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POSTAL REGULATORY COMMISSION
WASHINGTON, D.C. 20268-0001

MODIFICATION OF ANALYTIC PRINCIPLES IN PERIODIC REPORTING (PROPOSALS NINE THROUGH TWELVE)	Docket No. RM2011-5

RESPONSES OF THE UNITED STATES POSTAL SERVICE TO QUESTIONS 1-6 OF CHAIRMAN'S INFORMATION REQUEST NO. 2
(February 25, 2011)

The Postal Service hereby files its responses to questions 1-6 of Chairman's Information Request No. 1, issued on February 16, 2011. Each question is stated verbatim, and followed by the response. Note that, as posed, Question 2 contained no subpart (f).

Respectfully submitted,

UNITED STATES POSTAL SERVICE

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RESPONSE OF THE UNITED STATES POSTAL SERVICE
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1. At pages 2-3 of the material supporting Proposal Nine, the Postal Service argues that the 2008 automation letter density table is potentially biased because it shows a "substantial percentage" of outgoing letters being sorted to the 5-digit level. It reasons that very few of the outgoing letters sorted to that level could be presorted First-Class because "only one overflow mixed AADA tray is permitted for non-automation machinable and automation mailings. In other words, the amount of First-Class presort letters finalized to the 5-digit level in outgoing operations should be minimal."

a. Primarily, what cost relationship does the Postal Service believe is likely to be estimated with less bias if the assumption is made that no outgoing presorted First-Class Mail is sorted to the 5-digit level?

b. Why are outgoing letters sorted to the 5-digit level assumed to be either single-piece First-Class Mail or overflow presort First-Class Mail?

c. Is it possible that residual presort First-Class Mail could be a small part of presort First-Class overall, but still be a significant component of outgoing letters sorted to 5-digits?

d. Why was the FY 2008 density study unable to identify the percent of outgoing single-piece First-Class letters and presorted First-Class letters that were sorted to the 5-digit level, but was able to identify the percent of presort Standard letters sorted to the 5-digit level in outgoing primary and secondary operations?

e. How likely is outgoing "turn-around" mail, *i.e.,* outgoing mail destined for local ZIP Codes, likely to be sorted to the 5-digit level?

f. How likely is outgoing "turn-around" mail to be single-piece First-Class Mail?

g. Please provide any Origin-Destination Information Systems (ODIS) data that would help answer questions 1.e. and 1.f.

h. Does the rationale for assuming that single-piece First-Class heavily influences web end-of-run estimates of the percentage of outgoing letter mail volume that is sorted to 5-digits apply to: (i) outgoing letter mail sorted to other levels; and (ii) incoming letter mail sorts?

RESPONSE:

(a) The First-Class Mail presort letters cost model that was filed in Docket No. ACR2009, USPS-FY09-10, contained mail processing unit cost estimates, including the following:

Category	Mail Processing Unit Cost (Cents)
Nonautomation Machinable MAADC / AADC Presort Letters	8.571
Nonautomation Machinable 3-Digit / 5-Digit Presort Letters	8.719
Automation MAADC Presort Letters	8.703

The USPS-FY09-10 results suggested that more finely presorted nonautomation machinable letters incurred higher mail processing costs than less finely presorted nonautomation machinable letters. In addition, the USPS-FY09-10 results showed that automation MAADC presort letters incurred higher mail processing costs than nonautomation machinable MAADC presort letters.

The Postal Service evaluated the cause of these apparent anomalies and concluded that First-Class single-piece letter volumes were likely influencing the density table values for outgoing operations, and therefore distorting the mail processing unit cost estimates. The proposed modifications are expected to correct those cost anomalies for these categories. In FY 2010, nonautomation machinable presort letters and automation MAADC presort letters represented 2.66 percent and 6.02 percent of all First-Class Mail presort letters, respectively.

(b) First-Class Mail single-piece letters are not presorted at all. For First-Class nonautomation machinable presort letters, the preparation of 3-digit and AADC presort letter trays is required, with only the residual mail volume entered in MAADC presort

letter trays. For the automation presort letters price categories, mailers presort their mail to the finest level possible in order to obtain the maximum postage savings offered through the discounts, as demonstrated by the fact that the automation MAADC presort letters price category represented only 6.4 percent of the total First-Class automation presort letters volume in FY 2010.

These three categories (single-piece, nonautomation machinable MAADC presort, and automation MAADC presort) represent the only First-Class Mail letters that would require processing in outgoing automation operations. The volume of non-presorted First-Class single-piece letters in FY 2010 was 27,147,918,293 pieces. According to USPS-FY10-10, the volume of First-Class presort nonautomation machinable MAADC letters was 479,831,977 pieces and the volume of automation MAADC letters was 2,540,785,141 pieces. Given that the non-presorted single-piece letters volume that would have to be processed through outgoing operations dwarfs the presorted letters volume by a factor of almost 9 to 1, it is likely that the First-Class Mail letters volumes that are finalized to the 5-digit level in outgoing operations consist primarily of single-piece letters.[1]

(c) This scenario is not likely, given the mail preparation requirements, the fact that both mail types are processed together in both the outgoing and incoming operations, and the fact that the volume of First-Class Mail single-piece letters that requires outgoing processing dwarfs the volume of First-Class Mail presort letters that requires outgoing processing, as detailed in response to part (b) above.

