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Strategic Improvement Guide for Flats Processing

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Contents:

1. Publication 128, "Strategic Improvement Guide for Flats Processing" (Sept. 1999)

2. "Report of the Periodicals Operations Review Team" (March 1999)

Contents

1 Introduction

During the past 15 years, the United States Postal Service (USPS) has made steady technological advances in the area of flats processing and distribution, with most of the focus on mechanized equipment and sortation.

Mechanized Flat Sorting Machines (FSMs) purchased and deployed since 1982 include the FSM 775 (1982–1988), the FSM 775 converted to the FSM 881 (1990–1992), and the FSM 1000 (1996–1998). As of October 1999, we have 1,156 operational Flat Sorters in our processing facilities.

In 1992, the USPS began adding Bar Code Readers (BCRs) to the FSM 881. This automation retrofit was completed in 1993. The USPS has contracted for OCR automation capabilities to the FSM 881, as well as BCRs for the FSM 1000. By the end of 1999, all FSMs in operation will be equipped with automation functionality.

Despite the technological advances made over the past 5 years and a more favorable mailbase for automation processing, productivity in both mechanized and automation flats processing operations continues to decline each year. In FY 93, MODS data reported that mechanized productivity — that is, pieces per hour (PPH) — on the FSM 881 was approximately 730; for AP 01 in FY 98, mechanized productivity was only 600 PPH. In FY 93, automation productivity (BCR operations) was approximately 1,150 PPH; for AP 01 in FY 98, automation productivity was only 845 PPH. See **Exhibit 1** on the next page.

As a result of declines in productivities, both per-piece processing cost and plan failures have steadily increased for the past several years.

Another alarming statistic provided through MODS indicates that in FY 97 more than 50% of all non-Carrier Routed barcoded flats (approximately 12.9 billion in FY 97) presented by mailers at automation discount rates was processed and distributed in operations other than automation. This significant barcoded volume was either keyed on an FSM mechanized operation or cased by a manual distribution clerk. This is discounted mail processed at premium rates.

The inability to capture and process barcoded flats through automation results in a significant cost differential. The cost of processing flats in the manual operation is $63.62 per 1,000 pieces, whereas the cost of processing flats in the mechanized mode is only $39.82 per 1,000 pieces. The cost to process barcoded flats through automation is $27.44 per 1,000 pieces. In FY 97, we failed to automate over 6 billion barcoded flats — and had we processed them through automation, we would have saved over $54 million.

The operational data reviewed raises serious concerns both at the Headquarters and Field Operation levels. Processing Operations at USPS Headquarters determined that the best course of action was to develop a Strategic Initiative that would define and address all of the processes and intangible factors that directly and indirectly affect flats distribution operations.

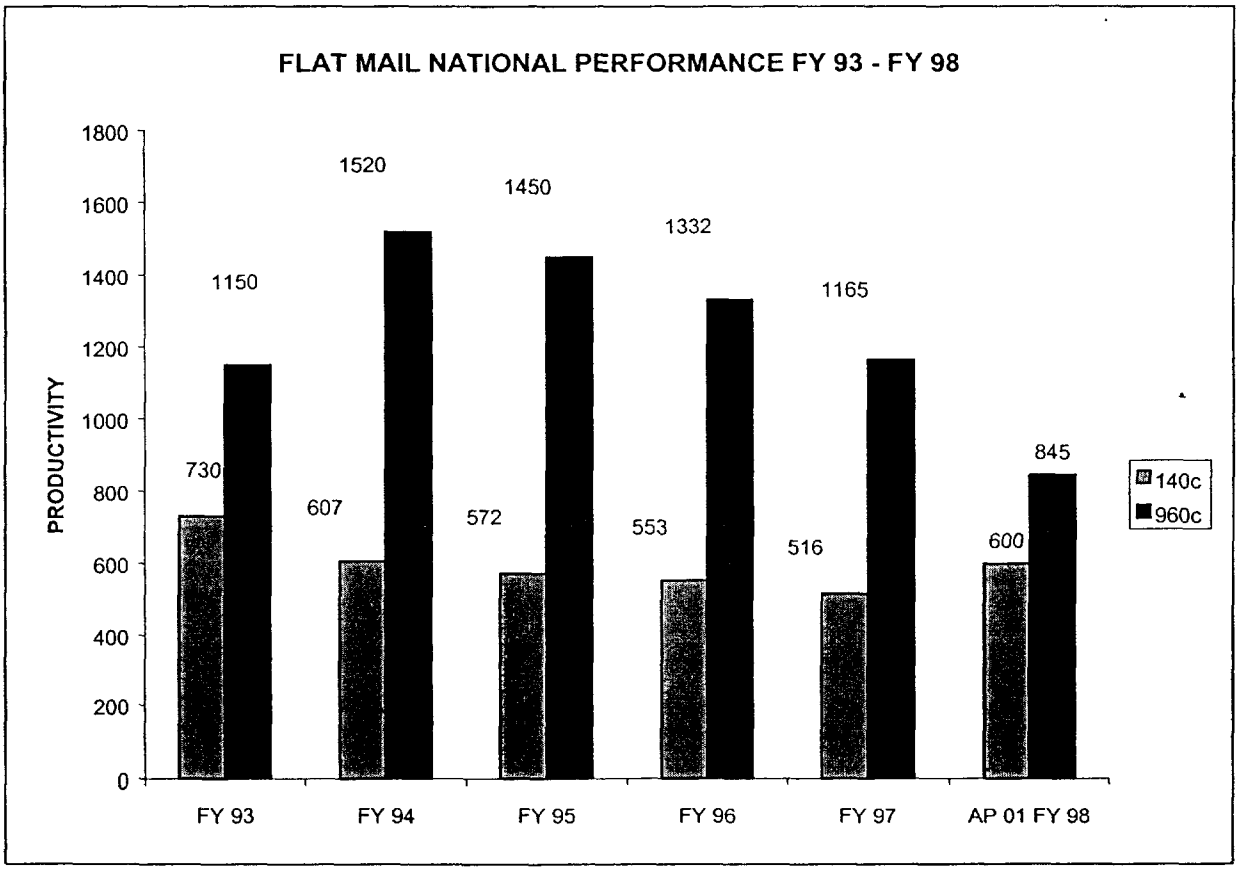
To initiate this process, Headquarters Processing Operations formed a group composed of In-Plant Support personnel from several Area offices and Processing and Distribution Centers (P&DCs). The group developed a list of all the processes, systems, and elements that have a significant effect on how we

process, sort, and distribute flat-size mail. We then conducted several P&DC site visits to observe, explore, and analyze the processes, systems, and other elements affecting flat processing operations.

Using our career experiences, observations, interviews, and research, we developed this guide to share with all managers and supervisors associated with the distribution of flats. The major objective of this guide is to provide and recommend short-term and long-term strategies, methods, procedures, and tools that, if implemented, will enable all mail processing facilities to meet and exceed productivity goals in all flats distribution operations.

Each of the processes, systems, and methods addressed in this guide is critical to a successful flats distribution operation. We believe that implementing the ideas, strategies, tools, and methods outlined in this guide will eventually result in a significant improvement in the overall performance of flats distribution.

Exhibit 1: Flat Mail National Performance, FY 93 – FY 98



2 Equipment

2-1 FSM 881

The FSM 881 is a mechanized flat sorter with four feed stations (two on each end of the machine). It sorts to 100-bin separations and has barcode capability. In FY 99, it was equipped with a Flat Mail Optical Character Reader (FMOCR), which was installed on each side of the module following each set of input stations. The FMOCR does not apply a barcode; it has read and sort capability only. However, it can read a 5-digit, 9-digit, or 11-digit barcode placed in virtually any location on the face of the flat mailpiece and orientated parallel to any edge.

Because of the difficulty in effectively maintaining separate mailstreams for barcoded and non-barcoded mail, barcoded mail is often keyed or worked manually, which negates productivity savings potential. The FMOCR significantly enhances the barcode flat mail savings by providing the capability to process barcode and non-barcode flats on the same sort program.

The modified FSM 881 has the capability to receive keyhits manually, to process the mail without the intervention of a keyer by automatic address recognition and sorting, or to process the mail by reading the barcode. The FSM 881 has a maximum sort rate of approximately 14,000 pieces per machine hour when using a 100-bin sort program and approximately 20,600 when using two 50-bin sort programs. The design of the FSM 881 allows flexibility in processing up to four individual sort plans simultaneously.

2-2 FSM 1000

The FSM 1000 is designed to sort mail that was previously considered non-machineable and worked in a manual case. The FSM 1000 can sort magazines that are polywrapped and flimsy flats that are not rigid enough to stand up on their own. (See Appendix F for information on polywrap films.) It is also capable of sorting a wider range of different size mail than that processed on the FSM 881.

The FSM 1000 can process approximately 10,000 pieces per hour with four keyers. The recommended crew size is six — four keyers and two sweeper/loaders. The productivity rate is approximately 50% higher than manual operations but somewhat lower than the FSM 881. It has four induction stations in a row, aligned on the right side of the machine. It sorts to 101 bins. Its high belt transport speed and a lower induction rate eliminates the problem of limited productivity at the fourth induction station.

In FY 99 every FSM 1000 was retrofitted with a barcode reader that allows for automated processing. It works like the FSM 881 barcode reader. It ignores all alphanumeric printing and reads only POSTNET barcodes. The only difference is that you are able to utilize only three consoles when the machine is in the barcode mode, but you have the use of all bins (there is no loss of bin usage as

with the FSM 881). You retain the use of the fourth induction station for manual keying.

Even though the FSM 1000 has the unique capability of sorting "machineable" as well as "non-machineable" mail volumes, its primary use is to process non-machineable mail.

2-3 Mailpiece Specification

Exhibit 2-3a shows the FSM 1000 mailpiece specifications used as part of the machine's acceptance criteria. For comparison, **Exhibit 2-3b** shows the mailpiece specifications for the FSM 881. Note that these specifications are for machine acceptance only and may not accurately describe all mail sizes that could be successfully sorted by the FSM 1000.

Exhibit 2-3a: FSM 1000 Mailpiece Specifications

	Minimum	Maximum
Height (in.)	3.94	12.00
Length (in.)	3.94	15.75
Thickness (in.)	0.007	1.25

Exhibit 2-3b: FSM 881 Mailpiece Specifications

	Minimum	Maximum
Height (in.)	6.00	12.00
Length (in.)	6.00	15.00
Thickness (in.)	0.007	0.75

3 Sort Program Generation

3-1 Sort Program System (SPS)

The Sort Program System (SPS) is a centralized resource for the development and maintenance of sort programs for both mechanized and automated mail processing machines. SPS is a part of the National Directory Support System (NDSS) software. The NDSS database holds all street and ZIP Code information for the entire country. In addition, each NDSS system holds Delivery Point information for local sectional center facilities (SCFs). This database is used to develop Outgoing Primary (OGP), Outgoing Secondary (OGS), Managed Mail Program (MMP), Sectional Center Facility (SCF), Incoming Primary (INP), and Incoming Secondary (INS) sort programs.

The database gets updated weekly via a "refresh tape" that is sent to facilities by Express Mail. This refresh tape contains changes to the Address Management System (AMS) database. The delivery unit is responsible for submitting to AMS any changes to routes such as new addresses, new streets, changes to line of travel, or deleted addresses. AMS is responsible for making any local changes and submitting them to San Mateo for inclusion in NDSS. San Mateo receives changes for NDSS from all over the country. The weekly refresh tape also includes Updated City/State labeling and service standards data.

3-2 Sort Program Development

3-2.1 General

Sort program development is a function of In-Plant Support. It is vitally important that all persons responsible for making and implementing any changes in sort programs follow the proper procedures for notifying all necessary personnel. It is highly recommended that a committee work together to coordinate the implementation of sort program and/or scheme changes. Customer service must be included when working with secondary distribution.

3-2.2 Sort Program Methodology

Consider the following factors when developing sort programs:

a. Mailflow.
b. Density analysis.
c. Sort program residues and downflows.
d. National labeling lists.
e. Logistics.
f. Transportation.
g. Service impact (EXFC).
h. Layout by density versus dispatch.
i. Rehandling implications.

3-2.3 Sort Program Development

Use Sort Program Development to achieve processing savings from your machine:

a. Utilize all available bins efficiently.
b. Keep re-handling to a minimum.
c. Minimize amount of high-volume mail going around the end of the machine on an FSM 881.
d. Use the high-density option in SPS.
e. For Incoming Secondary programs, combine zones, whenever possible, to maximize bin utilization. Coordinate separations at the opening and prep units to match sort program combinations.
f. To the extent possible, make bin assignments compatible for different sort programs. This is particularly important when building OGP, OGS, and MMP sort programs. If you have a 5-digit sort that is held out on both sort programs, the same bin should be used for both to minimize sweep time and missents.
g. Mirror sort programs. When FSM 881s are side by side, assign bins to allow both machines to share and utilize the same sweep and dispatch equipment set up between the machines. This will reduce the time needed to sweep and dispatch and will also conserve mail transport equipment (MTE).

For additional information on Sort Program Development, see *SPS - Course #50284–00.*

3-2.4 FMOCR Processing

Under normal FMOCR processing, the OCR sortation result cannot be provided until the flat reaches the seventh bin. Therefore, you cannot assign any mail to the first six bins on both sides. To work around this limitation, use the following method:

- Assign two sort plans, one on each side, with each sort plan utilizing the first six bins on the opposite side. Assign low-density holdouts to these bins. Make every effort to minimize the volume of mail going around the turn to minimize jams and other mechanical failures. Use only OCR sort plans, and always have the priority sorting mode set to BCR/OCR. Use bins 7 and 57 for non-reads.

We recommend that you do not use BCR sort plans at this time on the FSM 881.

Exception: The only time we would change the mode to OCR/BCR is when we identify a very large mailing of incorrect mailer-applied barcodes. In such a case, to avoid missents, we would want the FMOCR to give priority to the address rather than to the barcode. Be sure to immediately notify the mailer responsible for these incorrectly applied barcodes so that the problem can be avoided on future mailings.

3-2.5 Future SPS Releases

3-2.5.1 Release V6.0

a. Update of CIN table.
b. Automatic CIN assignments based on bin contents.
c. Viewing of Service Standard table for source SCF.
d. Support for FSM/OCR and FSM/PCs.
e. Support for carrier piece count for FSMs.

3-2.5.2 Release V6.1

a. Support for FSM 1000 BCR.

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4 Equipment Utilization Strategies

4-1 Commitment

Make a positive commitment to maximize the utilization of flat sorting equipment to meet the collective service and budget goals for all offices served by the facility operating this equipment.

4-2 Analysis and Planning

To maximize the use of flat sorting equipment, you need to have a certain amount of preliminary analysis and planning. Incorporate the following items in the analysis and planning phase:

a. Who needs to be involved?
   (1) Mail Processing Operations.
   (2) In-Plant Support.
   (3) Logistics.
   (4) Maintenance.
   (5) Delivery Unit managers.
   (6) Labor Relations.

b. Processing Capacity
   (1) Operational windows for processing and delivery.
   (2) Dispatch and transportation schedules.
   (3) Mail volumes.
   (4) Productivity data.
   (5) Staffing requirements.

c. Tools for Decision-making
   (1) MODS and EOR data.
   (2) Delivery unit volumes and productivity.
   (3) Flat sorter production capacities and goals by mail type.
   (4) Mailflow and process charts.
   (5) SiteMeta output.
   (6) Maintenance requirements.
   (7) Density data.
   (8) Labor Relations and contractual agreement data.
   (9) Spreadsheet analysis of processing scenarios — BCR/OCR versus mechanized versus manual distribution modes, including processing costs.

d. Decisions
   (1) Sort Program configurations.
   (2) Operationally effective maintenance windows.
   (3) Employee skill levels required for various distribution modes.

