**Partnership in Tomorrow Meeting Minutes**
**CASS/MASS Cycle 2002-2003 (2-03), August 13, 2001**

The National Customer Support Center hosted the 11th annual "Partnership in Tomorrow" meeting, with industry representatives in attendance, held in Memphis, Tennessee.

The following minutes constitute a record of the discussions held during the "Partnership in Tomorrow" meeting for the CASS/MASS cycle 2002-2003 (2-03). In addition, these minutes may contain other requirements not specifically discussed during this meeting and may also be considered as requirements for address matching software for CASS cycle 2-03. These minutes are subject to change. Any changes will be published prior to November 15, 2001 for the 2-03 CASS Cycle. Unless otherwise modified, the United States Postal Service (USPS) will automatically consider the concurrence of the software and multiline industry. Developers and manufacturers may submit written comments to the Certification Department for receipt by close of business November 1, 2001.

## General Discussion Items

### Previous Cycle Review

The past CASS cycle was reviewed to determine if any adjustment would need to be made in the upcoming cycle schedule. Significant milestones of the cycle are contained in the event schedule shown below. Particularly noteworthy is that no extension to the cycle was needed to accommodate end users.

| CASS/MASS 1-02 Significant Milestones | |
|---|---|
| Annual Meeting Held | Aug 23-24, 00 |
| Stage 1 File Released | 10/15/00 |
| Stage 2 File Available | 12/15/00 |
| First CASS-Certified Product | 01/29/01 |
| MASS Test Decks Available | 03/15/01 |
| First MASS Manufacturer Certified | 04/09/01 |

### CASS Message Board

We have good news and bad news regarding the Message Board. First the good news—we plan to increase the number of communications via the Message Board during the next cycle. This gives CASS a great venue to issue notices to the software community regarding stage files and other address matching issues. In addition, it reduces our workload associated with responding to redundant technical questions previously answered. The bad news is the recent technical problems we have experienced with the board itself — it completely crashed. We are working to have all previous users reestablished, add new customers, and notify participants that it is up and running again. Please be patient, we will let you know when the "Board is Back!" If you attended any of our meetings and provided us with your email address, we will provide you with a login ID and password for board access. If you haven't attended our meetings in the past, you may send an email to Deborah Sanders at dsander3@email.usps.gov to become a member of our Message Board community.

### Analysis Tools via the Web

We have received final approval to distribute our internal address matching lookup engine—Z4T (Windows) to CASS software developers. We previously announced this item in earlier meeting minutes.

Effective November 1, 2001, the developer analysis version of the USPS address-matching system will be distributed monthly to CASS certified vendors who request it. Z4T uses the same source code as the lookup engine located at www.usps.com/ncsc/lookups/lookup_zip+4.html. However, this lookup provides more information, allowing the user to diagnose each matched/no-matched input address. It serves as our benchmark for reconciling address issues and is used extensively by departmental technical support staff in evaluating your error reports. If you would like to be on the distribution list for this software, please contact Deborah Sanders via email at the address noted above.

**Web Based Ordering System**

We are continuing to work on our web ordering system, but we have had to drop this project to a lower priority to ensure we met our core deliverables, as previously noted. We definitely see the benefits of a web-based ordering system, especially for our customers who depend on the fax to send in order information. As some of you may have experienced, this is not the most reliable means of sending an application to our office. At this time, we have not decided when the web ordering form will be available. We will post any breakthroughs via the Message Board, when it's up, and email you otherwise.

**DMM A950 Database Use Policy Review**

In past discussions, we explored reducing the monthly product database use dates from the current 105 days to 90 days. This was driven by our overall goal to improve address quality. Also under consideration was changing the 180 valid start date on the PS Form 3553 from the variable "Date List Processed" to the fixed "Date of the Product/Database", which would also significantly reduce the period for which any Address Information System (AIS) database could be used. We are now reviewing this position and informing the development community that we will continue to pursue the objective of reducing the use dates for some of our AIS products, while also considering eliminating bi-monthly product frequency altogether. Your comments on this issue are welcome and you may send them to bkinser@email.usps.gov.

**CASS/MASS 2-03 Cycle Milestones**

As discussed during our meeting, the cycle schedule essentially remains intact without change, however a few minor adjustments are noteworthy. MASS test decks will be available 15 days earlier, and CASS will terminate current cycle testing (1-02) April 1, 2002. This schedule appears to work for everyone and we anticipate meeting our timelines as published.

| CASS/MASS 2–03 Cycle Milestones | |
|---|---|
| Full CASS/MASS Meeting | 08/13/01 |
| Meeting Minutes Release | 10/01/01 |
| Stage 1 File Release | 10/15/01 |
| Stage 2 File Available | 12/15/01 |
| MASS Test Decks Available | 03/01/02 |
| 1- 02 Testing Terminates | 04/01/02 |
| Cycle 2 - 03 Compliance Date | 08/01/02 |

**Fee-Based Certification**

Fees for CASS and MASS certification were put in effect for cycle 1-02. These charges were established to cover costs of developing and issuing our testing material and administering the overall CASS and MASS program. The impact of fees was clear and compelling. They directly and positively attributed to one of the most orderly cycles in history. By all counts, fee-based certification definitely improves the management of the cycle from any measurable perspective.

