

BEFORE THE  
POSTAL REGULATORY COMMISSION  
WASHINGTON, DC 20268

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Periodic Reporting

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Docket No. RM2008-2

INITIAL COMMENTS OF TIME WARNER INC.  
IN RESPONSE TO ORDER NO. 99  
(September 8, 2008)

Time Warner Inc. (Time Warner) respectfully submits these initial comments in response to Order No. 99, Notice of Proposed Rulemaking on Costing Methods Used in Periodic Reporting (issued August 18, 2008).

**Background**

On August 11, 2008, the United States Postal Service filed a Request . . . for Commission Order Amending the Established Costing Methodologies for Purposes of Preparing the FY 2008 Annual Compliance Report ("Request"), seeking Commission approval of "eight relatively minor changes in costing methodology that the Postal Service proposes to employ in the preparation of the FY 2008 ACR [Annual Compliance Report]." Request at 1-2.<sup>1</sup> Noting that the Commission, in its Annual Compliance Determination for FY 2007, "indicated its strong preference for an opportunity for interested parties to be able to participate in a process by which nonperfunctory analytic changes are vetted prior to incorporation by the Postal

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<sup>1</sup> See also Motion of the United States Postal Service to Supplement the List of its Proposed Costing Changes for Purposes of Preparing the FY 2008 Annual Compliance Report (August 18, 2008) (adding a ninth proposal); and Notice of the United States Postal Service Regarding Expanded Scope for Proposal One of the Requested Methodological Changes for The FY08 ACR -- Errata (September 5, 2008).

Service into an Annual Compliance Report" (*Id.* at 1), and expressing the view that its proposed methodological changes were not "of sufficient complexity to hinder relatively straightforward evaluation by both the parties and the Commission" (*Id.* at 2), the Postal Service proposed that "[p]arties . . . could provide their input into the process in the form of responses to this motion, either in support or in opposition" (*Id.*). However, it also remarked:

Alternatively, parties of the view that some additional procedures are warranted in the instance of these particular changes (or some subset thereof) could identify the additional procedures they are contemplating, and file specific requests accordingly.

*Id.* To accommodate these alternatives, the Postal Service suggested that "[t]he Commission may wish to consider extending the period for response to this motion beyond the customary 7-day period specified by Rule 21." *Id.* at n. 1.

On August 14, Time Warner filed a Motion . . . to Extend the Period for Response to Request of the United States Postal Service for Commission Order Amending the Established Costing Methodologies ("Motion"), asking that the deadline for responses to the Postal Service's Request be extended to September 2, 2008. Time Warner observed:

The Postal Service indicates that it does not intend to limit use of its proposed "alternative procedure" to the eight methodological changes that are the subject of the instant motion, stating that it "will file comparable motions for any additional proposed changes as soon as sufficient information becomes available to permit meaningful review."

Motion at 3 (quoting Request at 3). In view of the open-endedness of that statement, Time Warner indicated that it was concerned "about the adequacy of the 'alternative procedure' that the Postal Service proposes to employ." Motion at 4.

On August 18, 2008, the Commission issued Order No. 99, Notice of Proposed Rulemaking on Costing Methods Used in Periodic Reporting. Order No. 99 expressed the Commission's agreement with the Postal Service's desire for expedition in vetting the proposed changes but declined to adopt the Postal Service's proposed "alternative procedure," stating (at 3):

The Commission . . . prefers at least initially to interpret the definition of a "rule" in the Administrative Procedure Act (APA) to include analytical methods that affect the way costs or revenues are accounted for in a rate setting regulatory regime. The APA requires that notice be given in the *Federal Register* and an opportunity for public comment be provided before substantive rules take effect.

The Commission therefore decided to treat the Postal Service Request "as a petition to initiate an informal rulemaking consistent with section 553 of the APA" (*Id.*). It granted that petition, established Docket No. RM2008-2 for the consideration of the Postal Service's proposed changes, scheduled an informal technical conference "in which Postal Service experts would be available to answer questions related to these proposals," and allowed interested parties until September 8, 2008 to file initial comments. *Id.* at 22. The Commission stated that "[t]he rulemaking procedures and extended deadlines authorized in this Notice should meet Time Warner's procedural objections." *Id.* at 3, n. 1.

Just four days after issuing Order No. 99, on August 22, 2008, the Commission issued Order No. 104, Notice of Proposed Rulemaking Prescribing Form and Content of Periodic Reports, and established Docket No. RM2008-4. The rules proposed in Order No. 104, which appears to have been in preparation for some considerable time, address comprehensively the same procedural issues that

Order No. 99 address solely with respect to the nine proposed changes that were the subject of the Postal Service's Request. Order No. 104 (which also proposes regulations for other Postal Service periodic reporting requirements) provides a close, sustained analysis of the requirements and constraints the Commission believes should be imposed on the data and analyses used by the Postal Service in preparing its Annual Compliance Report. Since the same data and analyses will, in turn, furnish the primary basis for the Commission's Annual Compliance Determination, serve as a central source of the evidence used in complaint proceedings, and constitute a de facto set of limitations on subsequent rate adjustments, the importance of the proposed regulations is considerable.

### **Discussion**

1. Order No. 99's substantive conclusions

Time Warner agrees with and supports Order No. 99's two main substantive conclusions: (1) that, as the Postal Service argues, "the process of vetting proposed changes in the methods by which cost incurrence will be analyzed in the Postal Service's FY 2008 annual report should begin now with those proposals that are sufficiently refined to be submitted for public comment" (Order No. 99 at 3); and (2) that, "at least initially," before substantive changes in "analytical methods that affect the way costs or revenues are accounted for in a rate setting regulatory regime" are permitted to take effect, notice should be given in the Federal Register and an opportunity provided for public comment consistent with § 553 of the Administrative Procedure Act (*Id.*). Time Warner will reserve further comment on these matters for its response to Order No. 104.

2. Time Warner's procedural concerns

Time Warner agrees with the Commission that the extended deadlines and other procedures provided in Order No. 99 meet its procedural concerns, and we express our appreciation for the Commission's extension of the deadline for these comments to September 8, 2008.

3. Public sharing of information outside the rulemaking process

In Order No. 104 (at 30-31), the Commission declares its desire to approach "analytical issues through a process that promotes cooperation and facilitates consensus," expresses its approval of "an opportunity for input and feedback from other stakeholders and the Commission," and states its intention to provide "highly flexible" procedures for considering changes in analytical principles.<sup>2</sup> Order No. 104 does not address the utility of public exchanges of views, of ventilating tentative proposed changes, or of simply identifying areas where further research or analysis is believed to be needed, outside the context of a formal request for a rulemaking, perhaps for the purpose of developing such a request or determining whether such a request is warranted. Time Warner believes that such exchanges of information or opinion, if made publicly available for scrutiny and comment, or as a springboard for further analysis by any interested party, can make important contributions to the kind of open and cooperative process the Commission envisages. Consequently, Time Warner takes the opportunity provided by these comments to make available recommendations regarding changes in costing methodology that it provided to the Postal Service subsequent to the filing of the Postal Service's Request. The

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<sup>2</sup> For an example of such highly flexible procedures, see, e.g., its discussion of "strategic rulemakings" at 32

recommendations, which are appended to these comments, were provided to the Postal Service on August 19, 2008.

4. Comments on the costing changes proposed by the Postal Service

The remainder of these comments address Postal Service Proposals 6, 7, and 9.

a. Proposal 6

This proposal concerns Segment 14 costs of transporting empty equipment by highway contract route or rail from mail processing facilities to Mail Transport Equipment Service Centers (MTEESC), or from MTEESC directly to large mailers. The total costs in FY2007 were \$119 million. The Postal Service currently uses a distribution key based on all other Segment 14 costs. It proposes to exclude from the distribution key the costs in accounts 53261, 53262, 53263 and 53268, which it explains “are largely the result of settling foreign postal transactions, and are not transportation-related.”

The result of the proposal would be to sharply reduce the empty equipment costs attributed to international mail while increasing the costs for all other classes. The proposal makes sense. However, it should be noted that even with the proposed change, the distribution key based on all other Segment 14 costs is far from perfect.

The reason is that, as the Postal Service points out in its Proposal 7 with regard to vehicle service drivers (VSD) costs, there are today very substantial volumes of mail that are brought directly to the DDU by mailers, thereby being charged with none of the Postal Service transportation costs recorded in Segment

14. However, they do arrive in various types of postal containers that, just like other emptied equipment, need to be returned to the mailers. Since these mail volumes are not observed on any purchased transportation they are attributed no costs through the TRACS system and consequently no empty equipment costs are attributed to them, although they do incur the latter type of costs.

While Time Warner is not able to propose an alternative distribution key, we suggest that the Postal Service consider ways to further improve the distribution key for Segment 14 empty equipment costs in the future.

b. Proposal 7

Proposal 7 would distribute the attributable costs of vehicle service drivers (VSDs) to products in the same proportions as Intra-SCF purchased transportation costs. Until now, the distribution key used for VSD costs has been based on each product's total cubic feet. The rationale given for the proposed change is that some mail is brought directly to the DDU by mailers and therefore receives no transportation by vehicle service drivers.

