Docket No. MC95-1, Direct Testimony of Marc A. Smith on Behalf of the United States Postal Service, Exhibit USPS-T-10B, March 24, 1995.

in the model cost sheets. To convert the bundle sorting costs into piece costs, the Postal Service uses the number of handlings and mail characteristics data. Developed in a 2008 field study,¹⁴ the proposed methodology relies on a plant productivity for manually sorting bundles of 503 pieces per hour consistent with productivities for manual letter piece distribution (450 to 650 pieces per hour). Proposal Nine at 11. The Postal Service adjusts the productivity for manually sorting bundles to account for non-productive time, such as the time spent on employee breaks and clocking in and out of operations. This adjustment is made by dividing the productivity estimate by the overhead factor for the MODS "MANL" operation. *Id.*¹⁵

Participants' views. The Public Representative states that as long as the manual density table is accurate, it is reasonable to assume that non-automation bundles will be processed in a similar manner. PR Comments at 4. Pitney Bowes also supports this change in methodology. Pitney Bowes Comments at 2.

Commission analysis. The Commission accepts the proposed changes in the bundle sorting methodology. It reflects the significant operational changes in bundle sorting described by the Postal Service. The new method is consistent with the proposed manual densities also accepted by the Commission.

III. IMPACT OF THE COMMISSION'S MODIFICATION OF PROPOSAL NINE

In its 2010 ACD,¹⁶ the Commission noted that the Postal Service had calculated passthroughs for presorted First-Class Mail letters and cards based on cost model methodologies proposed in Proposal Nine that had not yet been approved by the Commission. The Commission observed that, based on those unapproved methodologies, the proposed discounts passed through 100 percent of avoided costs. The Commission held in abeyance any possible remedial action that might be

¹⁴ See USPS-FY08-14, Table FS-1.

¹⁵ The overhead factor is cited in USPS-FY09-7.

¹⁶ Docket No. ACR2010, FY 2010 Annual Compliance Determination, March 29, 2011 (2010 ACD).

necessary until it had evaluated and disposed of Proposal Nine in this docket. *Id.* at 88. In Library References filed concurrently with this Order, the Commission has calculated the impact of Proposal Nine, as approved, on presorted First-Class Mail letters and cards passthroughs,¹⁷ and on Standard Mail letters passthroughs.¹⁸ As shown therein, Proposal Nine, as approved, causes no passthrough that was previously below 100 percent to exceed 100 percent.¹⁹ Based on the results of this analysis, the Commission concludes that no remedial action is warranted.

It is ordered:

With respect to Proposal Nine, the Commission accepts the changes in analytical principles proposed by the Postal Service in its Petition of the United States Postal Service Requesting Initiation of a Proceeding to Consider Proposed Changes in Analytic Principles (Proposals Nine – Twelve), filed December 20, 2010, with the exceptions noted in the body of this Order.

By the Commission.

Shoshana M. Grove
Secretary

¹⁷ See PRC-RM2011-5-LR2.

¹⁸ See PRC-RM2011-5-LR3.

¹⁹ The library references also include updated mail processing cost models for First-Class Mail presort letters and Standard Mail presort letters that incorporate the modification made to Proposal Nine as discussed in this Order.