[1] It should be noted that when the 2008 density tables were developed, the volumes for known single-piece holdouts, such as those related to courtesy reply mail (CRM) and business reply mail (BRM), were excluded from the analysis.

(d) First-Class Mail presort letters and single-piece letters are processed together in the same operations. By looking at the sort plans, the webEOR data could be used to isolate volumes for First-Class Mail as a whole, but could not be used to isolate separate and distinct presort and single-piece volumes. There is no single-piece category for Standard Mail. Consequently, those density figures are specific to Standard Mail presort letters.

(e)-(g) The percentage of First-Class single-piece letters that represent "turn around" mail is significant. FY 2010 ODIS data indicate that 22.6 percent of First-Class Mail single-piece letters originate and destinate within the same 3-digit ZIP Code. Given that most plants sort mail for service areas that include more than one 3-digit ZIP Code, the percentage of First-Class Mail single-piece letters that originate and destinate within the service area of the same plant is likely to be higher than the 22.6 percent figure. As noted above in the response to part (d), the data from the machines themselves cannot answer the question separately for First-Class Mail presort letters and single-piece letters.

(h) For the reasons cited above, the First-Class Mail single-piece letter volumes have likely skewed the density values for all outgoing operations.

The extent to which the two mail types exhibit different density distribution values for incoming operations is unknown. The Postal Service cannot identify any systematic reason why any such differences would occur.

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2. With respect to the manual density table, the explanation of the proposed updates at page 3 of Proposal Nine supporting material implies that none of the 40 plants sampled in the 2008 study of manual densities was able to provide data in September 2010.

a. Did the 2008 study provide the data underlying the manual density table or the automation density table?

b. Please describe the source and nature of the data used in the 2008 study, and the procedure followed in sampling the 40 plants.

c. Why were the 40 plants in the original sample unable to provide data in 2010?

d. With respect to the manual outgoing primary [030 MODS] operations, please describe the nature of the data collected in 2010 and the procedure followed in collecting the data. Please provide the statistical properties of the data.

e. Why were only 10 of 51 plants able to provide data on the manual outgoing primary? What statistical properties did the data collected have?

g. With respect to the manual outgoing secondary [040 MODS] operation, please describe the nature of the data collected in 2010 and the procedure followed in collecting it. What statistical properties did the data collected have?

h. Why were only two plants able to provide data on the manual outgoing secondary [040 MODS] operation?

i. With respect to the manual managed mail operation [043 MODS operations], please describe the nature of the data collected and the procedure followed in collecting it. What statistical properties did the data collected have?

j. Why was only one plant able to provide data on the 043 MODS operation?

k. The explanation of the proposed changes to the inputs to the manual density table says that due to the lack of special study data to estimate densities for the 040 and the 043 operation, ODIS data were used. Petition, Proposal Nine, at 4.

(i) Does the ODIS data used relate to manual or automated letter mail?
(ii) Please describe the way that special study data were collected and used, and compare it to how the ODIS data are proposed to be used.
(iii) At page 4 of the material supporting Proposal Nine, the Postal Service states that "the letter cases in the 040 [MODS] operation are typically structured to distribute mail to the plant level only." From that premise, it assumes that the next operation would be either an incoming

MMP or incoming SCF/primary. Please provide an example of this downflow, and describe the circumstances under which letter cases would not be "typical" in this respect.

(iv) In developing manual densities for the outgoing secondary (operation 040) and the incoming MMP (operation 043), the Postal Service assumes that the letter case in which the outgoing secondary is performed is "typically" structured to sort to the plant level and that the letter case in which the incoming MMP is performed is "typically" structured to sort to the 5-digit level for the ADC plant, and to the plant level for other plants that are served by that ADC plant. *Id.* at 4-5. Assumptions are then made as to what operation a letter would undergo next, based on the kind of plant in which the letter is found. The results, it says, are significantly different from the results that relied on actual plant data. *Id*. at 6.

(A) Please provide an example of this downflow, and describe any circumstances in which the incoming MMP downflow described is not "typical."

(B) Please describe in more detail the differences between the results obtained from actual plant data and the results obtained from the assumed downflows proposed.

RESPONSE:

(a)-(e), (g)-(k)

The question as posed included no subpart (f).

The 2008 automation density study was largely a replication of the 1999 study, with two exceptions: (1) the Postal Service did not have to directly contact plants for hardcopies of both the automation end-of-reports and sort program listings, given that this information was available through the webEOR system, and (2) manual density data were not collected in 2008. Thus, the premise of this question ("that none of the 40 plants sampled in the 2008 study of manual densities was able to provide data in September 2010") is incorrect; manual density data were not collected in the 2008 study.

