

Before the
POSTAL REGULATORY COMMISSION
WASHINGTON, DC 20268-0001

Modification of Costing Methods 2009-
Postal Service Proposal Twelve

Docket No. RM2009-1

PUBLIC REPRESENTATIVE INITIAL COMMENTS
RELATED TO POSTAL SERVICE FLAT COST MODELS

December 1, 2008

SUMMARY OF POSTAL SERVICE REQUEST

On November 7, 2008, the Commission issued Order No. 130 requesting comments on the Postal Service's proposed new flat cost models for First Class, Standard Regular and Periodicals Mail and the accompanying field study results.¹ The Commission's Order is in response to the Postal Service's filing of a Petition on November 4, 2008 containing the new Periodicals cost model; results of a new field study conducted in 2008; related explanatory documentation; and an explanation that First Class and Standard Regular Cost Models, containing updates from the field study, were to be filed immediately thereafter.² On November 10, the Postal Service filed a Notice containing these two models as electronic attachments.³ Additionally in its Petition, the Postal Service states that the conduct of the field study and related

¹ PRC Order No. 130, Notice of Proposed Rulemaking on Costing Methods Used in Periodic Reporting (Proposal Twelve), November 7, 2008.

² Petition of the United States Postal Service Requesting Initiation of a Proceeding to Consider Further Proposed Methodology Changes for the FY 2008 ACR (Proposal Twelve), November 4, 2008 (Petition).

update of flat cost models was in response to a number of issues discussed in the FY 2007 ACR proceeding related to the same models.

It is clear from the new filing that the Postal Service expended considerable effort and resources to modify and update the three models in several important areas. The Postal Service assembled a team of data collection experts to visit 15 mail processing facilities (9 ADCs and 6 SCFs) and 30 DDUs (two under each facility). Raw data from each site, collected in special forms, were tabulated, summarized and sample weighted in a separate spreadsheet file for subsequent input to cost models. Tabulated data include bundle breakage ratios by container type, manual sorting productivities, and piece, tub and bundle-related data specific to Postal Service mail transport equipment (MTE). Also for transparency, the Postal Service included switches to show model outputs, with and without data changes, in the model spreadsheets.

Additionally as part of its submittal, the Postal Service provided a brief description of thirteen modifications made to the cost models. Modifications 1, and 3 through 13 appear to involve changes in methodology that are specific to the Periodicals model, while modification 2 classifies parameter updates from the field study for the three models.

The Public Representative offers comments on Modification 9. As discussed below and apart from the Postal Service's justification, Modification 9 appears to raise a broader issue of how linkages between modeled costs and CRA cost totals should

³ Notice of the United States Postal Service Regarding Filing of Supplemental Material Relating to Proposal Twelve, November 10, 2008.

be developed in order to best capture differences in unit costs at the rate category level. In particular, the Public Representative believes that the procedure advocated by the Postal Service in this modification is likely to distort estimated unit costs for Periodicals worksharing categories to an unknown degree. Therefore the Public Representative recommends reexamining the entire issue before the FY 2009 ACR is filed next year.

SUMMARY LEVEL LINKAGE OF MODELED COSTS WITH CRA COSTS AND UNIT COST DISTORTIONS

In all three models, the Postal Service adjusts modeled costs so that these costs sum to the total CRA costs for the same set of modeled activities. In the Standard Regular and First Class models, the adjustment is performed to modeled unit costs for each rate category. However for the Periodicals model, the adjustment is performed to the sum of modeled costs. In modification 9, termed "Removal of Partial CRA Controls", the Postal Service proposes to adjust the Periodicals modeled costs by multiplying these costs by one system level adjustment ratio. The Postal Service calculates this ratio by dividing the CRA cost total for modeled activities by the total modeled costs for these activities.⁴

However for the FY 2007 ACR, the procedure utilized was different. In that proceeding, the Postal Service applied two separate ratios to modeled costs, one to pure piece related costs and the other to all other modeled costs. The pure piece

⁴ The ratio value shown by the Postal Service in its submittal is 1.1798, calculated by dividing the CRA cost total of \$1,262,136,009 by the modeled activity total of \$1,069,746,989. See ACR2007_Periodicals_OC_Flats_Model Modified SP mod.xls (Petition).

related portion, consisting of piece sorting costs only, was assumed to be accurate and require no further adjustment. Therefore a ratio value of one was assigned to these costs. However all other costs were burdened with the full difference between the total modeled costs and the CRA control totals. The PRC adjusted ratio applied to these latter set of costs was 1.1977. By contrast, under the method that the Postal Service now proposes, a system level ratio of 1.1265 would have been applied to all modeled costs last year, absent all other model updates and modifications proposed in the Petition.⁵

The Postal Service justifies the change in Modification 9 by stating:

While arguments can be made that some modeled activities can be mapped to specific CRA costs pools, the reality is that no cost pool is pure. Imposing artificial purity to the cost pools for use in generating separate controls is likely to cause greater distortions in the measured costs of the modeled elements than the more conservative approach of an overall CRA control.

It is true that creating inappropriate links between modeled costs and CRA cost pools, especially when these links are created at aggregated levels, can be distortive.