As a result of fees in-place, our ability to provide customer service improved; we were able to turn electronic and MASS tests decks around much faster, and more importantly, we avoided the massive "crunch" period normally associated with the months of June

and July. Moreover, no blanket cycle extension was even considered, let alone requested from any customer. The table below clearly shows the impact of fees and their ability to influence the production process. As you may expect, we plan to continue this practice of fee-for-service for the foreseeable future.

| Fee-Based Certification | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Dec/Jan | Feb | March | Apr | May | June | July |
| CASS Fees | $200 | $200 | $200 | $500 | $500 | $500 | $500 |
| MASS Manufacturer | $0 | $0 | $300 | $500 | $1000 | $1000 | $1500 |
| MASS End User | $0 | $0 | $0 | $0 | $0 | $400* | $500 |
| Number of Tests Processed by Month by Product | | | | | | | |
| CASS 1-02 | | 24 | 55 | 143 | 84 | 96 | 108 |
| CASS 0-01 | | 17 | 59 | 32 | 60 | 122 | 119 |
| MASS 1-02 | | 0 | 25 | 414 | 603 | 322 | 190 |
| MASS 0-01 | | 0 | 0 | 9 | 275 | 666 | 616 |

*Note: Reduced to $200 for first15 days of this month for cycle "F"

**Pass/Fail Policy Revisited**

In responding to the industry's concerns, we are relaxing the restrictions on the disclosure of percentage scores associated with the awarding of certification. As you may recall, these restrictions were deemed necessary due to a few recalcitrant manufacturers who used their CASS scores to differentiate their product offering through various advertisements. As you would expect, we maintain total confidentiality in regard to scores achieved by any individual software product. We expect manufacturers to maintain the same level of confidentiality with regard to disclosure of passing scores. Category and overall percentage scores cannot be disclosed in any media advertising of any CASS or MASS certified product. Statements like "…. best CASS scores the Postal Service has ever seen" are also inappropriate. This policy is intended to level the playing field for all certified products, regardless of their scores attained. To further reinforce this policy, a statement of understanding has been added to our application form for all CASS/MASS applicants to acknowledge. Disclosing or citing scores in any way may be grounds for revoking CASS/MASS certification status.

The revised policy is as follows for passing tests:

- CASS: Lowest five scores will be disclosed.
- MASS: Scores below 98.5% will be provided to both manufacturers and end users.

**Status of Progressive Error Inclusion (PEI)**

We continue to develop our PEI program. The good news (from the perspective of the development community) is that we are not yet ready to deploy it. So PEI will not be incorporated into the CASS grading process this coming cycle. The bad news is that we expect it to be ready next cycle. We are hopeful that we will give you feedback regarding PEI records. We will keep you posted as we move forward.

For those not familiar with PEI, it refers to a new grading approach that was to be implemented in the 0-01 Cycle. PEI captures all of the errors in the last passing CASS tests and includes these in your next CASS Stage 2 File. PEI was only aimed at manufacturers and was to replace questions rather than add to the 100,000 questions we test for today, and would continue to be included until the software developer was able to demonstrate correctly coding these records.

**Revised PS Form 3553**

To incorporate the new Delivery Point Validation (DPV) and Early Warning System (EWS) counts required for next cycle we are slightly modifying the PS Form 3553. The Quality Statistical Summary (QSS) blocks, which were introduced last cycle, will now reflect additional blocks to show the number of records matched to a DPV or EWS record. More detailed information on EWS is covered later in this document.

**Revised Platform Testing Policy**

It appears we are revising all of our policies, but as you may have already concluded that's the nature of CASS! Nonetheless, we announced last meeting that we revoked previous policy and require all separate platforms for a single product to be individually CASS tested and certified. This policy was not well received by the development community. However, CASS determined that a baseline was needed to ensure separate platforms essentially were achieving identical scores. Unfortunately, the results of separate platform testing were mixed. CASS does not wish to continue this policy for those developers who successfully demonstrated their software's ability to achieve consistent scores. Consequently, the revised policy on separate platform tests gives developers the opportunity to request an exemption to separate platform testing based on their past cycle scores. This request should be submitted to the Certification Department by email, fax, or letter.

**Policy Revision (Multiple Secondary Components)**

Last cycle we attempted to address the new Private Mail Box (PMB) formatting requirements and how CASS software would handle certain scenarios. With a cycle behind us and with DPV implementation on the horizon, we believe a change is in order in how software should treat multiple secondary components.