Manual density data cannot be obtained electronically through any postal data collection system and must therefore be collected manually. By definition, as this mail is not being processed on machines, there are no machine counts that can be obtained, either locally or from a national roll-up system.

For the 2010 study, the Postal Service contacted the same 40 plants that were sampled in the 2008 automation density study to see if they had any manual density data for the manual outgoing primary letter sorting operation (MODS operation 030), the manual outgoing secondary letter sorting operation (MODS operation 040), and the manual incoming managed mail program (MMP) letter sorting operation (MODS operation 043). An email request was sent to either the plant manager or In-Plant Support manager at all 40 plants. A sample of 40 plants may not seem to represent a very large number, but there are less than 270 postal plants in total, meaning that a sample of 40 represents a significant percentage of postal plants. In addition, the samples for both the 1995 and 1999 density studies included 40 plants.

Many plants did not collect and maintain manual density data for some or all of these operations because they did not need those data to support their operations. Thus, most plants surveyed were unable to provide any manual density data. Due to the lack of available data from the original 40 plants sampled, 11 additional plants were contacted using the process described above.

It is not surprising that, absent any need for these data to manage operations, manual density studies would not be regularly conducted by field personnel. Whether these data are collected by field employees, or Headquarters employees, the process is time consuming, expensive, and disruptive given the narrow window that is available to

process mail. When conducting field studies, efforts are made to not require postal operations to delay the processing of mail so that analysts can set aside, count, and track mail pieces. At the Margaret L. Sellers processing and distribution center (P&DC), for example, the manual density data for the 030 operation were collected over a two-week long period. A separate letter sorting case was set aside and used to process this mail in order to minimize the disruption. 1,000 mail pieces were randomly sampled and sorted each night. An In-Plant Support analyst then counted the number of pieces that were sorted to each holdout. When finished, the analyst notified the manual letter supervisor so that the mail could be dispatched in a timely manner.

Before performing the 2010 manual density analysis, the webMODS system was first used to assemble a list of plants that maintained both a manual incoming MMP operation and a manual incoming SCF / primary operation. The availability of these data represented a significant improvement over the methods used in the previous study, as it would have been necessary to contact all plants directly in 1999 to develop such a list. This list was relied upon to determine the "next operation" for a given plant's mail, as described below.

<u>030 Operation</u>

Ten of the 51 sites that were contacted provided manual density data for the 030 operation. These data can be found in the 'Op_030' tab of the file 'MANUAL_DENSITY_TABLE_PROPOSAL_NINE.xls', submitted at the beginning of this proceeding.

The data that were provided exhibit a great deal of variation. For example, the percentage of mail finalized to the 5-digit level varied from 0.03 percent for Plant 9 to 74.06 percent for Plant 1. This fact is not surprising because the structure of 030 manual letter cases varies in the field. Some sites focus on isolating mail for local high-volume ZIP Codes and nearby plants, while other sites focus on the destinating plant separations that are more similar to what one would find in the 040 operation.

Because the 030 operation is an outgoing mail operation, it is dominated by First-Class single-piece mail volumes, which include a significant amount of "turn-around" mail, as described in the response to Question 1 of this Information Request. Consequently, some plants would be expected to maintain holdouts on the 030 letter cases for high-volume local ZIP Codes.

The 030 data that were provided by plants were either expressed in volume terms, percentage terms, or both. In other words, data were provided which indicated the volume and / or the percentage of mail found in each letter case holdout. A description of each holdout was also provided. Using the data provided by all 10 plants, the volumes for holdouts representing plants on the MMP list and plants served by an area distribution center (ADC) that was on the MMP list were summed. The "next operation" for this mail volume was determined to be the manual incoming MMP operation. The volumes for all other plant-related holdouts were then summed. The next operation for this mail volume was determined to be the manual incoming SCF / primary operation. Finally, the volumes for all delivery unit holdouts were summed. The next operation for this mail volume was determined to be the manual incoming secondary operation. Some data (e.g., international mail, CRM, BRM) were excluded from the

analysis on the basis that the goal of this exercise was to obtain densities applicable to presort letters.

A manual outgoing primary density distribution, in percentage terms, was calculated for all ten plants. Given that plant mail volumes differ, weighted averages were developed by using these percentages to distribute the August 2010 operation 030 volumes by plant based on the next operation (e.g., manual outgoing secondary, etc.). The distributed volumes by next operation for all the plants were then totaled and used to estimate final aggregate density distribution percentages. The manual outgoing primary density distributions derived from the 1999 and 2010 studies were similar, as shown below:

Study Year	Outgoing Secondary	Incoming MMP	Incoming SCF / Primary	Incoming Secondary
1999	18.86 %	12.81%	33.18%	35.15%
2010	11.85%	12.13%	44.10%	31.92%

The Postal Service has also proposed, however, that the value for the incoming secondary operation should be set to zero to negate the effects that single-piece mail volumes have had on the density results. The rationale for doing so is identical to that expressed in response to Question 1 of this Chairman's Information Request.