(4) Which mailstreams in which processing modes can consistently be processed on flat sorter equipment with the best return-on-investment of time, equipment, and staffing.
(5) Opening unit preparations.
(6) Sweepside equipment options.

4-3 Mail Availability and Preparation

Once you have determined which mailstreams are the best candidates for flat sorter processing, you need to address the following items in regard to the capture, preparation, and staging of each mailstream.

For each mailstream to be processed, identify all opening units and upstream operations:

a. Identify upstream operation numbers.
b. Ascertain the mail arrival times in upstream operations.
c. Determine the physical location of the upstream operation.

For each mailstream, determine the following:

a. The degree of preparation required at the upstream operation. (See **Exhibit 4-3.**)
b. Containerization requirements.
c. Labeling requirements. (Note: Prepare label sets for each sort program one week in advance. Each day generate two full sets of labels for each sort program. Store one full set for the same time and day next week. This saves time printing and generating labels whenever loading new sort programs.)
a. Mail readiness for FSM processing.

The following questions also have to be answered:

a. How are upstream operations to be prioritized in coordination with flat sorter processing operations?
b. How will mail be weighed and delivered to the flat sorter operation? If mail must be captured in an outside facility or delivery unit, what are the special logistic considerations?
c. What are the staging areas?
d. When the opening unit involves mechanized processing on a small parcel and bundle sorter (SPBS), what sort program(s) must be developed? (They are dependent on FSM requirements. Also, you must optimize bins for 3- and 5-digit barcode bundles and you must allocate separate bins for each zone and SCF.)
e. How will the volumes for flat sorter secondary distributions be captured on FSM primary programs? Where will they be staged, and how will they be identified?
f. If volumes exceed the capacity of flat sorter distribution, at what point will this be identified? What are the contingencies for getting this mail to the correct processing operation? What volumes will be sent to manual operations?
g. Which communication links must be established between upstream and downstream operations?

Exhibit 4-3: Flat Preparation Requirements for Opening Units

Requirements	010	020	SPBS	BMEU	Other Destinating	Collection At Origin
881, 1000 Separation	X	X	X	X	X	X
OCR Readable, Non-Readable Separation	X				X	
Metered, Non-Metered	X					X
FSM 1000 Barcode			X	X		
Flat Trays, Library Carts	X	X	X	X	X	X
FSM Staging Equipment	X	X	X	X	X	
Standard, Periodical Separation			X		X	
Finalize by 2100	X	X				
TMS Integration, If Available	X	X	Optional (if capacity allows)	X	X	

4-4 Maximizing Automation

When coordinating and preparing mail for FSM utilization, give highest priority to isolating, capturing, and maximizing BCR/OCR candidate mail. To best capture this mail base, review and apply the flat preparation requirements established in Exhibit 4-3, and incorporate these requirements in your current SOPs.

This will allow FSM operations to remain in an automation mode for as long as possible. Before changing over to a mechanized mode of operation, management must be absolutely certain that all automation candidate mail has been captured and processed through an automation mode of operation (BCR/OCR) and the proper automation sort program. Remaining in an automation mode will increase the volume of flat mail we can process within the constraints of our operating windows. This is critical to obtain maximum returns when processing flat mail.

A primary concern when selecting and building sort programs is to maximize the number of bins used for sorting purposes and maximizing the finalization of your available mailbase for each operation. For instance, if particular sort programs have significant barcode volumes, you may be justified in separating barcode flats from non-barcode OCR flats. This would allow you the option of processing barcode flats on a BCR sort program rather than a BCR/OCR sort program. (Currently, the FSM 881 is not able to efficiently process BCR sort plans. However, pure barcoded mailstreams can be processed on FSM 1000 BCR sort plans.)

With the ability to automate all OCR-readable mail that meets the physical requirements for the FSM 881, our strategy must be to maximize the BCR/OCR mode of operation during the operating window for processing outgoing flats. Whenever possible, process OCR outgoing rejects on a dedicated FSM 1000

mechanized operation. And whenever possible, avoid using an FSM 881 in any operation other than automation.

The best processing environment has the following strategy:

a. Maximize automation on the FSM 881 for all FSM 881 operations.
b. Minimize if not eliminate mechanization on the FSM 881.
c. Flow all automation rejects to a dedicated FSM 1000 or dedicated FSM 881, or process them in a decentralized environment.

Whenever feasible, Incoming Secondary (INS) rejects off the FSM 881 should downflow to the delivery units for manual distribution. In some instances, decentralizing will require careful planning and coordination between Mail Processing and Customer Service before it can be effectively implemented.

4-5 Processing Mail

4-5.1 General

Once the mail has been captured and prepared for flat sorter distribution, you must develop strategies to make optimum use of machine processing windows. The following elements of flats processing need to be addressed.

4-5.2 Scheduling Personnel

a. Schedule a sufficient number of operators with the necessary skills at the times when the mail is available.
b. Prepare staff scheduling in advance.
c. In tight operating windows or where windows are at a premium due to equipment shortages, schedule relief operators to maximize all possible processing windows.
d. Provide adequate supervisory staffing for the operations to be covered.

4-5.3 Operational Discipline

Employee and supervisory expectations are listed below.

a. Employee expectations:
   (1) "Set-up" time is minimized at the beginning of a shift (before keyers are expected to be seated and keying).
   (2) Rotations are performed efficiently.
   (3) Sweeping techniques are performed properly.
   (4) Jams are cleared and processing is resumed in an efficient manner.
   (5) Proper keying procedures (including posture and use of adjustable chairs) are followed properly.
   (6) Procedures regarding keying accuracy are followed properly.
   (7) Required dispatches are performed efficiently, and the operation is pulled down in an efficient and timely manner.
   (8) Lunch and break procedures are performed efficiently.
   (9) Clock ring procedures are performed efficiently.
   (10) Procedures regarding personal items allowed/not allowed in the work area are followed properly.
   (11) Procedures regarding inspection item issues (such as reading magazines and newspapers) are followed properly.

b. Supervisory expectations:
   (1) Employees are meeting the expectations that have been set for them and are receiving feedback on their performance, both positive and negative. (VOE Goal)
   (2) Upstream operations are meeting their commitments to the flat sorter operation. (Voice of the Customer)
   (3) Flat sorter operations are set up with equipment and mail, and ledges are loaded at the beginning of a shift.
   (4) Mailstreams are segregated by mail class and categories.
   (5) Mail is processed in proper sequence.
   (6) Processing priorities are observed. If mail cannot be processed on the flat sorter operation in time to make service commitments, contingencies are invoked.
   (7) The work area is maintained in a safe and orderly condition.
   (8) Needed equipment is on hand.
   (9) Machines are properly maintained.
   (10) Dispatches are made on time. The flat sorter is meeting commitments to downflow operations.

Note: To maximize flats performance, we must instill the same level of urgency in FSM operations that exist today in all letter mail automation operations. *All* FSM consoles must be continuously utilized when not in a maintenance window.

4-5.4 Performance Tracking

To obtain the maximum performance from equipment, it is necessary to track and monitor performance and to evaluate "the numbers" on a daily basis.

Operations and maintenance supervisors need to be able to interpret machine reports and recognize the elements that contribute to machine performance, such as throughput, runtime, jam rate, machine accept rate, gross accept rate, etc.

Support units need to use tools such as MODS, EOR, FAST, the CDB, and EIS to track, report, and provide feedback to operations and upper-level managers on the flat processing performance trends.

To reinforce good performance and correct poor performance, it is necessary to provide feedback, both positive and negative, at all operational levels.

4-5.5 Machine Maintenance

Machine utilization efficiency requires that equipment be kept in optimum operating condition. Therefore, scheduled maintenance windows must be observed, and preventative and predictive maintenance strategies must be standard procedures.

Operation supervisors must learn to recognize symptoms of poor machine performance and report these promptly to maintenance personnel.

Maintenance and Operations supervisors should cultivate a cooperative working relationship. The technical expertise of maintenance personnel should be used as a resource to attain maximum effectiveness from the equipment.

4-5.6 Sort Program Efficiency

To maintain optimum performance, sort programs must be re-evaluated at least every **6 months.** For primary sort programs, this requires periodic density evaluations and attention to service and dispatch changes. Communication is needed between Operations and In-Plant Support as well as between delivery units and In-Plant Support to keep sort programs at their most efficient levels.

4-5.7 Dispatching the Mail

It is important to maintain dispatch discipline from flat sorter operations. You should have in place procedures that allow dispatching to be done in a timely and efficient manner. This might include the use of visual aids and sort plan layouts. Scheduling and posting the operations, operating windows, critical entry times (CETs) and clearance times (CTs), and dispatches for each operation on each FSM would help ensure that all FSM equipment is utilized smartly and properly.

Labels and containers should be available in the area so that time is not wasted obtaining equipment.

Dispatch of mail is an integral part of the flat sorter operation. Minimize allied activities related to dispatching.

4-6 Continuous Improvement of the Process

To maintain maximum machine utilization, performance feedback must be reviewed and incorporated into an ongoing analysis of the operation. This means that the analysis and planning phase discussed previously must be reperformed on a periodic basis. Performance must be continually evaluated to achieve the best return on investment of resource. All operational levels need to constantly commit themselves to the goal of maximizing equipment utilization.

5 Mailflows

5-1 Flat Mailflows

5-1.1 New Technology and Its Impacts

Mailflows for flat mail products changed significantly as we incorporated advanced technology into the FSM 881 and the FSM 1000 in FY 1998 and early FY 1999. The following technology advancements created mailflow changes in flat processing operations:

- OCR technology added to the FSM 881.
- New barcode readers added to the FSM 1000.

With the deployment of this technology, flat mailflows now more closely reflect their letter mail counterparts and offer similar opportunities for cost-saving in processing and distribution. In fact, because the FSM 1000 can handle what was once "non-machineable" flat volumes, the flat mailflow scenario actually goes beyond that of letters and gives us the ability to make even more improvements in manual flat distribution operations.

Not only has the method for distribution changed as the flat sorter machinery was upgraded, but the manual distribution locations may change as well. For example, as equipment upgrades make more delivery ZIP Codes candidates for carrier route distribution, and as we are able to process a larger portion of the flat mailbase for each ZIP Code on the FSM equipment, then maintaining scheme-knowledgeable employees at the plant probably will no longer make sense. The small percentage of manual flats remaining may best be worked at the delivery unit, where scheme knowledge will continue to be required for parcel post, missort, residue, and accountable distribution.

The following sections look more closely at the mailflow changes created by each of the major FSM enhancements noted above.

5-1.1.1 FSM 881 OCR Technology

The addition of an OCR to the FSM 881 adds tremendous capacity to that machine. Barcoded and non-barcoded flats can be mixed and run together in the OCR mode. We no longer need to segregate these flat mail types or shut down the entire FSM 881 and pull an end-of-run report to switch consoles from barcoded to non-barcoded (keying) mode. This also eliminates the all-too-common practice of keying barcoded flats to avoid shutting down the machine to switch consoles or to balance volumes between keyer and BCR consoles.

However, one drawback is that the OCR mode eliminates the first six bins on each side, much like the current FSM 881 BCR mode that subtracts three bins on each side. This may affect depth of distribution, create minor rehandling operations, or force additional end-turn wrap volumes.

5-1.1.2 New Barcode Readers for the FSM 1000

This modification brings automated processing opportunities to the FSM 1000 and allows it to supplement the FSM 881, especially for Incoming Secondary (INS) barcode distribution, which permits additional ZIP Codes to receive automated processing. Because the FSM 1000 does not have OCR capability, it is necessary to segregate barcoded and non-barcoded flats for ZIP Codes identified for automated distribution on the FSM 1000.

5-1.2 Flat Mail Preparation Operations

Platform, SPBS, and destinating flat mail preparation opening units play a key role in the success of our flats processing strategies. It is important that the employees in these units be properly trained to recognize the flat mail characteristics and label designators needed to make a logical mailflow decision.

Of course, First-Class Mail and Standard Mail (A) flat volumes should never be commingled at opening units/SPBS for service reasons. Standard Mail (A) color-coding must also be maintained throughout the opening unit and processing operations. Therefore, these mail types required separate opening unit breakdowns.

The basic breakdowns for First-Class Mail and Standard Mail (A) flats that must be made at the platform, SPBS, and other opening unit separations are as follows (keep in mind that more than one separation may be needed due to ADC, SCF, and ZIP Code splits):

a. FSM 881 OCR: 3-Digit.
b. FSM 881 BCR: 3-Digit.
c. FSM 881 OCR: 5-Digit (in-house ZIP Codes).
d. FSM 881 BCR: 5-Digit (in-house ZIP Codes).
e. 5-Digit for ZIP Codes not carrier routed by the plant on automated or mechanized equipment.
f. All carrier-routed bundles for dispatch.
g. FSM 1000 (size/shape-based only).
h. FSM 1000 BCR: 3-Digit.
i. FSM 1000 BCR: 5-Digit.

Because FSM 881s have OCR capability, the split between BCR and OCR 3-digit and 5-digit (in-house) ZIP Code bundles becomes optional, since both can be run simultaneously in the OCR mode with no downstream influence on FSM 881 OCR operations to the carrier route level. In fact, combining BCR and OCR mail at the opening unit will save handlings and SPBS bins. However, FSM 881 BCR segregation is required for ZIP Codes designated for automated distribution on the FSM 1000 BCR mode.

The breakdowns noted above will help maximize the up-the-ladder flat movement. Flats should not be moved down-the-ladder from automation to mechanization or from mechanization to manual distribution unless the higher-level distribution operation has determined that it cannot process those flats based on physical characteristics or maximized machine capacity.

Note that many types of polywrap films are now considered machinable. See Appendix F for a list of polywrap films that the Postal Service has approved for use with barcoded flats.

5-1.3 Mailflow Changes

Once we have determined the basic flat breakdowns that are required in our flat preparation and opening units operations (using the data discussed above), we need to understand what criteria to use when determining which products go to each breakdown. In some cases, label content will be enough to make the decision; at other times, closer inspection of the contents of flat containers will be required. The following sections discuss the new mailflow decision criteria between and within processing plants that we will face as we add new technology to flat processing equipment.

5-1.3.1 Interfacility Flat Mailflows

The deployment of on-demand label printer capability with the upgraded FSM 881 computers should make it easier for the origin site to identify flat tub contents by sort program specific labels.

The primary responsibility for making the right processing decision will ultimately fall to the destination facility. All facilities will therefore need to clearly understand the options available to them as a destinating facility. The interfacility prioritized processing options that should be used by platform/opening unit personnel at the destinating facility, based upon its flat processing equipment mix at any given time, is shown in the processing matrix in **Exhibit 5-1.3.1**.

Each facility should review these options and discuss the theory behind them with platform and flat opening unit personnel to ensure that the destinating flat products are directed to the most productive and cost-effective processing operations.

When processing flats on FSM 1000 outgoing sort programs, it is imperative that we not mix FSM 881 machinable mail with FSM 1000 mail (unless the FSM 881 mail was rejected by the FMOCR and flows to the FSM 1000 for rehandling through a mechanized sort program).

Exhibit 5-1.3.1: Processing Matrix for Destinating Mailflow / Processing Options

	Destinating Facility Processing Priority					
Orig Office Flat Tub CIN Code	**FSM 881 Key MPC: 2**	**FSM 881 BC MPC: 1**	**FSM 881 BCR/OCR MPC: 2**	**FSM 1000 KEY MPC: 2, 4**	**FSM 1000 BC MPC: 1**	**Manual MPC: 4**
FCM FLATS NON-BC CINs 278–284 MPC: 2	—	—	1	2	—	3
FCM FLTS BC CINs 272–277 MPC:1	—	1	2	—	3	—
FCM FLTS OCR-NR CINs 223–228 MPC: 2,4	2	—	—	1*	—	3
FSM 1000 FCM FLTS NON-BC CINs 278–284 MPC: 4	—	—	—	1	—	2
FSM 1000 FCM FLTS BC CINs 272–277 MPC:1	—	—	—	—	1	2

* We recommend using an FSM 881 manual sort plan for FMOCR non-reads from upstream operation or facility.

