



# Strategic Improvement Guide for Flats Processing

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# 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.

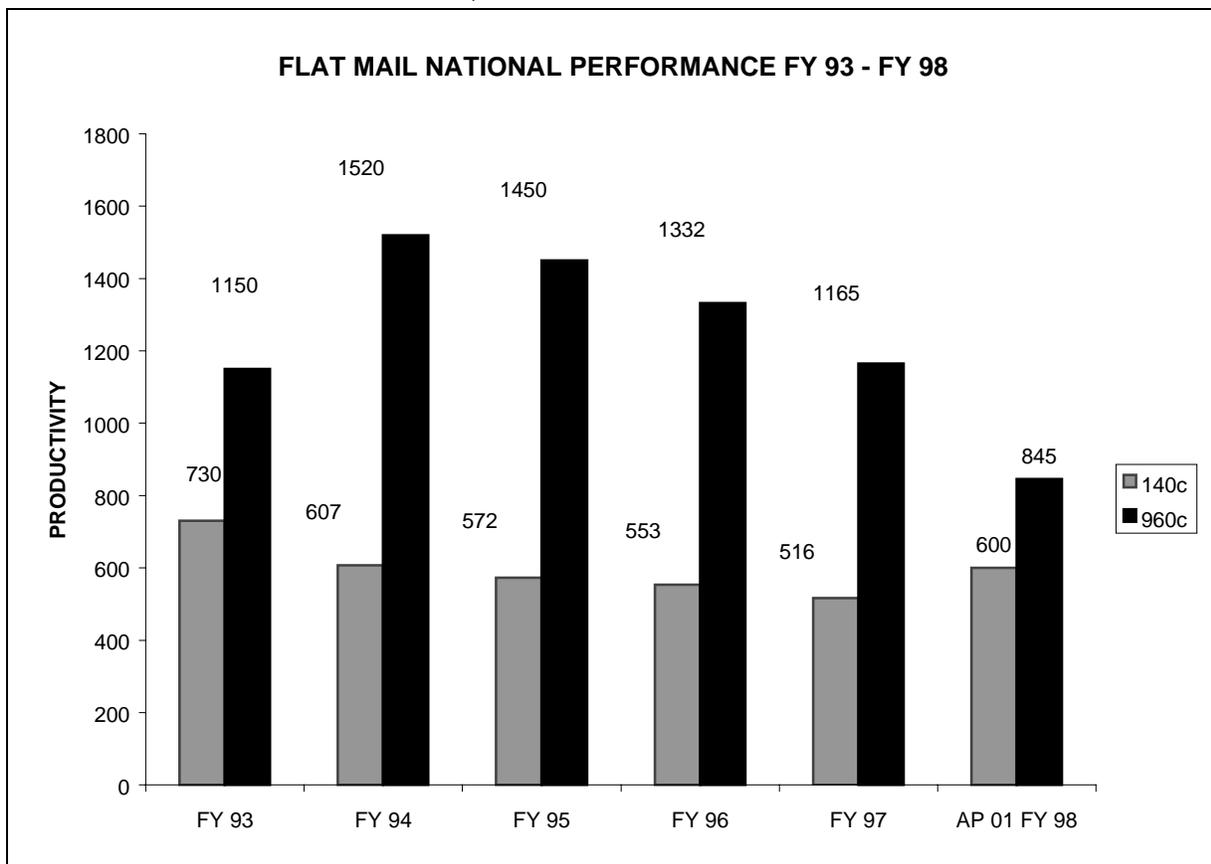
To initiate this process, Headquarters Processing Operations formed a group composed of In-Plant Support personnel from several Area offices and Processing and Distribution Centers (P&DCs). The group developed a list of all the processes, systems, and elements that have a significant effect on how we

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.

## 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) Sweepaside 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.

## 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 inefficient 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.)

## 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.

## 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:

$$\text{OEE} = \text{Machine availability} \times \text{machine throughput} \times \text{quality level}$$

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.

## 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.

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## Appendix A: Operational Checklist

### Pre-Tour Operational Checklist

- a. Determine available staffing. Check for unscheduled absences and advanced leave. Make necessary adjustments.
- b. Count on-hand volume in flats operation and opening/incoming units. Estimate additional volume. Determine whether anticipated volume is over or under daily projections or expectations.
- c. Communicate with outgoing supervisor about condition of operation, tour turnover, staffing, on-hand volumes, and machine downtime or problems.
- d. Check maintenance log book for machine problems.
- e. Ensure that necessary forms and paperwork are available.
- f. Ensure that proper sort programs are loaded.
- g. Check machines for proper equipment set-up and labels.
- h. Assign operators.
- i. Make arrangements for additional mail and know source.