040 Operation

The 040 letter cases are structured to manually sort outgoing letters to the destinating plant level. For some plants the next operation would be the manual incoming MMP operation. The volume that would next be processed in the manual incoming MMP operation would be the pieces for ADCs that serve more than one plant,

as well as the pieces for the plants that they serve. For the remaining plants, the next operation would be the incoming SCF / primary operation. These plants are ADCs for the service area of only one plant. Only two of the 51 plants provided manual outgoing secondary density data. A discussion of the statistical properties of these data is therefore largely moot.

As described in Proposal Nine, an alternative estimation method was developed due to the lack of available manual density data. The FY 2009 destinating ODIS presort letters volume data by SCF (i.e., plant) were used to estimate the operation 040 density values. These ODIS data included all First-Class Mail presort letters and Standard Mail non-ECR presort letters. The next operation was determined to be the incoming MMP operation for: (1) those plants that were on the MMP list, and (2) those plants that were served by an ADC that was on the MMP list. The next operation was determined to be the incoming SCF / primary for all other plants.

The example below illustrates how the calculations were performed. Plant A is an ADC for Plants A, B, and C and is therefore on the MMP list. Plants D and E, however, are ADCs for the service areas of those respective plants only and therefore do not maintain manual incoming MMP operations.

Plant	Inc MMP ODIS Volume	Inc SCF / Prim ODIS Volume	Total ODIS Volume
A	4,000		4,000
B	2,500		2,500
C	1,500		1,500
D		1,000	1,000
E		1,000	1,000
Total	8,000	2,000	10,000

The volumes by plant are first categorized by the "next operation." The values for each operation are then totaled for all the plants and are used to estimate the density percentages. In this example, the percentage of operation 040 letters that would be processed next in the incoming MMP operation would be 80 percent (8,000 pieces / 10,000 pieces). The percentage of operation 040 letters that would be processed next in the incoming SCF / primary operation would be 20 percent (2,000 pieces / 10,000 pieces). The manual outgoing secondary density distributions for the 1999 and 2010 studies are shown below:

Study Year	Incoming MMP	Incoming SCF / Primary	Incoming Secondary
1999	94.94%	5.06%	0.00%
2010	80.95%	19.05%	0.00%

In 1999, it was assumed that the next operation for any holdout that had an "ADC" label was the manual incoming MMP operation. In the 2010 study, the availability of webMODS data allowed for a more refined analysis. It is not surprising that the percentage of manual incoming MMP mail decreased, given that many ADCs are actually ADCs for the service area of one plant only and would therefore only need one manual incoming operation. In addition, plants also provided a very limited amount of operation 040 manual density data in the 1999 study. Rather than relying on limited data to estimate the operation 040 density distribution, as was the case with the 1999 study, the Proposal Nine analysis considers the broader impact that nationwide destinating mail volumes have on the 040 operation.

043 Operation

The 043 letter cases are structured to manually sort incoming letters to either the destinating plant level or the destinating delivery unit level. For some plants the next operation would be the incoming SCF / primary operation. These plants are those plants for which the incoming letters are first processed through an incoming MMP operation at a second plant which serves as the ADC. For the ADC plants on the MMP list, the next operation would be the incoming secondary operation. Only one of the 51 plants provided manual incoming managed mail program density data. A discussion of the statistical properties of these data is therefore not possible.

The MMP list and the destinating FY2009 ODIS presort letters volume data by SCF were again used to develop operation 043 density estimates. Using the same example described above, the operation 043 density values would be calculated as shown below.

Plant	Inc SCF / Prim ODIS Volume	Inc Secondary ODIS Volume	Total ODIS Volume
A		4,000	4,000
B	2,500		2,500
C	1,500		1,500
D			
E			
Total	4,000	4,000	8,000

The volumes by plant are first categorized by the "next operation" processing level. The values for each processing level are then totaled and are used to estimate the density percentages. The mail for plants D and E would not be processed in the 043 operation and therefore are not considered in this analysis. In this example, the percentage of operation 043 letters that would be processed next in the incoming SCF / primary

operation would be 50 percent (4,000 pieces / 8,000 pieces). The percentage of operation 043 letters that would be processed next in the incoming secondary operation would also be 50 percent (4,000 pieces / 8,000 pieces).

The manual outgoing secondary density distributions developed in the 1999 and 2010 studies are shown below:

Study Year	Incoming SCF / Primary	Incoming Secondary
1999	6.18%	93.82%
2010	43.79%	56.21%

As in the 2010 survey, the response to the 1999 request for manual operation 043 density data was also very limited. The plants that did reply were located in California, where many ADCs are ADCs for the service area of only one plant. Consequently, the 1999 results indicated that the vast majority of the incoming MMP volume would be sorted to the 5-digit level. Rather than relying on limited data to estimate the operation 043 density distribution, as was the case with the 1999 study, the Proposal Nine analysis considers the broader impact that nationwide destinating mail volumes have on the 043 operation.