It is difficult to argue with the proposition that no mail should have to pay for transportation services it does not receive, and that the current method of distributing VSD costs therefore is flawed. On the other hand, there is no proof that the Intra-SCF distribution key, which is based on the cubic foot miles of mail transported on Intra-SCF star routes, provides an appropriate key for the distribution of VSD costs. It is true that both VSD and Intra-SCF routes are used to transport mail from processing plants to delivery units and from delivery units back to the processing plants, but there also appear to be important differences that should be

investigated and analyzed further before simply applying the Intra-SCF distribution key to VSD costs.

When the costs that are piggybacked on top of VSD costs are included, VSD costs are equal to about 76.5% of the costs of Intra-SCF routes. Yet, to our knowledge, there has never been any study performed focusing on the products actually served by the VSDs.

At the recent Technical Conference the Postal Service indicated that while facilities may use both Intra-SCF routes and vehicle service drivers for transport between processing plants and delivery units, the Intra-SCF routes are generally used for longer hauls, while the VSDs tend to perform shorter trips, including airport runs.

But the VSDs also perform duties that do not involve driving, although they do sometimes involve handling mail. According to USPS-LR-1 (Docket No. R2006-1) at 8-1:

VSDs provide transportation and loading/unloading service for postal facilities and their activities include a diversity of driving and other services. Their primary transportation activities include inter-station pickup and delivery, airport runs, delivery to firms, parcel and relay deliveries, and street and building collections.

Among their non-driving duties, the VSDs:

obtain their own vehicles from the yard, make routine checks for serviceability, position vehicles in yards and at docks, assist in loading and unloading, attend to vehicle security and follow procedures for “accountable” mail items.

Since it appears that the VSDs perform some activities that involve handling mail but not driving (e.g., loading and unloading), it is unlikely that a distribution key

based on cubic foot miles alone is the most appropriate. The costs of activities such as transportation to and from airports would seem most appropriate to distribute to mail that travels by air.<sup>3</sup> "Delivery to firms," "parcel and relay deliveries," and "street and building collections" also appear to be activities that deal with certain types of mail and differ from typical activities performed by the star route drivers.

Since all we have available is general information about the types of activities performed by VSDs, it is difficult to ascertain the extent to which distribution based on Intra-SCF cubic foot miles distorts the true cost relationships. More quantified information is needed, both regarding the activities performed by the VSDs and the mail products that are handled or transported during these activities. Unless it exists already, such information clearly cannot be provided in time for the next annual compliance review. But simply replacing one inaccurate distribution key with another is hardly a satisfactory solution. Even if the Commission decides to approve the use of Intra-SCF cubic foot miles as a VSD distribution key in the next ACR, it should also request more detailed and quantified information that can be used to construct a more accurate distribution key in the future.

c. Proposal 9

Proposal 9 changes the distribution of depreciation, maintenance labor, and parts & supplies costs for PARS (Postal Automation Redirection System) equipment. These costs are currently being distributed using the key for the Computerized Forwarding System (CFS). The current method has the effect of assigning a large

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<sup>3</sup> The Postal Service indicated at the technical conference that airports may be served by Intra-SCF contracts as well but that they mostly are served by vehicle service drivers.

portion of the PARS equipment costs to flats mail, particularly to Periodicals, even though PARS is used only for letters and not for flats.

The proposed method will instead distribute PARS related equipment costs based on IOCS tallies. When a mail processing employee working with PARS equipment is sampled by an IOCS clerk, the costs associated with the resulting tally will be distributed to letter mail only. There is no reason why the costs associated with the equipment he is using cannot be distributed similarly.

The proposed change is straightforward and represents a clear improvement. The change is important, because PARS equipment costs in FY08 are expected to be larger than in FY07 when they were \$64 million, of which almost \$17 million were distributed to the Periodicals class. The Commission should approve the proposed change.

Respectfully submitted,

s/ \_\_\_\_\_  
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## **ADDENDUM**

### **"RECOMMENDATIONS FOR IMPROVING THE PERIODICALS CLASS"**

Recommendations provided to the Postal Service by Time Warner Inc. on August 19, 2008.\*

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\* In Appendix B of the appended document, several corrections have been made to the version originally provided to the Postal Service. Note 7 on p. B-1 has been revised, and several numbers have been changed in Table B-1 and on pp. B--4, 5, and 11-13, referring to Table B-1.

## **RECOMMENDATIONS FOR IMPROVING THE PERIODICALS CLASS<sup>1</sup>**

The Postal Service is urged to act upon the following list of recommendations as appropriate and to the extent possible in: (1) the next annual compliance review (January 2009); and (2) its next proposal for changes in Periodicals rates (circa May 2009). These recommendations reflect a concern about the continued viability of the Periodicals class. They address Periodicals rate design, needed improvements in the Periodicals processing cost model, possible processing inefficiencies and the need for improved data and analysis. They are supported by three appendices addressing specific cost issues.

The recommendations are divided in two parts. Those that are particularly urgent and should be possible to act upon quickly; and those that are less urgent, or that may require further study and analysis.

### **I. URGENT RECOMMENDATIONS**

#### **A. Incentives To Dropship Should be Improved**

In the next proposal for changes in Periodicals rates, incentives for Periodicals mailers to dropship should be increased, at least sufficiently to offset sharply higher transportation costs being experienced both by mailers and the Postal Service. Incentives should be improved both by setting container charges at significantly more than 40% of container costs and by expanding the zone rate differentials to make them consistent with the increased transportation costs.

Improved incentives are necessary because, as documented in Appendix A, current rate incentives to dropship are in most cases weaker than they were prior to R2006-1, whereas the costs of transporting mail to destinating facilities are much higher. As mailers roll back their current dropship programs, a process that already has begun, the Postal Service risks having to re-open star routes and incur significantly higher costs.

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<sup>1</sup> These recommendations were prepared in behalf of Time Warner Inc. (Time Warner) by Halstein Stralberg, a longtime consultant to Time Warner and witness in many proceedings before the Postal Rate Commission.

## **B. The Flats Mail Flow Model Should Reflect The True Costs Of Flats Piece Sorting**

As documented in Appendix B, the mail flow model for Periodicals in the FY 2007 ACR contains a \$173 million discrepancy between CRA and modeled Periodicals piece-sorting costs. At a minimum, the model should be adjusted as follows:

- The AFSM 100 productivity rates used in the model should be modified, so as to recognize all costs attributed to Periodicals under MODS 140, as well all other costs in the AFSM cost pool. The methodology described in Appendix B should be used, unless a demonstrably more accurate method is developed.<sup>2</sup>
- The percentages of non-machinable flats at each presort level used in the Periodicals mail flow model should be made consistent with the most recent billing determinant data. As shown in Appendix C, the percentages currently used in the model are inconsistent with the FY07 billing determinants.
- Separate CRA adjustments should be used for (1) piece sorting costs and (2) all other model costs.

## **C. To Further Reduce The Use Of Sacks, More Periodicals Flats Should be Allowed To Be Entered On Pallets**

In order to reduce the high costs and high probability of bundle breakage associated with sacks, Periodicals mailers with insufficient volume to make up ADC pallets should be allowed to make pallets presorted to the BMC level. Such a move is logical, given that the rates already include a DBMC entry category. Bundles on these Periodicals BMC pallets could be sorted with Standard mail bundles on BMC pallets. Costs could be saved not only by eliminating sacks but by bypassing the DADC, going directly from the DBMC to the DSCF.

Even more sacks can be eliminated if mailers are allowed to enter residual volumes of

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<sup>2</sup> Note that the method described in Appendix B differs from that recommended in Time Warner's comments on the FY 2007 ACR.

bundles on mixed ADC pallets at facilities equipped to handle such pallets.

## **II FURTHER RECOMMENDATIONS**

The following recommendations would also help to reduce Periodicals costs and to better align the Periodicals rates with actual cost incurrence. Some of them require collection of new data, but the Postal Service may already have the necessary information for others.

### **A. Studies Should Be Conducted To Determine Why Periodicals Incur Over \$100 Million More In Manual Flats Sorting Costs Than The Model Indicates They Should, And Operational Changes To Reduce Or Eliminate This Discrepancy Should Be Pursued**

There are undoubtedly multiple reasons why Periodicals incur over \$100 million more in manual flats sorting costs than the model indicates they should, as documented in Appendix B. It is not known to what extent the discrepancy is caused by inherent cost characteristics of Periodicals flats, which generally are heavier and thicker than Standard or First Class flats, or to what extent it is due to inefficiencies that can be corrected. It is recommended that the Postal Service carry out studies to address at least the following specific issues.

- The relationship between the productivity rates achieved in manual flats sorting operations and the weight/thickness of the flats being sorted needs to be determined. Besides the obvious impact of thickness on the “sweep” function, the impact on productivity when employees are given “goals” expressed in numbers of feet per workhour should also be addressed. This study should aim to identify ways to improve the productivity achieved when sorting heavier flats, and also determine formulas for adjusting MODS-based average productivity rates when applied to flats that are thicker and heavier than average.
- The percentages of Periodicals costs in cost pools LD43 and LD44 that in fact represent piece sorting rather than other activities should be determined, whether by analysis of IOCS data or by other means. The percentages that the model uses for the CRA adjustment should be modified accordingly.

## **B. Further Analysis Of AFSM 100 Sorting Costs**

The following studies should be performed to assure an accurate model of AFSM 100 sorting costs.

