

LABOR RELATIONS



July 9, 2004

Mr. James P. McCarthy
Director, Clerk Division
American Postal Workers
Union, AFL-CIO
1300 L Street, NW
Washington, DC 20005-3128

Certified Mail Number
7099 3400 0009 5114 7243

Dear Jim:

This is in further response to your request of March 29 for information on enhancements to the Advanced Facer Cancellor System (AFCS), as well as your letter of May 18 concerning our May 5 letter about AFCS enhancements and the Multiline Optical Character Reader replacement effort. Enclosed is information describing these projects.

Also, as requested, we have arranged a meeting on this subject on August 2 from 2:30 p.m. to 3:15 p.m. in Conference Room 9336 at U.S. Postal Service Headquarters. Please let me know in advance what questions you would like answered in this meeting. I can be reached at (202) 268-3813.

Sincerely,

A handwritten signature in black ink, appearing to read "Patricia A. Heath".

Patricia A. Heath
Labor Relations Specialist
Contract Administration

Enclosure

Advanced Facer Cancellor System (AFCS) Current Capabilities and OCR Upgrade Plans

Current AFCS Capabilities

A significant portion of our First-Class letter mail is deposited each day in mail boxes, collection boxes, and at more than 40,000 retail units across this country. Once collected, this mail is taken to a processing plant, where it is initially processed on an AFCS.

The AFCS's first task is to orient the letters so the addresses "face" in the same direction. The technique used by the AFCS to face mail is to look for phosphorescent or florescent inks in the corners of letters, and then flip them accordingly. These inks are on the Postal Service's stamps and in the indicia placed on letters by postage meters and by printers. If the AFCS cannot detect any of these special inks, the letter goes into the AFCS's reject bin.

For those letters that have been faced, the AFCS then cancels or postmarks the stamped mail. Finally, it separates the successfully processed mail into three processing categories – mail that contains a Facing Identification Mark (FIM), mail with machine imprinted addresses, and mail with handwritten (script) addresses. The AFCS is able to split the mail into these three categories because it is equipped with two grayscale cameras and a computer that searches the captured mail piece image for vertical lines.

358 of the Postal Service's 1,086 AFCSs have been retrofitted with a Video Facing Unit so that those letters that initially fail the facing step can be reprocessed. Instead of looking for inks, these enhanced AFCSs work with image data from the pair of grayscale cameras to determine the correct orientation of each mail piece. While presently being used just to solve letter facing problems, the Video Facing Unit's hardware is suitable for OCR tasks.

The AFCS is the gateway operation in a cascading series of processes that imprint barcodes, and then sort, transport and deliver mail based upon barcodes. Collection mail that has been initially divided by the AFCS into three categories then proceeds to subsequent operations for processing. The mail with FIM marks is fed into a barcode sorter. The mail with machine imprinted addresses is fed into an MLOCR.

Before discharging a piece of script mail into its third stacker, the AFCS takes a picture of the mail piece, and transmits those images to the Remote Bar Coding System (RBCS). Script mail from the AFCS then is held until transmissions are received from RBCS that contain the matching barcodes. The script mail then is fed through a specially configured bar code sorter, which sprays barcodes onto the script mail and sorts it into up to 222 output stackers.

Planned OCR Upgrades for AFCS Equipment

Funding for the Optical Character Reader (OCR) Enhancements for Letter Automation Program was approved by the U.S. Postal Service Board of Governors in February 2004. As part of this program, OCR upgrades will be installed on all Advanced Facer Cancellor System (AFCS) machines. Deployment of the AFCS OCR upgrades is expected to begin in January 2005 and end in July 2005.

Under this project, all of the Postal Service's 1,086 Advanced Facer Cancellor Systems (AFCSs) will be upgraded to an OCR configuration capable of identifying the 5-digit destination ZIP Code of each letter.

The OCR upgrade kits are being purchased from the same vendor that recently provided the 358 AFCS Video Facing Units. The hardware is the same, whether the unit is being used as a Video Facing Unit or as an OCR co-processor. The original 358 Video Facing Units will receive a software upgrade, so that they can also serve as OCR engines.

The OCR upgrade to the AFCSs will include the following items:

The supplemental co-processors that were previously installed onto 358 AFCSs will receive a software upgrade so that they can perform primary OCR tasks (address block location; character isolation; character recognition; and interface with the Postal Service's national ZIP Code directory);

Advanced Facer Cancellor System (AFCS) Current Capabilities and OCR Upgrade Plans

- The remaining 728 AFCSs will be upgraded with the same primary co-processor and OCR software.
- All 1,086 AFCSs will be networked into a second processor, known as the Remote Computer Reader (RCR). The RCR uses different algorithms to perform the OCR tasks. It is designed to do a better job at interpreting handwritten addresses and degraded print.

Postal Operations will redesign its sort plans for the AFCS to take advantage of this additional knowledge (what the destination 5-digit ZIP Code of each letter is). The AFCS will continue to separate out mail carrying Facing Identification Marks (FIM). However, instead of splitting the remainder of the successfully processed letters by mail type (machine imprinted vs handwritten), the new split will be by geography (mail for local destinations vs mail for destinations outside of the local service area).

- With the OCR upgrade, the AFCSs are expected to identify the 5-digit ZIP Code of approximately 85 percent of the mail being faced and cancelled. With this information, the AFCS will sort successfully read letters between mail for local destinations and mail for destinations outside of the local service area. This upgrade, in conjunction with sort plan revisions, will permit fewer subsequent handlings and quicker dispatch for some of the mail coming off of the AFCSs.
- AFCSs that have been upgraded with OCRs will be able to read and send PLANET™ code tracking data for the US Postal Service's Confirm® service.