In summary, manual density data are not easily obtained. While attempts to collect data in both the 1999 and 2010 summaries were met with limited success, the Postal Service believes that the revised analysis, as described in Proposal Nine, represents an improvement over the 1999 study.

In addition, the manual density values have limited impact on the mail processing unit cost estimates. Nonautomation non-machinable presort letters would only be processed in manual operations. In FY 2010, these categories represented only 0.03

percent of the total First-Class Mail presort letters volume. In addition, the percentages of nonautomation machinable presort letters and automation presort letters that would be processed in manual operations are small due to the fact that the machine acceptance rates are high.

Finally, the letter mail cases for the 030, 040, and 043 operations are structured as described above. In Proposal Nine, the use of the word "typically" to describe these operations was not meant to indicate that any atypical operations were being ignored. This term was simply used to indicate that plants and operations can, on occasion, vary to some degree.

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3. The Postal Service says that the ODIS data on which estimates of the percentage of letters delivered to post office boxes was based, are no longer available, but that Carrier Piece Count (CPC) data have become available. The percentage of post office box mail is estimated to be the CPC post office box volume divided by the RPW machine volume. *Id*. at 6-7.

a. Why is RPW machine volume (which excludes First-Class non-machinable, Standard High Density, and Standard Saturation letters) used in the denominator when calculating the post office box percentage?

b. Please describe the reasons for assuming that using (i) CPC data, or (ii) using RPW machine volume in the denominator would produce a less biased estimate.

RESPONSE:

(a)-(b) The proposed post office box percentage of 6.19 percent was calculated to be the CPC post office box volume divided by the RPW volume that should, ideally, not be processed on a machine. If the CPC post office box volume were to be divided by the total RPW volume, including the mail that should not have been processed on machines, the percentage would be 5.92 percent. If the CPC post office box volume were to be divided by the total CPC volume, the percentage would be 6.97 percent. Thus, the general range for this estimate could fall between 5.92 percent and 6.97 percent. It should be noted that the cost models are not particularly sensitive to the post office box statistic.

4. According to the Postal Service, manual incoming secondary operations for all shapes are now performed at DDUs, rather than plants, because plant personnel no longer have scheme knowledge. It states that this conclusion is "supported by field observations that have been conducted since Docket No. R2006-1." Accordingly, the Postal Service proposes to zero out the category manual incoming secondary productivities in plants from the letter model costs sheets. *Id*. at 7.

a. Are the field observations referenced above obtained from a statistical survey or from anecdotal observations?

b. How much manual incoming secondary activity for letter mail in processing plants, if any, is reflected in FY 2010 In-Office Cost System (IOCS) data? Why is there such activity?

c. Please describe whether it is the location where the manual incoming Secondary is performed, or by whom it is performed (Function 1 clerks or Function 4 clerks), that influences the productivity of the Manual Incoming Secondary, and why.

RESPONSE:

In Proposal Nine, the Postal Service proposed that the "plant carrier route finalization percentage" be set to zero. This finalization rate determines the percentage of incoming secondary mail for which the costs are estimated using a MODS-derived productivity value. The costs for the remaining mail are estimated using a productivity value that has been developed using time study techniques.

Historically speaking, the manual incoming secondary productivity value for Function 4 "Customer Service" mail processing clerks that sort letters to the carrier route level at delivery units has been higher than the productivity values for Function 1 "Mail Processing" clerks performing that same operation at plants. Delivery units, by definition, required scheme-trained clerks to perform a variety of sorting tasks on a daily basis. Plants, on the other hand, only required scheme-trained clerks for the non-automation operations that typically required keying (e.g., incoming secondary sorting

on letter sorting machines or flats sorting machines). Given that plants had some scheme-trained Function 1 clerks to perform keying operations, if needed, those clerks also sorted letters in manual incoming secondary operations at the plants, to the extent that those operations were in place for a given ZIP Code.

In today's automated processing environment, there is little need for scheme-trained Function 1 employees at plants. Consequently, as witness McCrery described in his Docket No. R2006-1 testimony, incoming secondary operations were decentralized from plants to delivery units. Docket No. R2006-1, USPS-T-42, page 20 at lines 2-5.

In Proposal Nine, the Postal Service did not intend to imply that there are ***no*** incoming secondary operations at any MODS plants. Some plants house delivery operations, including carriers. For example, the Curseen-Morris Processing and Distribution Center (PDC) in Washington, DC houses delivery operations due to available space. There are also smaller MODS plants that are, in essence, large delivery units that also happen to house some equipment. Those plants also contain delivery operations and would obviously need scheme-trained Function 4 clerks.

The proposed change simply indicates that Function 4 scheme-trained delivery operations clerks almost exclusively perform this task now, given that there is virtually no need for scheme-trained Function 1 clerks. The higher productivity value should therefore be relied upon in the letter cost models.