5-1.3.2 Intrafacility Flat Mailflows

Intrafacility flat mailflows can be controlled if the facility establishes a consistent labeling and placarding methodology that is observed by all tours. The decision-making activity relative to mailflows then becomes less subjective, and processing strategies can then be made based primarily on the flat processing equipment mix available at the time and on the daily mail condition of the plant.

5-1.3.3 Managing FMOCR Non-Reads

The introduction of the FMOCR presents an additional challenge to the management of flat processing operations. Ideally, all FSM 881 machineable flats should be processed on the FMOCR. However, depending on the mailbase being processed, the reality is that only 70% to 80% of the non-barcoded flats inducted will be read by the FMOCR, which means that 20% to 30% of the flats inducted will not be read by the FMOCR. Therefore, occasionally there will not be enough processing time or equipment available to key the non-reads coming from the FMOCR on a multiposition flat sorting machine (MPFSM) keying sort program and still meet service commitments. At times, the high non-read rate of a particular mailbase may make it less productive to process it through the FMOCR and then key the rejects than it would to key all the flats the first time through. However, the much higher throughput rate for FMOCR induction versus keyed induction should eliminate the latter consideration in almost all cases.

The ideal scenario for each facility is to maximize automated flat processing and reduce keying operations to a minimum. The bottom line, however, is that each facility will need to evaluate FMOCR versus MPFSM processing for each processing operation, taking into consideration site-specific productivities, machine availability, and mailbase readability. When processing Incoming Secondary ZIP Codes, the evaluation will most likely need to be ZIP Code-specific. When determining whether to process all mail for a ZIP Code through the FMOCR, you must also consider how and where the non-reads will be processed. Each facility must determine the point at which processing FMOCR non-reads through decentralization is more cost- or service-effective than maintaining scheme-qualified keyers and/or manual clerks in the plant.

One additional consideration for Incoming Secondary distribution on the FMOCR is the need to identify and segregate flats that were successfully processed on the primary FMOCR from those that were not, so that processing time is not wasted re-running the rejected pieces. Remember, these flats are not identifiable by spotting a POSTNET barcode on them, since the FMOCR does not apply a barcode. Proper labeling of flat trays ensures that mail is flowed to the correct downstream operation.

5-1.3.4 Labeling

For originating First-Class FMOCR readable flats, use the following Content Identifier Numbers (CINs):

- CIN 278: FCM FLTS 5D NON BC.
- CIN 279: FCM FLTS 3D NON BC.
- CIN 280: FCM FLTS ADC NON BC.
- CIN 283: FCM FLTS CITY NON BC.
- CIN 284: FCM FLTS SCF NON BC.

For destinating sites, these label nomenclatures indicate that the mail in the trays was processed and sorted by the FMOCR at the origin office.

See Appendix H for a list of CINs.

5-2 Summary

Each facility will need time and experience to understand the various conditions and decisions that will determine proper mailflows. During this learning phase, the facility can identify the specific strategies that work best for its environment, considering its unique mailbase, equipment inventory, and processing windows. However, the sooner this learning phase starts, the sooner a facility will be able to capture the service and cost benefits of the new flats processing technology.

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6 Decentralization

6-1 Decentralized Mailflows

A decentralized strategy is one of the primary options to consider for processing flat mail at a reduced cost and increasing volumes processed through automation. Of course, you should carefully evaluate and design the strategy for implementation.

In coordination with the Customer Service group within the Performance Cluster, analyze the feasibility of decentralizing most (if not all) 146, 446, and 175 operations. Remember, the only candidate mail for decentralization is Incoming Secondary flat mail that could not be recognized and sorted by the FMOCR or FMBCR. Every large zone (10 or more routes) should be processed through the FMOCR at least once before any machinable working flats are dispatched to the delivery unit or city station for manual distribution (assuming the delivery office has the capacity to handle this volume).

Historically, performance data has consistently proven that manual distribution productivity outside the plant is significantly higher than manual distribution within the plant. In some cases, it is even higher than the productivity of the mechanized operations within the plant.

Adding OCRs to the FSM operation will greatly reduce Incoming Secondary volumes requiring mechanized distribution (146 and 446). These reduced volumes will make it more difficult to justify supporting Incoming Secondary keying operations. Frequently, turning over mechanized sort programs greatly reduces productivity for each of the zones processed.

Decentralizing Incoming Secondary non-automated volumes or automation rejects to the delivery and station units will expand operating windows to process greater volumes of barcoded and OCR-readable Incoming Secondary flats through automation. On average, productivity is approximately 50% higher in a flats automation operation than it is in a mechanized operation. Remember, we offer our customers a reduced mailing rate when they apply barcodes to their flat mail. Yet we continue to handle significant barcoded volumes in our more expensive processing modes.

Determining the source of additional volumes for automation processing requires that the In-Plant Support staff conduct some research. One method would be to survey the barcoded flat volume in each of the Incoming Secondary zones with 10 or more routes. Such zones not currently processed on an automated FSM operation and having the highest volumes of barcoded flats should represent the additional sources of mail processed through automation.

6-2 Benefits of Decentralizing Incoming Secondary Volumes

The following benefits result from decentralizing Incoming Secondary volumes (146, 446, and 175):

a. Opens up windows to process more barcoded mail in the plants.
b. Provides earlier dispatches to customer service units.
c. Eliminates costly errors and re-handling.
d. Reduces the cost of scheme training for plant employees.
e. Reduces the number of scheme-knowledge Level 06 clerks.
f. Frees up valuable floor space.
g. Increases percentage of flat mail processed through automation.
h. Allows more efficient utilization of FSMs.
i. Impacts EXFC scores positively.

7 Managing FSM Operations

7-1 Operating Plan

A facility uses an operating plan to efficiently process and move mail from one operation to the next. It takes into consideration the equipment being utilized and its processing capabilities. In-Plant Support or Distribution Network Operations is responsible for maintaining the Operating Plan. Every Manager, Distribution Operations (MDO), and Supervisor, Distribution Operations (SDO), should be familiar with their facility's operating plan.

An operating plan includes the following items for each operation:

a. **Current Mail Arrival Profile** is determined by the time the mail is received. It is important because it should be used to determine operational start-ups and staffing.
b. **Average Daily Volumes** are determined by a collection of data over a minimum of a 30-day period. This is important to establish staffing, processing time, dispatch time, and transportation.
c. **Planned Start Time** is the time an operation should normally begin, based on inventory and mail arrival profile data.
d. **Critical Entry Time (CET)** is the latest time committed mail can be received in an operation and still be processed prior to clearance time. CET has an impact on staffing, sort programs, EXFC, and mailflows.
   (1) Review dock/incoming operations.
   (2) Review opening units.
   (3) Review CET for downstream operations.
e. **Clearance Time (CT)** is the latest time mail can clear an operation for proper dispatch or delivery.
   (1) Review existing dispatch schedules.
   (2) Review CT for downstream/subsequent operations.

7-2 Standard Operating Procedure (SOP)

An SOP is an organized and detailed account of processing activities performed within an operation. (See Appendix C for an SOP model.) SOP development and updating should be a joint effort between Operations and In-Plant Support.

An SOP should have a standardized format and contain information that is tour-specific.

Each tour should know the following:

a. Which mail types it is responsible for processing and/or finalizing.
b. Where its mail comes from.
c. The expected arrival time of the mail.
d. The average daily volume.
e. Planned start of operation.
f. Available sort programs.

An SOP should define the handling of rejected, culled, and residual mail:

a. How often is the mail picked up or dispatched?
b. Where is it staged?
c. Who is responsible for transporting it to another operation?
d. Does the mail get weighed?
e. What are the CET and CT of the downstream operations?
f. Are sufficient placards provided and located appropriately?
g. Is all mail transport equipment (MTE) properly labeled?

An SOP should contain a contingency plan for processing:

a. When a machine goes down, how long do you wait before reassigning the crew? If downtime is significant, what are the crew's alternative activities (e.g., mail prep, mail staging, etc.)?
b. What are the processing options for flat mail?

An SOP should contain operational "set-up" diagrams:

a. What equipment is needed?
b. Where should it be placed?
c. What time does it need to be set up?
d. Who is responsible for setting it up?

The supervisor should review the SOP with every employee in the flats operation for clarification and understanding. This will give the employee the information needed to carry out his or her duties and responsibilities.

7-3 Manager, Distribution Operations (MDO) Responsibilities

The MDO has the following responsibilities:

a. Coordinate the entire flats operation.
b. Analyze vacancies to determine how much of the workload can be accomplished by employees other than FSM Operators — i.e., by casuals and/or Level 04 Mail Processors.
c. Post vacancies properly.
d. Serve as liaison between the flats and all other operations.
e. Ensure that all necessary flats separations are performed in opening units and dock/incoming operations.
f. Review daily MODS/EOR reports.
g. Analyze review MODS/EOR information with the supervisors.
h. Communicate goals and expectations to the supervisor. Conduct periodic reviews.
i. Acknowledge good supervisory performance.
j. Identify supervisor deficiencies and develop individual improvement plan.
k. Review and update SOPs.
l. Ensure adequate and efficient staffing. If facility staffing quotas have been met, explore other mail processing operations for additional resources. Focus primarily on manual operations where hours would be better served processing mail in mechanized or automated modes.

7-4 Supervisor, Distribution Operations (SDO) Responsibilities

7-4.1 Staffing

Daily staffing needs of the FSM operation should be predicated on the mail volume, machine capability, machine availability, and mail arrival. The goal is to minimize operating cost and utilize mail processors and casuals to perform BCR and OCR functions. The use of casuals allows for flexibility in staffing.

Ideally, the most cost-effective strategy is to maximize the use of Level 04 mail processors and casuals in FSM automation operations, while limiting the use of Level 05 clerks solely for mechanized operations. Increasing automation processing should reduce or eliminate the need for scheme-qualified FSM clerks, but this requires decentralizing non-automated processing of Incoming Secondaries (146 and 446 operations). Several Areas have already effectively implemented this highly successful strategy to expand operating windows for automation operations and reduce labor costs.

7-4.2 Badge Handling

Badge handling is outlined in the Handbook F-22, *PSDS Time and Attendance.* Every supervisor should review this handbook and pay particular attention to Section 214.

a. Employee badges will not be made available for clocking purposes more than .08 hours (5 minutes) before the employees' scheduled starting time.
b. Employees must clock in to the correct operation number at their scheduled reporting times and must be ready and able to begin work.
c. Employees must store belongings and take care of any personal business prior to clocking in.
d. All employees who have not clocked in are withdrawn from the rack .10 hours (6 minutes) after the their scheduled starting time.
e. Employees must clock in and out for lunch at authorized times. They are not to exceed or reduce their scheduled lunch period.
f. Supervisors must control badges during tour operations and are responsible for making all moves to other operations.
g. Employees must clock out at their scheduled end of tour. They must leave their badges in the designated area for supervisor retrieval.

7-4.3 Job Assignments

Job assignments can be time-consuming if efficient methods are not utilized to seat the employees immediately after they have clocked in. This is especially true in larger facilities. If not done properly, job assignments can cause confusion and chaos in the operation, resulting in a loss of productivity. Supervisors should perform the following tasks to ensure that job assignments are made efficiently:

a. Ensure that all employees are fully trained in their assigned operations.
b. Determine in advance the type of mail to be processed and have sufficient quantities available at start-up. Prioritize and control the processing order of mail bases available.
c. Coordinate mailflow activities with other work units.
d. Ensure a safe working environment.

e. Require sweepers to verify prior to dispatch that the label on a flat tray matches the mail inside.
f. Monitor equipment and crew performance during the operation.
g. Analyze mail from reject and no-read bins.
h. Contact maintenance when equipment is not operating properly. (See the SOP for contingency in case of machine downtime.)
i. Make frequent reference to pre-tour/post-tour checklist. (See Appendix A.)
j. Update SOPs. (Use the national model.)
k. Review SOPs with employees.
l. Communicate expectations to employees individually.
m. Set and communicate performance goals and objectives with each crew.
n. Take ownership of the entire flats operation.
o. Conduct performance evaluations.
p. Initiate Individual Improvement Plans, if necessary.
q. Schedule required and refresher training.
r. Lead by example.
s. Reward exceptional performance.
t. Ensure efficient sort program changeover:
   (1) Has all mail for current run been cleared?
   (2) Is sufficient volume for next run on hand?
   (3) Are ledges loaded for next run?
   (4) Has the machine been properly swept and mail dispatched?
   (5) Are labels printed and available for the next run?
   (6) Is equipment available?
   (7) Is the new sort program loaded?

7-5 Safety

All employees are responsible for performing their duties in a safe manner. A job safety analysis (JSA) should be available and reviewed with all employees.

Good housekeeping is a part of safety. Refrain from placing rubberbands, strapping, string, plastic wrap, etc. on the floor. Receptacles should be provided to dispose of these materials properly. Mail transport equipment (MTE) should be stored in a designated area, and aisles should be kept clear.

7-6 Employee Responsibilities

7-6.1 General

All employees are required to report for duty as scheduled.

Once employees have clocked-in, they must immediately go to work.

Employees should report unsafe acts and conditions to the supervisor.

7-6.2 FSM Keyers/Feeders

FSM keyers/feeders have the following responsibilities:

a. Key at an accuracy rate of 95 percent.
b. Key for a designated time, and make timely rotations on a scheduled basis.
c. In automation mode (BCR/OCR), feed flats and make timely rotations on a scheduled basis.

Note: The employee's position at the console should allow for comfortable arm movement and a downward line of vision to the mailpiece.

7-6.3 Loaders

Loaders have the following responsibilities:

a. Face and orient mail properly. The criteria for proper orientation are different for the FSM 881 and the FSM 1000. (See Appendix G for references to training manuals and courses.)
b. Load flats so that they lie flat in approximately 6-inch stacks with the address facing the operator.
c. Place stacks next to the edge of the feeder/induction belt closest to the keyer.
d. Riffle mail to identify mail that is presorted (all for one separation or ZIP Code). Keep this mail in a separate flat tray. Remove and send this mail to a tie-out area or downstream operation.
e. Cull flats.

7-6.4 Rotations

Proper and timely rotations eliminate wasted hours and loss of productivity.

The employee who is to relieve the operator is responsible for initiating the rotation. This person should know what time to relieve the operator, should be prompt, and should make headphone adjustments prior to relieving the person. No employee should stop keying or feeding and leave the console prior to being relieved by the loader or sweeper. Once a loader or sweeper relieves the keyer/feeder, he or she must immediately sit down and feed or key. The rotation should take only a few seconds.

7-6.5 Sweeper

In a keying operation, bin verification ensures the quality of the mail being sorted and prevents missent mail from leaving the facility. Missent mail can be caused by operator error, machine malfunction, or missorting. Some separations require more verification than others. The sweeper should riffle the mail in a tray to check for obvious errors.

Sweepers have the following responsibilities:

a. Ensure that all labels on the flat trays are correct.
b. Avoid pulling bins that are less than two-thirds full, unless for dispatch purpose.
c. Pull full bins.
d. Promptly clear jams. (Follow correct jam clearing procedures as outlined in FSM user manuals.)
e. Notify supervisor if excessive jams occur.
f. Notify supervisor and/or operators of excessive bin errors.