- The percentage of MODS 140 costs of Periodicals at each presort level that are related to mail prep operations should be determined and the methodology described in Appendix B for distributing MODS 140 costs among presort levels should be refined accordingly.
- The impact of flats that weigh one pound or more on AFSM 100 productivity should be determined. In particular, it should be determined to what extent flats that are currently being fed to the machines are too heavy and should be sent directly to manual sorting. It should also be determined whether the per-piece productivity of the AFSM 100 is degraded by heavier pieces even when those pieces are successfully processed, and whether a separate productivity rate should be used for those pieces.

## **C. More Accurate Data Should Be Obtained For Determining Bundle, Sack And Pallet Costs**

Since R2006-1, the Periodicals mail flow model has determined unit costs for bundles, sacks and pallets, in addition to per-piece costs. Some of the data underlying this part of the model are quite old. Some are based on very small samples. To improve the reliability of the unit costs for bundles and containers, the Postal Service should conduct the following studies:

- Some or all container-related productivity rates used in the model should be brought up to date with newer data. In particular, productivity rates for the movement of pallets and containers across postal platforms and on and off trucks should be based on new data collections that distinguish between the time such movements take in very small facilities (DDUs), in typical SCFs, and in very large facilities such as BMCs.
- The container flow data used in R2006-1 should be reviewed to determine

whether the flows are statistically reliable, given the limited samples used in the original survey and subsequent changes in the postal network. Empirical data on the frequency with which 5-digit and carrier route containers are opened at the DDU and at the DSCF should be collected.

- A new study is needed of bundle sorting productivity at APPS machines, SPBS/LIPS machines and manual bundle sorting operations. The study should seek to determine, at each type of bundle sorting operation, what portion of employee time is spent handling, dumping and disposing of the containers in which the bundles arrive, and what portion is spent on the sorting and handling of the bundles themselves.
- New bundle density data should be collected to replace the data from LR-I-88. The new data should distinguish between bundle flows that result from: (1) sorting on APPS machines; (2) sorting on SPBS/LIPS machines; and (3) manual sorting.
- The information that has been missing from earlier studies of bundle breakage should be collected. In particular, a new study should determine: (1) the extent to which breakage occurs on the sweep side of a bundle sorting machine; (2) the extent to which bundle breakage occurs for mail that arrives in hampers or other containers at the DDU; and (3) the extent to which broken bundles are repaired under sortation on APPS, SPBS/LISP and in manual sorting, and the extra cost incurred because of the need to repair bundles that have broken prematurely.

#### **D. Further Improvements Are Needed In Periodicals Rate Design**

- It should be determined to what extent it would be appropriate to classify the “allied” per-piece and per-bundle unit costs calculated by the mail flow model as marginal costs. To the extent that they are marginal costs, they should be added to the per-piece and per-bundle costs that currently are used to set per-piece and per-bundle rates.
- If, as recommended above, a decision is made to obtain a larger portion of Periodicals revenues from bundle and container rates, there should be a

corresponding reduction in the portion of revenues that is obtained from the piece rates.

- In view of (1) evidence discussed in Appendix B that weight impacts piece sorting costs, (2) the sharp rise in transportation costs discussed in Appendix A, and (3) the fact that in R2006-1 the portion of revenues obtained from piece rates increased, while that obtained from pound rates dropped significantly: consider whether it might now be time to reduce the piece rate portion again.

## **APPENDIX A: THE NEED TO STRENGTHEN PERIODICALS INCENTIVES TO DROPSHIP**

This analysis shows that the Postal Service is in danger of incurring higher Periodicals costs, with a less-than equivalent increase in revenues, due to a combination of the following:

- (1) transportation costs per pound mile are substantially higher than projected in R2006-1;
- (2) the change to a different rate structure after R2006-1 had the unintended consequence of weakening some dropship signals; and
- (3) due to the weakened dropship incentives and to their own sharply higher transportation costs, mailers have begun to cut back on dropshipping and are considering more cuts in the future.

If mailers continue to cut back on dropshipping, which now seems increasingly likely, the Postal Service may be forced to reopen star routes it had thought it no longer needed and will incur additional transportation and handling costs much higher than the extra revenues associated with reduced dropshipping.

To hold the increases in transportation and handling costs to a minimum, the Postal Service should strengthen current dropship incentives for Periodicals mailers, by steepening the advertising pound rates consistent with higher transportation costs, and by passing through a higher portion of the handling costs incurred by sacks and pallets that are entered far from their destination.

The Outside County pound rates approved by the PRC in Docket R2006-1 assumed that the cost of transporting one pound one mile would be equal to 0.015766 cents in FY08. Based on the FY07 billing determinants and transportation costs submitted in the FY 2007 ACR, I estimate that the real cost in FY07 was 0.018724 cents, an increase of 18.76%.<sup>3</sup> Since fuel costs have been rising sharply this year, with the price

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<sup>3</sup> The R2006-1 estimate was derived from PRC LR-14 in that docket. The FY2007 estimate is based on USPS-FY07-LR-4 (billing determinants) and USPS-FY07-LR-6 (B workpapers) in the FY

of a barrel of oil as high as \$147, it seems likely that the FY08 transportation costs will be even considerably higher.

Prior to R2006-1, Periodicals rates included several incentives to dropship that were formulated on a per-piece basis. But because the transportation and handling costs that dropshipping avoids are not incurred on a per-piece basis, the rate structure adopted in R2006-1 replaced these inappropriate signals with per-pound and per-container incentives that reflect the costs actually avoided when mailers dropship.

Unfortunately, while all per-piece dropship incentives were removed in R2006-1, the container based incentives that replaced them reflected only 40% of avoided container handling costs. The net effect in many cases was to weaken incentives to dropship. Sharp increases in transportation costs for mailers since then have compounded the weakening of dropship incentives and made it increasingly difficult for mailers to justify the levels of Periodicals dropshipping that existed prior to R2006-1.

To verify that dropship signals indeed have weakened, I compared the incentives to transport some hypothetical containers to, respectively, the DSCF and the DADC, under the R2005-1, R2006-1 and R2008-1 Outside County rates.

My analysis focuses on five types of 3-digit or 5-digit pallets and on the incentives under each of the above rate structures to: (1) bring these pallets to the DADC rather than entering them in Zone 7 at the OADC; and (2) bring the pallets to the DSCF rather than entering them in Zone 5 at the OADC. In each case, and for each type of pallet, I also estimated the cost savings to the Postal Service, according to the FY07 cost data submitted in the FY 2007 ACR. All costs and incentives are expressed on a per-pound basis. Typically, when a mailer or consolidator evaluates whether or not a particular dropship can be economically justified, he looks at costs per pound.

Table A-1 below summarizes the types of incentives, under R2005-1, R2006-1 and R2008-1 rates, to take pallets from Zone 7 to the DADC, and the corresponding cost

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2007 annual compliance review. In deriving both estimates, I assumed that non-advertising matter entered in Zone 1 or higher is distributed among zones in the same way as advertising matter.

savings to the Postal Service. Table A-2 shows the corresponding incentives and cost savings for dropshipping from Zone 5 to the DSCF.

As the two tables show, the per-piece dropship incentives from the R2005-1 rates no longer exist.<sup>4</sup> At the same time, dropship incentives per advertising pound have been reduced somewhat. On the other hand, current rates include some incentives for entering editorial matter at the DADC or DSCF, as well as per-pallet incentives that represent roughly 40 percent of the pallet handling costs in by-passed facilities.

	R2005-1	R2006-1	R2008	USPS FY07 Cost Differential
Per piece	\$0.013	\$0.000	\$0.000	\$0.000
Per adv. pound	\$0.354	\$0.315	\$0.325	\$0.374
Per ed. pound	\$0.000	\$0.017	\$0.018	\$0.374
Per 3-d pallet	\$0.000	\$10.780	\$11.099	\$22.214
Per 5-d pallet	\$0.000	\$11.450	\$11.789	\$19.001

	R2005-1	R2006-1	R2008	USPS FY07 Cost Differential
Per piece	\$0.019	\$0.000	\$0.000	
Per adv. pound	\$0.196	\$0.163	\$0.168	\$0.194
Per ed. pound	\$0.000	\$0.025	\$0.026	\$0.194
Per 3-d pallet	0	\$16.280	\$16.762	\$35.498
Per 5-d pallet	0	\$18.950	\$19.511	\$32.538

Consolidators and other mailers who dropship try to fill up the space in their trucks and trailers as much as possible. This allows them to transport mail to destinating facilities for less than it costs the Postal Service, which generally does not stack containers on

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<sup>4</sup> Tables 1 and 2 do not include the per-piece discounts that had been granted to some mailers for dropshipping co-palletized mail. The (mostly small) mailers who benefited from these discounts have seen even larger reductions in their incentives to dropship.

top of each other in the trucks and therefore uses a lower percentage of the trucks' capacity.<sup>5</sup> This has made many dropshipments economically feasible even when the rate incentives offered were substantially less than the costs avoided by the Postal Service. But before undertaking a particular dropshipment, the mailer must determine his own per-pound costs of entering mail directly at a facility. Only if they are lower than the incentives offered is dropshipping likely to be arranged.

By converting all postal incentives offered under each rate structure to a per-pound basis, I evaluated five hypothetical scenarios involving the potential dropshipping of various pallets. The results are summarized in Table A-3.