(a) These comments were based on anecdotal observations that have occurred since Docket No. R2006-1. When postal analysts are in the field collecting data related to other studies (e.g., the 2008 bundle / DDU field study, the 2009 Standard Mail parcel / NFM field study, the 2010 Periodicals field study), plant management is generally

asked whether they maintain manual incoming secondary letter operations. Without exception, the response to this question has been "no" for those plants that do not house delivery operations.

(b) FY2010 IOCS data (Docket No. ACR2010, folder USPS-FY10-NP21) show $45.836 million in weighted tallies for manual incoming secondary letter activities at plants. IOCS cost for manual incoming secondary letter activities has been declining. In FY2000, for example, IOCS reported $299.556 million in weighted tallies for manual incoming secondary letter activities.

Note that the cited page of the discussion of Proposal Nine does not claim that there is ***no*** manual incoming secondary sorting in plants, and states instead that "Very little manual incoming secondary distribution takes place at plants." FY2010 IOCS data show $746.721 million for automated incoming secondary letter activities (1-pass and 2-pass DPS), so automated operations represent 94 percent of plant incoming secondary labor cost, per IOCS. Since productivity is much higher in automated letter operations than manual letter operations, the automated share of plant incoming secondary volume is even higher than the share of cost. According to YRscrub2010.xls in ACR2010 folder USPS-FY10-23, automated (BCS) incoming secondary letter activities account for 99.6 percent of incoming secondary letter TPH.

As stated above, some manual incoming secondary IOCS activity will occur at plants because some plants house delivery operations.

(c) Please see the above introduction to the response to this question.

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5. The Postal Service conducted a field study in 2010 to update Manual Incoming Secondary productivities at DDUs, non-DPS "walling" productivities, and DPS "walling" productivities. ("Walling" is manually sorting mail at the post office box section). *Id*. at 8.

a. Please provide a description of how the field study collected and analyzed the productivity data used to estimate the manual incoming secondary, and the referenced "walling" productivities.

b. Please provide the rationale for applying an overhead factor to the "raw" productivities.

c. Please compare the 2010 study sampling approach, data collection methods, statistical properties of the collected data, and results, with those of the 1999 study that they are intended to replace.

d. Please describe any changes that have occurred in the equipment or methods of "walling" in the time between the 1999 and the 2010 studies.

RESPONSE:

(a) A pilot study was conducted at facilities in the Washington, DC metropolitan area in early August 2010. The procedures that were used to collect the data were developed at that time and conveyed to the analysts who would be collecting the data later at other facilities. Data were then subsequently collected at facilities within the San Diego, Los Angeles, San Francisco, Denver, northern Virginia, and Washington, DC metropolitan areas, largely due to the presence of postal analysts in those areas during the summer and fall of 2010. An attempt was made to include both city stations and associate offices in the study and to collect data on different days of the week, including Saturdays.

The site observations were conducted at a total of 4 plants, 18 delivery units, and 2 retail units. Postal analysts contacted each facility and set up a time to conduct

observations. The observation time period was dictated by the arrival of mail in trucks from the plants. The analysts would generally arrive at the same time that the first truck arrived.

Any trays of manual cards and letters that arrived on any of the trucks from the plant were manually counted and recorded. Any mail that was brought to the manual cases from other delivery unit operations was also manually counted and recorded.

Once a clerk began sorting the manual cards and letters, the analyst started the clock. On occasion, it was possible to record the time required to process the mail for individual trays. In other instances, it was not possible to do so due to the fact that some clerks were constantly consolidating mail from multiple trays into one or more trays. In addition, the clock often had to be stopped because the clerk would leave the area to perform some other more pressing task (e.g., assist with the unloading of containers of mail from a recently arrived truck). Manual incoming secondary processing times were recorded until all the mail had been sorted to the carrier route level. If more than one employee was sorting the mail, this fact was also recorded for the duration of the time period that more than one clerk was processing that mail.

The productivity values that were collected during this study varied because the field operations they represent varied. For example, the manual letters at one delivery unit were supposed to arrive on the first truck. These letters did not arrive at the facility until the third truck, at which time carriers had already arrived at the building, causing serious time pressure to get the letters sorted. A 30-year postal employee at this facility, who was about to retire the following week, sorted the mail to the carrier level in an incredibly short period of time. In contrast, a clerk at a second delivery unit arrived at

that facility at the same 1 a.m. time that the first truck arrived from the plant. This employee was the only scheme-trained clerk to pass the training at this facility, due to recent retirements. The scheme training had only been completed by this clerk the previous week. This clerk therefore had to rely on the scheme board to sort the mail. In addition, there was a significant amount of time in which to sort the mail before the carriers arrived. The rate this employee was sorting mail was therefore much slower than the rate at which the employee in the first example was sorting mail. As these two examples demonstrate, when considering the productivities associated with manual activities, there may be very simple explanations for variation amongst observations.

Productivity estimates were also measured for the "walling" of box section mail that was sorted in delivery point sequence (DPS) at the plant, or non-DPS sequence at the plant or the delivery unit (i.e., mail "flowing" to the box section from the manual incoming secondary operation). In addition to delivery units, some plants also maintain large box sections. Walling productivity data were also therefore collected at some plants.

