MODS Productivity Data

I. PREFACE

A. Purpose and Content

USPS-FY12-23 provides FY12 productivity data for selected operations at plants, Network Distribution Centers (NDCs, formerly Bulk Mail Centers or BMCs), and Remote Encoding Centers (RECs).

B. Predecessor Documents

Docket No. R2006-1, USPS-LR-L-56, Part III.
Docket No. ACR2007, USPS-FY07-23.
Docket No. ACR2008, USPS-FY08-23.
Docket No. ACR2009, USPS-FY09-23.
Docket No. ACR2010, USPS-FY10-23.
Docket No. ACR2011, USPS-FY11-23.

C. Corresponding Non-Public Document

There is no corresponding non-public document.

D. Methodology

The productivities for plant and NDC operations employ data from the Management Operating Data System (MODS) processed using the methodology from Docket No. R2006-1, USPS-LR-L-56, Part III. Productivities for Remote Encoding Center (REC) operations are based on image volumes and console hours from the WebROADS system, adjusted for "overhead" workhours included in the MODS workhour total. CSBCS productivity is calculated using the methodology described in RM2010-5 Proposal Twenty-Seven (approved in Postal Regulatory Commission Order No. 394).

For FY2012, the MODS productivity reporting has been changed per Docket No. RM2012-2, Proposals Sixteen and Seventeen, approved in Order No. 1383. These modifications add a productivity measurement for Flats Sequencing Sorter (FSS) operations, and consolidate groups for automated letter sorting operations. The FSS productivity includes volumes and workhours for FSS operations at both plants and at NDCs.

Operation group 4 has been retitled from “LMLM” (Letter Mail Labeling Machine) to “LMLM and LCREM,” without a change to the underlying MODS operation assignments. The LCREM (Low Cost Reject Encoding Machine) is a replacement for the LMLM; in FY2012, LCREM deployment was completed and

LMLM equipment was withdrawn from service. Thus, the Postal Service expects that group 4 will consist entirely of LCREM operations for FY2013.

E. Input/Output

The productivity data are used in USPS-FY12-10, USPS-FY12-11, and USPS-FY12-15. Additionally, the console hours used to develop the REC productivities are used in USPS-FY12-7 to assign LDC 15 REC labor costs to cost pools.

II. ORGANIZATION

The main results are presented in the Microsoft Office Excel workbooks ‘YRScrub2012.xls’, 'NDCscrub2012.xls', 'RECProds.xls’, and ‘CSBCS2012.xls’. The results are also reported in Tables 1-4, below. The data processing steps are described in Section III.

