

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

Before Commissioners:

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

Modification of Analytic Principles in  
Periodic Reporting (Proposal Twenty)

Docket No. RM2010-1

ORDER ON ANALYTIC PRINCIPLES USED IN PERIODIC REPORTING  
(PROPOSAL TWENTY)

(Issued January 14, 2010)

I. BACKGROUND

The Commission has adopted periodic reporting rules under the authority of section 204(b) of the Postal Accountability and Enhancement Act (PAEA). See 39 U.S.C. 503 and 3652(a)(1) and (e). 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 the periodic reports to the Commission required by section 3652.

On October 6, 2009, the Postal Service filed a petition to initiate an informal rulemaking proceeding to consider changes in the analytical methods approved for use in its periodic reports to the Commission.<sup>1</sup>

Proposal Twenty presents a methodology change that will include updated density factors in the Transportation Cost System (TRACS) Highway and Rail subsystems, which are used to develop distribution keys to assign volume-variable costs in Cost Segment 8 (Vehicle Service Driver costs) and Cost Segment 14 (purchased transportation costs) to postal products. Density factors are used to calculate cubic feet occupied by various postal products. In order to represent current postal products and their characteristics, the density factors need to be updated. The density factors currently used were estimated from a special 2001 density study. See Docket No. R2001-1, USPS-LR-K-33.

Proposal Twenty updates the TRACS density factors with data from a special 2009 study on density. The Postal Service asserts that the new 2009 density study generally followed the methodology of the USPS-LR-K-33 study when possible. Both the 2001 and 2009 density studies used quota sampling at randomly selected facilities to develop samples of letters in trays, flats in tubs, and parcels in containers. However, the removal of floor scales from mail processing facilities prevented updates on "load density" measurement methods for parcels that relied on weighing full containers. Instead a "piece density" method that counts the number of parcels was developed to estimate the net cubic volume of parcels.

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<sup>1</sup> Petition of the United States Postal Service Requesting Initiation of a Proceeding to Consider a Proposed Change in Analytic Principles (Proposal Twenty), October 6, 2009.

## II. DISCUSSION

The Postal Service notes that the 2001 density study potentially introduced subjectivity into the construction of density factors by instructing data collectors to fill trays, tubs, and other containers in a manner consistent with postal operations. The 2009 density study, in contrast, includes data-collector selected full trays and tubs which the Postal Service says is consistent with operations. Also in the 2009 study, data collectors measured empty space in trays and tubs to allow adjustment of densities to the equivalent of full trays or tubs. The Postal Service maintains that for parcels, the 2001 "load density" estimation depended on the methods used to pack containers, on container types, and on mail characteristics; it was thus difficult to reliably model operations. In contrast, the 2009 "piece density" estimates more readily allow for direct measurement. The 2009 study also estimates Standard and First-Class parcel densities that were not provided in the past.

The Postal Service presents a simulation exercise in which the new and old TRACS density factors are used to distribute FY 2008 highway, rail, and Vehicle Service Driver costs. The Postal Service maintains that for most categories the percentage change is small (1-2 percent), while for a few categories the effects are larger.

*Comments.* The Public Representative agrees with the Postal Service that the results from the 2009 update produced "relatively minor changes in the density factors" for First-Class Mail, Standard Mail, and Periodicals in the Market Dominant Products group. A comparison of the data indicates that there is no change to cost per piece for those classes.<sup>2</sup> The Public Representative, however, goes on to say that "the cost per piece for Package Services changed significantly resulting in a decrease of 2.4 cents per piece of Cost Segment 8 and Cost Segment 14 costs attributed to the class as a whole. It appears that the higher volume in other subclasses may have mitigated the

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<sup>2</sup> Comments of the Public Representative in Response to Order No. 311, October 28, 2009, at 2.

net changes arising from using the new density factors, resulting in no change to the cost per piece for the subclass.” *Id.*

The Public Representative further states that “changes to cost per piece were most noticeable primarily for parcel shaped mail for the Market Dominant Products” and goes on to say that “[t]he change in the measurement of parcel shaped mail from load density to piece density can be assumed, at least partially, to have caused the reduction in the cost per piece of attributed transportation costs.” *Id.* at 3.

The Public Representative explores further and concludes that the large cost per piece change in parcels resulting from “the change in the methodology of calculating density for parcel shaped mail, weight per sampled piece, and not weight per sampled container as in the prior study...places great importance on the sample size for parcel shaped pieces.” *Id.* Finally, the Public Representative is concerned that the new study may not have captured the heavier mail related to advertising on some days of the week due to the overall reduction in sampling sites, sampling sizes, and days of sampling used in the 2009 density study. *Id.* at 5.

*Commission analysis.* The Commission agrees that updating the 2001 density factors is desirable, as noted by the Public Representative. Moreover, the Commission shares the Public Representative’s concerns about sample size reduction and its effect on reliability and precision. The Commission encourages the Postal Service to monitor these impacts in future updates. Using the coefficients of variation (CVs) provided with the proposal, Commission analysis estimates that average precision for all products in each study declined by 3 percentage points. In the 2001 density study average precision was 5 percent while in the 2009 study it was 8 percent. Furthermore, the Commission notes that the new study involves a new, albeit different, source of subjectivity. The 2001 density study had data collectors filling up containers/tubs if they were not full, while the 2009 density study directs data collectors to select trays/tubs that are nearly full. Subjectivity is built into both of these designs. Also, in light of the Postal Service’s ground network realignment, which includes the consolidation of “originating” volumes and the combining of bulk mail centers and surface transfer

centers into one transportation network, the 2009 density study may not be representative for more than a few years.

The Commission recognizes that TRACS density factors are just one input into the existing engineering models that are used for costing purposes and that, in general, recent data is more representative of the mailstream than older data. The impact is very small in almost all cases except for package services in the current study. The loss in precision is a result of saving money by reducing sample size. On balance, the new study is an improvement. The Commission finds that the new and old studies are both subjective to some degree, but this has little impact. Most important, the new estimate is current rather than 8 years old; it reflects actual operating conditions in FY 2009. The Commission encourages the Postal Service to update the TRACS density factors more frequently than every 8 years.

*It is Ordered:*

Proposal Twenty contained in the Petition of the United States Postal Service Requesting Initiation of a Proceeding to Consider a Proposed Change in Analytic Principles (Proposal Twenty), filed October 6, 2009, is accepted.

By the Commission.

Shoshana M. Grove  
Secretary