### On-Tour Checklist

- a. Process mail in proper sequence.
- b. Check that all personnel are working safely (proper keying posture and safe lifting techniques).
- c. Ensure that all unauthorized persons are kept out of the operation.
- d. Supervise operators to ensure that they are not engaged in unnecessary and lengthy conversation.
- e. Supervise operators to ensure that they return from breaks and lunch promptly.
- f. Ensure that on-hand volumes are adequate for sort program processing.
- g. Check mail volumes being processed.
- h. Supervise proper and timely rotations, ensuring that operators do not leave consoles until they are properly relieved.
- i. Prompt restarts after clearing jams.
- j. Check for proper labeling of trays and containers.
- k. Check that full bins are swept (pulled).
- l. Ensure that dispatch schedules are followed and that all available mail is pulled for dispatch.
- m. Check that mail for downstream operations is dispatched frequently.
- n. Supervise ledge loaders to ensure that they are properly facing and preparing mail.
- o. Check that non-machineable mail is culled and faced in trays for downstream operations.
- p. Ensure that the keyer/feeder loads ledges during machine stops.
- q. Check hourly console and machine throughput.
- r. Check for good housekeeping — e.g., that aisles are kept clear, etc.
- s. Ensure efficient sort program changeovers.

## Post-Tour Checklist

- a. Ensure that all mail has been processed; if the incoming tour will continue the process, make sure all ledges loaded.
- b. Check bins to ensure that all are swept (pulled).
- c. Ensure that residual mail is sent to proper operation or staging area.
- d. Ensure that all mail is properly dispatched.
- e. Minimize pull-down time; keep sweeper hours to a minimum.
- f. Obtain machine reports.
- g. Maintain good housekeeping and leave the machine area in a condition that will allow for safe operation by the oncoming crew.
- h. Set up for the incoming tour.
- i. Reassign employees if necessary.
- j. Discuss operation condition, mail availability, mailflow problems, and machine problems with the incoming supervisor.
- k. Complete all required reports and disseminate appropriately.

## Appendix B: Area FSM Coordinators

### FSM 1000 Area Coordinators

<b>Area</b>	<b>Name</b>	<b>Telephone</b>
Allegheny	Damon Manz	412-494-2588
Capital Metro	Jug Bedi	301-548-1407
CTD*	Dale Ellis	202-268-8714
Great Lakes	Pat Davis	630-539-4752
Mid-Atlantic	Steve Bond	703-824-5083
Midwest	Daryl Ashbacher	314-692-5313
New York Metro	Peter Baylis	718-321-5849
Northeast	Bill Boughton	860-285-7162
Pacific	Brad Fulton	415-635-3042
Southeast	Steve Scott	770-390-5973
Southwest	Melissa McCrea	214-819-8618
Western	Gary Hegstad	303-391-5973

\* Corporate Training and Development

### FMOCR Area Coordinators

<b>Area</b>	<b>Name</b>	<b>Telephone</b>
Allegheny	Damon Manz	412-494-2588
Capital Metro	Don Cucurullo	301-548-1416
Great Lakes	Pat Davis	630-539-4752
Mid-Atlantic	Steve Bond	703-824-5083
Midwest	Daryl Ashbacher	314-692-5313
New York Metro	Peter Baylis	718-321-5849
New York Metro	James A. Martin	718-321-5754
Northeast	Bill Boughton	860-285-7162
Pacific	Brad Fulton	415-635-3042
Southeast	Larry Kinter	770-390-5972
Southeast	Dennis K. Smith	901-747-7450
Southwest	Melissa McCrea	214-819-8618
Western	Gary Hegstad	303-391-5973

## Appendix C: SOP Model

### Standard Operating Procedure (SOP) — Sample Narrative Format

In addition to the SOP requirements outlined on the first page of the SOP model, you also must address the following items in a brief narrative on a separate page.

- a. State whether the operation is a continuation from a previous tour or begins and ends within the same tour.
- b. Under Critical Entry and Clearance Times, include Input and Output Process indicators to compare the actual normal conditions during these time periods against the objectives of the overall operations.
- c. Document proper and safe work methods for performing all the tasks within the operations. Develop a methods guide or a user's manual that is easily accessible to anyone supervising the operation.
- d. Add a separate attachment to identify the internal customers of this particular operation. Address the requirements expected by these customers and the benefits they derive from an effective and complete operation. This list should include indicators used to assess performance against the internal customer requirements (for example, "customers require 24-hour response time") to measure how well the customer's requirement are met.

## Standard Operating Procedure (SOP) — Sample Model

Note: The following text replicates the information requested on the following form, but it is presented here without the design of the form. A completed form is provided as an example, and it is followed by the sample model.

### **1. General Information**

- a. SOP Control Number:
- b. Date:
- c. Office:
- d. Important Phone Numbers:

### **2. Operation Information**

- a. Operation Name:
- b. Operation Location:
- c. Operation Number(s):
- d. Operation Description:
- e. Operation Objective:

### **3. Hours**

- a. Critical Entry Time (CET):
- b. Clearance Time (CT):
- c. Hours of Operation (See Operating Plan):
- d. Peak Hours:

### **4. Volume and Productivity**

- a. Average Daily Volume:
- b. Productivity Targets:

### **5. Flow of Mail**

- a. Sources of Mail (Operations & Locations):
- b. Downflow/Destination of Mail:

### **6. Equipment**

- a. Initial Support Equipment:
- b. Number & Type of Machines Used Daily (Weekday/Weekend):

**7. Processing Tools**

- a. Auto/Mech/Manual-Sort Plans/Case Diagrams:

**8. Routine Operation**

- a. Begin Tour Routine:
- b. Site Specific Information:
- c. Safety:
- d. Scheduling of Breaks & Lunches:
- e. Staffing:
- f. End Tour Routine:

**9. Unit(s) of Count**

**10. Contingency Plan**

<b>STANDARD OPERATING PROCEDURES (SOPS) — SAMPLE EXAMPLE</b>	
<b>1. GENERAL INFORMATION</b>	
<b>SOP Control Number</b>	100.
<b>Date</b>	22-Oct-95.
<b>Office</b>	Anywhere P&DC.
<b>Important Phone Numbers</b>	MDO Office 703-345-6789 In-Plant Support 703-345-6780 Safety 703-345-6781 Labor Relations 703-345-6782.
<b>2. OPERATION INFORMATION</b>	
<b>Operation Name</b>	First Class Opening Unit.
<b>Operation Location</b>	East end of main building between columns A-2 and H-24. Operation is located adjacent to MLOCR, BCS & MPLSM machines and easily identified by large purple conveyor system.
<b>Operation Number(s)</b>	010, 011, 015, 020, 110. Include MODS # descriptor.
<b>Operation Description</b>	1 Dual Pass Rough Cull System, 1 Loose Mail System (purple monster), 4 Advanced Facer Cancelers, 1 Mark II Facer Canceler, 2 Flyers and 1 Flats Canceler.
<b>Operation Objective</b>	To cull, face, cancel and prepare raw collection and meter mail for processing in downstream operations by prescribed operation completion time.
<b>3. HOURS</b>	
<b>Critical Entry Time (CET)</b>	2000 hours.
<b>Clearance Time (CT)</b>	2125 hours.
<b>Hours of Operation (See Operating Plan)</b>	1300-2230 hours.
<b>Peak Hours</b>	1900-2100 hours.
<b>4. VOLUME AND PRODUCTIVITY</b>	
<b>Average Daily Volume</b>	600k/weekday and 300k/Saturday.
<b>Productivity Targets</b>	?k/hour on AFCS, ?k/hour on Flats Canceler and ?k/hour on Mark II.

<b>5. FLOW OF MAIL</b>	
<b>Sources of Mail (Operations &amp; Locations)</b>	Inbound collection platform outside doors on east side of 010 operation. Mail transported to unit by platform mailhandlers. Use proper placarding/labeling.
<b>Downflow/Destination of Mail</b>	Destination of mail after processed in current operation. List sort programs that apply in current and subsequent operations.
<b>6. EQUIPMENT</b>	
<b>Initial Support Equipment</b>	10 gurneys, 5 GPMCs, 3 large hampers.
<b>Number &amp; Type of Machines Used Daily (Weekday/Weekend)</b>	4 AFCSs, 2 Mark IIs, 2 Flyers, 1 Flats Canceler on weekdays. 4 AFCSs, 1 Mark II, 1 Flyer, 1 Flats Canceler on Saturdays.
<b>7. PROCESSING TOOLS</b>	
<b>Auto/Mech/Manual-Sort Plans/Case Diagrams</b>	See attached floor layout.
<b>8. ROUTINE OPERATION</b>	
<b>Begin Tour Routine</b>	Interface with previous tour supervisor to determine equipment availability, mail condition and other pertinent information necessary for smooth transition. Briefly meet with unit employees to discuss daily targets/goals.
<b>Site Specific Information</b>	Supervision divided among several supervisors.
<b>Safety</b>	Good Housekeeping, weekly safety talks.
<b>Scheduling of Breaks &amp; Lunches</b>	Locally determined procedures should be inserted.
<b>Staffing (Refer to attached employee roster, including craft, overtime desired list and sources for relief)</b>	Typically, 18 employees/day on weekdays, 13 employees/day on Saturdays. 1 each/AFCS/Mark II/Dual Pass/Loose Mail System/Flyers/Flats Canceler. 5 for break & lunch relief, 2 for meter belt and 1 for internal transport. Saturday does not require relief.
<b>End Tour Routine</b>	Perform walk through of area to ascertain whether all mail has been removed accordingly. Reassign employees as needed. Generate and/or complete all required reports for submission to appropriate offices. Interface with subsequent tour supervisor.
<b>9. UNIT(S) OF COUNT</b>	Pieces off end of run reports.
<b>10. CONTINGENCY PLAN</b>	See attached.

<b>STANDARD OPERATING PROCEDURES (SOPS) — SAMPLE MODEL</b>	
<b>1. GENERAL INFORMATION</b>	
<b>SOP Control Number</b>	
<b>Date</b>	
<b>Office</b>	
<b>Important Phone Numbers</b>	
<b>2. OPERATION INFORMATION</b>	
<b>Operation Name</b>	
<b>Operation Location</b>	
<b>Operation Number(s)</b>	
<b>Operation Description</b>	
<b>Operation Objective</b>	
<b>3. HOURS</b>	
<b>Critical Entry Time (CET)</b>	
<b>Clearance Time (CT)</b>	
<b>Hours of Operation (See Operating Plan)</b>	
<b>Peak Hours</b>	
<b>4. VOLUME AND PRODUCTIVITY</b>	
<b>Average Daily Volume</b>	
<b>Productivity Targets</b>	

5. FLOW OF MAIL	
Sources of Mail (Operations & Locations)	
Downflow/Destination of Mail	
6. EQUIPMENT	
Initial Support Equipment	
Number & Type of Machines Used Daily (Weekday/Weekend)	
7. PROCESSING TOOLS	
Auto/Mech/Manual-Sort Plans/Case Diagrams	
8. ROUTINE OPERATION	
Begin Tour Routine	
Site Specific Information	
Safety	
Scheduling of Breaks & Lunches	
Staffing (Refer to attached employee roster, including craft, overtime desired list and sources for relief)	
End Tour Routine	
9. UNIT(S) OF COUNT	
10. CONTINGENCY PLAN	