Table 1. MODS Productivities for Selected Plant Operations

Group	Description	Shape	TPF/Hour	TPH/TPF
4	LMLM and LCREM	Letters	2,084	1.000
7	Out BCS Primary	Letters	7,518	0.971
8	Out BCS Secondary	Letters	6,119	0.983
9	In BCS MMP	Letters	5,539	0.987
10	In BCS SCF/Primary	Letters	6,373	0.985
11	In BCS Secondary (1 Pass)	Letters	5,700	0.982
12	In BCS Secondary (2 Pass)	Letters	8,581	0.992
14	Manual Out Primary	Letters	663	1.000
15	Manual Out Secondary	Letters	1,009	1.000
16	Manual In MMP	Letters	1,060	1.000
17	Manual In SCF/Primary	Letters	1,005	1.000
18	Manual In Secondary	Letters	320	1.000
21	AFSM100 Out Primary	Flats	1,595	0.973
22	AFSM100 Out Secondary	Flats	2,182	0.975
23	AFSM100 In MMP	Flats	1,613	0.980
24	AFSM100 In SCF	Flats	1,560	0.981
25	AFSM100 In Primary	Flats	2,473	0.981
26	AFSM100 In Secondary	Flats	1,701	0.980
27	AFSM100 ATHS Out Primary	Flats	1,883	0.972
28	AFSM100 ATHS Out Secondary	Flats	1,028	0.977
29	AFSM100 ATHS In MMP	Flats	1,800	0.981
30	AFSM100 ATHS In SCF	Flats	1,710	0.980
31	AFSM100 ATHS In Primary	Flats	1,568	0.982
32	AFSM100 ATHS In Secondary	Flats	2,028	0.979
33	AFSM100 AI Out Primary	Flats	3,012	0.975
34	AFSM100 AI Out Secondary	Flats	3,506	0.979
35	AFSM100 AI In MMP	Flats	2,387	0.980
36	AFSM100 AI In SCF	Flats	1,836	0.980
37	AFSM100 AI In Primary	Flats	2,396	0.971
38	AFSM100 AI In Secondary	Flats	2,864	0.982
39	AFSM100 ATHS/AI Out Primary	Flats	4,459	0.970
40	AFSM100 ATHS/AI Out Secondary	Flats	8,542	0.972
41	AFSM100 ATHS/AI In MMP	Flats	4,706	0.975
42	AFSM100 ATHS/AI In SCF	Flats	4,999	0.977
43	AFSM100 ATHS/AI In Primary	Flats	6,010	0.973
44	AFSM100 ATHS/AI In Secondary	Flats	4,064	0.975
45	UFSM1000 HSF Out Primary	Flats	1,147	0.854
46	UFSM1000 HSF Out Secondary	Flats	787	0.919
47	UFSM1000 HSF In MMP	Flats	1,795	0.925
48	UFSM1000 HSF In SCF	Flats	1,392	0.938
49	UFSM1000 HSF In Primary	Flats	n/a	n/a
50	UFSM1000 HSF In Secondary	Flats	1,857	0.941
51	UFSM1000 Key Out Primary	Flats	494	0.981
52	UFSM1000 Key Out Secondary	Flats	1,060	0.979
53	UFSM1000 Key In MMP	Flats	19	0.994

Group	Description	Shape	TPF/Hour	TPH/TPF
54	UFSM1000 Key In SCF	Flats	860	0.987
55	UFSM1000 Key In Primary	Flats	326	0.976
56	UFSM1000 Key In Secondary	Flats	926	0.984
57	Manual Out Primary	Flats	554	1.000
58	Manual Out Secondary	Flats	530	1.000
59	Manual In MMP	Flats	662	1.000
60	Manual In SCF	Flats	507	1.000
61	Manual In Primary	Flats	517	1.000
62	Manual In Secondary	Flats	365	1.000
63	Manual In	Parcels	312	1.000
64	SPBS Outgoing	Parcels	404	0.921
65	SPBS Incoming	Parcels	220	0.916
66	LIPS Outgoing	Parcels	19,997	1.000
67	LIPS Incoming	Parcels	315	1.000
68	APPS Outgoing	Parcels	551	0.911
69	APPS Incoming	Parcels	361	0.884
70	Manual Outgoing	Parcels	328	1.000
71	ISS - RETURN TO SENDER	Letters	19,097	0.000
72	OSS - RETURN TO SENDER	Letters	126,211	0.937
75	PARS WASTE MAIL	Letters	2,416	1.000
76	PARS MANUAL DISTRIBUTION	Letters	1,252	1.000
77	CIOSS RTS IMAGE LIFT MODE	Letters	6,391	0.936
78	CIOSS INTERCEPT LABEL MODE	Letters	7,400	0.934
79	CIOSS FORWARDS IMAGE LIFT MODE	Letters	6,561	0.954
80	CIOSS REVERSE SIDE SCAN	Letters	5,116	0.952
81	CIOSS RESCAN MODE	Letters	4,976	0.970
82	CIOSS OTHER MODE	Letters	6,007	0.877
83	CIOSS INTERCEPT IMAGE LIFT MODE	Letters	7,032	0.966
84	CIOSS FORWARDS LABEL MODE	Letters	7,344	0.882
85	CIOSS RTS LABEL MODE	Letters	7,488	0.826
86	FSS	Flats	816	0.898