The primary focus here is when the input address contains multiple secondary components, which is largely a factor of PMB address formats. CASS software may now attempt to obtain a higher level of sort by range checking the separate address components. When one of the secondary components fall within a valid secondary range and the other component does not, CASS software must match to the hi-rise exact record. Please refer to the example below for clarification:

**Input:** 123 Main St #12 #5

**ZIP+4 File Contains:** 123 – 123 MAIN ST APT 1 – 10

**CASS Answer:** 123 MAIN ST APT 5 # 12

Multiple secondary components logically present several possible scenarios. For example, cases where the secondary designator is present on input together with an invalid unit number, and when an additional secondary component exists (valid within the secondary range), give preference to the unit designator and default match. CASS

is clearly stating that given an input unit designator, its importance must not be diminished and software subsequently is not permitted to swap secondary values to make an exact match even if the other secondary component falls within the valid secondary range. The following example is provided for your clarification:

**Input:** 123 Main St *Apt* 12 # 5

**ZIP+4 File Contains:** 123 –123 MAIN ST APT 1 - 10

**CASS Answer:** Hi-Rise Default Match

Where the input address contains a secondary unit designator, however invalid, and a unit number is present and an additional secondary unit number exists, then giving preference to the unit designator—CASS software must make an exact match. This increases the potential for hi-rise coding when these ZIP+4 records are available. These matches were not previously realized following a more conservative approach to PMB style addressing. Here's an example:

**Input:** 123 Main St # 12 Ste 5

**ZIP+4 File Contains:** 123 – 123 MAIN ST APT 1 –10

**Output:** #12
123 MAIN ST APT 5

Nonetheless, we have just one more condition to review. In cases where multiple secondary components exist and both components fall within a *valid* secondary range, and no secondary unit designator is present—CASS software default matches the input to a hi-rise default record. Here's an example of what we are talking about.

**Input:** 123 Main St # 12 # 5

**ZIP+4 File Contains:** 123 – 123 MAIN ST APT 1 – 10
123 – 123 MAIN ST APT 11 – 20

**CASS Answer:** Hi-Rise Default Match

**Ranged Alias Questions**

Several developers during this past cycle have raised the issue of near matches given an input of a ranged Alias record. The ranged Alias records in subcategory G4 are considered no-match records. Software is not permitted to make near matches to either the base record or to another similar sounding ZIP+4 record when the input address makes an exact match to a ranged Alias record. Here's an example:

Alias File Contains:

| **Record Type** | Low Range | High Range | Street Name | Post Directional |
|---|---|---|---|---|
| **Alias** | W10100 | W10199 | HIGHWAY 54 | E |
| **Base** | | | STATE HIGHWAY 54 | E |

Input Stage 1 Record:

5840 HIGHWAY 54 E
BLACK RIVER FALLS WI 54615

Software **Cannot** Match to:

5840 STATE HIGHWAY 54
BLACK RIVER FALLS, WI  54615-5973

**Multiple-Field Addresses with Split Indicia**

In the 1999 – 2000 CASS cycle, we introduced as optional for CASS certified software, addresses spanning multiple fields or lines.  Although introduced at the time, Stage files have not contained questions of split indicia, where a multiple component street name is split between two address lines.  Stage files have, for the most part, limited these addresses to rolling up suffix words and other secondary information.  For the next cycle, however, CASS Stage files and MASS test decks will contain addresses where one of the address lines may make an inexact match in the finance number.  CASS is stressing that when software is presented with two address lines, both lines in their entirety must be considered to arrive at a correct ZIP+4 match. Here is an example of these address conditions, which CASS has field reports of miscoding.

Input Stage 1 Record:

1340 SIERRA MADRE
VILLA AVE
PASADENA CA 91107

Software **Cannot** Match to:

1340 SIERRA MADRE BLVD
PASADENA CA 91108-2140

The Correct Match is:

1340 SIERRA MADRE VILLA AVE
PASADENA CA 91107-1531

**Restrictions on Unique Address Matching**

The field is reporting cases where software is miscoding addresses which do not contain unique ZIP Codes on input, but which are matching into unique ZIP Codes.  As you know, the applicable rule here is that software can only match into a unique ZIP Code when the input address contains a unique ZIP Code or when a Firm match is available. CASS will place a greater emphasis in this area. Stage file questions will “tempt” software to make matches into unique ZIP Codes by either dropping the unique ZIP Code on an otherwise perfect Hi-rise or street address or by dropping both the Firm address line and ZIP Code on input.

## Grading Issues

### Delivery Point Validation (DPV)

In support of Address Management's launch of DPV and DSF$^2$ licensing, CASS will offer certification testing. Software attempting DPV certification must process and successfully achieve a passing score on either a Merge or a Merge/LOT (or E-LOT) Stage 2 File. CASS will only evaluate DPV return codes and delivery statistics (for DSF$^2$ licensees) when address-matching software achieves the required accuracy rates for CASS certification. This applies to all DPV applicants, whether CASS certification was previously achieved with the same software configuration or for new software. For DPV basic, DPV certification will be awarded by individual software configuration. For developers with multiple configurations, separate applications and processed Stage 2 Files would be necessary. Because the awarding of initial DPV certification is a function of a licensing process, CASS will not provide DPV licensees the standard certificates normally associated with CASS certification.

For cycle 2-03, CASS will not require address matching software developers to integrate DPV into their address matching software. For this coming cycle, software developers electing to integrate DPV into their address matching systems may only employ DPV to delivery point validate standardized ZIP+4 coded addresses and resolve simple multiple response conditions.