## Appendix D: Productivity Goals

### Flat Mail Productivity Goals

#### FSM 1000

OPN	PCS/HR
441	650
442	650
443	650
444	650
445	650
446	650

#### FMBCR 1000

OPN	PCS/HR
461	850
462	850
463	850
464	850
465	850
466	850

#### Manual Flats

OPN	PCS/HR
060	400
070	400
073	400
074	400
170	400
175	400

#### FSM 881

OPN	PCS/HR
141	800
142	700
143	750
144	750
145	750
146	700
147	650
148	550

#### FMBCR 881

OPN	PCS/HR
961	800
962	800
963	850
964	1000
965	900
966	800

#### FMOCR 881

OPN	PCS/HR
421	900
422	900
423	900
424	900
425	900
426	900

## Appendix E: List of AMTES

### Area Mail Transport Equipment Specialists

<b>Area</b>	<b>Name</b>	<b>Telephone</b>
Allegheny	Freemont Rigel	412-494-2641
Great Lakes	Bob Cebulski	630-539-4739
Mid-Atlantic	John Robinson	301-925-1726
Midwest	Paul Bailey	314-692-5345
New York Metro	Hank Borchers	212-330-3728
Northeast	AMTES	860-285-7163
Pacific	Kim Adams	650-615-7156
Southeast	Jim Stephens	770-390-5935
Southwest	Earl Coffey	214-819-8760
Southwest	Dianne Reeves	214-819-8825
Western	Donna Lawrence	602-223-3534

## Appendix F: Polywrap Films for Barcoded Flats

[Note: The following two articles are reprinted from *Postal Bulletin* 21955 (9-25-97) and *Mailers Companion* (November 1997).]

### Authorized Vendors of Polywrap Films for Barcoded Flats

This article summarizes provisions regarding the use of polywrap coverings on pieces claiming barcoded rates for flats. It also provides an updated listing of approved polywrap films, including manufacturers and suppliers of those films, certified by the Postal Service since the last printing of this list in *Postal Bulletin* 21930 (10-10-96) (see below).

*Domestic Mail Manual* (DMM) C820.3.1 establishes procedures for approval of the use of polywrap material for flat-size pieces entered at automation rates. Automation flats rate may be claimed for polywrap-enclosed flats *only* when a mailer uses an approved polywrap material and prepares each mailing according to applicable mailing standards as specified by the USPS mailpiece design analyst (MDA) responsible for the service area where the authorized mailing will be entered.

Flats sealed in polywrap materials that have not been approved by the Postal Service are ineligible for automation rates. Such pieces are considered nonmachinable and ineligible for the barcoded rates for flats. Polywrap, shrinkwrap, or plastic material should not be used on letter-size pieces.

Any polywrap film approved for use by the Postal Service is authorized for use indefinitely unless or until that film's authorization is suspended by the Postal Service for noncompliance or for the film's failure to meet postal processing standards.

A mailer approved to use an approved polywrap film may be authorized for a period not to exceed one year. At the MDA's discretion, a mailer may be exempted from subsequent re-certification. This authorization may be revoked by the Postal Service if the mailer does not comply with all applicable mailing standards for automated flats.

The MDA evaluates the sample pieces to confirm that the pieces meet postal mailing standards and are able to be processed in the automated flats mailstream. Mailpieces entered by a mailer that has received authorization to use polywrap materials on automation flats are still subject to verification at the time of acceptance. When presented for verification and acceptance at the bulk mail entry unit (BMEU), the mailer's pieces must meet all applicable mailing standards for automation flats and the terms and conditions set forth in the mailer's polywrap authorization.

After receipt of authorization, it is the mailer's responsibility to prepare each mailing according to the standards prescribed by the Postal Service. Failure to comply with standards applicable to the polywrap film use can result in forfeiture of authorization to mail polywrapped pieces at the automation rate for flats and

will result in assessment of postage at the higher presort or single-piece rates, as applicable.

Any mailer may prepare and mail polywrapped flats. However, only mailers authorized by the Postal Service and presenting written proof of that authorization may mail these polywrapped pieces at automation rates for flats. A mailer may not claim automation rates for letters prepared in polywrap material.

No exceptions may be made by any postal facility or postal employee for polywrapped pieces or polywrap film materials that do not meet all applicable DMM mailing standards and that cannot be successfully processed on postal automated equipment.