At delivery units, box section mail from the plant was counted as it arrived. Mail flowing to the box section from the manual incoming secondary operation was counted once that sortation was complete. At plants, box section mail was counted as it arrived from "upstream" automation and manual operations.

Given that box section walling activities are some of the last activities performed by employees at both plants and delivery units, they are generally performed by more than one person in order to ensure that the "box mail up" times posted in postal lobbies are met. Thus, as in the examples above, delay of the arrival of the mail can cause a

time crunch and lead to impressive productivities in relatively heroic efforts to meet the scheduled time for "box mail up", although it may be unreasonable to expect such efforts on a regular basis.

Once an employee began walling the cards and letters, the analyst started the clock. If more than one employee was sorting the mail, this fact was also recorded for the duration of the time period that more than one clerk was processing that mail. Walling processing times were recorded until all the mail had been placed into the individual boxes.

The walling productivity data also varied because the operations they represented varied. Given that the walling task is one of the last tasks performed by clerks in any given facility, any delay in upstream operations would impact the walling operations. When delays occurred, employees would often case at a faster than normal rate to meet the "box mail up" times, or supervisors would assign more employees to the walling task.

The data were reviewed once they had been collected. On occasion some data appeared to be anomalous. For example, there were a few instances in which incoming secondary sorting productivity values were seemingly approaching the 3,600 pieces per hour figure (or one piece per second). These data were excluded from the study. The remaining data were then used to estimate the new productivity values.

Postal analysts could only obtain the incoming secondary productivity data and the walling productivity data once each day at each facility. The sample size could only be increased by expending the resources required to have one or more analysts at each additional facility on any given day.

(b) The application of overhead factors is similar to the application of "personal, fatigue, and delay" allowances in industrial engineering. The time employees require for breaks and personal needs, clocking in and out, and processing empty equipment are imbedded in the MODS productivity estimates that have historically been relied upon to estimate mail processing costs in Postal Service cost models. When productivity data have to be collected manually using time study, postal analysts generally only measure the time required to perform the specific task being observed, such as the sorting of mail pieces or the movement of a container full of mail from a staging area to the dock. In order to account for the personal time, clocking time, and empty equipment processing time, these "raw" productivity values are divided by the overhead factors, which estimate the time required to perform these additional tasks. Overhead factors by cost pool are calculated in ACR document USPS-FY10-7.

(c) The data referred to as the "1999 study" appear to have actually been developed in 1995. No such comparison could be performed as the 1995 data could not be obtained.

(d) Between 1995 and 2010, there have been no changes to the equipment or methods relied upon to perform these tasks.[2] Clerks generally rely on letter or flat cases to sort this mail to the carrier route level as mail arrives from the plant. Mail that is sorted to the box section level in the manual incoming secondary operation is then

[2] Delivery point sequencing operations were first introduced in 1993. Prior to DPS, plants used sector segment operations to sort mail to the 9-digit level. Box section mail can be sorted in walling order using either DPS or sector segment operations. The impact that these operations had on box section walling activities therefore occurred prior to 1995.

taken to the box section and "walled" along with the other box section mail that was sorted at the plant. As described in the response to part (a), the walling task is typically one of the last tasks that clerks perform at delivery units on any given day.

RESPONSE OF THE UNITED STATES POSTAL SERVICE TO CHAIRMAN'S INFORMATION REQUEST NO. 2

6. In support of the proposal to replace the measured leakage rate with an assumption that the leakage rate is equal to the operations target of 5 percent, the Postal Service states that changes to its data collection systems have made it more difficult to measure the leakage rate. *See* material supporting Proposal Nine at 10.

a. Please describe the changes that have made measuring the leakage rate more difficult and explain how they have made the measurement more difficult.

b. Please provide a historical comparison of the measured leakage rate and the operations target.

c. Please describe the purpose of setting an operations leakage target, and explain how the Postal Service intends to measure its success in achieving the target.

RESPONSE:

(a)-(b) In Docket No. R97-1, the remote bar code system (RBCS) "leakage" statistic was first introduced to the cost models. "Leakage" refers to the situation in which a mail piece is processed through the remote computer read (RCR) system or the remote encoding center (REC), but the result (an appropriate barcode associated with the address on the mail piece) is never obtained from the decision storage unit (DSU). Leakage is usually the result of timing. If the system goes down or a processing window expires, mail is sometimes diverted to manual operations even though a result was eventually obtained from the RBCS system.

When RBCS was first deployed, the leakage rate was in the double digits as field personnel adjusted to the new processing methods. Over time, the leakage value decreased significantly. Witness Miller's Docket No. R97-1 testimony (USPS-T-23) indicated that the leakage rate was roughly 7 percent. His qualified business reply mail (QBRM) cost model relied on an operations "leakage target" of 5 percent. Docket No. R97-1, USPS-T-23, page 6, at 9 to 11.