7-7 In-Plant Support

In-Plant Support personnel have the following responsibilities:

a. Maintain accurate sort programs and update as needed.
b. Make all sort programs available to Operations personnel.
c. Communicate all sort program changes.
d. Maintain updated label files.
e. Assist Operations in maintaining and updating signage.
f. Provide data to support operational goals and performance.
g. Post goals and actual performance levels.
h. Review daily MODS reports and notify Operations of discrepancies.
i. Perform density analysis at least every 6 months.
j. Chart FSM utilization.
k. Determine automation opportunities based on current volumes and equipment utilization.

7-8 Manual Flat Operations

The MDO must ensure that the manual flat operations are provided with adequate supervision.

Only flat mail downflows to manual flat operations, and only after determining that this mailbase cannot be processed through automation or mechanization. Manual operations should be the very last resort for processing flat mail — the goal is to reduce and minimize the manual distribution of flats. Before deciding to manually sort mail, management must determine that no other upstream operation is available to handle this mail type. Machineable mail handled in this operation severely impacts our overall processing costs.

Avoiding inefficienct manual operations may require changing or shifting operating windows to effectively capture all machineable mail volumes in the FSM 881 and FSM 1000 operations. Or it might require adjusting staffing to maximize the use of all automated and/or mechanized equipment — i.e., shifting FSM operators from the FSM 881 to the FSM 1000. Flats culled and/or rejected from the FSM 881 should always flow to the FSM 1000 for processing. *Exception:* non-read rejects from an incoming secondary operation should flow to a manual distribution operation.

However, there will always be a certain percentage of flat volume that cannot be processed on automated or mechanized equipment. Primarily because of mail size and other physical characteristics, approximately 10% of the flat mail base will need to migrate to the manual distribution operation.

To process this mail as efficiently as possible, procedures should be in place to weigh and correctly color code the mail. All mail handled in this operation must be weighed or accounted for by a mailflow matrix. Productivity is derived from the pieces processed divided by the hours used in the operation. The pieces processed are determined by the amount of mail weighed into the operation and converted to a piece count. To obtain full credit and maximum productivity, it is absolutely necessary to weigh mail into the correct operation and to have employees clock in and out on the correct operation.

USPS policy also requires that weight tags and color-coded tags remain with the mail until it is finalized and dispatched from the operation. These tags should be

visibly displayed on the container, and supervisors should make visual inspections as they move throughout the operation.

7-9 Mail Transport Equipment (MTE)

MTE refers to the equipment used to store and/or dispatch the mail, such as trays, sacks, pallets, rolling stock, etc. It is imperative that each operation have the equipment needed for processing. Every supervisor should ascertain the equipment needs of his or her operation and communicate them directly to the MDO or their designee. Every operation should have specific MTE storage areas and plans for processing MTE. Each facility has an assigned Area Mail Transport Equipment Specialist (AMTES) who can assist in obtaining MTE if needed, but each facility should try to obtain MTE locally prior to contacting the AMTES. (See Appendix E for the name and telephone number of each AMTES.)

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8 Maintenance Strategies

8-1 Maintenance Windows

Machines do not operate proficiently when the required maintenance has not been performed. The following guidelines can help ensure good maintenance:

a. Establish maintenance windows and enforce them.
b. Schedule maintenance windows at low-volume and utilization times.
c. Have someone other than the person performing routes answer maintenance calls, which take away from the routes being performed.
d. Move the crews so that all machines get the daily maintenance they require.

8-2 Preventive Maintenance

Include time for cleaning and any planned corrective maintenance and/or maintenance work orders.

See Maintenance Management Orders for route requirements and checklist.

a. Daily route performance.
b. Weekly route performance.
c. Monthly route performance.
d. Quarterly route performance.

Although the daily route on the FSM 1000 does not call for waxing chutes, they should be checked daily and waxed whenever necessary. Keeping the chutes waxed increases machine efficiency.

8-3 Maintenance Assistance to Operations

Maintenance personnel should provide the following assistance to Operations:

a. Analyze jam rates.
b. Analyze location of jams. (Look for repeated areas.)
c. Analyze mechanical reject rates.
d. Analyze rejects.
e. Document problems in log.
f. Communicate problems to the incoming tour.

Maintenance personnel should communicate with the operators and supervisors — success is a joint effort.

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9 Performance Indicators

9-1 Tools for Performance Tracking

Tools for performance tracking are listed below:

a. **EOR:** End of Run.
b. **FAST:** Finalization Automation Secondary Tracking.
c. **MODS:** Management Operating Data System. (See Local MODS Coordinator for Assistance.)

9-2 Most Commonly Used MODS Reports

The most commonly used MODS reports are listed below:

a. **Mail Processing Operating Report:** This report reflects volume — first handling pieces (FHP) and total pieces handled (TPH) — and workhour data for all mail processing operations.
b. **Management Summary:** This report summarizes workhours by LDC and functional category. This report expresses volumes in thousands.
c. **MODS Trend Analysis Report:** This report lists volumes, hours, and productivity in mail processing operations that report volume for the most recent 14 accounting periods.

Other reports are available via the Corporate Data Base (CDB). Locally generated reports are also available.

9-3 Major Performance Indicators

Performance targets such as throughput, productivity, automation utilization, machine utilization, and maintenance indicators should be established and tracked locally. These targets and actual performance should be prominently displayed and routinely updated in the immediate area of the operation. Use Appendix D as a guideline for setting productivity targets for each of your FSM operations.

Throughput targets can be derived from productivity goals. For example, if the productivity goal for a particular FSM operation is 1,000 and the staffing index for that operation is 6, the throughput goal for an 8-hour tour must be at least 48,000 pieces [8 hours × (1,000 PPH × 6 staffing index) = 48,000 throughput target].

Operational productivity includes both volume (FHP and TPH) and workhour information. Use TPH volume when measuring productivity. The workhour components for valid productivity tracking include hours allocated to direct distribution and allied duties.

All allied duties associated with the normal operation of the machine must be charged against that operation. These duties include (but are not limited to)

operation set-up, culling, sweeping, equipment staging and replenishment, and dispatching.

Establish targets for Automation utilization to measure a particular plant's ability to capture and process barcoded and OCR-readable flats through the automation operation as opposed to mechanized and manual distribution operations. According to current indicators (FY 99), more than 65% of the non-carrier routed flats are barcoded by our major mailers, and more than 90% of the barcoded flats are presorted to 3- or 5-digit separations.

9-4 Definitions

The following definitions are taken from Appendix A of the EOR user's guide:

a. **Operational Runtime:** The amount of time the machine was in the Run Mode during the run — e.g., the time that the machine was physically processing mail.

b. **Operational Downtime:** The amount of time the machine was in the Down Mode during the run — e.g., the time during a flat processing run that flats are not being fed.

c. **Mechanical Downtime:** Any unscheduled maintenance that prevents the flats sorter from being utilized due to mechanical problems.

d. **Idle Time:** The amount of time the machine was in the Idle Mode during the run. This is time not accounted for by run time, downtime, or preventive maintenance time. Idle time equals all other accounted-for time subtracted from a 24-hour total.

9-5 Automation Proficiency Indicators (API)

Headquarters is in the process of rolling out a national program known as the Automation Proficiency Indicator (API). Currently, this program is being applied only to ECA processing equipment (AFCS, DBCS, MPBCS, and MLOCR).

API will bring Operations and Maintenance into joint activities to maximize the proper use of these mail processing equipment capital expenditures. The program will be rolled out to all craft, supervisory, and mid/upper level managerial personnel who have some stake in the automation program. By working together and running the equipment properly, we can improve service levels and reduce processing costs.

The API program is based on a mathematical formula that generates an Operational Efficiency Effectiveness (OEE) indicator for each piece of equipment. The majority of information used to determine the OEE for any piece of ECA equipment comes from the EOR report. The OEE formula is as follows:

OEE = Machine availability × machine throughput × quality level

Machine availability = the amount of time the machine ran ÷ the amount of time we wanted it to run

Machine throughput = actual machine throughput/hour ÷ goal throughput/hour

Quality level = not yet determined (for now, assumed a constant at .85)

Current OEE levels at our plants range from the high .30s to the mid .50s. World-class organizations using OEE as a standard measurement of performance score in the high .80s and low .90s.

You will soon be trained on API and OEE. Eventually, the program will be applied to FSM operations. However, its theory can be applied now (along with flat mail automated, mechanized, and manual distribution percentage tracking) to help improve flat operations across the board.

Use these tools to get Operations and Maintenance working together to get your flats processing operations up to speed.

For additional information, contact your plant or district API/OEE coordinator.

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10 Future Technology

10-1 The Waterbury Flat Feeder

The Waterbury flat feeder was released in January 1998 to all Northeast Area FSM 881 offices. Several other Areas will copy the Waterbury feeder plans and supply them to their P&DCs sometime in calendar year 2000. There is no formal national deployment plan or Headquarters support for this flat feeder.

The Waterbury feeder works on the FSM 881 only. It is a portable unit that weighs about 35 pounds and is installed/removed by maintenance personnel on an as-needed basis.

In a full-up barcoded flat processing operation (960 series), four flat feeders can be used with a 2- or 3-person crew to feed and sweep an entire FSM 881. If flats are prepared in an opening unit, a 2-person crew is adequate, but if flats are prepared by the ledge loader, a third person may be required.

The Waterbury flat feeder can accept the majority of barcoded flat mail types that are currently inserted by hand. A stack of flats about 18 inches to 20 inches high is placed vertically onto the feeder ledge, with the bound side as the leading edge and barcodes facing out. A moving belt then pushes all the flats toward the FSM 881.

As the flats reach the FSM 881, a second moving belt takes each flat individually via a singulator unit and drops it onto the console induction belt. When the machine recognizes that the flat has been inducted, the clutch engages and the flat is taken to the main transport belt for distribution to one of the bins. The engaged clutch then signals the flat feeder to induct another flat, and the process continues. This process occurs on all flat feeders simultaneously because the feeder induction is driven by the FSM 881's clutch drive at each console.

The Waterbury flat feeder has two keys to success:

a. Proper flat preparation prior to loading the feeder belt.
b. Operator training to keep the ledges full and the bins swept.

10-2 Next Generation Flat Processing

Within the next several years, the USPS intends to acquire and incorporate processing technology that will achieve the same level of automation to flats processing as we currently have in letter processing.

The next generation of FSMs will consist of a fully automated 200 stacker system that will handle a wide variety of flats, including heavy and slippery magazines, flimsies, newspapers, and circulars. High-speed feeders will singulate and feed flat mail at a rate up to 21,000 pieces per hour. The sorters will be equipped with BCR/OCR capability to locate and read address information and apply barcodes to OCR-readable non-barcoded flats. Image-lift capabilities will permit unreadable

addresses to be processed and coded at remote locations within the same facility.

Newly designed machines will be more compact, providing more separations to enable finer sort programs. Outgoing flats will be processed according to dispatch requirements, and local mail will be finalized to delivery point sequence — the same level of automation achieved for letters.

Full trays of flat mail will be swept by automation and handled within the plant by the tray management system (TMS), automation container transporters, and robots.

Flats will arrive at delivery units in delivery point sequence, increasing carrier productivity by reducing time spent on flat mail distribution activities.

Also envisioned at the delivery unit is a flats bundle collator or a merge machine that will collate mailer-prepared walk-sequenced bundles with postal-sorted delivery point sequence (DPS) flats into one DPS flats bundle.

In a future Integrated Processing Facility, flats will be culled from mixed collection mail at the Dual Pass Rough Cull (DPRC) System and conveyed to an automated Flats Facer Canceler (FFC). Here, the flats will be faced, canceled, stacked into trays, and entered into the TMS.

The FFC will have the address location and image-lift capability needed for either OCR/RCR for address reading and encoding. This FFC will automate a labor-intensive operation, thereby reducing rehandlings and increasing productivity.

Report of the Periodicals Operations Review Team

A joint review to improve mailer and postal operations affecting Periodicals Class Mail

Sponsored by the American Business Press,
the Magazine Publishers of America,
and the United States Postal Service
March 1999

EXECUTIVE SUMMARY

Background

Since 1990, Periodicals mailers have noted with alarm a rapid increase in the measured costs of the various subclasses included in the periodicals class: regular rate, nonprofit, within county, and classroom. Pointing to increases in mailer worksharing efforts, the industry did not understand why USPS cost data systems indicated that Periodicals costs were rising more rapidly than wages and the processing costs for other classes of mail (*e.g.*, Standard A flats). Periodicals mailers expressed concern about the large increases to senior management at the Postal Service and to the Postal Rate Commission during the last four rate proceedings. Publishing executives and economic experts have questioned the accuracy of the measured cost increases and postulated alternative explanations for the reported growth in costs. In response to industry's questioning, the Postal Rate Commission has, in recent cases, mitigated the rate increase assigned to Periodicals subclasses and urged the Postal Service to undertake a study of the reasons for and accuracy of the large apparent increase in costs.

In 1997, the Postal Service accepted the challenge issued by Periodicals mailers and the Postal Rate Commission. Senior postal management suggested a joint industry/Postal Service operations review to identify the causes of the rapid rise in Periodicals costs over the past decade, identify opportunities to drive costs from the postal system, and make recommendations for industry and the Postal Service to capture these opportunities. Due to the major time commitment expected of study participants and the need for a free and open exchange of ideas, all parties to the study agreed to delay the start of the study until after the conclusion of the R-97 Rate Case. Preparations for the study began in the summer of 1998.

The parties agreed that the initial step would be establishment of a joint team to visit typical postal plants, post offices and mailer plants to study these issues. The visits would include on-site observations at the facilities and interviews with key managers.

The parties acknowledged that this step would not address complex costing issues. Rather, it would provide an opportunity to identify mail preparation and processing issues that could be rapidly addressed to achieve the maximum initial benefit, and lay the groundwork for longer-term improvements.

Action

In September 1998, the joint industry-USPS team was formed. The team was co-chaired by Rita Cohen, Sr. Vice President, Magazine Publishers of America, and Harvey Slentz, Manager, Strategic Operations Planning, U.S. Postal Service. The team included a number of industry and postal members, with participation at various sites ranging from 12 to 15 USPS and industry representatives.

The visits began in September and concluded in December 1998. The team conducted visits to more than a dozen facilities that included Bulk Mail Centers (BMCs), Processing and Distribution Centers (P&DCs) and Periodicals Annexes. The team visited delivery post offices within each plant service area to see the end-to-end process in action, and two mailer plants.

The sites visited collectively process and deliver approximately 14% of all flat mail processed in the U.S., and included plants in both major metro areas and medium-size urban areas. Team members were on-site when local management indicated most Periodicals mail was processed, including all tours, weekdays and some weekend times. Each visit included discussion with local leadership about issues relating to Periodicals operation and what may be driving costs for that class of mail.

At the end of the site-visit phase, the team members assembled to consolidate observations, distinguish local issues from systemic issues, and develop focused recommendations that, if implemented, would help reduce the cost of processing periodical mail and to identify next steps and areas of further study.

Conclusions

The team concluded that it had observed system inefficiencies in both postal and mailer processes along with other inherent characteristics that likely have contributed to, but do not explain fully, the large increases in Periodicals costs. In addition to these systemic inefficiencies, recipients of Periodicals mail are also sensitive to delivery dates, and complaints of late delivery seem to motivate plant managers to take added and sometimes costly steps to speed delivery.

The team identified actions that should be taken by industry, local postal managers, and national postal management to improve Periodicals processing and drive costs from the system. It concluded, however, that the task has not been completed. Further study of postal operations and analysis of cost attribution—which was not part of this study—must still be undertaken if the cost behavior of Periodicals is to be fully understood and maximum cost containment is to be achieved.