The first case is a 1,500 pound 3-digit pallet containing pieces weighing 0.4 lb each, with 45% advertising content. Under R2005-1 rates, the combined value of the incentives to take this pallet to the DADC rather than entering it in Zone 7 was 19.2 cents per pound. But under R2008-1 rates it is only 16.4 cents per pound. Cost savings to the Postal Service would be 38.9 cents per pound, in FY07 dollars, and probably even higher in FY08. If we assume, for example, that the consolidator's transportation costs are 18 cents per pound, then it is likely that this particular dropship would have occurred under R2005-1 rates but will no longer occur under the new rates. The R2008-1 rates pass through only about 40% of the costs that this particular dropship would save the Postal Service. Were the rates to pass through more of the avoided costs, the mailer could continue to save costs by dropshipping, and the Postal Service would also be better off because costs avoided would still exceed the amount of the discount.

Similarly, the 13.6 cents per pound incentive in the R2005-1 rates to take this pallet from Zone 5 to its DSCF has been reduced to only 10.1 cents per pound in the R2008-1 rates, even though the potential cost avoidance is 21.7 cents.

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<sup>5</sup> Postal Service trucks typically carry a mixture of rolling containers (APC's, hampers, etc.), pallets and pallet boxes. Only the pallets are stackable. Furthermore, the make-up of a Postal Service truck or trailer is normally not known in advance, making optimal use of its airspace extremely difficult. On the other hand, a printer or dropship consolidator typically uses only pallets and knows the exact content of the truck in advance, making almost full use of the airspace possible.

The second case is similar except that the pallet weighs only the minimum 250 pounds. Because the pallet component of the new rates is defined on a per pallet basis, the per-pound dropship incentive becomes larger for the lightweight pallet. The combined value of the dropship incentives has in this case increased slightly, from 19.2 cents per pound for dropshipping from Zone 7 to DADC under R2005-1 rates to 20.1 cents under R2008-1. But this small increase is still less than the increase in transportation costs experienced both by mailers and the Postal Service, so that even in this case a mailer who dropshipped two years ago might find it no longer worthwhile today. The value to the Postal Service in terms of avoided costs is 45 cents per pound in FY07 costs.

Similarly, the incentive to take the pallet from Zone 5 to the DSCF has increased slightly, from 13.6 cents to 15.7 cents per pound, again less than the increase in transportation costs.

The third case considers a publication that weighs only 0.2 pounds per piece and contains only 15% advertising, on a 1,000 pound pallet. The incentive for dropshipping from Zone 7 to DADC in this case has dropped from 11.8 cents under R2005-1 to only 7.5 cents per pound under R2008-1, indicating that dropshipping of such lightweight publications is much less likely than a couple of years ago. Potential cost avoidance to the Postal Service is 39.7 cents per pound, about 5.3 times higher than the rate incentive.

Case 4 is a heavier publication, at one pound per piece and 60% advertising content, on a 1,000 pound pallet. Again, incentives to dropship this pallet are less now than under R2005-1 rates, and much lower than the potential cost avoidance.

Finally, Case 5 is similar to Case 2, except that the 250 lb pallet is assumed to be a 5-digit rather than 3-digit pallet. The conclusion is almost identical to Case 2, confirming that pallet presort level has little impact on the incentives for dropshipping, although it does impact the total postage paid for the pallet.

Consolidators and individual mailers who consider dropshipping must look at numerous alternatives to select the ones that make sense economically. I have used dropshipping from Zone 7 and from Zone 5 as examples, but examining other

combinations will yield similar results.<sup>6</sup> The conclusion is that dropship incentives for most pallets (except perhaps very lightweight pallets) have been reduced, despite higher transportation costs experienced both by mailers and the Postal Service. Lightweight publications with high editorial contents have experienced the greatest decline in their incentives to dropship.

To summarize, incentives to dropship Periodicals to destinating facilities should be much higher in order to fully reflect the costs that the Postal Service avoids when mailers dropship. Mailers already have begun to step back from the very significant advances in dropshipping they had achieved, and unless some correction is made to the rate structure, it is almost certain that they will continue to do so. This will increase the Postal Service's costs much more than it may increase its revenues, and will make the cost coverage for the Periodicals class even lower than it is today.

The Postal Service should consider two types of rate structure corrections to encourage additional dropshipping and to reverse the developments outlined above:

- (1) the zoned advertising pound rates must be steepened to reflect the significantly higher transportation costs; and
- (2) the per-sack and per-pallet components of the rate structure must be increased to reflect closer to 100% of the handling costs avoided when these containers are dropshipped.

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<sup>6</sup> A given dropshipment may go to several facilities and therefore represent dropshipping from several zones. I have been told that Quad Graphics initially compares postal incentives with its own costs for transportation from Zone 5 to the DSCF to determine which drop shipments are worth considering.

**Table A-3: Rate Incentives To Dropship Pallets And USPS Savings  
When Mailers Do So (per pound)**

Scenario	1	2	3	4	5
Lb/Pc	0.4	0.4	0.2	1	0.4
Ad %	45%	45%	15%	60%	45%
Lb/ Pallet	1500	250	1000	1000	250
Pallet presort	3-d	3-d	3-d	3-d	5-d
<b>Incentives To Transport Pallets From Zone 7 To DADC</b>					
R2005-1 Rates	\$0.192	\$0.192	\$0.118	\$0.225	\$0.192
R2006-1 Rates	\$0.158	\$0.194	\$0.072	\$0.207	\$0.197
R2008-1 Rates	\$0.164	\$0.201	\$0.075	\$0.213	\$0.203
Cost Differential (FY2007)	\$0.389	\$0.450	\$0.397	\$0.397	\$0.450
<b>Incentives To Transport Pallets From Zone 5 To DSCF</b>					
R2005-1 Rates	\$0.136	\$0.136	\$0.124	\$0.137	\$0.136
R2006-1 Rates	\$0.098	\$0.152	\$0.062	\$0.124	\$0.163
R2008-1 Rates	\$0.101	\$0.157	\$0.064	\$0.128	\$0.168
Cost Differential (FY2007)	\$0.217	\$0.336	\$0.229	\$0.229	\$0.324

## **APPENDIX B: THE USE AND UPDATING OF THE PERIODICALS FLATS MAIL FLOW MODEL**

In the following I describe changes that should be made in the Periodicals flats mail flow model, as well data gathering efforts and refinements that are necessary to maximize the model's usefulness in the study of Periodicals costs. I also discuss inefficiencies and cost reduction opportunities that the model appears to identify. A modified version of the mail flow model spreadsheet contains model changes and various calculations described below.

### **I. INTRODUCTION AND SUMMARY**

The Periodicals mail flow model is used to develop worksharing discounts and bundle, sack and pallet unit costs. The model presented by the Postal Service in ACR2007 is a modified and updated version of the model which I presented and the Commission adopted in Docket No. R2006-1. The origin of this model is the LR-I-332 model prepared for the Postal Service by Christensen Associates in Docket No. R2000-1, to which I applied considerable modifications and updates, first in Docket No. C2004-1 and later in Docket No. R2006-1.

Unlike models used for other classes of flats, the Periodicals model identifies as “per-piece” costs only those processing costs that relate directly to the sorting and handling of individual flats. Most other processing costs are identified as “per-bundle,” “per-sack” or “per-pallet” costs. This approach requires a larger and more complex model, as well as types of data not used by the other models, but it also offers greater insight into how costs are incurred and therefore, I believe, the potential to identify and eventually correct processing inefficiencies.<sup>7</sup>

With this modeling approach, one should expect total model costs to be reasonably

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<sup>7</sup> The ACR2007 models for First Class and Standard flats rely on proportionality assumptions that effectively distribute platform and other “allied” labor costs among presort categories as if they were per-piece costs, based on the questionable assumption that they are incurred in the same proportions as are the costs directly related to piece sorting. In the First Class model, this requires a “CRA adjustment” equal to 2.931 (reduced to 2.393 with USPS Proposal 8, RM2008-2).

close to actual costs as measured by the CRA. While it has been common in the past to apply “CRA adjustment factors” that were sometimes much larger and sometimes much smaller than one, such large adjustments indicate that the model does not yet represent a good approximation of operational reality and that one needs to analyze it further to determine why and apply the necessary corrections.

The Periodicals model allows improved accuracy by using separate CRA adjustments for piece sorting costs and all other costs. There is no reason in principle why this could not be refined further to more than two separate adjustments in future model versions.

Section II below addresses the \$173 million discrepancy between piece sorting costs as modeled in ACR2007 and as measured by the FY07 CRA.

The comments of Time Warner on the 2007 ACR identified one reason for this large discrepancy, namely the model’s failure to account for the significant processing work that now is performed under MODS number 140 in the AFSM 100 cost pool, and proposed a remedy.<sup>8</sup> An alternative, and I believe more accurate, treatment of the MODS 140 costs is described in Section II below. But it still leaves a discrepancy of \$116 million between modeled piece sorting costs and those reported by the CRA in FY07.

Such a large discrepancy must be due to one or both of the following factors:

- (1) the model is inaccurate;
- (2) piece sorting of Periodicals flats is less efficient than it could be.

In the first case, the model needs to be corrected. In the second, improvements are needed to make Periodicals sorting more efficient. Eliminating \$116 million in costs would bring the class much closer to a 100% cost coverage.