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In Docket No. R2000-1, witness Miller's testimony presented the fiscal year (FY) 1999 RBCS leakage statistics by accounting period (AP), as shown below. Docket No. R2000-1, USPS-T-24, page II-28.

AP	Leakage
1	5.8 %
2	5.7%
3	5.7%
4	4.9%
5	5.8%
6	5.6%
7	5.5%
8	5.5%
9	5.5%
10	5.7%
11	6.1%
12	6.2%

As he stated in his testimony, "In Docket No. R97-1, the operations leakage target of 5 percent was used. Over time, the actual RBCS leakage percentages have been decreasing and approaching that target value. Therefore, a leakage target of 5 percent is also used in this docket." Docket No. R2000-1, USPS-T-24, page 7 at 23 to 25.

In Docket No. R2001-1, witness Miller's testimony stated, "In Docket No. R97-1 and R2000-1, the operations leakage target of 5 percent was used. Over time, the actual leakage percentages have been decreasing and approaching the target value. Therefore, a leakage rate of 5 percent is also used in this docket." Docket No. R2001-1, USPS-T-22, page 13 at 26 to page 14 at 2.

As the actual leakage percentages stabilized and the data became readily available in postal information systems, it seemed appropriate that in Docket No. R2005-1 witness Abdirahman relied upon the actual FY 2004 RBCS leakage rate of 6.10 percent. Docket No. R2005-1, USPS-T-21, page 7, at 15 to 16.

RESPONSE OF THE UNITED STATES POSTAL SERVICE
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In Docket No. 2006-1, operations witness McCrery indicated that the FY 2005 leakage rate was 8.26 percent. Docket No. R2006-1, USPS-T-42, footnote 6. Witness Abdirahman's testimony relied upon the 8.26 percent figure in his analysis. Docket No. R2006-1, USPS-T-22, page 11 at 1 to 2. Witness McCrery's testimony also described how the universal coding system (UCS) was expected to replace the IPSS system, which would enhance the field's ability to manage images. Docket No. R2006-1, USPS-T-42, footnote 7.

From FY 2002 to FY 2010, the enterprise data warehouse (EDW) system shows that the RBCS leakage rates were as follows:

FY	Leakage
2002	6.6%
2003	5.7%
2004	6.1%
2005	8.3%
2006	23.5%
2007	16.6%
2008	17.1%
2009	16.3%
2010	95.9%

As can be seen, the data for the years 2002 through 2005 seem comparable, but the jump in 2006 indicated that either something dramatic had happened to letter processing, or that something had changed in the reporting of the leakage percentage. In fact, changes were made to the RBCS system in 2006. A new software release, IPSS V6.9, changed the way the leakage figures were calculated. Under the new system, images that were finalized prior to being processed through RCR were not deleted by the image processing software. This change resulted in an inflated leakage rate statistic. A subsequent software release in November 2008, IPSS V8.0, changed the

calculation. As the RBCS System Leakage chapter in the 2008 training manual for "Managing Automation for Postal Supervisors" states:

> The Image loss and efficiency numbers have not been correct since the IPSS V6.9 was installed. The formulas did not correctly take into [sic] the new AFCS/OCR results.
>
> IPSS 8.0 changed the method by which leakage is calculated to provide more accurate numbers. (Page 4-23.)

Because of the expense and disruption associated with gathering model input data from field visits or surveys, if data are available through data systems either maintained for the purpose of estimating costs (by the Finance Department) or for the purpose of aggregating information to assess operational behavior and efficiencies (by the Operations Department), the preferences is to rely on those easily-obtainable, easily-updated sources of data. Thus, as the leakage rate data stabilized and were readily available from Operations sources in the EDW, cost analysts relied on that data until it became obvious that the data reported were not stable. Either the nature of the information being reported had changed (despite being labeled as the same measure), or the underlying process had changed, but in either case, the data were no longer considered appropriate for use in the letter cost models. In Proposal Nine, the Postal Service therefore recommended that the operations target leakage percentage should be used in the presort letter models as a placeholder until a more reliable source could be identified.

The RBCS leakage rate is relied upon to develop cost estimates for the nonautomation machinable presort letters categories only. In Docket No. ACR2010,

USPS-FY10-10, nonautomation machinable presort letters represented only 2.66 percent of all First-Class Mail presort letters.

(c) The purpose of setting the operations leakage target was to set a threshold level such that field managers could readily identify if something was "wrong" with their processing of letters. For example, if a leakage rate were much higher than the target, it might indicate that some items were bypassing the OSS operation, or that IPSS was rebooting, or that images were being lifted from mail pieces that were not destined to an RBCS operation, or rejects were being improperly handled. As new software was deployed, the instructions given to field managers regarding re-running rejected letters also changed. A letter from which an image was lifted but not resolved might be put back on the machine and have a second image lifted, with the result that there was only one mail piece, but two images of that mail piece in the buffer. These situations could result in an inflated leakage percentage.

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CERTIFICATE OF SERVICE

I hereby certify that I have this date served the foregoing document in accordance with Section 12 of the Rules of Practice and Procedure.

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