Recommendations

The team recommends a number of initiatives to help reduce Periodicals costs. They include improved mail make-up and containerization by mailers, regulation changes to facilitate worksharing and mail preparation that is better aligned with

field practices, improved communications between the Postal Service and mailers, fuller and more efficient equipment utilization, streamlining of allied operations, reduction in the number of handlings, and a greater focus on cost issues by field employees and managers in the Postal Service.

Many initiatives should be possible to implement immediately. We also recommend a number of targeted special studies and analyses, as well as development of new and improved procedures and processing equipment.

To facilitate review of each recommendation, we have grouped them into fifteen broad issues. With respect to each issue, described later in this report, the proposed initiatives are further identified as short or long term and as the responsibility of either local or national management or of the mailing industry. Our major recommendations are:

Issues 1&2: Mail Make-up And Containerization. Investigate opportunities for additional worksharing (*e.g.*, more cross-dock, 5-digit pallets, *etc.*), cost savings, and service improvements by aligning mail preparation standards more closely with local mail processing operations (*e.g.*, L-001 lists, *etc.*). Make real time information available to customers via the internet.

Issue 3: Address Quality. We recommend several initiatives to encourage and facilitate improved barcode accuracy, thereby reducing rehandling costs.

Issue 4: Enforcement and Enhancement Of Entry/Acceptance Requirements. We recommend that initial action taken by acceptance personnel be preventive in nature and emphasize notification of publishers, as well as their printers, of problems relating to presort and barcode quality so that future mailings will not contain errors. We recommend an active education effort, involving mailing associations, USPS Bulk Mail Entry Acceptance, and USPS Management personnel. We also recommend that local postal managers recognize that mailers who miss critical entry times should not expect the Postal Service to undertake measures to deliver such mail as if it were not delayed in entry. If problems persist, however, we recommend that acceptance personnel be advised to be less forgiving of mail preparation deficiencies.

Issue 5: Flats Operation Plan. We recommend development and publication of a detailed operation plan for flats processing, similar to what already exists for letter mail. The plan should logically link equipment and technology, mailer workshare, and process improvements. The plan should include best practices with existing sorting equipment as well as a strategy for development and deployment of new and improved equipment to accommodate and automate the rapidly rising volume of flats in the postal system.

Issue 6: Combination And Separation Of Mail Classes In The Incoming Mail Stream. Opportunities exist for reducing costs without compromising service by

combining flats of different mail classes in incoming sorting operations, as is already being done successfully in some locations. Additional cost avoidances are possible at delivery units by discouraging the practice of unnecessarily separating by class mail pieces that have been combined in upstream operations. We highly recommend sharing and implementation of best practices in this area.

Issue 7: Bundle Preparation And Handling. We recommend several initiatives to address the long standing problem of bundle breakage. Mailers need to strengthen bundles to withstand anticipated stresses caused by dumping postal packs and pallets. USPS should report breakage problems to both mailers and those who prepare the bundles for the mailers. The automated feed systems being installed on Small Parcel and Bundle Sorter (SPBS) machines appear to compound this problem by subjecting bundles to excessive stress. We recommend sharing of best practices in the current use of bundle dumping equipment, and recommend that next generation SPBS processes consider methods to reduce excessive stress. (We understand that Engineering is already working on this issue.) Finally, if better and more effective strapping methods do not work, then further movement of mail from sacks to pallets and higher pallet presort levels should also be encouraged.

Issue 8: Operations Management. Major problems observed on facility tours included under-utilization of available sorting machines even in periods of high flats volumes. There was evidence of ineffective supervision in some sites, and there was a notable lack of focus on costs. We recommend a number of initiatives to strengthen management's attention to costs, provide better tools for management and supervision, and require more active supervision of operations.

Issue 9: Transportation. We are disturbed by the rapid increase, over a number of years, in Periodicals transportation costs. We observed that in many sites, additional transportation was utilized as a strategy to improve service, and postal strategy appears to focus on floor space utilization in trailers, rather than on overall cubic foot utilization. We recommend that postal and transportation industry experts study escalating periodical transportation costs further.

Issue 10: Mail Processing Annexes. Plant managers, faced with crowded conditions due to rapidly increasing mail volume, often choose to "solve" the problem by deploying Periodicals flats processing to separate annexes. The result is additional transportation and handling costs for Periodicals. While the best long term solution may be to build new and larger plants, we recommend steps be taken to mitigate the immediate problem.

Issue 11: Flats Automation. We observed FSM under-utilization at many sites, and a tendency to send Periodicals flats (both polywrapped and not) meeting all FSM-881 compatibility standards to the slower FSM-1000s or to manual sorting. We recommend a close review of opening unit operations to improve overall

efficiency, and particularly efficiency for periodical flats. We recommend a number of initiatives to improve machine utilization, assure that automation compatible flats receive automated sorting to the extent possible, and reduce the number of handling steps.

Issue 12: Interclass Cost Impact. Processing decisions made in the interest of overall efficiency appear sometimes to be increasing Periodicals costs. We recommend further analysis of these cost effects to ensure that attributed costs accurately reflect causality and determine if a remedy is required.

Issue 13: Low Costs And Good Service Are Not Mutually Exclusive. We recommend an active campaign to raise cost consciousness among managers and supervisors and encourage solutions that reduce costs while also improving service. On our tours we observed that field employees and managers often react to service complaints with "quick fixes" that add costs, rather than addressing the underlying problems that cause service delays. We strongly believe that fast service and low costs are not mutually exclusive. Both can be achieved by eliminating unnecessary handlings.

Issue 14: Allied Operations And Cost Attribution Methodologies. Due to piece sorting automation, increased levels of presort, and a greater number of separate mailstreams, allied labor today represents a large and still growing share of total mail processing costs. Most of the measured rise in Periodicals costs is due to the class's rising share of allied labor costs. We recommend that the Postal Service continue to study and model the volume variability of mail processing operations, and that it examine alternative procedures for distributing allied labor costs to products.

Issue 15: Rate Design. Although the study of rates was not part of this team's mandate, we recognize that mailer prep affects USPS costs and that rates can affect mailer behavior. As a general matter, and consistent with provisions of applicable law and precedent, we recommend that USPS evaluate rate incentives that (1) recognize and encourage mailers' beneficial worksharing activities, and (2) encourage mail preparation that minimizes postal costs.

Next Steps

This report, which will be distributed to the key stakeholders in the Periodicals industry and in the Postal Service, concludes the first phase of a cooperative effort to produce real benefits to the Postal Service and the Periodicals industry. At this time, we recommend the following further steps:

1. The team should conduct face-to-face meetings with stakeholders, including senior Postal Service and Periodicals industry management, to provide more information about this study and the recommendations of this report.

2. We request feedback from both USPS and industry as stakeholders.

3. Our recommended initiatives include a number of targeted efforts by special USPS and industry action teams. Some of the most important are:

   (a) Joint field visits to stress the importance of cost awareness to plant managers and employees;

   (b) Targeted studies of allied operations, cost attribution, and inter-class cost impacts;

   (c) A study of rate design issues and alternative means of affecting mailer behavior;

   (d) Efforts to educate mailers and acceptance personnel on the importance of proper mail preparation;

   (e) A joint study of the effect of strapping methods on bundle breakage;

   (f) Joint studies of the effect of pallet weight limits and other make-up issues on publishers, printers, software developers, fulfillment houses, and the Postal Service.

We hope that these and similar endeavors can start in the next few months, after agreements have been reached on the respective Postal Service and industry roles and the ground rules for each effort. It is desirable for all parties that these efforts occur and produce results as quickly as possible. The Periodicals industry is hopeful that results can be reflected in the next rate case.

4. A designated joint team should meet approximately six months after the publication of this report to review progress and develop further plans as needed.

Table of Contents

REPORT OF THE PERIODICALS OPERATIONS REVIEW TEAM

Introduction

Each year, the Postal Service publishes its Cost and Revenue Analysis report, presenting the costs of processing, transporting, and delivering all the subclasses of mail handled by the Postal Service. Starting in 1987, the reported costs for the Periodicals subclasses, regular rate, nonprofit, within county, and classroom, began a fairly steady and, at least to Periodicals mailers, disturbing upward march. During postal rate proceedings conducted since then, publisher representatives have continually expressed concern and disbelief that Periodicals processing costs were increasing more rapidly than wages and the costs of processing similar-shape mail in other classes. Expert witnesses for the Periodicals industry hypothesized about the causes of the apparent increase in costs and suggested a variety of downward adjustments to the measured costs. The Postal Service countered in each case with its own explanations and methodological suggestions. However, neither side in the debate had adequate evidence to prove its hypotheses. Adopting some of the Periodicals' industry suggested adjustments but deferring action on others, the Postal Rate Commission expressed its own concern about the rapid, unexplained increases in Periodicals costs and urged the Postal Service to conduct further analyses of the causes.

In addition to pleading their case before the Postal Rate Commission, Periodicals mailers raised their concerns at the highest levels within the Postal Service. This effort culminated in an executive level meeting between top postal management, including Postmaster General Runyon, and publishing industry leaders in June 1997. At this meeting, the Postal Service pledged to support a joint industry/Postal Service study of Periodicals processing costs to determine how to ameliorate or reverse the trend.

Scope

At that initial meeting and subsequent meetings, the Postal Service established the ground rules for the study. First, the study would focus on operational issues to determine what actions by the Postal Service and mailers could have led Periodicals costs to increase so rapidly. Second, the study would be forward looking, focusing principally on ways to stem or reverse the Periodicals cost trend. Third, the study would be headed by Postal Service operations managers and would not focus on the Postal Service's costing systems. Fourth, the study would utilize a joint team of industry and Postal Service personnel knowledgeable about Periodicals' makeup and processing methods, and would involve in-depth observation of postal operations. And, finally, to avoid potential time conflicts for study participants and rate case posturing based on partial results, the study would not proceed until the ongoing rate proceeding was completed.

The study organizers recognized at the outset that the site visits might provide clues to, or even solid evidence of, the causes of the cost increases, but that conclusions and recommendations would likely need to be tempered by the knowledge that our experiences would be both transitory and anecdotal. Within the time constraints of the study, the organizers attempted to design site visits that would provide a variety of experiences, including large, mid-size and small facilities throughout the United States, some top-rated facilities and some at the bottom of the productivity spectrum. While the study was not to include an explicit review of the Postal Service's costing systems, the study team sought and obtained the cooperation and participation of costing experts on each of the site visits.

Methodology

The study team incorporated a variety of experts from industry and the Postal Service, including headquarters and local operations personnel, publishing association representatives, cost system designers, publishers' postal operations directors, printers, and economists. The members of the task force are identified in an appendix to this report.

The first step in the process was a series of meetings held in the summer of 1998 to identify the study objectives and design the study protocol. Postal Service Area Vice Presidents were requested to identify key facilities for Periodicals mail, and sites to visit were chosen from this list. The study team attempted to observe operations on all tours and days of the week at top performing facilities and also at those with identified processing problems. Facilities were visited in the East, South, Midwest and West to capture geographic idiosyncrasies. The team visited the variety of facility types where Periodicals are processed, including processing and distribution centers, bulk mail centers, Periodicals annexes, and delivery post offices. To learn more about Periodicals makeup, the team also visited a small and a large printing plant.

The site visits began in September and were concluded in December. Each site visit began with an opening interview with local operations personnel and ended with a concluding interview to ask questions and confirm observations. Upon completion of the site visits, study team members held a series of meetings to extract key observations, draw conclusions, develop recommendations, and evaluate the need for additional site visits or supplemental studies.

Conclusions

Within the limited time frame for the overall study and based on the quick operational snapshots we took at each facility, the team was able to analyze Periodicals operations at over a dozen processing facilities that collectively

process and deliver approximately 14 percent of all flat-shaped mail processed in the United States. We believe that our observations constitute a sufficient basis of knowledge and experience to allow us to draw conclusions and make recommendations. We believe our recommendations to be valid and worthy of pursuit.

The study team identified a number of system inefficiencies in both postal and mailer processes along with other inherent characteristics that likely have contributed to the large increase in Periodicals costs. For example,

- Periodicals receive high levels of manual processing, compared with First-Class and Standard-A Class flats. Facility managers explained this, in many instances, based on the rationale that larger volumes of Standard A provide longer, more efficient machine runs, and because smaller Periodicals volumes are not sufficient to cost-justify machine set-up time.
- Processing procedures for Periodicals do not follow standardized protocols, with substantial variation in methods, staffing levels, and productivity.
- Because plant managers are evaluated on bottom line financial performance, and because Periodicals service is often very highly visible, it often results in "spending for periodical service", and "making bottom line on other classes."
- Supervisory capability is not uniformly adequate to ensure optimal operational flow.
- Periodicals bundle integrity is not adequate to withstand current postal bundle processing equipment and methods.
- Postal personnel appear to occasionally accept improperly prepared mail without providing adequate feedback to publishers about makeup irregularities.
- Much of Periodicals costs appears to derive from opening unit and other non-distribution operations.

Recognizing that we are unable to quantify the relative contributions of each identified inefficiency to the rise in Periodicals costs and that we have not, within the limits of our study, identified all of the causes of the measured Periodicals cost increases, we note that this report represents a solid start but by no means a completion of the task. Similarly, while we have identified certain factors that may have caused Periodicals costs to increase in comparison to flats in other classes, we were unable to undertake a comprehensive study of the processing methods for other classes. We did, however, receive a report from Christensen Associates, a Postal Service rates consultant, comparing the level and trends of costs for Periodicals and Standard A flats. This study attributes higher costs for Periodicals, particularly in allied and manual operations, than for comparable Standard A flats, with the gap widening in recent years. Because we did not do comparative analysis for Standard A mail, we do not yet fully understand why the

cost of processing periodical flats appears to be increasing while the cost of processing Standard A flats appears to be decreasing.

We conclude that additional targeted field visits may be necessary to explore some of the issues identified in this study. For example, we were unable to fully characterize the nature of non-distribution operations, such as platform and opening units, that appear to be the source of a good deal of the costs assigned to Periodicals and to be contributing disproportionately to the cost increases. Finally, we conclude that some of the operational issues discussed in this report have potential costing and rate setting implications. Our recommendations include suggestions for examination of costing methodology and rate structures consistent with our observations.

Recommendations

While our observations, conclusions, and recommendations touch on all aspects of postal processing and mailer makeup, we have categorized our description of issues and accompanying recommendations[1] into 15 broad categories. Our discussion of these 15 topics is presented in a format that, we hope, permits easy identification of the nature of the issue addressed and of the suggested future actions for Periodicals mailers and the Postal Service. Those actions are further divided into short-term and longer-term in the hope that some of the anticipated cost reductions can be realized promptly, and Periodicals mailers are hopeful that they can be afforded some relief in the next rate case. Actions and studies to be undertaken by the Postal Service are categorized by whether local or headquarters action is required.

To ensure successful implementation of actions designed to control Periodicals costs, we recommend that the study team meet to review progress in six months and again in one year. We further recommend senior postal management oversight of actions to be taken by the Postal Service and further study efforts to confirm to headquarters and field personnel the importance of this endeavor.

Industry and postal study team members stand ready to help action teams that may be commissioned to focus on one or more of the recommended actions or studies. We hope that our insights may prove useful in developing a deeper understanding of the more complex postal processes and costing and rate setting issues that were not fully explored in this initial phase of study.

[1] There are 75 short-term and 46 long-term recommendations for USPS action, and 27 recommendations for mailer actions.

ISSUE 1: PREPARATION STANDARDS FOR PERIODICALS SHOULD MORE CLOSELY MATCH POSTAL PROCESSING CONFIGURATIONS

SUMMARY: There are opportunities to improve mail preparation standards so that they better reflect postal processing and make accommodation for local variances. Many of these opportunities stem from mail processing for a given service area being split over multiple facilities, yet preparation standards dictate preparation appropriate for only one facility. A national list needs to be developed, published, and maintained to specify make-up and entry on a site-by-site basis.