CASS will modify both Stage 1 and 2 File layouts to incorporate the various DPV return codes, statistics, counts, and miscellaneous footnote flags for DSF$^2$ licensees. For Stage 2 Files, software attempting certification will have to correctly produce an output file with the appropriate DPV confirmation code, and in addition, DSF$^2$ applicants must demonstrate the ability to output the footnote flags as required under the license agreement.

The following items were presented and discussed during the conference and help clarify how CASS will evaluate DPV enabled CASS software.

### Multiple Response Handling

Initially, CASS will set some relatively conservative boundaries on the use of DPV to resolve multiple response conditions. Rather than undo past CASS rules regarding multiple response conditions and to promote coding consistency across software products, CASS will limit where DPV may select records among candidate records in a stack. DPV enabled software may elect to code where input address ambiguities (i.e., missing suffixes, misspelled street names, etc.) and data anomalies exist within the ZIP+4 File. In addition, if no previous CASS rule directs a match, DPV enabled software may elect to code when a single DPV candidate is available and all records on the stack have been passed through DPV. If CASS has already issued a ruling on a multiple response condition permitting a match, then DPV cannot attempt to resolve it.

Input address ambiguities or multiple response conditions may be resolved through DPV. For example, CASS does not allow software to resolve multiple responses in cases where two records are equal if the carrier routes are different. However, DPV enabled software may elect to resolve these questions.

**DPV May Match when All Address Elements Equal Other Than the Carrier Route**

**Input:** 6 Station St
Carnegie PA 15106

**ZIP+4 File Contains:**

| Primary Range | | Street Name | Suffix | ZIP Code | CRID |
|---|---|---|---|---|---|
| 6 | 6 | STATION | ST | 15106 | C008 |
| 6 | 6 | STATION | ST | 15106 | C020 |

**Output**: Match to the Record that DPV confirms.

Multiple response questions typically found in Stage 2 Files are composed from two ZIP+4 records that are equal, but contain different ZIP Codes. CASS drops both input records' ZIP codes to generate multiple response conditions. The example below illustrates this condition where DPV enabled software *could* elect to code, given only one record confirms through DPV.

**DPV May Match When Multiple Response Conditions Exist Due to No Input ZIP Code**

**Input:** 2 Knowltan Ave
Buffalo NY

**ZIP+4 File Contains:**

| Primary Range | | Street Name | Suffix | ZIP Code | City | CRID | Plus 4 |
|---|---|---|---|---|---|---|---|
| 2 | 98 | KNOWLTAN | AVE | 14218 | BUFFALO | C010 | 3106 |
| 2 | 98 | KNOWLTAN | AVE | 14217 | BUFFALO | C027 | 2723 |

**Output:** ZIP+4 Code to the DPV confirmed record.

Over past cycles, CASS has developed discretionary rules regarding the ZIP+4 coding when certain multiple response conditions occur. These rules will remain in effect for the foreseeable future for DPV enabled engines. Again, consistency in coding among all products and a "going slow" approach to DPV coding are overriding guidelines here.

**DPV Must Not Make a Match When CASS Has Already Provided Matching Rules**

**Input:** 306 S Monroe St
Versailles MO 65084

**ZIP+4 File Contains and DPV Flags Show:**

| Primary Range | | Pre-Directional | Street Name | Suffix | ZIP Code | Plus 4 | DPV |
|---|---|---|---|---|---|---|---|
| 300 | 306 | S | MONROE | ST | 65084 | 1386 | Y |
| 300 | 398 | S | MONROE | ST | 65084 | 1300 | N |

**Output:** 306 S MONROE ST (Code to the Lowest ZIP+4)
VERSAILLES MO 65084-1300

**DPV Must Not Violate the Cardinal Rule**

**Input:** 6 NE JOHNNY LYTLE AVE
SPRINGFIELD OH 45506

**ZIP+4 File Contains and DPV Shows:**

| Primary Range | | Pre-Directional | Street Name | Suffix | ZIP Code | Plus 4 | DPV |
|---|---|---|---|---|---|---|---|
| 2 | 98 | E | JOHNNY LYTLE | AVE | 45506 | 2649 | N |
| 2 | 98 | W | JOHNNY LYTLE | AVE | 45506 | 2651 | Y |

**Output:** No Match/Return Input

**DPV May Elect to Resolve Multiple Responses When the Input Address is Missing or Contains Invalid Suffix Words**

**Input:** 1108 11th SE
JAMESTOWN ND 58401

**ZIP+4 File Contains:**

| Primary Range | | Street Name | Suffix | Post-Directional | ZIP Code | Plus 4 | DPV |
|---|---|---|---|---|---|---|---|
| 1100 | 1198 | 11TH | ST | SE | 58401 | 5835 | Y |
| 1100 | 1198 | 11TH | AVE | SE | 58401 | 5829 | N |

**Output:** 1108 11th ST SE
JAMESTOWN ND 58401-5835

**DPV May Attempt to Select a Record from Multiple Candidates When Only a Change of a Suffix or Directional Component is Affected**

CASS is purposely making this distinction for software developers to limit matches when only a change of a suffix or directional component is affected. Street name variations are too variable at this juncture and CASS would like to proceed with caution as CASS enters the realm of DPV coding.