Section III below focuses on the modeling of bundle, sack and pallet handling

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<sup>8</sup> See Docket No. ACR2007, Initial Comments of Time Warner Inc. on FY 2007 Annual Compliance Report (January 30, 2008), at 17-21.

operations in the Periodicals flats model. The main issue that needs to be addressed is that those parts of the model rely on many data elements that are either very old or in some cases were “assumed” without firm empirical evidence. The data that need to be updated include a variety of productivity rates as well as assumed but unverified percentages regarding how bundles, sacks and pallets flow through the postal system. I believe some new data collection efforts are needed and would benefit not only Periodicals but other classes of flats as well.

## **II. THERE IS A WIDE GAP BETWEEN THE MODELED PERIODICALS PIECE SORTING COSTS AND THOSE INDICATED BY THE CRA**

During FY07 the Postal Service used three different technologies for flats piece sorting: (1) automated sorting on AFSM 100 machines; (2) mechanized or semi-automated sorting on UFSM 1000 machines; and (3) manual sorting into flats cases. The AFSM 100 had four configurations, each with its own set of MODS numbers, and the UFSM 1000 machines were used in two different modes, also with different sets of MODS numbers.

According to the ACR2007 model, the combined cost of all piece sorting operations on Outside County Periodicals flats should have been \$355.17 million. But according to the CRA, actual costs were \$527.77 million, or 48.6% higher. Understanding and, where possible, correcting this huge discrepancy ought to be a top priority for the Postal Service and the Periodicals industry.<sup>9</sup>

Additionally, as explained in Appendix C, billing determinants for the portion of FY07 when the R2006-1 rates were in effect indicate that there may be many fewer non-machinable Periodicals flats than the model assumes. If so, total costs should be less, since non-machinable flats cost more to process. Replacing the non-machinability percentages used in the model with those indicated by billing determinants reduces

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<sup>9</sup> Both cost measures include direct labor costs as well as all “piggyback” costs associated with the cost pools where piece sorting is performed. Costs incurred in the MODS 035 flats prepping operation are not included in either number. The indicated CRA costs include some manual flats sorting costs where the clerk performing the flats sorting was clocked into a MANL (manual letters) of MANP (manual parcels) cost pool.

modeled piece sorting costs to \$323.66 million, more than \$200 million less than indicated by the CRA.

As explained in the following, there are indeed model changes that can and should be made to reduce the discrepancy between modeled and CRA costs. But the wide gap may also signal that Periodicals flats sorting is less efficient than it could be. Identifying and correcting these inefficiencies will reduce Periodicals costs.

Time Warner's comments on the ACR2007 documented an overstatement of AFSM 100 productivity rates caused by failing to include workhours spent at MODS operation 140, which in FY2007 was part of the AFSM 100 cost pool. Time Warner described a MODS-based adjustment of AFSM 100 productivity rates that would reduce the \$173 million discrepancy to \$133 million. However, examination of FY2007 IOCS tallies at the AFSM 100 suggests an alternative adjustment, because a larger proportion of Periodicals AFSM 100 tallies than similar tallies for other classes occur at MODS operation 140. That adjustment would reduce the discrepancy with CRA piece sorting costs to about \$116 million. Unfortunately, if the non-machinability percentages indicated by the billing determinants are used, the discrepancy goes back up to \$142 million.

To analyze this discrepancy further, I modified the ACR2007 model to be able to trace the model costs at different flats sorting operations, so that the model costs at each operation can be compared with the corresponding CRA costs. Table B-1 below summarizes this comparison. As the table shows:

- In the AFSM 100 cost pool, the CRA attributes \$178 million, while the unadjusted Postal Service model indicates less than half of that, at \$83 million. With the Time Warner productivity rate adjustment referred to above, the AFSM 100 model cost for Outside County Periodicals flats becomes \$123 million. A further adjustment, which I believe is more accurate for reasons described below, increases the modeled Periodicals AFSM 100 costs to about \$140 million, still far shy of the CRA costs. Using non-machinability percentages indicated by the billing determinants causes the model to send more flats to the AFSM 100 and raises the modeled AFSM costs to \$161 million.

- At the video encoding (LD15) cost pool, model costs are \$9.6 million, which is 255% more than the \$2.7 million indicated by the CRA. As discussed below, it is likely that neither number is very reliable.
- At the UFSM 1000 cost pool, model costs are substantially larger (by 30.63%) than the CRA costs. But when non-machinability percentages based on billing determinants are used, the model routes fewer flats to the UFSM, lowering UFSM modeled costs to less (by 13.2%) than CRA costs.
- Finally, while the model indicates \$190 million in manual sorting costs, and only \$164 million with the billing determinants non-machinability percentages, the CRA attributes over \$291 million in manual sorting costs to Periodicals flats.

<b>Table B-1: Outside County Flats Distribution, Model Costs Versus CRA Costs</b>			
	Model Costs	CRA Costs	Difference
<b>AFSM 100</b>			
1. USPS Productivity rates	\$83,252,346	\$178,233,278	-53.29%
2. Adjusted Prod. Rates per TWACR07	\$122,597,777	\$178,233,278	-31.21%
3. Second Prod. Rates Adjustment	\$139,523,916	\$178,233,278	-21.72%
4. Use BD Non-machinability Data	\$161,345,635	\$178,233,278	-9.48%
<b>Video Encoding (Pool LD15)</b>			
1. USPS Model Data	\$9,628,949	\$2,715,331	254.61%
2. Use BD Non-machinability Data	\$11,352,661	\$2,715,331	318.09%
<b>UFSM 1000</b>			
1. USPS Model Data	\$72,525,370	\$55,520,686	30.63%
2. Use BD Non-machinability Data	\$48,186,836	\$55,520,686	-13.21%
<b>Manual Flats:</b>			
1. USPS Model Data	\$189,764,055	\$291,303,102	-34.86%
2. Use BD Non-machinability Data	\$164,165,126	\$291,303,102	-43.64%
<b>Total (Excluding 035 prep)</b>			
1. USPS Productivity rates	\$355,170,719	\$527,772,398	-32.70%
2. Adjusted Prod. Rates per TWACR07	\$394,516,151	\$527,772,398	-25.25%
3. Second Prod. Rates Adjustment	\$411,442,290	\$527,772,398	-22.04%
4. Use BD Non-machinability Data	\$385,050,258	\$527,772,398	-27.04%

Each type of sorting costs is discussed below.

## 1. AFSM 100 Sorting Costs

The AFSM 100 is the Postal Service's fastest method of sorting flats. It is therefore the first sorting option, meaning that when flats are AFSM 100 machinable, in a facility with AFSM 100 machines, those flats generally will be sorted on the AFSM 100. That is also assumed in the Periodicals flats model, and it is therefore surprising that the CRA indicates much higher AFSM 100 costs than the model does.

Several issues related to the AFSM 100 costs are discussed below, including alternative ways to account for the MODS 140 costs that are absent from the Postal Service's model.

### a. The MODS 140 Costs

The MODS 140 operation, now part of the AFSM 100 cost pool, consumes almost half of all AFSM 100 workhours. These workhours, and the corresponding costs, must be accounted for. Ignoring them results in a model that has little relationship to operational reality. I proposed one stop-gap solution, which was described in Time Warner's ACR2007 comments (at 20). That was to calculate the productivity at each sorting scheme without the MODS 140 hours, then proportionately adjust all productivity rates to account for those extra hours. Since then I have used tabulations of FY07 IOCS tallies to learn more about the types of work being performed by employees signed into MODS number 140, and I now believe there are better and more accurate solutions.

Table B-2 compares, for each major class, the total number of AFSM 100 tallies with the number of MODS 140 tallies. As can be seen, 47.8% of the Outside County tallies were associated with MODS 140, while only 31.1% of First Class and 41.8% of Standard tallies had that MODS number.

It is not surprising that, as Table B-2 indicates, MODS 140 workhours play a relatively bigger role in the processing of Periodicals flats than in the processing of First Class flats, considering that flats preparation (e.g., opening bundles) is part of the work performed at the 140 operation. Most First Class flats are likely to come to the AFSM in trays, requiring less flats preparation. But as the table shows, Periodicals flats on the AFSM 100 also incur a larger proportion of MODS 140 workhours than do Standard

flats.

Class of mail	Number Of IOCS tallies FY07		
	AFSM 100 total	MODS 140	% of Total
Outside County	684	327	47.81%
First Class	1311	408	31.12%
Standard	2327	973	41.81%
All Tallies	8176	3435	42.01%

The results in Table B-2 mean that the adjustment proposed in Time Warner's ACR2007 comments understates the MODS 140 costs that are associated with Periodicals.

According to the MODS data in ACR2007 LR-23, 47.76% of all AFSM 100 workhours were recorded at MODS 140. But according to Table B-2, only 42.01% of IOCS tallies for the AFSM 100 were taken at the MODS 140. That indicates that the percent of workhours associated with MODS 140 for each class is larger than Table B-2 indicates, by a factor of  $47.76/42.01 = 1.137$ . For Outside County, this means that  $1.137 * 47.81 = 54.36\%$  of its AFSM 100 workhours were spent at MODS 140. That requires a different adjustment from the one I proposed earlier.