ACTION:	Short Term Actions	Long Term Actions
Local Postal Operations Action	• Support HQ development of a national mail processing scheme and facility list by providing accurate information on processing responsibilities and by site locations.	• Maintain and update the national mail processing scheme and facility information as needed.
National Postal Operations Action	• Develop national scheme and facility list with processing responsibilities and location of each facility. • Complete the development of an Internet application to communicate scheme and facility information to mailers for drop ship planning. • Implement labeling list L001. This list will allow mailers to improve presort density by combining mail for multiple 5-digits on one pallet as specified by the USPS.[2] • Consider allowing barcoded and non-barcoded flats to be placed on the same 5-digit pallet.	
Mailer Action	• Support USPS makeup initiatives by encouraging software vendors to provide enhanced information.[3] • Work with presort fulfillment houses to increase utilization of USPS preparation options.	

COMMENTS:

Observations in various plants and post offices suggest the need to investigate opportunities to align mail preparation standards with mail processing variances in the field. For instance, the Postal Service has several cases where a 3-digit or SCF service area is split among multiple processing facilities. While the existing

[2] This was developed while the operations review team was still finalizing recommendations.
[3] Here and in future reference, the decision to make a recommendation mandatory or optional on the part of the mailer is left to the judgment of the organization implementing the proposal.

preparation standards may be appropriate for service areas that have processing located in one facility, they are not appropriate, or optimal, for the service areas that have processing split among multiple facilities. Mail preparation standards require all mail for a given service area to be placed on one pallet even though many are willing to make a finer level of presort in order to achieve service and/or cost objectives. Likewise, some of the mail incurs an additional handling. Mailers that are willing to make an extra split are prevented from doing so by a lack of knowledge of postal scheme configurations and diametrical preparation standards. The USPS should maintain and publish a national facility list in order to communicate processing responsibilities and the physical location of each plant. Likewise, more labeling lists and DMM changes may be needed in order to ensure presort software vendors give mailers the ability to prepare the mail to better reflect postal processing.

ISSUE 2: OPTIMIZATION OF CONTAINERIZATION CAN HELP REDUCE COSTS

SUMMARY: During the past decade, mailers have supported USPS' stated material handling objectives by migrating a significant amount of mail from sacks to pallets, sometimes at the expense of the presortation level in the container. Unfortunately, it is not clear whether this shift has yielded the anticipated reduction in Postal Service costs. There are questions raised about the relative value of pallets compared to sacks (at various presort levels), the optimal depth of sort configuration when pallets are used, and optimal pallet weights. The Postal Service should work with the industry to explore opportunities to optimize containerization to achieve maximum cost savings.

ACTION:	Short Term Actions	Long Term Actions
Local Postal Action	• Maximize opportunity to stack lower weight pallets and reduce transportation costs. Standard Operating Procedures for handling stacks of pallets should be developed, and forklift-type equipment should be deployed to large Delivery Units. • Reduce use of sacks for dispatching mail between USPS facilities.	
National Postal Action	• Consider permanent allowance for four-tier stacking of pallets.[4] • Publish specific locations and/or presort levels where lower weight pallets yield cost savings without creating significant operational difficulties. • Model and review cost and operational impacts of initiatives such as package reallocation and lower pallet minimums.[5] • Implement initiatives as options for mailers to utilize as appropriate. • Implement labeling list L001 to improve presort density. • Consider placing barcoded and non-barcoded flats on the same 5-digit pallet to improve presort density.	• Determine handling costs of pallets versus sacks. • Determine internal benefit from a proposal to require mailers to place bundles on a pallet in a USPS specified sequence (*e.g.*, Route 1, 2, 3, *etc.*) • Determine internal benefit and practicality of allowing mailers to stack as many tiers of pallets as possible within 84" height standard. Include cost of additional equipment at destinating offices, if that is a factor. • Ensure safe processes are used on 4-tier pallets.
Mailer Action	• Printer and mailer participation to test usage of lower weight pallets, once modeling & costing is done. • Collect and analyze data on lower weight pallets to determine impacts on printers.	• Determine viability and printer impacts of placing bundles on pallets in a logical sequence specified by the USPS (*e.g.*, stack pallets for same destination).

COMMENTS:

[4] Completed.
[5] This will be published in *Postal Bulletin* in Spring, 1999 with 8-12-99 effective date. It will include L-001.

One of the most resounding themes heard from local USPS P&DC managers and Postmasters was a desire for more 5-digit "cross-dock" pallets. Desire for fewer sacks and less residual mail was also expressed, particularly at facilities that did not have or had removed sack sorters.

Notably, USPS managers consistently expressed an interest in a universal container, so that there did not need to be multiple processing streams for different container types. At least for now, the desired "universal" container for flats is the pallet. Accordingly, the Postal Service should aggressively explore opportunities to move more mail to pallets - specifically to the pallet levels that work best for postal operations - and reduce usage of inefficient containers and/or presort levels. Central to this exploration is the determination of the minimum weights that would be satisfactory for pallets (versus packages on a less finely sorted but higher weight pallet with additional handlings) and the costs of handling packages of flats on various pallet levels at each point in the infrastructure. Perhaps the findings of such a study would yield different minimum weights by pallet level, depending on the entry point of a pallet.

Consideration should also be given to determine the threshold at which it is practical to retain some portion of mail from a finer sorted pallet in order to reduce and/or eliminate the residual portion of the mailing. Finally, the advent of the FMOCR on the FSM 881 should reduce the need for barcoded and non-barcoded non-carrier route presorted flats to be prepared on separate 5-digit pallets. For zones that receive mechanized incoming secondary processing from the plant, this mail can now be processed together on the same sort plan. Moreover, there should not be any need for this separation in zones where all of the incoming secondary processing is performed at the delivery unit. The Postal Service should move to eliminate this requirement in the interest of obtaining a finer level of presort.

ISSUE 3: ENCOURAGING GOOD ADDRESS QUALITY CAN SIGNIFICANTLY REDUCE REHANDLING COSTS.

SUMMARY: Establish an Address Environment in which all mail pieces are barcoded and/or carrier route coded. Improved barcode accuracy will reduce mishandling costs.

ACTION:	Short Term Actions	Long Term Actions
Local Postal Action	• Spot check mailer applied barcodes at local acceptance units.	
National Postal Action	• Formulate a program to determine quality of barcodes. • Determine benefits of having carrier route codes on all address labels. • Evaluate frequency and causes of occasional machine barcode reader failure for mailpieces with accurate barcodes.	• Consider development and deployment of a flat-size barcode evaluation machine similar to that used for letters. • Develop an ongoing program that will allow mailers to successfully ZIP+4 code 100% of subscriber addresses. • Implement a plan to avoid machine rejection of mailpieces with correct and readable barcodes.
Mailer Action	• Review and test quality of barcodes before entering each mailing. • Review and evaluate space requirements to incorporate carrier route codes on all address labels.	• Work with the software and fulfillment industry to add carrier route codes to all sortation programs. (Resolve issue of update frequency of presort vs. CRRT mail.)

COMMENTS:

Operations Review team observed poor quality barcodes at several locations. Pieces were being rejected by barcode readers and had to be rehandled and keyed by an FSM clerk. Discussions with local plant managers revealed a desire to have carrier route codes on all pieces to help with secondary processing. Pieces with carrier route codes printed on the mailpiece can provide an operational alternative to scheme knowledge sortation in plants and delivery units.

ISSUE 4: ENFORCEMENT OF ENTRY/ACCEPTANCE REQUIREMENTS AND COMMUNICATION OF PROBLEMS WITH IRREGULARITIES TO THE PUBLISHER, AS WELL AS THE PRINTER, ARE IMPORTANT.

SUMMARY: Establish an enforcement program that has a quick, strong impact.

ACTION:	Short Term Actions	Long Term Actions
Local Postal Action	• Local operations & Business Mail Entry Units need to notify the appropriate party in order to correct deficiencies in mail preparation and mail make-up/ automation requirements.	• This has to be a continuous program.
National Postal Action	• National operations and Business Mail Entry need to circulate data on these local problems and help the local operations to determine the party responsible (*i.e.*, publisher vs. printer). The rate payer should be notified.	• The accumulation of information about these problems should be widely disseminated through mailers groups such as Mailer Technical Advisory Committee (MTAC) Focus Groups and Postal Customers Councils (PCC).
Mailer Action	• Mailers have to react positively to correct deficiencies. Associations need to undertake a mail makeup education effort.	• MTAC should establish a long term follow-up program.

COMMENTS:

Operations Review team observed mailer prepared pallets that were not made up to the finest level as required by postal regulations. For example, during one field visit at a mailer plant, we saw state pallets with mail for multiple Area Distribution Centers (ADCs) (now not permitted) encouraged by local USPS officials. In another site, we saw ADC pallets that appeared to have enough mail to warrant a finer level of preparation (*e.g.*: SCF, 3-digit or 5-digit.)

In the first example above, it was evident to the team that neither the mailer nor the USPS representatives were aware that the makeup and entry configuration was improper. Mailer and USPS employee education efforts should focus on these types of issues to help both the industry and the Postal Service identify and correct well-intentioned irregularities that add cost to the system. In the second example, the regulation may be followed, but the opportunity to improve within the rules was not recognized. Here, some success stories could be published, showing how a mailer and the Postal Service can work together to make up more direct pallets that will in the same action drive cost from the system and improve service for the mail.

ISSUE 5: FURTHER DEVELOP AND COMMUNICATE THE FLATS OPERATION PLAN

SUMMARY: Update and publish a systemwide operations plan for flat mail acceptance and induction, sorting, transportation and delivery that provides context for equipment, network, staffing and resource deployment. Ensure that the strategy is communicated to both mailers and postal personnel.

ACTION:	Short Term Actions	Long Term Actions
Local Postal Action	• Communicate each facility's best practices to National Operations	• Define and execute local strategies and tactics in support of the national Flats Operations Plan.
National Postal Action	• Define purpose & goals of a national Flats Operations Plan. • Identify best practices within the present operation. • Develop profile of current operations flats strategies.	• Develop and define goals, specific objectives, and key operating strategies for flat mail induction, sorting, transportation and delivery processes. Train postal employees how best to execute the plan. • Provide more comprehensive equipment startup (and follow-up) with local plants and mailers to ensure that best practices are implemented with the new equipment.
Mailer Action	• Identify industry areas of comparative advantage—what the mailing industry can do at a lower cost than USPS—perhaps leading to new workshare options. • Recommend process for industry participation in development of overall plan.	• Industry leadership coordinates with USPS to develop mailer-printer strategies that are consistent with the national Flats Operations Plan. • Individual Mailers develop and execute mailer-specific tactics that provide mutual benefit to USPS and mailers.

COMMENTS:

The USPS has been very successful in defining and implementing a national strategy for letter mail automation. Visits to various plants and post offices suggest that there is value in updating and clarifying an overall flats strategy. Such a plan could fit within the context of an Operations Plan and would parallel a similar plan for Letter and Package mail. During visits, it was noted that throughout the collection/acceptance/induction, sorting, transportation and delivery processes relating to flats, the output of an operation did not always meet the requirements for the most efficient process in the next downstream operation. The plan should include both industry and postal initiatives to reconsider aspects of mailpiece design, and should reduce bundle breakage and loss of orientation of mailpieces during operational input and output phases of the process.

The broad spectrum of mail processing methods seen during site visits clearly indicates that there is opportunity for improvement. For example, we noted the opportunity for greater depth of sort by utilization of all available sortation bins on SPBS equipment (some facilities did not use alternating runouts to allow use of

all bins even with All Purpose Container (APC) and wire container applications). Merging of classes in incoming processing is also an area for potential improvement. In some facilities, periodical mail was effectively merged with other classes in certain operations, with apparent success. Some other sites that merged classes did not experience the same success.

Introduction of an overarching strategy could potentially reduce costs. Such a plan would also have to define when and how to mix classes effectively and how to minimize subsequent handling in downstream operations. It should also consider the feasibility of future flats Delivery Point Sequence (DPS) processing.[6]

[6] The team is aware that since the initial recommendation was drafted, USPS Operations has undertaken steps to consolidate a Flats Operation Plan. The team welcomes the opportunity to share our experience and findings with the developers of the Flats Plan, and to work with them to ensure that mailer issues identified here are integrated into the plan.

ISSUE 6: SEPARATION OF MAIL CLASSES IS OF QUESTIONABLE VALUE AND MAY ADD TO COSTS WITHOUT NECESSARILY IMPROVING SERVICE.

SUMMARY: In many instances, cost avoidance is possible without compromising service, by combining flats of different mail classes in incoming sorting operations. The practice of separating at delivery units mail pieces of different classes that have been merged in upstream operations adds costs without improving service. The Postal Service currently maintains at least three streams of flat mail: First Class, Periodicals Class, and Standard (A). According to explanations we received from supervisors in plants and post offices, this separation is performed because the USPS believes that by having pure streams of mail, it has more flexibility to meet its service standards. Unfortunately, this practice also appears to result in higher costs due to the direct cost of machine shutdown and restart, selection of manual sortation of low volume mail classes where startup of a machine, and the indirect cost of additional trays, hampers, APCs, *etc.* is not justified. Based upon observations in the sites we visited, the review team believes that cost savings and better use of automated equipment can generally be achieved, without compromising service standards, by combining Periodicals flats with other mail streams in the incoming processing at a processing plant and its associated Distribution/Delivery Units.

ACTION:	Short Term Actions	Long Term Actions
Local Postal Action	• Coordinate the activities P&DC and Delivery Units so that mail that has been merged at the P&DC is not later separated manually at the Delivery Unit. • Develop methods of reducing the number of machine "sweeps or pull-downs." • Decisions to curtail delivery should be limited to mail that is of uniform class in the bundle. Don't hold out individual pieces in mixed bundles.	• Continue to test new ideas that drive costs out of the system and demonstrate the benefits to Headquarters.
National Postal Action	Create a specialized task force to study the following: • Potential savings gained through merging flat mail in incoming processing. • The impact upon "in-home" delivery dates for Periodicals if flats were merged at various points in the mail processing operation. • The current best practices that reduce costs and maintain service standards through the merging of mail classes in processing. • Take a more active role in the system-wide implementation of best practices.	• Use results of the short term action items to implement a strategy that will optimize delivery costs. • Create an environment that thrives on change. • Create an incentive program that rewards innovation and encourages the implementation of best practices.
Mailer Action	• Evaluate the cost and service implications of USPS recommendations to combine mail classes.	

COMMENTS:

We observed two specific problems concerning the separation of mail classes during our visits to postal facilities. First, in several instances, we saw Periodicals mail and Standard (A) mail being merged on automated equipment at a Processing & Distribution Center or Annex, only to be manually separated again downstream at the Delivery Unit. The classes were separated at the Delivery Unit so that if any mail needed to be deferred, the letter carriers would have pure streams of mail that could be prioritized based upon delivery standards. The task force believes that letter carriers have an adequate supply of mail that they can elect to defer should the need arise, such as Standard (A) mail in carrier route bundles. The practice of separating the already merged mail at the Delivery Unit prior to the carrier simply adds unnecessary costs without adding apparent value.

The second problem involves the effective use of automation equipment and the manual processing of mail. When pure streams of mail classes in mail processing are deemed to be required, machine operators must empty, or "sweep," their machines at various stages of a tour, which results in reduced productivity. In addition, in some facilities, the optimization of automation equipment was accomplished by processing the higher volume of flats that are Standard (A) on the automated equipment and processing Periodicals mail manually. While this approach improves the productivity statistics of the equipment, it could result in more manual processing for Periodicals mail.