**Input:** 123 Main St

**ZIP+4 File Contains:**

| Primary Range | | Street Name | Suffix | Post-Directional | DPV |
|---|---|---|---|---|---|
| 101 | 199 | MAIN | ST | N | N |
| 101 | 199 | MAIN | ST | S | N |
| 101 | 199 | **MANE** | AVE | | Y |

**Output:** No Match/Return Input

**Input:** 123 Main St

**ZIP+4 File Contains:**

| Primary Range | | Street Name | Suffix | Post-Directional | DPV |
|---|---|---|---|---|---|
| 101 | 199 | MAIN | ST | N | N |
| 101 | 199 | MAIN | ST | S | N |
| 101 | 199 | **MAIN** | AVE | | Y |

**Output:** DPV May Resolve

**DPV May Elect to Confirm a Secondary Component When the Input Address Contains Multiple "#" Signs but Only One Confirms**

**Input:** 2095 Exeter Rd #128 #80
Germantown TN 38138

**ZIP+4 File Contains:**

| Rec Type | Primary Range | | Street Name | Suffix | Secondary Range | | ZIP Code | Plus 4 |
|---|---|---|---|---|---|---|---|---|
| H | 2095 | 2095 | EXETER | RD | 2 | 98 | 38138 | 1234 |
| H | 2095 | 2095 | EXETER | RD | | | 38138 | 1235 |

**DPV Confirms Secondary Suite Number 80**

**Output:** #128
2095 Exeter Rd Ste 80
Germantown TN 38138-1234

**DPV Confirms Secondary Suite Number 80 and CMRA Indicator is Returned**

**Output:** PMB 128
2095 Exeter Rd Ste 80 (or PMB 128 on address line 1)
Germantown TN 38138-1234

Note: For street level matches where the input contains a "#" sign and the CMRA indicator is returned from DPV, software must not change "#" sign to "PMB". This policy is grounded on the rationale that the "#" may or may not indicate a PMB box number.

**DPV Must Not Confirm a Secondary Component When the Input Address Contains a Secondary Unit Designator and a "#" Sign**

**Input:** 2095 Exeter Rd Ste 128 #80
Germantown TN 38138

**ZIP+4 File Contains:**

| Primary Range | | Street Name | Suffix | Secondary Range | | ZIP | Plus 4 |
|---|---|---|---|---|---|---|---|
| 2095 | 2095 | EXETER | RD | 2 | 98 | 38138 | 1234 |
| 2095 | 2095 | EXETER | RD | | | 38138 | 1235 |

**DPV Cannot Swap Secondary Values When Secondary Unit Designators are Present (Software Submits 2095 and 128 to DPV)**

**Output:** 2095 Exeter Rd Ste 128 #80 (Default Match)
Germantown TN 38138-1235

**DPV Return Codes**

DPV enabled software must display certain return codes for CASS evaluation. The following four return codes are considered required when performing DPV:

| Return Code | Definition | Applicable Record Types |
|---|---|---|
| **N** | No Delivery Point Validated | All |
| **Y** | Delivery Point Validated /Primary Valid and Secondary Number (When Present) Valid | All |
| **S** | Valid Primary Number; But Secondary (Primary for Rural Route) Present and is Not Confirmed | All |
| **D** | Valid Primary; Input Missing Secondary (Primary for Rural Route) | All, but Street |

**DPV Secondary Information**

DPV enabled software must attempt to confirm both the primary and secondary number when present. When the DPV return code equals “N”, software must attempt to confirm the primary number without the parsed secondary. If the primary number confirms, software returns the standardized output and sets the DPV code to “S”. If the primary number does not confirm, software must return the output address, as usual, adhering to CASS requirements.

When the input address has no parsed secondary number and the ZIP+4 record is a default match, and the DPV return code initially equals “Y”, software then is required to set the DPV value to “D”— or default to indicate that the secondary was missing. For rural route type records, if the input address is missing the box number, set the return code to “D”; if the box number is present, but unconfirmed, set the return code to “S”. When the final DPV code is obtained, software must query the DPV Commercial Mail Receiving Agency (CMRA) table.

As a final note, secondary information must always be submitted for DPV confirmation when present in the input address regardless of the level of match obtained. This is important, because some street records contain secondary information and this bit of information may be critical to delivery. CASS has always taken the position that software should not drop secondary information even when the DPV return code is “N”.

**Early Warning System (EWS)**

Software must demonstrate the ability to *not ZIP+4* code when making an exact match to an EWS record. This functionality will be tested in questions presented in Stage files in cycle 2-03. Because timing is key to identifying valid EWS records*, CASS will require software developers to use the same product month from which the Stage 2 File was built*. Developers must key off of the monthly Stage 1 File release to know when to update to the next product month for CASS certification testing purposes only. The objective here is to reduce the occurrences of no matching into EWS records due to a developer's load of a subsequent product month. In addition, CASS has always taken the position that for optimum results in matching accuracy, developers should process stage files using the same product month. Now CASS is just taking the next logical step and requiring this "syncing up product months" with the introduction of EWS. Weekly EWS files will be posted to the RIBBS server and CASS will extract candidate questions from the most recent EWS posting prior to stage build.