Source: USPS-FY12-23, YRscrub2012.xls

Table 2. MODS Productivities for Selected NDC Operation Groups

Group	Total TPF	Total TPH	Total Hours	TPF/Hour
PPSM	324,200,890	313,151,443	1,124,870	288
SPSM	693,429,758	661,570,818	2,333,644	297
SSM	47,545,367	43,668,678	399,654	119
NMO/Manual Parcels	47,086,806	47,083,368	748,308	63
Outgoing Pouching	44,339,121	44,339,121	128,468	345

Source: USPS-FY12-23, NDCscrub2012.xls

Table 3. Remote Encoding Center Productivities

Product	Images Keyed	Console Hours	Productivity (images per console hour)	Productivity Adjusted for Overhead
APPS	369,898,725	356,279	1,038	910
Flats	552,624,472	522,657	1,057	927
Letters	442,409,203	408,609	1,083	949
COA	36,007,443	196,701	183	160
PARS	972,663,881	882,445	1,102	966
Total	**2,373,603,724**	**2,366,691**	**1,003**	**879**

Source: USPS-FY12-23, RECprods2012.xls

Table 4. CSBCS Productivity

Row	Description	Value
1	CSBCS tallies, machine running - LD41 pool	2,326
2	CSBCS tallies, machine running - Non-MODS	4,496
3	CSBCS tallies, total excluding overhead - LD41	2,566
4	CSBCS tallies, total excluding overhead - Non-MODS	6,368
5	Total tallies, LD41 pool	14,152
6	Break/clocking tallies, LD41 pool	1,748
7	LD41 pool overhead factor	1.1409
8	Non-MODS ovh6521 factor	1.1010
9	Non-MODS ovh6522 factor	1.0140
10	Non-MODS overhead factor	1.1164
11	Ratio of Total Time to Runtime, LD41 pool	1.2588
12	Ratio of Total Time to Runtime, Non-MODS	1.5810
13	Weighted Average Ratio	1.4712
14	Productivity adjustment factor	0.6797
15	Unadjusted runtime productivity	23,128
16	Adjusted CSBCS productivity	15,721

Source: USPS-FY12-23, CSBCS2012.xls

III. PROGRAM DOCUMENTATION

A. Mail Processing Plant Productivities

Program: **modsprod.f** – FORTRAN program that creates a text file of MODS TPH, TPF, and hours by operation groups.

Input: **scrubmap12.prn** - Map of MODS operations to operation groups
finlist12.s - Sorted list of 2012 BA 1 Finance numbers and their facility IDs
bmclist – List of 21 NDCs and ASFs
vvpositions - List of the 375 facility IDs
mods2012bymonth.txt - Monthly GFY 2012 MODS TPF, TPH, and workhour data by month, finance number, and operation

Output: **TPH12.reg** - GFY 2012 MODS TPH by operation group, facility, and month
TPF12.reg - GFY 2012 MODS TPF by operation group, facility, and month
HRS12.reg - GFY 2012 MODS workhours by operation group, facility, and month

The operation groups are as follows[1]:

Group	Description	Shape	Group	Description	Shape
1	Out ISS Primary and Secondary	Letters	44	AFSM100 ATHS/AI In Secondary	Flats
2	In ISS Primary and Secondary	Letters	45	UFSM1000 HSF Out Primary	Flats
3	REC Keying	Letters	46	UFSM1000 HSF Out Secondary	Flats
4	LMLM and LCREM	Letters	47	UFSM1000 HSF In MMP	Flats
5	Out OSS Primary and Secondary	Letters	48	UFSM1000 HSF In SCF	Flats
6	In OSS Primary and Secondary	Letters	49	UFSM1000 HSF In Primary	Flats
7	Out BCS Primary	Letters	50	UFSM1000 HSF In Secondary	Flats
8	Out BCS Secondary	Letters	51	UFSM1000 Key Out Primary	Flats
9	In BCS MMP	Letters	52	UFSM1000 Key Out Secondary	Flats
10	In BCS SCF/Primary	Letters	53	UFSM1000 Key In MMP	Flats
11	In BCS Secondary (1 Pass)	Letters	54	UFSM1000 Key In SCF	Flats
12	In BCS Secondary (2 Pass)	Letters	55	UFSM1000 Key In Primary	Flats
13	In BCS Secondary (3 Pass)	Letters	56	UFSM1000 Key In Secondary	Flats
14	Manual Out Primary	Letters	57	Manual Out Primary	Flats
15	Manual Out Secondary	Letters	58	Manual Out Secondary	Flats
16	Manual In MMP	Letters	59	Manual In MMP	Flats
17	Manual In SCF/Primary	Letters	60	Manual In SCF	Flats
18	Manual In Secondary	Letters	61	Manual In Primary	Flats
19	Riffle Letters	Letters	62	Manual In Secondary	Flats
20	Flats VCS Keying	Flats	63	Manual In	Parcels
21	AFSM100 Out Primary	Flats	64	SPBS Outgoing	Parcels
22	AFSM100 Out Secondary	Flats	65	SPBS Incoming	Parcels
23	AFSM100 In MMP	Flats	66	LIPS Outgoing	Parcels
24	AFSM100 In SCF	Flats	67	LIPS Incoming	Parcels
25	AFSM100 In Primary	Flats	68	APPS Outgoing	Parcels
26	AFSM100 In Secondary	Flats	69	APPS Incoming	Parcels
27	AFSM100 ATHS Out Primary	Flats	70	Manual Outgoing	Parcels
28	AFSM100 ATHS Out Secondary	Flats	71	ISS - RETURN TO SENDER	Letters
29	AFSM100 ATHS In MMP	Flats	72	OSS - RETURN TO SENDER	Letters
30	AFSM100 ATHS In SCF	Flats	73	COA FORMS KEYING	COA
31	AFSM100 ATHS In Primary	Flats	74	PARS IMAGE KEYING	Letters
32	AFSM100 ATHS In Secondary	Flats	75	PARS WASTE MAIL	Letters
33	AFSM100 AI Out Primary	Flats	76	PARS MANUAL DISTRIBUTION	Letters
34	AFSM100 AI Out Secondary	Flats	77	CIOSS RTS IMAGE LIFT MODE	Letters
35	AFSM100 AI In MMP	Flats	78	CIOSS INTERCEPT LABEL MODE	Letters
36	AFSM100 AI In SCF	Flats	79	CIOSS FORWARDS IMAGE LIFT MODE	Letters
37	AFSM100 AI In Primary	Flats	80	CIOSS REVERSE SIDE SCAN	Letters
38	AFSM100 AI In Secondary	Flats	81	CIOSS RESCAN MODE	Letters
39	AFSM100 ATHS/AI Out Primary	Flats	82	CIOSS OTHER MODE	Letters
40	AFSM100 ATHS/AI Out Secondary	Flats	83	CIOSS INTERCEPT IMAGE LIFT MODE	Letters
41	AFSM100 ATHS/AI In MMP	Flats	84	CIOSS FORWARDS LABEL MODE	Letters
42	AFSM100 ATHS/AI In SCF	Flats	85	CIOSS RTS LABEL MODE	Letters
43	AFSM100 ATHS/AI In Primary	Flats	86	FSS	Flats

[1] The operation groups include the FSS group from Proposal Sixteen in Docket No. RM2012-2; the inclusion of the FSS group does not affect the application of existing methodology for other operation groups.

Program: **loadscrub.tsp** – TSP program that loads MODS operation group data by facility into a TSP dataset

Input: **TPH12.reg** - GFY 2012 MODS TPH by operation group, facility, and month
TPF12.reg - GFY 2012 MODS TPF by operation group, facility, and month
HRS12.reg - GFY 2012 MODS workhours by operation group, facility, and month

Output: **REGMODS12** - Panel data set containing GFY 2012 MODS data by facility, month, and operation group