Anecdotal support for this possibility is provided by an analysis of the new MODS-based mail processing costing system. It indicates that Standard A flats processing costs are 40% lower than Periodicals costs, with Periodicals processing costs increasing by 15% between 1995 and 1997, while Standard (A) costs decreased by 9%. The study shows similar trends for allied labor costs. Periodicals allied labor costs are 2.5 times greater than those for Standard (A) flats and increased 17% between 1995 and 1997, while Standard (A) allied labor costs decreased 5%. Naturally, these data are not conclusive, and other differences between Periodicals and Standard (A), or the inherent variance in the costing system may account for some of the differing cost trends. However, the magnitude of the cost differences warrants systematic investigation and resolution.

Many of our interviewees indicated that the goal of maintaining service for Periodicals mail was the primary motivating factor in keeping the various mail classes separate. This service pressure has been exerted by Periodicals mailers and, more importantly, by the actual mail recipients. Letter carriers and local management are sensitive to customer complaints, so they work very hard to ensure that Periodicals delivery standards are met, particularly for many time sensitive publications.

After reviewing the cost data and hearing the service concerns, the question still remains, "Can Periodicals mail gain the efficiencies of automated processing through merging with other mail classes and not experience an unacceptable risk of in-home service delay?" A study beyond the scope of this one is required to answer both components of this question conclusively.

Finally, we identified a potential best practice at one facility that may allow the Postal Service to reduce costs and maintain the current service standards for both time-sensitive(*i.e.*, daily and weekly) publications and monthly titles. At the Baltimore Processing & Distribution Center, time sensitive publications were processed along with the First Class mail stream, while monthly publications were processed with Standard A. The net result was a more effective utilization of automated equipment and a reduction in manual processing without any apparent loss in the facility's ability to meet delivery standards. In addition, this method of operation allowed the Postal Service to reduce the operation to two mail-streams. It is our conclusion that this model should be thoroughly evaluated by USPS management as a potential best practice.

ISSUE 7: IMPROVED BUNDLE PREPARATION BY MAILERS AND IMPROVED MATERIALS HANDLING BY THE POSTAL SERVICE WILL REDUCE BUNDLE BREAKAGE—WHICH APPEARS TO INCREASE PERIODICALS COSTS SIGNIFICANTLY.

SUMMARY: Flats bundles are at risk of breaking during bundle sorting, especially when dumped on the automated feed systems of SPBS machines. Bundles that travel in sacks also incur substantial breakage during sack handling operations, although the sack preserves the presort level of the sack itself. There are a number of possible remedies that together could lead to substantial cost reductions, including better bundle strapping, use of pallets rather than sacks, improved bundle sorting methods, alternatives to today's SPBS feed systems, and better efforts at salvaging partially broken bundles.

ACTION:	Short Term Actions	Long Term Actions
Local Postal Action	• Identify mailers – not just printers – whose bundle strapping causes particular breakage problems. Explain to them the cost and service advantages of improved bundle strapping. • Instruct SPBS employees to save partially broken bundles, rather than keying individual pieces on the SPBS. Establish Standard Operating Procedures based on evaluation of the processes.	• Redesign operations to avoid sorting bundles into sacks, particularly for high volume destinations.
National Postal Action	• Establish and enforce best practices in bundle sorting on current SPBS systems, including SPBS staffing levels, avoidance of bundle breakage, *etc.* • Resolve bundle breakage issue at national level quickly, so that system and method remedies can take place before the problem becomes more widespread with additional SPBS deployment. • Assess and address need for adequate rolling stock in all plants to avoid bundles being sorted into sacks. • Issue common-sense guidelines for bundle strapping to avoid breakage.	• Develop alternative(s) or methods of use of dumpers to SPBS feed systems that maintain the advantage of bundle keying and depth of sort, while avoiding breakage and loss of orientation. • Evaluate and deploy improved mechanized bundle sorting system that doesn't aggravate bundle breakage. • Study the effect of weight, strapping method, containerization, sorting method, *etc.* on bundle breakage, identify actions to improve bundle integrity. • Consider development of regulations with more stringent minimum requirements for bundle strapping quality, possibly tied to weight, sort level, *etc.*
Mailer Action	• Maximize pallet sort levels to minimize number of bundle handlings • Place sacks on pallets when that will bypass sack sorting operations. • Encourage industry members to abide by bundle strapping guidelines.	• Assist USPS in bundle breakage study by providing bundles with different types of strapping, weight *etc.* for testing purposes.

COMMENTS:

Periodicals incur substantial bundle handling costs, and these costs increase when bundles break prematurely. Beyond the limited regulatory change proposed by the Postal Service on March 9, both mailers and the Postal Service can help to reduce the bundle breakage problem, which has existed for many years.

Many mailers may not be aware that there is a bundle breakage problem. We recommend that postal facilities identify the mailers whose bundles are causing the most breakage and communicate to those mailers the need for improved preparation. One way to do it is to provide plants with USPS e-mail addresses for mailers so feedback can be quick and specific. Mailers can help by improving their bundle strapping and by entering bundles, to the extent feasible, on pallets instead of in sacks. Sacked mail, besides incurring high sack handling costs, sustains substantial bundle breakage during sack sorting operations. Pallets with finer levels of presort will also reduce the probability of breakage by reducing the number of bundle sorts needed.

We recognize the need for a further joint industry/USPS effort to resolve the many unanswered questions regarding the best way to prepare flats bundles for the rough handling they receive in postal facilities, and what types of handling cause the most damage. In this study, mailers will provide bundles with different strapping methods, weights, containerization, *etc.*, and the Postal Service will use these test bundles to measure the effect of different handling methods. The study should produce a set of reasonable guidelines for bundle preparation. The desirability of making some of these guidelines part of regulations for required make-up should be considered at the end of the study.[7]

We believe the Postal Service should carefully evaluate the cost and benefits of the current SPBS system, including dumping and bundle breakage. Besides occupying large amounts of valuable space in postal facilities, these machines appear to cause considerable breakage of palletized bundles that under more manual systems incur little or no breakage, based on our observation at facilities not equipped with automatic dumpers. The main problem is with the pallet dumping and subsequent bundle travel on highly congested feed belts. We recommend that USPS rapidly evaluate the extent and severity of bundle breakage to assess whether changes need to be made to the dumping strategy. Some facilities have developed better techniques than others for minimizing SPBS bundle breakage, *e.g.*, by carefully controlling the bundle volume dumped on the feed belt at any one time. We strongly recommend development and sharing of best practices in this area.
The cost impact of SPBS bundle breakage may be magnified, because SPBS employees choose to key the individual pieces in such bundles rather than to

[7] We recognize an MTAC study on this issue is underway, and we will support it as part of our team effort.

salvage partially broken bundles. The cost implications of such practices should be investigated closely, and quickly.

It was noted that most automated dumping processes and the dropping of bundles into containers cause loss of orientation of the mail, in addition to bundle breakage. Bundles are stacked on pallets with label side up, and this valuable orientation is lost with automated dumping. Even if the right side of the bundle is up when it gets to the operator, it could be faced any of four ways. Only one allows the operator to key mail immediately, while the others require reorientation by the operator. When the keyed bundle drops into a container, again the orientation is lost, requiring the next downstream operation to re-orient the mail again.

At some sites with SPBS machines we visited, there appeared to be problems with over-staffing and inefficient configurations that required extra manual handling of bundles sorted to many destinations. SPBS staffing ranged from 11 to 18 in our visits. While some locations did an excellent job of using varied containers to obtain efficient use of every runout, others used only alternating runouts because they failed to use runout extenders or lacked the appropriate containers. In at least one case, the lack of extenders required bundles from every other runout to be dropped into U-carts, from which they were manually thrown into larger containers. All plants should be trained in how to accomplish full utilization of SPBS capacity with minimum labor costs.

In the long run, we recommend development and deployment of an alternative to today's SPBS machines for bundle sorting. The alternative system should retain the main advantages of SPBS over manual bundle sorting, *i.e.*, the depth of sort, and should utilize automated sortation rather than throwing or walking individual bundles to receiving containers. At the same time, it should minimize bundle breakage and the loss of bundle orientation.

Finally, the team was surprised to find that some postal facilities still sort Periodicals bundles into sacks rather than rolling stock, even to destinations with large volumes and relatively short transportation distances. Eliminating such practices could save considerable sack handling costs. One reason cited by several onsite managers for continuing this practice was the shortage of rolling stock. At many locations, supervisors and craft employees told us of extra time and expense spent trying to locate enough containers to set up an operation on a machine. They told us that it is sometimes the reason they do not send out the early dispatches - there is no guarantee they will get enough equipment to re-stock the machine. To the extent that shortages of rolling stock exist, this problem should be addressed by the Postal Service at the national level in a manner that pays for the rolling equipment with avoided labor costs.

ISSUE 8: FOCUS OPERATIONS MANAGEMENT ON THE IMPORTANCE OF EFFICIENTLY MANAGING PROCESSES AND EQUIPMENT.

SUMMARY: Strengthen the planning and control, process development and execution, staffing, equipment utilization, equipment performance evaluation, and leadership in plants and post offices to maximize productivity from resources.

ACTIONS	Short Term Actions	Long Term Actions
Local Postal Action	• Identify the few critical supervisory tasks in each operation that are essential to success. • Further develop supervisor skills in those tasks. • Focus supervisors on cost reduction issues. • Use machine utilization, activity analysis, *etc.*, to assess staffing and equipment effectiveness and reschedule resources as needed. • Ensure that productivity and overtime control are accountable indicators for the supervisors. • Ensure that supervisors are aware of needs of downstream operations and plan unit output to match these needs.	• Recruit, select and train more intensely to yield the best possible supervisory results. • Develop strong unit Standard Operating Procedures that support the supervisors' effectiveness. • Develop valid equipment, staffing and scheduling, and other requirements for units; ensure they are provided to supervisors. • Emphasize the need to meet both service and cost objectives, and focus on skills needed to achieve both.
National Postal Action	• Support the identification of critical tasks, indicators, and skills in each process. • Track and act to maximize equipment utilization and worker productivity. • Focus on process results to identify local best practices and systemic national problems. • Ensure that machinable flats and bundles are worked in the lowest-cost processes available consistent with service needs.	• Identify and address systemic constraints that prevent or hamper best practices: look at management policies, union rules, support equipment, *etc.* • Standardize key processes (*e.g.*: Flat Sorter Machine 1000, opening units, *etc.*) to ensure best practices are developed and used. Review the physical span of control issue. • Assume a more active involvement in the coordination and implementation of efficient best practices.
Mailer Action		

COMMENTS:

The Operations Management issue includes such topics as machine utilization, scheduling of specific mail types to be worked, linkage between different operations, supervisor effectiveness in leading the efforts of employees and the process results achieved from efforts.

Machines are a binding constraint and their effective utilization is viewed as important. The team visits were conducted during the September-December time period, when Periodicals and overall flats volume would be relatively high, yet machines were not running anywhere near capacity. The amount of planning and machine scheduling seen in different plants and post offices varied considerably from site to site.

Some facilities appeared to have a very effective strategy for equipment utilization. Others described a strategy, but it did not appear that the strategy was being executed, at least during our visits.

Supervisory effectiveness can be an ambiguous term, but the team used it to describe the extent to which supervisors were visible in operations, able to answer questions about their operation, active in enabling and directing the activities of employees, and having a positive effect on employee output (productivity).

During the visits to various plants and post offices, a wide range of supervisory effectiveness was noted. The visibility of the supervisor in unit operations varied significantly. Where the supervisor was visible in the operation, the process knowledge and interaction with employees ranged widely. In some cases, the supervisor was a major positive influence in the operation, and in others, the supervisor appeared to make little difference. It appeared that many supervisors spend a lot of time attempting to get empty equipment for their operations, and consequently are not focusing on supervision. It was also noted that while the supervisor may not have had a large number of people to supervise, the physical span of control—the amount of floor space and variety of flat operations involved—appeared to be daunting.

Supervisors did not appear to utilize much management information to assist them in making decisions. Many supervisors with whom the team visited had only a general feeling about the workload being experienced in the unit, and the decision to start or stop a machine was often a function of the extent to which employees with the right skills were available to the supervisor. At the same time, in some cases in manual operations, work methods did not appear to be well-planned or executed, and the process suffered because of time spent separating mail streams that were re-merged downstream. In some sites, there was not an evident sense of urgency to complete the task. There may be a benefit in reassessing methods and supervisory expectations as communicated to employees. While only limited conclusions could be made based on observations in the sites visited, there may be an opportunity for moving more mail to FSMs and SPBSs, and out of manual opening and distribution operations.

While these observations could also apply to operations working mail other than Periodicals class, it appears to be a significant opportunity for process

improvement, and the team believes that focusing on supervisor effectiveness, machine utilization, performance measurement and accountability, and mail flow to process in the lowest-cost method consistent with service requirements would help reduce periodical costs while actually improving service performance.

ISSUE 9: THERE APPEAR TO BE COST REDUCTION OPPORTUNITIES BY BETTER UTILIZING TRANSPORTATION CUBIC CAPACITIES, AND BY REDUCING REDUNDANT 'HOT' SERVICE TRIPS.

SUMMARY: Transportation costs for Periodicals are substantial and appear to be growing at an even faster rate than are mail processing costs. Though the team was not charged with studying transportation *per se*, this function is critical to understanding and controlling Periodical costs. The operations review team recommends that a specialized group of postal and industry transportation experts be chartered to study escalating Periodical Class transportation costs.

ACTION:	Short Term Actions	Long Term Actions
Local Postal Action	• Study ways to gain transportation efficiencies through the concept of "zero basing".	• Proactively adjust transportation size and schedule as changing requirements dictate. Don't necessarily run the same trips all the time.
National Postal Action	• Analyze the cost/benefit of "floor load" vs. cubic capacity utilization. • Examine very costly extraordinary freighting procedures.	• Optimize the number of trips between USPS plants that process Periodical mail. • Study options to improve utilization of overall cubic capacity of vehicles.
Mailer Action	• Adhere to critical entry time agreements.	• Develop and maintain optimum critical entry times.

COMMENTS:

Transportation cost is a substantial component of overall periodicals costs. During the period 1994-97 (latest audited period), transportation costs for periodicals rose from $248 million to $310 million, an 18% increase. The mode with the greatest percent increase was air transport, which rose to $20.8 million.

Conventional practice is for the USPS to "floor load" trucks and avoid the labor expense associated with manually stacking mail to optimize cubic capacity. Is it efficient to "trade off" trucking costs to reduce labor costs? There also seemed to be more trips from Periodical Hubs and plants to facilities down line than would be mandated by volume. The Postal Service should explore ways to better utilize the overall cubic capacity (*i.e.*, floor to ceiling) of vehicles in order to reduce transportation costs.[8]

In many sites visited, the team was advised of extraordinary efforts to ensure next day "in-home" delivery for Periodicals that arrived in Processing plants well after critical entry time (CET). This practice clearly contributes to cost.

[8] The team recognizes that the mass density of Periodicals is high, and that a trailer could "max out" on gross weight before cubic space is filled. The recommendation is to have subject matter specialists look at it more closely.

ISSUE 10: USE OF ANNEXES TO DEPLOY ADDITIONAL EQUIPMENT AND ACCOMMODATE INCREASED MAIL VOLUMES RESULTS IN ADDITIONAL COSTS, WHICH MAY FALL DISPROPORTIONATELY ON PERIODICALS.

SUMMARY: Postal 0perations are increasingly relying on Annexes, which generate additional entry and departure costs and travel costs. These costs may fall disproportionately on Periodicals. Annexes represent a "quick fix" approach to a capacity problem that often creates inefficiencies. The team made five multiple-plant trips, including three to sites that process Periodicals in Annexes. This finding led the team to believe that Periodicals may be the most likely class of mail to be moved when an annex is opened to accommodate increased mail volume. It is important to ensure that if Periodicals mail is processed at Annexes, mailers should be able to enter mail directly at these Annexes to avoid additional costs in moving mail from one facility to another.