CASS is not requiring end-users to use EWS. However, we are requiring CASS manufacturers to employ EWS for both CASS and MASS certification and to offer it as an option for their end users. The mechanics of how developers implement EWS in their application is solely left to the discretion of software developers. The Postal Service will at every opportunity, highlight the benefits of integrating EWS into their normal mail processing activities. CASS will also not prescribe an update frequency for the manufacturers to distribute EWS to end-users or how this file is made available or distributed to end-users. These issues are not certification related, but more related to a product's offering, its packaging and deployment application that is product specific.

The potential for miscoding of valid new addresses increases with the age of the ZIP+4 File in use by the mailer. Valid addresses miscoded due to inexact address matches (where some address line component is either added or changed) available in the current ZIP+4 File is the root cause of what is termed "Broken Address Syndrome". Once an address is broken—coded to another valid address—the effect is permanent without manual intervention.

EWS consists of a table of records containing partial address information limited to the street name, pre- and post-directionals, and a ZIP Code. EWS records are culled from a weekly-generated ZIP+4 File. For an address record to be EWS eligible, it must be an address *not* present on the most recent monthly production ZIP+4 File and, as an input address and processed through address matching software, potentially could incorrectly obtain a ZIP+4 code to another address record. For example, given the following address.

**Input:** 100 S Bonnie Ct
Chauvin LA 70344

**ZIP+4 File Contains:**

| Database | Primary Range | | Pre Dir | Primary Name | Suffix | ZIP/ZIP+4 Code |
|---|---|---|---|---|---|---|
| **EWS** | Not Applicable | | S | BONNIE | CT | 70344 |
| **ZIP+4** | 100 | 198 | | BONNIE | AVE | 70344-3940 |

**Output** (Incorrect)**:** 100 Bonnie Ave
Chauvin LA 70344-3930

In the above scenario, S Bonnie Ct is a record extracted from the weekly ZIP+4 File and as an input address could have potentially coded to an inexact match of 70344-3940. CASS will expect software to no-match EWS records and set a flag in the Stage 2 test address record. For CASS testing purposes, an exact match is defined as a match to all components of the EWS record to include the ZIP Code.

**Chasing the Base (or Hi-Rise Alternate Coding Rules)**

CASS has determined that matches made to hi-rise delivery point alternate records, when the input address contains valid secondary address unit numbers, can not obtain optimum sequencing via automation since '99' is assigned as the delivery point. To improve the sequencing of this mail, CASS will require address-matching software to "chase the base" or to find the hi-rise base record associated with the alternate record when presented with this condition.

Software, when presented with an input address matching to a hi-rise delivery point alternate record will determine the base associated with the alternate record. Every alternate hi-rise record is associated with a base record in the ZIP+4 File. Using ZIP+4, software locates the hi-rise base default record for any given alternate record. Once obtained, the hi-rise default base record is appended with secondary address information and is resubmitted. If the secondary unit number is valid within a secondary range, then software must make the ZIP+4 exact match. If no secondary range is valid for the input, then software *reverts back* to the originally matched hi-rise alternate record. An example is supplied for clarifying "chasing the base" process:

Input: 155 BANK ST #C913
NEW YORK NY 10014

**ZIP+4 File Contains:**

| Record Type | Primary Range | | Street Name | Suffix | Secondary Range | | Base/ Alt Code | ZIP Code | Plus 4 |
|---|---|---|---|---|---|---|---|---|---|
| H | 155 | 155 | BANK | ST | | | A | 10014 | 2010 |
| H | 463 | 463 | WEST | ST | | | B | 10014 | 2010 |
| H | 463 | 463 | WEST | ST | C907 | C922 | | 10014 | 2038 |

**Output:** 463 WEST ST APT C913
NEW YORK, NY 10014-2038 (33)

**Recombination**

For various reasons, customers do not always represent their addresses in the standardized format as reflected in the ZIP+4 File. CASS has determined that a greater number of hi-rise exact assignments are possible when software recombines specific primary address values with secondary address values under defined conditions. Through this recombination activity, CASS certified software might increase hi-rise depth-of-code matches.

Recognizing this reality of poor address hygiene, CASS will require software to transpose primary address number values that, when combined with secondary address information, obtains a hi-rise exact match by matching to a valid secondary address range in the ZIP+4 File. CASS will also test for secondary address values transposed

with other secondary address values that through recombination a hi-rise exact match is achieved.

In response to the industry's concerns, CASS is declaring this matching rule *optional* for this cycle. In addition, for the first time in known history, CASS will assess bonus percentage points within the category recombination assigned and where software has demonstrated recombination successfully.