MLOCR Replacement Plans

Funding for the Optical Character Reader (OCR) Enhancements for Letter Automation Program was approved by the U.S. Postal Service Board of Governors in February 2004. The Postal Service's Multiline Optical Character Reader (MLOCR) machines are nearing the end of their useful lives. They have electronic components that are either already obsolete or will soon be obsolete. Under this program, 646 MLOCRs will be replaced with the following equipment:

- 395 new Delivery Bar Code Sorter with Input/Output Subsystem and Expanded Capability (DIOSS-EC) machines
- 217 DIOSS modification kits, which will be installed on previously deployed Delivery Bar Code Sorter (DBCS) machines (Phase II – Vs)

The MLOCRs being replaced represent 74 percent of the Postal Service's inventory. Components that are re-usable as spare parts will be salvaged and sent to the Postal Service's parts depot and the rest of the components will be scrapped. Deployment of the new DIOSS-EC machines and DIOSS kits is expected to begin in January 2006 and end in December 2007.

Multiline Optical Character Reader (MLOCR) Background

The Postal Service has 838 operational MLOCRs and 9 other MLOCRs being used in program support roles. During the 19 years that MLOCRs have been deployed in postal facilities, a technology revolution has been underway. The Postal Service has upgraded its MLOCR equipment on several occasions with state-of-the-art-at-that-time technology that improved how the MLOCR reads, interprets and processes address information. A history of MLOCR purchases and upgrades is shown below.

MLOCRs (646 to be replaced under this DAR)

<u>Date</u>	<u>authorized MLOCR fleet size</u>	<u>BOG Approval Milestones</u>
Jan-84		Purchase 406 single-line OCRs
Feb-87	406	Upgrade 406 single-line OCRs to multi-line version (MLOCR-A)
Feb-87	412	Purchase 6 MLOCR-As
Dec-88	837	Purchase 425 MLOCR-Bs
Nov-92		Purchase 160 Image Lift Systems (ISS) for MLOCRs (part of 22 RBCSs)
Oct-94		Upgrade 289 MLOCR-As to MLOCR-B
Oct-94		Improved hardware & software for address recognition: same 289 MLOCRs
Oct-94		Improved hardware & software for address recognition: 123 MLOCR-As
Oct-94		Upgrade 116 MLOCR-As to MLOCR-B
Oct-94		Upgrade 837 MLOCRs with improved optics
Oct-94	875	Purchase 38 MLOCRs
Oct-94		Purchase 548 ISSs for MLOCRs (part of 120 RBCSs)
Oct-95		Purchase 193 ISSs for MLOCRs (part of 104 RBCSs)
Mar-96		Purchase 875 MLOCR Co-Directories (for more accurate lookup of barcodes)
Dec-96		Purchase 875 MLOCR Co-Processors (for better character recognition)
Mar-00		Manual Mail Modification kits for 438 MLOCRs (approved by COO)

As originally designed and deployed, the MLOCR could process most, but not all, letter mail. The residual ("non-machinable") mail continued to be sorted manually. In the mid 1990s, however, a modification to the MLOCR was developed, that permits it to process the thicker portion of the non-machinable letter mail. That modification has been installed on about 500 MLOCRs.

The MLOCRs are nearing the end of their useful lives. They have electronic components that are either already obsolete or soon will be obsolete. OCR technology has advanced far beyond what is being used in the MLOCR.

MLOCR Replacement Plans

Delivery Bar Code Sorter (DBCS) Background

Downstream from the Advanced Facer Cancellor Systems (AFCSs) and the MLOCRs is a fleet of 5,180 DBCS machines. The DBCS is a high-speed machine that reads barcodes and sorts letter mail among a large number of output stackers. This machine has a compact footprint because its output stackers are arrayed vertically, in four tiers. DBCSs have from 174 to 222 stackers, depending upon local operational requirements and space availability.

DBCSs are used for the primary sorting of letter mail and for Delivery Point Sequencing. Some of these machines have been upgraded with special purpose subsystems and additional stackers. Almost all of our DBCSs can sort the 95 percent of the letter mail that qualifies as "machinable" under postal regulations.

Planned Purchase of 395 DIOSS-EC Machines & 217 DIOSS Kits

The 395 DIOSS-ECs purchased under this program will be replacements for some of the existing MLOCR machines. The DIOSS-EC is a four-tiered, single-sided DBCS-type machine capable of sorting machinable letter mail, thick letter mail, and a mixture of these two mail types. Each DIOSS-EC will be configured with sufficient stackers to fully perform its primary sortation mission (e.g., Outgoing First Class Letters). The OCR recognition performance of the DIOSS-EC will meet or exceed that of the MLOCR.

The key component of the 217 DIOSS kits to be purchased under this program is the DIOSS module that comes with the DIOSS-EC machine. These kits can be installed on the Phase II-V and EC models of the DBCS machine. When the kit is installed on a DBCS Phase II-V, the resulting machine can process machinable letter mail only. When the kit is installed on a DBCS-EC, the resulting machine can process machinable and/or thick letter mail. If a DBCS receiving a DIOSS kit currently has less than 206 output stackers, it will be eligible for additional stacker modules. An appropriate number of additional tray carts will be delivered with the additional stacker modules.

Both the new machines and upgraded machines will have a greater depth of sort (up to 254 stackers) than the MLOCRs they are replacing (up to 60 stackers). Sort plans will be redesigned to take advantage of the additional stackers on the DIOSS machines. A larger percentage of letter mail receiving OCR processing will be ready for dispatch as the DIOSS operation ends. A smaller percentage of mail coming off of these OCR processors will have to be taken to another barcode sorter for a subsequent sort.