— *Mail Preparation and Standards, Marketing Systems, 9-25-97*

#### Authorized Vendors

Product Name	Polywrap Type	Approved For Use With		Mail Type	Manufacturer or Distributor	Contact	Telephone
		Weight	Trim Size				
AdPak EZ	shrinkwrap	2-7 oz.	6x7 to 8x11	direct mailpieces	Admiral Packaging	Ann B. Pare	401-276-8414
AdPak HC	polypropylene	up to 6 oz	6x9 to 8x11	direct mailpieces	Admiral Packaging	Ann B. Pare	401-276-8414
AdPak N125	polypropylene	3-12 oz	6.5 x11	direct mailpieces	Admiral Packaging	Ann B. Pare	401-276-8414
AdPak 125	polyethylene	up to 6 oz	6x9 to 8x11	direct mailpieces	Admiral Packaging	Ann B. Pare	401-276-8414
AdPak 150	polyethylene	up to 6 oz	6x9 to 8x11	direct mailpieces	Admiral Packaging	Ann B. Pare	401-276-8414
Allied Signal RL-22	shrinkwrap	2-7 oz.	6x7 to 8x11	card packs, direct mailpieces	John Edwards Co.	Larry Mead	704-821-6244
Amtopp C1150	polypropylene	2-9 oz.	8x11	magazines	Amtopp Corporation	Ron Silen	201-740-8220
Amtopp C1160	polypropylene	2-9 oz.	8x11	magazines	Amtopp Corporation	Ron Silen	201-740-8220
Armin Paper II	polyethylene	4-16 oz.	8x11	magazines	Armin Company	Richard A. Kula	847-680-0407
Armin Postal II	polyethylene	4-16 oz.	8x11	magazines	Armin Company	Richard A. Kula	847-680-0407
Armin PS1	polyethylene	12-16 oz.	8x11	direct mailpieces	Armin Company	Richard A. Kula	847-680-0407
Armin 272	polyethylene	8-12 oz.	7x10	direct mailpieces	Armin Company	Richard A. Kula	847-680-0407
Armin 2402	polyethylene	12-16 oz.	8x11	direct mailpieces	Armin Company	Richard A. Kula	847-680-0407
Armin 2501	polyethylene	12-16 oz.	8x11	direct mailpieces	Armin Company	Richard A. Kula	847-680-0407
Bemis CO6-9150	polyethylene	4-16 oz.	8x11	direct mailpieces	Bemis Company, Inc.	Brian Silvers	815-544-4598
Bicor 140 BSR-ONE	polypropylene	1.5-9 oz.	6x7	direct mailpieces, card packs	Mobil Chemical Co.	David Davenport	847-605-9777
bpi Mailwrap	polyethylene	2-16 oz.	8x11	direct mailpieces	Brentwood Plastics Inc.	Sam Longstreth	314-968-1135
Clysar ABL	shrinkwrap	2-7 oz.	6x7 to 8x11	card packs, direct mailpieces	DuPont Company	Suzanne Riley	302-773-2289
Clysar EZ	shrinkwrap	2-7 oz.	8x11	card packs, direct mailpieces	DuPont Company	Suzanne Riley	302-773-2289
Cryovac D940	shrinkwrap	2-7 oz.	6x7 to 8x11	card packs, direct mailpieces	W R Grace & Co.	Fred Calmes	800-845-FILM
Cryovac D955	shrinkwrap	2-7 oz.	6x7 to 8x11	card packs, direct mailpieces	WR Grace & Co.	Fred Calmes	800-845-FILM

Authorized Vendors							
Product Name	Polywrap Type	Approved For Use With		Mail Type	Manufacturer or Distributor	Contact	Telephone
		Weight	Trim Size				
Cryovac MPD2055	shrinkwrap	2-7 oz.	6x7 to 8x11	card packs, direct mailpieces	WR Grace & Co.	Fred Calmes	800-845-FILM
Cryovac MPD2100	shrinkwrap	2-7 oz.	6x7 to 8x11	card packs, direct mailpieces	WR Grace & Co.	Fred Calmes	800-845-FILM
Delta PFW 1	shrinkwrap	2-7 oz.	8x11	direct mailpieces	Delta Plastics Corp.	Harry Anthony	800-221-4863
Delta PFW 2	shrinkwrap	2-7 oz.	8x11	direct mailpieces	Delta Plastics Corp.	Harry Anthony	800-221-4863
Exlfilm IP42	shrinkwrap	2-7 oz.	8x11	card packs, direct mailpieces	Intertape Polymer Inc. Canada/USA	Silvano Laboni	902-895-1686 800-567-8273
EZ Bag	polyethylene	up to 6 oz.	6x9 to 8x11	direct mailpieces	Sharp Packaging	Greg Knaebe	414-246-8815
InteTopp-222AA35	polypropylene	2-14oz	6x7 to 8x11	card packs	Amtopp Corporation	Ron Silen	201-740-8220
Flex-Tuff 1100LL	blended polyfilm	up to 8 oz.	6x7 to 8x11	direct mailpieces magazines	Flexible Packaging	Mike Edlin	502-491-3500
J&J Bag USS-1	polypropylene	up to 16 oz.	8x11	direct mailpieces	J&J Bags LTD	Jerry Title	416-249-7261 Canada
JR 106	polyethylene	up to 6oz	6x9 to 8x11	direct mailpieces	James River Corp.	Joe Gleisinger	513-576-7108
Mailer	polyethylene	3-16 oz.	6x9 to 8x11	direct mailpieces magazines	Quality Extrusions Inc.	Jim Thro and Don Lind	507-387-4131
MAILRAP WC-725	polyethylene	up to 6oz	8x11	direct mailpieces magazines	Innovative Packaging	Bruce Hollander	914-762-5404
MAILRAP WC-732	polyethylene	up to 6oz	8x11	direct mailpieces, magazines	Innovative Packaging	Bruce Hollander	914-762-5404
NEX 3015	polyethylene	3-12 oz.	6.5x11	direct mailpieces	New England Extrusions	Jeff Brandenburg	800-537-3180
PE 1020	polyethylene	12-16 oz.	7-8.5x11	direct mailpieces	Rexene Resins	Jim Leech	214-450-9000
Sorterap MDC 1000	polyethylene	up to 6oz	6x9 to 8x11	direct mailpieces	PolyFlex Corporation	Bruce Hollander	914-762-5100
WC-802	coextrud-poly	3-16 oz.	8x11	catalogs, magazines	Innovative Packaging	Bruce Hollander	914-762-5404
WC-803	coextrud-poly	3-16 oz.	8x11	catalogs, magazines	Innovative Packaging	Bruce Hollander	914-762-5404
WC-804A	coextrud-poly	2-9.5 oz.	8x11	catalogs, magazines	Innovative Packaging	Bruce Hollander	914-762-5404
WC-804B	coextrud-poly	2-9.5 oz.	8x11	catalogs, magazines	Innovative Packaging	Bruce Hollander	914-762-5404