Software may recombine the input address that contains a secondary value, matches to a street record, and an element of the primary number was not used in determining the match. The following table is guidance regarding recombination.

| Through recombining the primary…. | |
|---|---|
| | Trailing Alpha |
| | Alphanumeric (hyphenated or not hyphenated) |
| | Hyphenated Numeric |
| | Or hyphenated numeric-alpha |
| …. with the input hi-rise secondary a match to an exact hi-rise record is achieved (using current transposition rules). | |
| Or by recombining separate secondary components into a single value result in an exact match to a hi-rise exact record is achieved. | |

Here are more examples of where recombination would be appropriate.

**ZIP+4 File Contains:**

| Record Type | Primary Range | | Street Name | Secondary Range | | ZIP+4 Code |
|---|---|---|---|---|---|---|
| S | 1 | 85 | Wiley Parker Rd | | | 4017 |
| H | 31 | 31 | Wiley Parker Rd | | | 4076 |
| H | 31 | 31 | Wiley Parker Rd | J2 | J2 | 5803 |
| S | 250 | 398 | Wiley Parker Rd | | | 4028 |

| Input Address | Applicable Condition | Output Address |
|---|---|---|
| 31J Wiley Parker Rd #2 | Trailing Alpha | 31 Wiley Parker Rd Ste J2 |
| 31-2 Wiley Parker Rd #J | Hyphenated Numeric | 31 Wiley Parker Rd Ste J2 |
| 31-J2 Wiley Parker Rd | Hyphenated Alphanumeric | 31 Wiley Parker Rd Ste J2 |
| 31-J Wiley Parker Rd #2 | Trailing Alpha | 31 Wiley Parker Rd Ste J2 |
| 31 Wiley Parker Rd #2 #J | Secondary Transposition | 31 Wiley Parker Rd Ste J2 |

**Preferred Last Line City State Key**

Use of the ZIP+4 Preferred Last Line (PLL) City-State Key by CASS software has been narrowly defined, and until now has had little value or importance in address matching. Output of the ZIP+4 PLL was limited to cases where the input address is submitted with a ZIP Code only, or when the input city name is not in the City-State File or, is altogether unrecognizable. CASS is not changing these existing rules, nor is CASS changing the rules established two cycles ago for arriving at a match and how Last Line Logic supported software selecting the correct address records. This new policy only affects output; it has no bearing on the selection of candidate records in the matching process.

The purpose of this discussion affects only the output city name and how it is only determined after the ZIP+4 record is selected.

CASS is introducing the idea of the *Default City Name* at the 5-Digit level and the *Override City Name* (ZIP+4 PLL) at the ZIP+4 level. As you may know, and likely utilize in your current address-matching product, each city name and any possible representation of that city name in the City-State File is assigned a unique key. These keys assist software in properly identifying the input city name, the default city name (PLL), and the city name for a particular block face (ZIP+4 PLL).

The 5-Digit PLL can also be considered to be the default city name for a ZIP Code. In fact, for most ZIP+4 records, the ZIP+4 PLL City-State Key and the default City-State key are the same. However, in cases where the ZIP+4 PLL key is different from the default city name, CASS is declaring this the *Override* city name. Generally the rule is when an override condition is present and an acceptable city name is on the input address record, the override takes precedence over the input city name.

When an override city name is present, it takes precedence over a thirteen-character city name abbreviation. This new policy modifies an existing CASS rule. If the input city name is a valid abbreviation—on the City-State File—then CASS certified software was expected to return it in abbreviated fashion on the output. Software must now determine whether an override situation exists. If so, software may return either the override city name spelled-out version, or the abbreviated city name, if applicable.

Also recall, a non-mailing name is equivalent to the default city name. So again, software must determine whether an override condition is present when the input city name is a non-mailing name.

Given various scenarios, the table below is designed to assist software developers in selecting the correct city name for output purposes. These scenarios all assume the input city name is an acceptable mailing name and not a non-mailing name.

| Acceptable City Name On Input | 5-Digit Preferred Last Line City State Key (Default) | ZIP+4 Preferred Last Line City State Key | CASS Standardized City Name On Output |
|---|---|---|---|
| Germantown | Germantown | Germantown | Germantown |
| Memphis | Germantown | Germantown | Memphis |
| Germantown | Memphis | Germantown **(Override)** | Germantown |
| Cordova | Memphis | Germantown **(Override)** | Germantown |

### Record Type Code

CASS will require certified software to return the Record Type Code in all ZIP+4 matches. The level match code facilitates identifying or confirming certain software matches when delivery point assignments are erroneous. CASS will provide a revised answer file layout

## MASS Issues

### Machine Identifier Proposal

Multiline manufacturers should have, by this time, downloaded their machine IDs from the RIBBS web site and be well into completing the process of getting the IDs sprayed

onto mail pieces. The Postal Service delayed implementation of the machine identifier program until January 1, 2002. This date may be considered a not earlier than date, unless otherwise approved. The mandatory compliance date is now February 23, 2002. No other changes were recommended. The delay allows headquarters Postal Service sufficient time to coordinate with various offices affected by this change. We continue to reconcile missing and conflicting serial numbers between MASS and *FASTforward*®. Manufacturers should contact the Certification Department should they find discrepancies in any of the identification data provided. The importance of this matter will obviously grow as we move closer to the end of the calendar year. Again, contact the Certification Department with any concerns regarding compliance with this vital program.