More precisely, it can be shown that the adjusted Periodicals costs that I developed for Time Warner's ACR2007 comments (relying on the incorrect assumption that all classes using the AFSM 100 use the same proportion of MODS 140 hours) must be multiplied by a factor equal to 1.137, which is the ratio between 54.36% (the Periodicals MODS 140 ratio) and 47.76 (the average ratio). This increases the modeled Periodicals AFSM 100 costs to \$139.5 million, as shown in Table B-1.<sup>10</sup>

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<sup>10</sup> This adjustment means, effectively, that the average productivity for Periodicals flats at the AFSM 100 is set to 1453 pieces per workhour, whereas the average productivity for all flats, according to the FY07 MODS data, is 1653. If one ignores the MODS 140 hours, as the ACR2007 model did, the AFSM 100 productivity appears to be much higher. The 1453 rate is an average for all sorting schemes. The adjustment also increases somewhat the modeled cost differentials between presort levels.

While this adjustment may not be perfect, I believe that any realistic adjustment to include MODS 140 hours in the model would reach roughly similar conclusions. One could, however, use alternative methods to distribute the added model costs among presort levels.<sup>11</sup>

To further analyze the activities performed under MODS 140, I tabulated the values of IOCS field Q18C11C, which describes activities observed when sampled employees are at an AFSM 100. The results are shown in Table B-3, for all MODS 140 tallies and separately for those where Outside County flats were being handled. Unfortunately, for slightly more than half of the tallies, no observed activity had been recorded. I believe this may be because the alternatives given for this field in the IOCS instructions do not include flats mail preparation as an option.<sup>12</sup>

In the case of Outside County flats, about 30% of the MODS 140 tallies had no activity specification. It seems reasonable to assume that the unspecified activity consisted in most cases of mail prep type activities. Most of the other activities are those one would expect at the AFSM 100, e.g., feeding mail, tray handling, sweeping, etc.

Because the MODS 140 operation includes a variety of activities, such as feeding mail and tray handling, as well as the mail prep functions that apply primarily to flats which arrive in bundles, there is a need to determine exactly how to best distribute its costs among presort levels. The approach I have described here simply distributes the MODS 140 Periodicals costs among presort levels in the same proportion as it

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<sup>11</sup> One could argue, for example, that a relatively larger portion of these costs is incurred by flats with a 5-digit bundle presort. The reason is that flats with 5-digit presort come to the AFSM only once, but when they do they require flats preparation (e.g., breaking the bundle, etc.) which is one of the functions performed at MODS 140. On the other hand, a flat with 3-digit presort may come to the AFSM twice, but the second time it is likely already to be in a tray and not to require additional flats preparation.

<sup>12</sup> Instructions for field Q11C11B, which describes activities at “FSM 1000 or other flat sorting equipment,” include an option called “loading the ledges/Opening Bundles/Facing Mail/Dumping,” which are flat mail prep type activities. That no similar option is offered for field Q11C11C may be due to the fact that, prior to the deployment of AI attachments, no such activities were being performed at the AFSM 100. The IOCS instructions ought to be updated now that mail prep in fact is a major activity within the AFSM 100 cost pool.

In the “all tallies” column of Table B-3, the tallies with unspecified activity include those of employees on break, clocking in/out, etc.

distributes all other AFSM 100 Periodicals costs.<sup>13</sup>

Activity	All Tallies		Outside County Tallies	
	140 Tallies	%	140 Tallies	%
Unspecified	1739	50.63%	98	29.97%
Obtain/Dispatch Mail/Empty Eq	213	6.20%	16	4.89%
Feeding Mail/AI	623	18.14%	104	31.80%
Auto Tray H	353	10.28%	58	17.74%
Sweeping	207	6.03%	23	7.03%
SetUp/Take Down	72	2.10%	4	1.22%
Verify/Riffle	36	1.05%	4	1.22%
Monitor Machine Op	5	0.15%	1	0.31%
Clearing jams/Maintenance	12	0.35%	1	0.31%
Waiting	55	1.60%	5	1.53%
Crew Rotation	12	0.35%		0.00%
Other	108	3.14%	13	3.98%
<b>Total</b>	<b>3435</b>	<b>100.00%</b>	<b>327</b>	<b>100.00%</b>

#### b. Impact Of More Flats Than Expected Being Machinable

As explained in Appendix C, billing determinants for the last quarter of FY07 suggest that fewer flats are non-machinable than the model assumed. If there are more machinable flats, more flats will be routed to AFSM 100 machines. That would raise AFSM 100 costs, whereas it should reduce overall costs.

To determine the impact of the higher level of machinability indicated by the billing determinants, I modified the model so that for flats with MADC, ADC or 3-digit presort it uses the billing determinants non-machinability percentages indicated in Table C-2 of Appendix C. As that appendix explains, the billing determinants cannot be used to determine the percentage of flats with 5-digit presort that are AFSM 100 machinable, since those flats pay the machinable piece rates provided only that they are UFSM

<sup>13</sup> An alternative approach that might be considered is as follows. Assume it can be determined what portion of the MODS 140 activity is mail prep type activity (my hypothesis is that the 29.97% of "unspecified" activity in Table B-3 is mostly mail prep type activity). That portion could then be attributed among presort levels in the same way as the MODS 035 costs are attributed. The rest should be incorporated in the AFSM 100 productivity rate as outlined above.

1000 machinable. I therefore assumed that 5-digit flats would be machinable to the same extent as 3-digit flats.

The result, as shown in Table B-1 above, is to raise the modeled AFSM 100 costs to \$161 million, which is within ten percent of the CRA costs.

More reliable data on non-machinability may become available from FY08 billing determinants. There remains the question of how often flats are routed to manual processing, even when they could have been processed on a machine. Nevertheless, using non-machinability rates based on billing determinants and including MODS 140 costs, as explained above, succeeds in eliminating most of the very wide gap between modeled and CRA AFSM 100 costs in the original FY07 model.

#### c. Other Possible Reasons For The Discrepancy Between Modeled And CRA AFSM 100 Costs

Even with the above model modifications, there remains a \$17 million gap between modeled and CRA costs at the AFSM cost pool. This should be studied further as part of the overall study of Periodicals costs. A few possible explanations are explored below.

First, the model assumes that only AFSM 100 machinable flats are sorted on the AFSM machines. What if in reality some non-machinable flats (e.g., flats weighing over 1.25 pounds) also are routed to the AFSM 100?

The IOCS tally data do not appear to offer a simple way to determine whether a sampled flat met the criteria for AFSM 100 machinability. However, it is possible to determine the weight of the sampled flats. Table B-4 summarizes the AFSM 100 tallies with Outside County flats (out of a total of 684 such tallies) that show a weight equal to one pound or more.

About 3.22% of the Outside County AFSM 100 tallies (22 of 684) were of flats that exceeded the official weight limit for AFSM 100 machinability. The model does not expect these flats to be on the AFSM. The fact that some very heavy pieces are observed being handled on the AFSM could be a sign of inefficiency that explains some

portion of the discrepancy discussed above. It is also possible that these flats, due to their weight, ended up being sent to manual sorting anyway, after first being handled at the AFSM.

Piece Weight		Tallies
1-1.25 lb		44
>1.25lb, <2lb		12
>=2lb, <4lb		5
>4lb		5
Total	9.65%	66
Over 1.25lb: (Of 684 total tallies)	3.22%	22

Additionally, even Periodicals flats that are within the weight limits for machinability are generally thicker and heavier than typical First Class and Standard flats, which might lead to somewhat lower productivity rates, helping to explain why the model, using average productivity rates, tends to understate Periodicals sorting costs.

## 2. The Remote Encoding Costs Of Periodicals Flats

The FY07 IOCS data include 18 tallies associated with LD15, the cost pool representing remote encoding. Only six, none of which are associated with Periodicals, have MODS numbers that indicate flats sorting. In other words, there is no direct evidence of Periodicals flats receiving remote coding in FY07. Yet the CRA attributes \$2.7 million in LD15 costs to Periodicals flats.

The modeled LD15 costs are \$9.6 million (\$11.4 million using billing determinant non-machinability data.) That figure is derived from the assumption that only 93.87% of barcoded flats and 73.63% of non-barcoded flats have addresses that can be read by the AFSM 100, and that the rest therefore require remote encoding. Both figures are “engineering estimates” and refer to averages for all flats. First Class single piece flats are by far the most likely to have handwritten addresses that require remote encoding.

Both the model costs and CRA costs for Periodicals flats at the LD15 operation are

therefore essentially arbitrary figures.

### 3. Costs of Sorting on UFSM 1000 machines

The CRA indicates that in FY07 \$55.5 million were spent sorting Outside County flats on UFSMs. The ACR2007 model suggests a much higher figure, at \$72.5 million. However, a large portion of these costs results from the model routing flats believed to be non-machinable on AFSM 100 machines to processing on the slower UFSM 1000. When the lower non-machinability percentages indicated by the billing determinants are used, modeled UFSM costs drop to only \$48.2 million, as shown in Table B-1.