## More Polywrap Films Approved

For flat-size pieces to be eligible for the Automation rate, their polywrap wrapping must be approved by the Postal Service and by a mailpiece design analyst (MDA) in the entry office's service area. In addition to the USPS-approved films listed in *Postal Bulletin 21955 (9-25-97)*, three new films have also been approved.

These new films are: REYNOLON X-193 and REYNOLON 3011, produced by Reynolds Metals Company at (804) 281-2227, and Uniplast Q-887, produced by Uniplast/Turex and Uniplast/Pierson Industries at (610) 925-9623.

## Appendix G: References

### **API**

Automation Proficiency Improvement (API); USPS Course # 55667-61, October 1997.

### **FMOCR**

FMOCR, USPS Course # 52523-00, March 1998.

### **FSM 1000**

Flat Sorting Machine (FSM) 1000 Mail Processing Supervisor Student Training Manual; Lockheed Martin Course # 56535-01, December 16, 1996.

Flat Sorting Machine (FSM) 1000 Operator Student Training Manual; Lockheed Martin Course # 56535-02, December 16, 1996.

Flat Sorting Machine (FSM) 1000 User Guide; Lockheed Martin, December 16, 1996.

FSM 1000 In-Plant Support Guide; Lockheed Martin, June 1997.

### **FSM 881**

Flat Sorting Machine (FSM) 881 User's Manual; Martin Marietta, September 1992.

FSM 881: Flat Sorting Machine Guidelines; USPS Handbook PO 406-A, December 1993.

### **Sort Program System**

Sort Program System (SPS); USPS Course # 50284-00, April 1997.

Sort Program System (SPS) Users Guide, June 1993.

### **Miscellaneous**

PSDS Time and Attendance; USPS Handbook F-22, December 12, 1985.

## Appendix H: Content Identifier Numbers (CINs)

Note: CINs that are relevant to flat operations are in bold type.

141	EXPRESS MAIL	202	CFS LTRS
142	EXPRESS COLLECTOR	203	CFS FLTS
144	SAME DAY EXPRESS MAIL	205	DELIVERY
		206	DEL LTRS
145	PRIORITY	207	DEL FLTS
147	PRIORITY LTRS	<b>223</b>	<b>FCM FLTS MXD Z OCR-NR</b>
		<b>224</b>	<b>FCM FLTS 5D OCR-NR</b>
153	PRIORITY FLTS	<b>225</b>	<b>FCM FLTS 3D OCR-NR</b>
		<b>226</b>	<b>FCM FLTS ADC OCR-NR</b>
159	PRIORITY PARCELS	<b>227</b>	<b>FCM FLTS CITY OCR-NR</b>
		<b>228</b>	<b>FCM FLTS SCF OCR-NR</b>
166	REGISTERED MAIL	<b>230</b>	<b>FCM FLTS MXD ZONES BC</b>
167	FCM LTRS FIRM DRX BC		
168	STD LTRS & FLTS	240	FCM LTRS MXD ZONES BC
169	FCM NON-CODEABLE LTRS	242	FCM LTRS 5D BC
170	PER NON-CODEABLE LTRS	244	FCM LTRS 3D BC
171	STD NON-CODEABLE LTRS	245	FCM LTRS AADC BC
172	FCM LT FIRM DRX NO BC	247	FCM LTRS CITY BC
173	FCM FLTS FIRM DRX	248	FCM LTRS SCF BC
174	FIM MIXED FIRMS	250	FCM LTRS 5D NON BC
		253	FCM LTRS 3D NON BC
176	COLLECTION	256	FCM LTRS ADC NON BC
177	COLL EXPRESS	261	FCM LTRS CITY NON BC
178	COLL PRIORITY	262	FCM LTRS SCF NON BC
179	COLL METERED	266	FCM LTRS CR
180	COLL METERED LTRS		
181	COLL METERED FLTS	<b>272</b>	<b>FCM FLTS 5D BC</b>
182	COLL FCM LTRS CANC	<b>273</b>	<b>FCM FLTS 3D BC</b>
183	COLL FCM LTRS UNCANC	<b>274</b>	<b>FCM FLTS ADC BC</b>
184	COLL FCM FLTS CANC	<b>276</b>	<b>FCM FLTS CITY BC</b>
185	COLL FCM FLTS UNCANC	<b>277</b>	<b>FCM FLTS SCF BC</b>
186	COLL FCM PARCELS	<b>278</b>	<b>FCM FLTS 5D NON BC</b>
187	COLL PER/NEWS LTRS	<b>279</b>	<b>FCM FLTS 3D NON BC</b>
188	COLL PER/NEWS FLTS	<b>280</b>	<b>FCM FLTS ADC NON BC</b>
189	COLL STD LTRS	<b>283</b>	<b>FCM FLTS CITY NON BC</b>
190	COLL STD FLTS	<b>284</b>	<b>FCM FLTS SCF NON BC</b>
191	COLL STD PARCELS	<b>285</b>	<b>FCM FLTS CR</b>
193	MISSENT	289	FCM PARCELS 5D
194	CFS	290	FCM PARCELS 3D
198	RTS RETURN TO SENDER	291	FCM PARCELS ADC
199	RTS LTRS	293	FCM PARCELS CITY
200	RTS FLTS	294	FCM PARCELS SCF