However even accepting the Postal Service's comments that "no cost pool is pure", it is not at all clear that adopting the other extreme of applying one system level factor to all modeled activities is appropriate. The underlying assumption in this adjustment procedure is that by increasing all modeled costs by the same proportion (the adjustment factor), cost distortions at the CRA level are minimized.

⁵ Annual Compliance Determination, U. S. Postal Service Performance Fiscal Year 2007, Postal Regulatory Commission, March 27, 2008. See ACR2007_Periodicals_OC_Flats_Model.xls.

One can imagine that if all rate categories used resources by cost producing activity in the same proportions, then a system level adjustment, as the Postal Service proposes, would be justified.

However, this is hardly the case. Rate categories use activity level resources in different proportions. This is a natural consequence from using different piece sorting technologies and complementary technologies for allied labor activities. Different bundle/container presort levels and container entry points can also be expected to affect the proportions of activity level costs by rate category. Under these circumstances, use of one system level adjustment factor would distort unit costs and, more importantly, unit cost differences for purposes of setting worksharing discounts.

The following example characterizes how use of only one adjustment factor can distort costs below the system level. The example focuses only on piece sorting and the supporting allied labor activity. The Postal Service models these activities together in an integrated way in order to derive unit cost estimates for both activities by bundle presort level, and according to machinability and barcode status. These modeled unit costs are then multiplied by the one system level factor to develop adjusted Periodicals unit costs by rate category.

For purposes of demonstration, assume that all Periodicals are entered as barcode machinable in either three or five digit bundles. There are two corresponding volume levels, V_3 and V_5 , and two piece sorting and two allied labor unit costs, one of each for each rate component. With respect to these unit costs, let:

u_{s3} = modeled unit piece sorting cost for three digit presorted mail,

u_{a3} = modeled unit allied labor cost for three digit presorted mail,

u_{s5} = modeled unit piece sorting cost for five digit presorted mail,

u_{a5} = modeled unit allied labor cost for five digit presorted mail.

Then total modeled costs by rate category and activity, before adjustment, can be shown as:

$$TC_3 = V_3(u_{s3} + u_{a3}),$$

$$TC_5 = V_5(u_{s5} + u_{a5}),$$

$$TC_s = V_3u_{s3} + V_5u_{s5},$$

$$TC_a = V_3u_{a3} + V_5u_{a5},$$

where:

TC_3 = total model derived three digit presorted costs,

TC_5 = total model derived five digit presorted costs,

TC_s = total model derived piece sorting costs,

TC_a = total model derived allied labor costs.

For control purposes, total modeled costs for the two rate elements, TC_3 and TC_5 , need to be modified so that their adjusted sum equals the CRA totals for piece sorting and allied labor. There are two ways to proceed. One way is to derive separate adjustment factors for piece sorting and allied labor costs, and then apply these to the corresponding portions included in TC_3 and TC_5 . Using this method, the piece sorting and allied labor adjustment factors would be defined by:

$$f_s = TC_s^*/TC_s,$$

$$f_a = TC_a^*/TC_a,$$

where:

TC_s^* = total CRA derived piece sorting costs,

TC_a^* = total CRA derived allied labor costs.

Then the adjusted costs for each rate element would be $V_3(u_{s3}f_s + u_{a3}f_a)$ and

$V_5(u_{s5}f_s + u_{a5}f_a)$.

The other way to adjust costs is to derive a system level factor and adjust TC_3 and TC_5 using this one measure (the Postal Service approach). In this case, the system level factor would equal:

$$\begin{aligned} f &= (TC_s^* + TC_a^*) / (TC_s + TC_a) \\ &= [TC_s / (TC_s + TC_a)] f_s + [TC_a / (TC_s + TC_a)] f_a, \end{aligned} \quad (1)$$

and the adjusted costs by rate element would be given by $V_3(u_{s3}f + u_{a3}f)$ and $V_5(u_{s5}f + u_{a5}f)$ instead.

It is clear that the first approach eliminates any distortion attributable to differences in the cost composition of the rate elements. For example, assume that all five digit mail receives an incoming secondary manual sort because of equipment shortages. Then consistent with the Postal Service's cost model u_{a5} would equal zero, because there are no piece-related allied labor costs accompanying manual sorting. Five digit adjusted modeled costs would reduce to a piece sorting estimate, either $V_5 u_{s5} f_s$ or $V_5 u_{s5} f$, depending on the approach used. In that case, it becomes clear that unless f_s equals (f) , then application of the system level factor would distort costs. In

particular, inspection of (1) shows that unless $f_s = TC_s^*/TC_s$ is equal to $f_a = TC_a^*/TC_a$, then (f) cannot equal either disaggregated adjustment factor.

Additionally, it is important to note that if the system level factor is greater than the piece sorting factor f_s , then the allied labor factor f_a must be greater than f_s as well, because the system level factor is just a weighted average of the two activity level factors. In that case, applying the system level factor to the modeled five digit presorted costs would incorrectly assign a portion of allied labor costs to the five digit pieces.⁶ Therefore the only way to avoid this distortion is to correctly apply the activity level adjustments to the corresponding activity level costs for each of the rate elements.

⁶ The example can be generalized to show that unless $u_{a3}/(u_{s3} + u_{a3}) = u_{a5}/(u_{s5} + u_{a5})$, unit costs for the two rate elements would be distorted.

Respectfully Submitted,

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