I find this figure, which is lower than CRA costs, to be more believable than the \$72 million indicated by the original model. The reason is that the UFSM 1000 uses two modes of sorting, one automated and one where flats are fed and keyed manually. The model assumes for Periodicals a distribution between automated and manually keyed sorting that is the average for all flats. But IOCS tallies indicate that Periodicals flats are more likely than average flats to be sorted in the slow, manual mode, and one would therefore expect Periodicals flats on these machines to incur more costs than the average flat processed there.<sup>14</sup>

### 4. Costs Of Manual Sorting Of Periodicals Flats Are Much More Than The Model Indicates They Should Be

As Table B-1 indicates, costs for manual sorting of Outside County flats were over \$291

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<sup>14</sup> For example, the FY07 MODS data indicate that only 11.7% of all workhours spend doing incoming secondary sorting on UFSM 1000 machines are spent in the manual sorting mode. MODS data are not class specific, but a count of IOCS tallies taken when Periodicals were receiving incoming secondary sorting shows that about 32.5% of those workhours were spent in the manual mode (14 of 43 tallies). Because the manual mode is so much slower than the automated mode, one would expect Periodicals flats to take more time, and incur more costs, than the average for flats receiving incoming secondary at these machines. Since the model uses flows and productivity rates representing all flats, one would expect it to understate the CRA.

For other sorting schemes, the hours spent in keying mode average 81.3%. In other words, except for incoming secondary sorting, UFSM clerks spend most of their time on manual key sorting, whose productivity rates are not very different from those for manual sorting. And for Periodicals, the percentage for manual sorting is even higher (84.4%), indicating again that Periodicals flats may take a little more time on the average than other flats.

million in FY07. The modeled costs in the ACR2007 model were under \$190 million, a \$101 million discrepancy. Moreover, using the lower percentages of non-machinability indicated by the billing determinants further reduces the modeled manual costs to \$164 million, which is \$43.6% lower than the CRA costs.

The discrepancy may be even larger, because the \$291 million estimate assumes that exactly half of the Outside County costs at the LD43 pool (manual processing at stations and branches) are for manual flats sorting. IOCS tallies appear to indicate that the true percentage of LD43 costs that represent manual flats sorting is considerably larger.<sup>15</sup>

Since, as described above, both AFSM 100 and UFSM 1000 costs also are larger than the model indicates, it is difficult to argue that the high manual costs are caused simply by failure to put flats on the machines.

Determining why manual flats sorting costs for Periodicals are so high, and identifying possible corrective actions, should be a key objective for the upcoming Periodicals cost study.

#### 5. The Cost Effect Of Periodicals Flats Being Heavier And Thicker Than Average Needs Further Study

The following is only a theory, but I believe it can explain at least some of the discrepancy between modeled and CRA (actual) sorting costs.

No flats model used by the Postal Service or the Commission has, to my knowledge, recognized the impact of weight, or bulk, on piece sorting costs. It has always been

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<sup>15</sup> The FY07 CRA attributes \$83.3 million to Outside County flats in the LD43 cost pool. I tabulated the values of IOCS field Q18B01 (Operational area, stations and branches) for all FY07 IOCS handling tallies in that pool. 72.5% of those tallies indicate "Manual Distribution (mail piece distribution only)." Ignoring the tallies for which the field had been left blank increases the percentage to 82%. For the LD43 tallies identified with Outside County flats, 77% indicate "Manual Distribution (mail piece distribution only)." Ignoring tallies where the field had been left blank raises the percentage to 85%. I conclude from this that at least 75% of the \$83.3 million LD43 costs for Outside County flats may be for manual flats distribution. That would add about \$20.8 million to the discrepancy between modeled and CRA manual flats sorting costs.

assumed that piece sorting costs occur strictly on a per-piece basis. The piece sorting productivity rates used in these models are derived from MODS, which does not distinguish between classes of mail, or between thick and thin flats.

But I have observed that at manual sorting cases, as well as in mail prep type operations and at carrier stations, at least some managers formulate guidelines for how much employees are expected to accomplish not in pieces but in lineal feet. A supervisor observes the number of trays with flats to be sorted, for example, and estimates that there are so many feet that must be ready by a certain time. On that basis, he decides how many people he needs, whether to call in casuals, delay some until the next day, etc. So if an employee gets through as many feet as his supervisor suggests he should, he feels he has done a good job. But if those feet consist of Periodicals, they contain fewer pieces than if they consist of thin Standard flats. Yet the MODS based productivity rates in the flats models are given in pieces per work hour and are the same for all mail classes.

Sweeping in particular is one part of piece sorting that is driven by the number of feet rather than the number of pieces. Thicker pieces cost more to sweep because they add up to more feet, requiring sweeping more frequently. Yet no current flats model takes this into account.

If the above theory is correct, the Postal Service could make the cost of sorting less dependent on the thickness of the flats being sorted by adjusting expected productivity upward (when it is expressed to employees in terms of feet) if there are fewer flats per foot, as in the case of Periodicals flats.

From the point of view of model development, one might seek through a separate data collection effort to develop class-specific productivity rates. Without class-specific data, the only way to bridge the gap between modeled and actual Periodicals sorting costs may be with a CRA adjustment for piece sorting, as described below.

#### 6. A CRA Adjustment Should Be Used To Adjust For The Discrepancy Between Modeled And CRA Costs That Cannot Be Reconciled By Other Means

The discrepancy between modeled and CRA piece sorting costs in the ACR2007

model, even with the AFSM adjustment described above, is much larger than in the R2006-1 model. One reason for this may be simply that in R2006-1 and previous rate cases, the comparison was between the model costs, whose productivity rates were taken from base year data, and projected costs in a future test year, based on assumptions of widely varying soundness about future cost behavior. Under the new scheme of annual reviews, the opportunity will exist to compare costs actually incurred in the year under review with those forecast by the model.

There should be an ongoing effort to reduce or eliminate the remaining discrepancies between modeled and actual costs, either by improved modeling, improved efficiency in operations, or both. But until this is achieved, for reasons explained here and also in Time Warner's ACR2007 comments (at 11-14), the gap that remains should be covered by a CRA adjustment applied specifically to piece sorting operations.

After making the AFSM 100 adjustment for MODS 140 costs as described above, the CRA piece sorting adjustment in the FY2007 model becomes 1.29. Adjusting the percentages of non-machinability based on billing determinant data raises it to 1.36. That is considerably lower than it would be with the unadjusted model (1.48), but efforts should be made to further improve the model so that a factor closer to one can be achieved in the future.

### **III. BUNDLE, SACK AND PALLET COSTS**

The part of the Periodicals model that represents bundle and container handling costs is newer than the part that represents piece sorting costs and has had less chance to be tested against actual costs. Nevertheless, in FY07 the bundle and container model produced model costs closest to actual costs.

As pointed out in Time Warner's ACR2007 comments (at 14), when separate CRA adjustments are applied for piece sorting and other costs, as I believe they should be, the adjustment factor for non-piece costs becomes 0.9447, which must be considered reasonably close to one.<sup>16</sup> However, in the Postal Service's ACR2007 filing, the

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<sup>16</sup> As noted in the above discussion on manual flats sorting, it is possible that a larger portion than

modeled bundle, sack and pallet costs were instead multiplied by a factor of 1.2065. That adjustment was based on the clearly incorrect assumption that no adjustment was needed in the piece costs and that the entire discrepancy between modeled and CRA costs therefore must lie in the non-piece costs.<sup>17</sup>

As a result, the ACR2007 model ended up overstating the true costs of bundle, sack and pallet handling.<sup>18</sup>

Although the overall bundle, sack and pallet model costs are reasonably close to actual costs, numerous issues relating to old, inadequate or missing data, and to questionable or unsupported assumptions, need to be, and I hope will be, addressed in the upcoming study of Periodicals costs. Time Warner addressed some of those issues in its ACR2007 comments (at 26-29). Other issues that should be addressed in a comprehensive study of Periodicals costs are described below.

### 1. Allied Productivity Rates

The ACR2007 model uses various productivity rates for the movement, sorting and dumping of sacks, pallets and bundles. They are listed starting in Column H of the 'Productivities' worksheet.

The productivity rates for sacks and pallets are from a variety of sources:

- (1) LR-H-132, a mid-90's study conducted at six BMC's;
- (2) a 1982-83 study underlying USPS-T-14 in Docket R84-1, based on data collected at two BMC's and the Buffalo SCF;
- (3) planning guidelines (PGL) derived from industrial engineering methods; and

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the assumed 50% of Periodicals costs in the LD43 cost pool are piece related. If this is correct, the non-piece costs are correspondingly lower and the CRA factor for non-piece costs becomes slightly less than 0.9447.

<sup>17</sup> The correction related to MODS 140 costs, as described above, would already reduce the 1.2065 factor to 1.128. But the costs of bundles sacks and pallets would clearly remain exaggerated.

<sup>18</sup> However, while the reported costs were too high, the rates for bundles, sacks and pallets were too low. The rates should be set at much more than 40% of the true costs, to encourage more efficient mail preparation.

(4) an R87-1 application of industrial engineering methods.

It is possible that most of these rates remain fairly accurate, but the fact is that they were primarily developed at BMCs and are probably not appropriate for smaller facilities. In particular, the time it takes to cross-dock a pallet or rolling container or bring it inside a processing facility tends to be less at smaller facilities, particularly DDUs. Also, the BMCs themselves are changing, and the actual transfer of Periodicals at BMCs today often occurs at adjacent facilities that are designed for container movement and do not use sack sorting machines.

I believe the model would be more accurate if it employed separate sets of productivity rates for container movement at BMCs, SCFs and DDUs that were based on actual measurements at the respective facility types.