ACTION:	Short Term Actions	Long Term Actions
Local Postal Action	• Communicate processing responsibilities of annexes to mailers and enforce practices to guarantee the most efficient operations at annexes.	• Implement best practices
National Postal Action	• Study operations at the annexes and identify best practices to ensure peak efficiency. • Examine annex operations to determine any class specific cost impact.	
Mailer Action	• Determine the optimal way to utilize annexes (*i.e.*, where and when to drop mail). Take responsibility to ensure mail is entered at the correct facility.	

COMMENTS:

The annexes observed during the site visits have caused us to question the efficiency of annexes. At a minimum, they create additional trucking costs that can be exacerbated by poor communications. The team is also concerned that in many cases Annexes appear to be created to accommodate deployments of automation equipment, such as Small Parcel & Bundle Sorters.

The costs associated in opening and operating the annex may negate the value gained by the deployment of the automation equipment. We are not sure how the additional handling and transportation costs of Annexes are reflected in the cost-benefit analysis for machine acquisition and deployment. There are clearly substantial costs that should be considered.

ISSUE 11: THERE IS OPPORTUNITY FOR COST REDUCTION BY MORE EFFECTIVE UTILIZATION OF AUTOMATED FLAT SORTING EQUIPMENT.

SUMMARY: Flat sorting machines were often observed idle or understaffed, even though there are frequent complaints of insufficient FSM capacity, and many machinable flats are being sorted manually. FSM productivity rates have been declining sharply. Immediate action is needed locally and nationally to improve FSM utilization and restore productivity. The team observed many inefficiencies in allied operations that prepare flats for FSM sorting, including practices that we believe could be eliminated.

ACTION:	Short Term Actions	Long Term Actions
Local Postal Action	• Assure maximum FSM utilization as long as there are machinable flats needing to be sorted. • Assure that automated sorting mode is used for pre-barcoded flats, rather than using employee keying. • Eliminate non-value added allied "prep" operations, *e.g.*, separation of non-machinable, machinable and pre-barcoded flats that have been mixed in upstream operations. • Train FSM employees to recognize FSM-881 machinable polywrap and not remove properly polywrapped flats from the machines. • Train employees handling flats to distinguish Periodicals from catalogs without opening them. • Foster a more active role by supervisors.	• Analyze why FSMs often are left idle or understaffed at the same time that flats are being sorted manually. Take appropriate corrective steps to remedy. • Analyze decision processes that often cause Periodicals flats to be diverted to manual sorting and take any appropriate corrective actions. • Identify opportunities to save costs without compromising service by combining flats of different classes in incoming primary and/or secondary operations.
National Postal Action	• Analyze discrepancies between polywrap regulations and field practices. Perform necessary tests to resolve any disagreements as to when polywrapped flats are machinable. • Analyze why machinable polywrapped flats are often rejected by FSM operators and take appropriate corrective actions. • Evaluate current FSM deployment and utilization in different plants. Identify possible cost saving opportunities from re-deployment. • Evaluate possibility of a national program for address quality improvement for Periodicals flats.	• Look for low-cost opportunities to increase automated FSM capacity, *e.g.*, more Barcoding and OCR capabilities on FSM machines. • Undertake a cost benefit analysis of incoming secondary flat sorting being performed at DDUs versus at the main plants, for different types of flats and facility characteristics. • As soon as possible, determine and publish the expected impact of next-generation AFSM-100 flat sorting machines on requirements for polywrapped and other Periodicals flats.
Mailer Action	• Identify mail pieces clearly as Periodicals. • Maximize use and quality of barcodes.	

COMMENTS:

Team members were struck by frequent sights of either idle or understaffed FSMs during otherwise busy periods on Tours 1 and 3. These observations often stood in contrast to management assertions that there is insufficient FSM capacity, that many machinable flats, particularly Periodicals, therefore must be sorted manually, and that existing FSMs are used all the time except for a two hour maintenance window. During periods when FSMs were in use, they appeared to be achieving high productivity rates (1000+ TPH/workhour on FSM-881s). However, MODS data for the A.P. 1-3 of FY99 show FSM-881 productivity of only 582, compared with 734 as late as FY96 and 893 in FY88, before automated flat sorting had been introduced.

The evident tendency to leave FSMs understaffed or completely idle for substantial periods, while diverting many flats to manual sorting, requires strong and immediate action both at the local and national level to assure full equipment utilization and raise productivity rates. Substantial cost savings could be realized if FSMs were fully and optimally utilized.

The MODS data for APs 1-3 show an average of 103 recorded clerk workhours per FSM-881 per day, including Sundays. Even if staffed with full 6-man complements, which we observed often does not occur, this would indicate an average FSM-881 being used 17.2 hours per day. While the team's visits were to a limited number of sites, it appeared from our observation of FSM operations that the hours employees spend actually working the machines must be considerably less. This indicates a substantial opportunity to increase throughput and bottom-line flats productivity by moving flats from manual operations to FSM operations. With the average FSM productivity ranging around 582 during fiscal year 1999 to date, there exists an opportunity to capture additional workhours through review of work methods and adoption of best practices to raise productivity.

The team observed operators routinely diverting polywrapped flats from FSM-881 to FSM-1000 or manual sorting, even when flats were prepared according to all DMM requirements for automation compatible polywrap. This practice could cause considerable extra costs and reduce the opportunity to capture automation savings from pre-barcoded polywrapped flats. Operators, some of whom had not even heard of certified polywrap, insisted that polywrapped flats cause more frequent jams on the FSM-881s, especially when they have to go around the machine.

The question of polywrap compatibility with FSM-881s and certification must be revisited, with additional live tests to determine once and for all if the operators who reject flats with certified polywrap might be right. To the extent that FSM-881 compatibility of certain polywraps is confirmed by this re-evaluation, there must be a concerted effort to train FSM operators not to reject machinable flats from the FSM-881s.

Adding to the costs of flat sorting are various slow, inefficient and we believe in some cases totally dispensable allied "prep" operations performed before flats are sent to piece sorting. In particular, some such "prep" operations appear to exist only to separate machinable, non-machinable and pre-barcoded flats that have been mixed in some upstream sorting operation. Given that the effective productivity rates achieved in manual and FSM sorting are only marginally different, it clearly is much more efficient to allow flats that find their way into the manual stream to stay there. Some of these "prep" operations were so slow that it would have been much faster to simply sort the flats manually.

The team also felt that opening unit operations dedicated to cutting flats bundles and placing the flats in trays prior to FSM or manual sorting generally were not cost-justified because they do not add value, and that bundle cutting can be done at lower cost as part of the FSM ledge loader's duties. Since the FSM loader can place flats directly on the ledges, the steps of placing flats into trays and subsequently removing them from the trays would be eliminated. Additionally, it appeared that since the loaders are part of a team whose work is machine-paced, they tend to work considerably faster than opening unit employees left by themselves at allied "prep" operations. The observed low utilization of most FSMs also indicates that it is better to include bundle cutting in the FSM crews' duties. We believe considerable allied labor costs could be avoided by streamlining and/or eliminating allied "prep" operations.

It was observed that Periodicals flats, and not just those with polywrap, often are diverted to FSM-1000 or manual sorting. In some cases this diversion was claimed to be justified for service reasons, but this is hard to reconcile with FSMs standing idle during periods that Periodicals flats are ready to be sorted. We recommend that processing plants analyze the decision processes that lead to Periodicals flats being diverted to more costly sorting modes, and that corrective action be taken as appropriate.

More generally, we recommend a systematic study of the costs and benefits of performing incoming flat secondary sorting at the main plants versus at the DDUs. It appeared that such decisions are often made locally without the benefit of any systematic comparison of cost implications. There appeared to be a trend towards decentralization, which again is difficult to reconcile with our observations of unused FSM capacity at the plants.

FSM operations in many plants appeared to be run entirely by the clerks with little or no supervisor input. Even when crews ran into problems (*e.g.*, all flats suddenly going into the reject bin), supervisors frequently took no active role either in identifying the problems or in helping to solve them. Processing plants must insist on more active involvement by FSM supervisors, provide additional supervisor training if that is needed and consider other measures if necessary.

Mailers can best support the processing of Periodicals on the highest-productivity equipment by providing the best possible mail piece addressing, by keeping FSM-881 and FSM-1000 mail separate and identified (in most instances), and by marking polywrapped pieces clearly as "Periodicals," so that employees do not waste time trying to determine whether a mail piece is a Periodical.

ISSUE 12: THERE MAY BE INTERCLASS COST IMPACTS THAT REQUIRE FURTHER STUDY. WHAT MAY BE BEST FOR THE USPS OPERATIONS 'BOTTOM LINE' MAY NOT BE BEST FOR PERIODICALS.

SUMMARY: In some instances, the team observed costs incurred to separate mail based on machinability. We then observed that all of it was worked manually anyway. While these actions may make sense for all classes taken as a whole, they contributed to periodical cost without adding value. The Postal Service should study cost causality in these instances to insure accurate marginal cost estimates.

ACTION:	Short Term Actions	Long Term Actions
Local Postal Action		
National Postal Action	• Study whether this phenomenon presents a valid concern and, if it does, attempt to quantify its impact and determine if any modification of attribution principles is appropriate.	
Mailer Action		

COMMENTS:

In some cases, it is possible that actions that reduce overall Postal Service costs, or improve service, have the unintended effect of raising costs for Periodical mailers. For example, separating the machinable mail from the nonmachinable may be necessary for implementation of automation and overall cost reductions, but it may increase the costs of mail that continues to be sorted manually. During the team visits, plant management told us that machinable Periodical mail is frequently handled manually because longer runs of high-volume Standard (A) mail reduce the amount of non-productive set-up time required between runs. Given this input, the team believes that a focused study should be undertaken to understand why Periodicals are sometimes diverted to less efficient processes. This study should consider whether the diversion is a result of Periodicals' issues (small volumes, Periodicals service needs, or mail piece characteristics), or whether it is a desire to optimize overall postal operations at the possible expense of the methods selected to process a smaller-volume class such as Periodicals.

ISSUE 13: AN IMMEDIATE STEP CAN BE TAKEN TO PUBLICIZE AND EMPHASIZE THAT COST AND SERVICE ARE NOT MUTUALLY EXCLUSIVE, AND BOTH ARE IMPORTANT.

SUMMARY: Based on team experiences in the sites visited, there appears to be a mindset that service levels must be met regardless of the cost implications. The team believes that cost and service goals are not mutually exclusive.

ACTION:	Short Term Actions	Long Term Actions
Local Postal Action	• Increase awareness of the importance of cost at all levels of the organization. • Involve local staff in providing cost reduction suggestions. • Pursue the root cause of service problems rather than simply allocating additional resources to resolve the problem.	• Continue to test new ideas and demonstrate improvements to Headquarters.
National Postal Action	• Evaluate and identify best practices that reduce costs but maintain or improve service. • Evaluate and identify best practices that improve service without increasing cost. • Develop a system to reward innovation from local operations personnel. • Take a more active role in system-wide implementation of best practices.	• Create an environment that thrives on change. • Create an incentive program that rewards innovation and, encourages and publicizes the implementation of best practices.
Mailer Action	• Align the output of the Periodicals Service Improvement Team and this Periodicals Operations Review Team. • Provide resources that the USPS can utilize for presentations to USPS employees in plants and post offices on the importance of cost as well as service. Develop a cost-conscious culture.	• Work with the USPS on implementing recommended changes and/or worksharing initiatives that reduce cost and/or improve service.

COMMENTS:

During our visits, it was quite obvious that service is of the utmost importance to the Postal Service managers and employees we met. While dedication to the job is always a factor, this focus is in part the result of employees receiving complaints not only from mailers, but also from the actual mail recipients.[9] The USPS has responded to these pressures by resolving service problems with what appear, in many cases, to be "quick fixes," oftentimes appearing to add cost to the system. As a result, many managers provided us with little or no feedback when asked how they would reduce Periodicals processing costs if they had the latitude to do so. If this strong bias in favor of service exists at the senior local management level, one must assume that it permeates the operations. Given this, we feel that the USPS and Periodicals mailers need to take a more active role in informing management and craft employees in post offices and plants of the importance of this issue. In addition, the USPS should develop a system to reward innovation and implement best practices to balance service and cost issues throughout the system.

[9] Periodicals, more than any other type of mail, are often expected on a specific day by recipients.

ISSUE 14: COST ATTRIBUTION METHODOLOGIES SHOULD BE REVIEWED IN LIGHT OF OPERATIONAL OBSERVATIONS.

SUMMARY: Although the group did not study cost attribution issues specifically, some of the group's observations have implications for the costs that are attributed to Periodicals.

ACTION:	Short Term Actions	Long Term Actions
Local Postal Action		
National Postal Action	• Press the Postal Rate Commission to recognize differing volume variabilities across mail processing operations. • Examine alternative procedures for distributing allied labor costs to products in the next rate case.	• Continue to study and model the volume variability of mail processing operations. • Continue to develop methods to fine tune identification of cost causality for mixed mail and not handling costs.
Mailer Action		

COMMENTS:

There is strong evidence that in many operations added volume could be absorbed without causing proportional increases in labor cost. It is clear that the capacity to absorb added volume generally varies from one operation to another. Finally, it appears that the cost of allied operations reflects operations to prepare mail for individual piece distribution within the facility as well as operations to transfer mail in bulk to another facility where it may receive individual piece distribution. Hence, further study of allied operations is needed to better understand both cost behavior and the appropriate distribution of cost to the various mail classes and subclasses.

ISSUE 15: THE PERIODICALS RATE STRUCTURE SHOULD BE REVIEWED TO ENSURE THAT IT IS CONSISTENT WITH THE OVERALL PERIODICALS PROCESSING STRATEGY AND INDUCES APPROPRIATE MAILER BEHAVIOR.

SUMMARY: It is possible that the current Periodicals rate structure, which is generally package-based, may encourage the use of less finely presorted pallets and sacks than if the rate structure were container based. Given the amount of manual processing of Periodicals observed by the team, it is also possible that current barcode discount levels do not under present conditions accurately match savings achieved by mailer applications of barcodes. As the further studies called for in these recommendations are implemented, the implications for rates should be examined.

ACTION:	Short Term Actions	Long Term Actions
Local Postal Action		
National Postal Action	• Begin study of cost impacts of containerization and evaluate appropriateness of adding a layer to existing rate structure for container type/depth of sort. • Review current barcode rate structure and level; study costs of manual and machine processing based on actual machine utilization; evaluate polywrap machinability issues. • Evaluate rate consequences of interclass cost impacts. • Evaluate incentives versus makeup requirements as tools to change mailer behavior.	• Review rate structure and incentives in light of overall flats strategy and determine if current incentives are appropriate. • Consider matrix approach to rates to account for all cost causing characteristics.
Mailer Action		

COMMENTS: Although the study of rates was not part of this group's mandate, it is recognized that mailer preparation affects USPS costs, and that rates can affect mailer behavior. As a general matter and consistent with the provisions of applicable law and precedent, the USPS should structure its rates to offer appropriate rate incentives that (1) recognize and encourage mailers' beneficial

worksharing activities, and (2) encourage mail preparation that promotes efficient operations. The appropriate rate structure should be analyzed in light of any additional cost studies that are undertaken. USPS should continue to ensure, to the extent practical and consistent with statutory criteria, that it offers a rate structure that sends the proper signals to mailers and ultimately provides the lowest combined costs, including the mailers' internal costs and the postal processing costs, for Periodicals. The above recommendations should be implemented keeping in mind the other pricing criteria that require the application of such principles as fairness, equity and consideration of impact on the mailing community.

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