295	FCM PARCELS CR	450	NEWS LTRS 5D NON BC
<b>323</b>	<b>PER FLTS MXD Z OCR-NR</b>	453	NEWS LTRS 3D NON BC
<b>324</b>	<b>PER FLTS 5D OCR-NR</b>	456	NEWS LTRS ADC NON BC
<b>325</b>	<b>PER FLTS 3D OCR-NR</b>	461	NEWS LTRS CITY NON BC
<b>326</b>	<b>PER FLTS ADC OCR-NR</b>	462	NEWS LTRS SCF NON BC
<b>327</b>	<b>PER FLTS CITY OCR-NR</b>	466	NEWS LTRS CR
<b>328</b>	<b>PER FLTS SCF OCR-NR</b>	<b>472</b>	<b>NEWS FLTS 5D BC</b>
<b>330</b>	<b>PER FLTS MXD ZONES BC</b>	<b>473</b>	<b>NEWS FLTS 3D BC</b>
342	PER LTRS 5D BC	<b>474</b>	<b>NEWS FLTS ADC BC</b>
344	PER LTRS 3D BC	<b>476</b>	<b>NEWS FLTS CITY BC</b>
345	PER LTRS AADC BC	<b>477</b>	<b>NEWS FLTS SCF BC</b>
347	PER LTRS CITY BC	<b>478</b>	<b>NEWS FLTS 5D NON BC</b>
348	PER LTRS SCF BC	<b>479</b>	<b>NEWS FLTS 3D NON BC</b>
350	PER LTRS 5D NON BC	<b>480</b>	<b>NEWS FLTS ADC NON BC</b>
353	PER LTRS 3D NON BC	<b>483</b>	<b>NEWS FLTS CITY NON BC</b>
356	PER LTRS ADC NON BC	<b>484</b>	<b>NEWS FLTS SCF NON BC</b>
361	PER LTRS CITY NON BC	<b>485</b>	<b>NEWS FLTS CR</b>
362	PER LTRS SCF NON BC	489	NEWS IRREG 5D
366	PER LTRS CR	490	NEWS IRREG 3D
<b>372</b>	<b>PER FLTS 5D BC</b>	491	NEWS IRREG ADC
<b>373</b>	<b>PER FLTS 3D BC</b>	493	NEWS IRREG CITY
<b>374</b>	<b>PER FLTS ADC BC</b>	494	NEWS IRREG SCF
<b>376</b>	<b>PER FLTS CITY BC</b>	495	NEWS IRREG CR
<b>377</b>	<b>PER FLTS SCF BC</b>	<b>523</b>	<b>STD FLTS MXD Z OCR-NR</b>
<b>378</b>	<b>PER FLTS 5D NON BC</b>	<b>524</b>	<b>STD FLTS 5D OCR-NR</b>
<b>379</b>	<b>PER FLTS 3D NON BC</b>	<b>525</b>	<b>STD FLTS 3D OCR-NR</b>
<b>380</b>	<b>PER FLTS ADC NON BC</b>	<b>526</b>	<b>STD FLTS ADC OCR-NR</b>
<b>383</b>	<b>PER FLTS CITY NON BC</b>	<b>527</b>	<b>STD FLTS CITY OCR-NR</b>
<b>384</b>	<b>PER FLTS SCF NON BC</b>	<b>528</b>	<b>STD FLTS SCF OCR-NR</b>
<b>385</b>	<b>PER FLTS CR</b>	<b>530</b>	<b>STD FLTS MXD ZONES BC</b>
389	PER IRREG 5D	540	STD LTRS MXD ZONES BC
390	PER IRREG 3D	542	STD LTRS 5D BC
391	PER IRREG ADC	544	STD LTRS 3D BC
393	PER IRREG CITY	545	STD LTRS AADC BC
394	PER IRREG SCF	547	STD LTRS CITY BC
395	PER IRREG CR	548	STD LTRS SCF BC
<b>423</b>	<b>NEWS FLT MXD Z OCR-NR</b>	550	STD LTRS 5D NON BC
<b>424</b>	<b>NEWS FLTS 5D OCR-NR</b>	553	STD LTRS 3D NON BC
<b>425</b>	<b>NEWS FLTS 3D OCR-NR</b>	556	STD LTRS ADC NON BC
<b>426</b>	<b>NEWS FLTS ADC OCR-NR</b>	561	STD LTRS CITY NON BC
<b>427</b>	<b>NEWS FLTS CITY OCR-NR</b>	562	STD LTRS SCF NON BC
<b>428</b>	<b>NEWS FLTS SCF OCR-NR</b>	563	STD LTRS CR BC
<b>430</b>	<b>NEWS FLT MXD ZONES BC</b>	566	STD LTRS CR
442	NEWS LTRS 5D BC	<b>572</b>	<b>STD FLTS 5D BC</b>
444	NEWS LTRS 3D BC	<b>573</b>	<b>STD FLTS 3D BC</b>
445	NEWS LTRS AADC BC	<b>574</b>	<b>STD FLTS ADC BC</b>
447	NEWS LTRS CITY BC	<b>576</b>	<b>STD FLTS CITY BC</b>
448	NEWS LTRS SCF BC	<b>577</b>	<b>STD FLTS SCF BC</b>
		<b>578</b>	<b>STD FLTS 5D NON BC</b>