The issue of bundle sorting productivity rates was addressed in Time Warner's ACR2007 comments (at 27-28), which explained that the bundles per workhour estimates obtained from MODS for SPBS and APPS bundle sorting operations are not directly applicable in the model, because the workhours recorded in MODS include time spent handling (dumping) the containers that the bundles arrive in. Determining the "pure bundle sorting" productivity rate that excludes the initial container handling is a non-trivial task. The model now relies on assumptions developed by Christensen Associates in R2000-1, which may have been correct for SPBS machines at that time but, as pointed out in Time Warner's ACR2007 comments (at 28), are almost certain to be wrong when applied to APPS machines, which do not use manual keying.

## 2. Container And Bundle Flow Data

The flow of bundles from initial to subsequent bundle sorting operations is determined in the model by a set of bundle densities from a 1998 study reported in LR-I-88. In the ACR2007 model, the Postal Service changed the flow for 5-digit bundles, which according to the LR-I-88 data were predominantly sent to the DDU before being opened, indicating that in today's environment most 5-digit bundles are opened at the DSCF so that the flats in them can be sorted to carrier route on AFMS 100 machines.

This change made sense, since the old flow data for 5-digit bundles clearly had become

obsolete. But it would be better if there were empirical data on exactly what percentage of Periodicals 5-digit bundles are sent to the DDU. There is a widespread belief, for example, that Periodicals often receive manual incoming secondary sorting even if there are AFSM machines available in the destinating SCF. Consequently, the percentage of 5-digit bundles sent to the DDU may be somewhat larger than in the ACR2007 model, even though it clearly is much smaller than in the LR-I-88 data.<sup>19</sup>

More generally, all the LR-I-88 bundle density data should be reviewed and eventually replaced with new data. There were no APPS machines in 1998, and because the APPS allow many more separations than previous machines, it is likely that they use different sorting schemes that lead to different downflow densities.

The piece sorting model uses separate densities, depending on whether the pieces are sorted on an AFSM, UFSM, or manually, because different sorting schemes are used in each case. In a similar fashion, the bundle model should use separate density data, depending on whether the bundles are sorted on an APPS, on an SPBS/LIPS machine, or manually. Collecting density data on the fully automated APPS machines would appear to be a straightforward task.

The flow data for sacks and pallets are derived from a “web based survey,” the existence of which was revealed in an R2006-1 Postal Service interrogatory response. The Commission accepted the flow data that I developed based on the results of that survey. In ACR2007 the Postal Service accepted almost all the flow data but questioned assumptions regarding (1) the flow of 5-digit and carrier route sacks and pallets to the DDU and (2) the percentage of MADC sacks that are L201 sacks.

All these flow data should be reviewed and, if possible, based on a more comprehensive survey of actual flows. The postal network continues to change, due to facility consolidation and other factors. Additionally, the “web based survey” contained very few samples at some facility types, particularly DBMC and OBMC facilities.

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<sup>19</sup> The model now assumes that only 85% of Periodicals flats eligible for AFSM 100 incoming secondary are sorted on the AFSM. The 85% figure is another constant that awaits empirical verification.

## **APPENDIX C: MACHINABILITY OF PERIODICALS FLATS**

Billing determinant data from the last quarter of FY07 suggest that the number of Periodicals flats that are non-machinable, and for which the mailer actually paid for non-machinability under R2006-1 rates, is much smaller than was assumed by the PRC in setting R2006-1 rates.

This discrepancy affects the amount of revenue the Postal Service collects from Periodicals mailers, and thereby the cost coverage for the class. It also affects the accuracy of the Periodicals mail flow model. The discrepancy may be due to any or a combination of the following factors.

- (1) inaccuracies in the mail characteristics data collected by the Postal Service, in preparation for R2006-1, as well as the new data collected for the FY 2007 ACR;
- (2) mailers changing from a non-machinable to a machinable format in response to implementation of rates that distinguish between machinable and non-machinable flats after R2006-1; or
- (3) mailers paying machinable rates for pieces that should have been charged non-machinable rates.

The model which I submitted and the PRC adopted in R2006-1 assumed that 19.2% of non-carrier route Outside County (OC) flats are non-machinable, in the sense that they do not meet the AFSM-100 machinability requirements as described in the DMM. The percentage for flats with 5-d presort was 18.53%, versus 20.45% for flats with 3-digit or lower presort. Those estimates were based on the R2006-1 mail characteristics study presented by witness Loetscher. The Commission's rate design used these percentages to estimate test year revenues.

In its FY 2007 annual compliance report, the Postal Service presented a revised model using new mail characteristics data. According to that model, 27.34% of OC flats with 3-digit or lower presort are non-machinable, while 17.06% of those with 5-digit presort

are non-machinable. The average for non-carrier route flats according to that model is 20.45%.

In developing regulations for the R2006-1 rates, the Postal Service decided that it would consider pre-barcoded flats with 5-digit presort to be machinable if they meet the much weaker UFSM 1000 machinability standards, meaning in practice that almost all flats weighing less than 4.4 pounds per piece would be considered machinable. This decision means that the Postal Service in fact has been collecting less revenue from Periodicals mailers than the R2006-1 rates assumed it would. It also means that the billing determinant data collected under the new rates cannot be used to determine how many flats with 5-digit presort are non-AFSM-100 machinable.

However, since the Postal Service, starting July 15, 2007, has required flats with 3-digit or lower presort to meet the AFSM 100 machinability standards to qualify for machinable rates, the new billing determinants should make it possible to determine the percent of AFSM 100 non-machinability for OC flats with 3-digit or lower presort. Is the percentage similar to the 20.45% assumed in the R2006-1 model? Or is it closer to the 27.34% assumed in the Postal Service's FY 2007 ACR version of that model?

Table C-1 below summarizes the non-machinability percentages for Outside County flats according to, respectively, the two mail flow models and the FY07 billing determinants for the period after implementation of the R2006-1 rates. Table C-2 provides a more detailed breakdown, by each non-carrier route presort level and according to whether or not the flats were pre-barcoded.

The billing determinant data in Table C-1 indicate that the percentage of non-machinable flats with 3-digit or lower presort is much lower, at 11.89%, than assumed in either of the mail flow models.<sup>20</sup> For flats without mailer applied barcodes, Table C-2 shows a large difference between the degree of non-machinability assumed in the R2006-1 and ACR2007 versions of the mail flow model. The R2006-1 version, for example, assumes 10.43% of the MADC non-barcoded flats to be non-machinable,

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<sup>20</sup> For regular rate flats, the percent non-machinable with 3-digit or lower presort is 13.1%, versus 5.79% for nonprofit and only 1.14% for Classroom publications.

versus 72.92% in the ACR2007 version. The billing determinants indicate 38.59%.

Billing determinant data are normally considered more accurate than information collected from separate mail characteristics surveys, because they reflect almost all mail in the given class, at least all mail except that which is entered in very small offices.

It is possible that some mailers have changed to a machinable format, but it seems unlikely that it would have happened so quickly, in the first quarter after implementation of the R2006-1 rates. It is also possible that some mailers paid machinable rates for flats that did not qualify for machinable rates. But it seems more likely that earlier estimates of non-machinability may have been inaccurate.

Regardless of what the true percentages of non-machinability may be, the fact is that the R2006-1 rates were set under the assumption that about 20% of non-carrier route flats would pay for non-machinability. In reality, less than 12% of those with presort 3d or less and only 3.3% of those with 5-d presort did so. Unavoidably, this will cause lower cost coverage than expected.

Now consider the impact on the mail flow model, described in Appendix B, and its estimates of worksharing related cost differentials if the non-machinability percentages in the model are replaced by the lower percentages indicated by the FY07 billing determinants.<sup>21</sup>

As Appendix B describes, use of the billing determinant percentages of non-machinability leads to lower overall model costs and a wider discrepancy between modeled costs and the Outside County mail processing costs indicated by the CRA. While the lower billing determinant percentages reduce the model's understatement of AFSM 100 costs and remove completely the overstatement of UFSM 100 costs, they further increase the already very large discrepancy described in Appendix B between modeled and actual manual flats sorting costs.

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<sup>21</sup> In my Appendix B application of billing determinant non-machinability percentages, I used those shown in Table C-2, except that for flats with 5-digit presort I assumed the billing determinant percentages for 3-digit presort.

Explaining why manual sorting costs for Periodicals flats are so much higher than the mail flow model indicates they should be, and applying any necessary remedies, is a challenge that needs the attention of both the Postal Service and Periodicals mailers.

The Postal Service should by now have collected billing determinant data on Periodicals flats machinability for most of FY 2008. Those percentages should be used in the next version of the mail flow model, unless the Postal Service has good reasons to believe that they are less reliable than the corresponding percentages developed by other means, such as mail characteristics surveys.

Presort Level	From Mail Flow Models		FY07 Billing Determinants (Under R2006-1 rates)
	R2006-1	FY 2007 ACR	
3-Digit or lower	20.45%	27.34%	11.89%
5-Digit	18.53%	17.09%	3.36%
5-Digit or lower	19.20%	20.45%	6.17%

Bundle Presort Level	From Mail Flow Models:				FY07 Billing Determinants (Under R2006-1 rates)	
	R2006-1		FY 2007 ACR		NBC	BC
	NBC	BC	NBC	BC		
MADC	10.43%	24.20%	72.92%	37.01%	38.59%	9.36%
ADC	19.06%	17.05%	73.23%	29.88%	40.90%	7.66%
3-Digit	31.46%	18.81%	51.14%	18.74%	35.64%	5.72%
5-Digit	37.04%	16.69%	36.14%	15.52%	27.88%	1.33%