**Grading Issues**

As previously mentioned, MASS will introduce no significant changes over last cycle's requirements due to development efforts which software and hardware manufacturers are anticipated to devote to DPV integration. MASS scores will remain at 98% with no increase in the number of fonts or in the percentage of pieces containing the variable fonts introduced the cycle before last. No new fonts will be introduced this cycle, but the existing optional fonts will now be required.

**Misread/Miscodes**

The penalty for Misread/Miscodes, introduced last cycle, will remain fixed at a factor of 1.5 per assessed error, however, we are expanding our definition of this error type to include any change in primary number. The impact of this error type on overall scores this past cycle were negligible, largely due to a very narrow definition of a primary number change from, for example, four digits to three. Again, manufacturers should expect a degradation in test scores for customers when their miscoded questions also affect primary number values.

**Reject Allowance**

The *reject allowance* will also continue to remain at 7.5%. Again, the rate was increased to allow MLOCRs to opt out—not spray a barcode when a level of confidence is not achieved. This level of confidence is solely at the discretion of each manufacturer. Although manufacturers have stated that the reject rate increase has not really helped them in reducing their true error rate, MASS will continue to offer this as an incentive for commercial MLOCRs to not spray when confidence levels are low.

**Trailing Alpha File**

MASS will also continue to make available the trailing alpha file each month. Again, this file contains all of the hi-rise secondary ranges which have trailing alphas assigned. The file is made available to enhance the ability of MLOCRs to accurately code when alpha and numeric character collisions occur. Although the utility of this file has been mixed, at best, MASS will continue to provide this file with the anticipation that coding accuracy levels in this area will improve.

**Pound Signs and New Test/Audit Envelopes**

MASS has taken a couple of positive steps to improve the readability of test pieces for optical readers. The first pertains to the notorious "#" sign in secondary addresses. Most manufacturers' systems have difficulty in coding addresses where a "#" sign is used to denote a secondary unit number. They also have expressed concern about

consistently obtaining poor read rates because of this character's lack of white space. MASS will continue to include questions containing the "#" sign, however, in response to these concerns, the "#" sign font has been successfully edited to *increase* the white space in the middle of the character. This should effectively neutralize this issue.

Secondly, MASS is transitioning to a new, improved test envelope. This envelope will contain a reduced-glare glassine cover aimed at enhancing readability. MASS is sending samples of this new envelope over the next few days to all MASS manufacturers.

**Handwriting Technologies**

Over this past year many manufacturers have been exploring the possibility of incorporating handwriting technologies into their present inventory of automated systems. Similarly, hardware developers have sought MASS' position regarding integration of handwriting technologies from a certification perspective. Manufacturers who are integrating this technology in order to increase existing machine print read rates will require additional testing for manufacturer certification. MASS will provide a test deck to be processed with only this technology enabled. Manufacturers will have to obtain 98% accuracy on both test decks. End users who wish to use this technology would simply take a standard MASS test.

However, MASS is concerned with off-line systems designed to replace remote and local video encoding operations where hand print or any combination of hand writing is eligible to receive a POSTNET® barcode. MASS has not developed a test deck to test the accuracy of non-machine hand printing or handwriting. The ability to encode handwritten addresses places the scope of this technology in another arena from a MASS perspective.

Nonetheless, MASS has determined that developing a handwritten test deck would be ineffectual and problematic, at best, in establishing some level of barcoding accuracy rate. Therefore, MASS will not offer such testing pending any other facts or opinions that may take this issue in another direction altogether. Should MASS begin receiving field reports that MLOCR applied barcode mail with handwritten addresses is being miscoded in significant numbers, manufacturers should be prepared to immediately terminate the use of this technology until the miscoding problems are resolved.

**Recombination for MASS**

MASS test decks will contain pieces with addresses where recombination, as discussed above, is required to achieve the correct barcode. These pieces will be regarded optional and if successfully coded, an additional bonus percentage will be assessed (exact amount to be determined). However, if coded in error, an incorrect answer would likewise be assessed. Manufacturers will have every opportunity to evaluate their system's ability to accurately exercise recombination through Stage 1 test decks. These test decks are available at no cost to manufacturers only and will consist of our standard 3500 piece test deck with answers in the upper left window—identical to the decks made available in the previous cycle. Since the barcode is the answer evaluated, manufacturers would demonstrate this capability by coding to the highest depth of sort given a certain input address requiring recombination. A lesser level of sort would be considered an error.

**Concatenated Last Lines**

MASS test addresses will now offer questions where components of the Last Line are strung together or concatenated. For example, questions may appear where the city and ZIP Code or city and state, is concatenated. Address lines will be comprised of records where they do not necessarily influence the match. These address conditions have been reported to cause miscodes. The example below is an actual address miscoded and reported by Postal field representatives.

PO BOX 1319
PORT WASHINGTON NY11050

This address was being coded to:

PO BOX 1319
WEST PORT WA 98595-1319