Program: **yr_scrub.tsp** – TSP program that calculates productivities (TPF/Hour) for each of the operation groups. MODS observations in the input data are by facility, month, and operation group. First, observations with TPH greater than TPF have TPF set equal to TPH.[2] Observations with zero TPF or zero workhours are eliminated as erroneous. The observation-level productivity is calculated on the remaining observations with nonzero TPF and nonzero workhours. Observations in the top and bottom one percent tails of the productivity distribution are eliminated as outliers. Finally, TPF, TPH, and workhours are summed by group for observations remaining after the screening steps. The productivity is the ratio of the sum of screened TPF to the sum of screened workhours. A plain-text output file is created for subsequent importation into the YRscrub2012.xls Excel spreadsheet. Productivities for groups 3, 20, 73, and 74 (REC productivities) are obtained from REC operating data reported in the webROADS system, and thus are not reported in the spreadsheet; see Section C, below.

Input: **REGMODS12** - Panel data set containing GFY 2012 MODS data by facility, month, and operation group

Output: **yr_scrub12.txt** – Text file with productivities for 86 operation groups, incorporated in **YRscrub2012.xls**.

[2] This step edits a small number of anomalous observations for automated operations, where in principle TPF should always exceed TPH. Its main function is to allow subsequent productivity calculations to use the TPF variable for all operation groups, rather than to have separate but conceptually equivalent calculations for automated operations and for manual operations (for which MODS TPF is identically zero).

B. NDC Productivities

Program: **bmcprod.f** – FORTRAN program that creates a text file of Network Distribution Center (NDC) MODS TPH, TPF, and workhours for the following operation groups: PPSM, SPSM, SSM, NMO/Manual Parcels, and Outgoing Pouching.

Input: **bmcops12.prn** - Map of MODS operations to 4 NDC operation groups
bmclist – List of 21 NDCs and ASFs
mods2012bymonth.txt - Monthly GFY 2012 downloaded operation and Finance number-level MODS TPH, TFP, and hours

Output: **TPHMO12.bmc** - GFY 2012 MODS TPH by NDC operation group, NDC, and month
TPFMO12.bmc - GFY 2012 MODS TPF by NDC operation groups NDC, and month
HRSMO12.bmc - GFY 2012 MODS hours by NDC operation groups, NDC, and month

The 5 BMC operation groups are as follows:

Group	Description
1	Primary PSM (PPSM)
2	Secondary PSM (SPSM)
3	SSM
4	NMO/Manual Parcels
5	Outgoing Pouching

Program: **loadbmc.tsp** – TSP program that loads MODS operation group data by NDC into a TSP dataset

Input: **TPHMO12.bmc** - GFY 2012 MODS TPH by operation group, NDC, and month
TPFMO12.bmc - GFY 2012 MODS TPF by 5 operation groups, NDC, and month
HRSMO12.bmc - GFY 2012 MODS hours by 5 operation groups, NDC, and month

Output: **BMCMODS12** - Panel data set containing GFY 2012 MODS data by BMC month, and the 5 operation groups

Program: **bmc_scrub.tsp** – TSP program that calculates NDC productivities (TPF/Hour) by operation group. The data screening procedures are identical to those described above for program yr_scrub.tsp. A

text file is created that is imported into the BMCscrub2012.xls Excel spreadsheet.

Input: **BMCMODS12** - Panel data set containing GFY 2012 MODS data by NDC, month, and the operation group

Output: **bmc_scrub12.txt** – Text file with productivities for the NDC operation groups, imported into **BMCscrub2012.xls**.

C. REC Productivities

Spreadsheet: **RECprods2012.xls** – Excel spreadsheet containing Remote Encoding Center (REC) productivities for APPS, Flat, Letter, COA, and PARS images for GFY 2012. Productivities calculated from webROADS images and console hours are adjusted for overhead using MODS hours.

D. CSBCS Productivity

Spreadsheet: **CSBCS2012.xls** – Excel spreadsheet containing GFY 2012 CSBCS productivity. Throughput rates are calculated from the FY2012 CSBCS Machine Utilization Report, and adjusted using IOCS data as described in Docket No. RM2010-5, Proposal Twenty-Seven.