<b>579</b>	<b>STD FLTS 3D NON BC</b>	724	FLTS MEXICO
<b>580</b>	<b>STD FLTS ADC NON BC</b>	726	LTRS BC FGN WKG
<b>583</b>	<b>STD FLTS CITY NON BC</b>	727	LTRS BC FGN DRX
<b>584</b>	<b>STD FLTS SCF NON BC</b>	728	LTRS FGN
<b>585</b>	<b>STD FLTS CR</b>	729	LTRS FGN DRX
590	STD A IRREG 5D	731	FLTS BC FGN
591	STD A IRREG 3D	732	FLTS BC FGN DRX
592	STD A IRREG ADC	733	FLTS FGN
595	STD A IRREG CITY	734	FLTS FGN DRX
596	STD A IRREG SCF	736	M BAG AIR
597	STD A IRREG CR	737	M BAG SURFACE
660	STD A/B MACH 5D	739	PRNTD MTR FGN DRX
663	STD A/B MACH BMC	740	PRNTD MTR FGN WKG
665	STD A/B MACH CITY	742	PER AO FGN DRX
666	STD A/B MACH SCF	743	PER AO WKG FGN
670	STD A MACH 5D	744	AO AIR FGN
671	STD A MACH 3D	745	PARCELS AIR FGN
673	STD A MACH BMC	746	PARCELS AIR CANADA
675	STD A MACH CITY	747	PARCELS AIR MEXICO
676	STD A MACH SCF	748	AO SURF FGN
680	STD B MACH 5D	749	PARCELS SURF FGN
681	STD B MACH 3D	750	PARCELS SURF CAN
683	STD B MACH BMC	751	PARCELS SURF MEX
685	STD B MACH CITY	753	ISAL DRX
686	STD B MACH SCF	754	ISAL WKG
690	STD B IRREG 5D	755	INTL OUTBOUND
691	STD B IRREG 3D	756	MIL EMMS
692	STD B IRREG ADC	757	MIL JUMPS
693	STD B IRREG BMC	758	MIL LTRS
695	STD B IRREG CITY	759	MIL FLTS
696	STD B IRREG SCF	760	MIL PRIORITY
697	STD B IRREG CR	761	MIL MOM
700	GLOBAL GUARANTEED	762	MIL SAM
701	INTL EXPRESS	763	MIL PAL
702	GPM WKG	764	MIL SURFACE
712	LTRS BC CANADA	766	MIL NEWS MOM
713	LTRS BC CANADA WKG	767	MIL NEWS SAM
714	LTRS CANADA	800	#1 PLASTIC SACK
715	LTRS CANADA WKG	801	#1 DOMESTIC SACK
717	FLTS BC CANADA WKG	805	#2 DOMESTIC SACK
718	FLTS CANADA	806	#2 BROWN SACK
720	LTRS BC MEXICO WKG	807	#2 BROWN PLASTIC SACK
721	LTRS MEXICO	810	#3 DOMESTIC SACK
723	FLTS BC MEXICO WKG	811	#3 BROWN SACK
		812	#3 WHITE PLASTIC SACK
		815	FCM #3 SACK

817	#1 FASTNET SACK	860	FOREIGN #0 SACK
818	#3 FASTNET SACK	861	FOREIGN #1 SACK
820	AIRLIFT PP SACK AK-HI	862	FOREIGN #2 SACK
825	#2 CANVAS POUCH	865	#1 FOREIGN AIR POUCH
830	#1 US PRIORITY PCH	866	#2 FOREIGN AIR POUCH
831	#2 US PRIORITY PCH	867	FOREIGN AIR PP POUCH
832	US PRIORITY POUCH	868	FGN PP POUCH PLASTIC
835	FCM #1 POUCH	870	US MAIL FGN SACK ISAL
840	#1 SAM POUCH	872	SM INTL EXPRESS POUCH
841	PARCEL POST SAM POUCH	873	LG INTL EXPRESS POUCH
842	PARCEL POST MOM POUCH	875	FGN AIR EQUIPMENT
843	#1 MOM POUCH	876	FGN SURFACE EQUIPMENT
850	SECURITY POUCH LINER	880	MIXED DEFECTIVES
855	EXPRESS MAIL POUCH		