

BEFORE THE
POSTAL RATE COMMISSION
WASHINGTON, D.C. 20268-0001

EVOLUTIONARY NETWORK DEVELOPMENT
SERVICE CHANGES, 2006

Docket No. N2006-1

SUPPLEMENTAL RESPONSE OF THE UNITED STATES POSTAL SERVICE TO
PRESIDING OFFICER'S INFORMATION REQUEST NO. 6
(Question 1) [ERRATA]

The United States Postal Service hereby files a supplemental answer to Question 1 of Presiding Officer's Information Request No. 6. The original answer was filed on July 14, 2006, and is now included in the evidentiary record at Tr. 3/1182-88.

In the original answer, the Postal Service indicated that additional analysis would have to be conducted in order to be fully responsive to the question. That analysis has been completed and is incorporated into the supplemental response, which now supersedes the original response.

Respectfully submitted,

UNITED STATES POSTAL SERVICE

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July 21, 2006

**RESPONSE OF THE UNITED STATES POSTAL SERVICE
PRESIDING OFFICER'S INFORMATION REQUEST NO. 6, QUESTION 1
Revised: July 21, 2006**

1. Attachment 1 contains variability factors calculated for various operations for three sizes: small, medium, and large. The variability factors were calculated in the following manner. The USPS-LR-L-56 data file vv9905.xls was used to construct operation-size cutoffs for this analysis. The TPH variable for the operation (cost pool) in question was sorted in ascending order, and the non-zero TPH observations were then divided into thirds (small, medium, large) for the TPH cutoff values. Thirty-three separate regressions were run, using R2006-1 witness Bozzo's econometric models, to calculate the variability factor; that is 11 cost pools times 3 operation sizes (small, medium, large). The "tph > 0" statement in the following TPS regression programs submitted within USPS-LR-L-56 was replaced with the constructed TPH cutoff values:
 - varmp_tpf_OTHAUTO_by2005.tsp
 - varmp_tpf_BCSSINGLE_by2005.tsp
 - varmp_tpf_AFSM_by2005.tsp
 - varmp_pp_MANPARPRI_by2005.tsp
 - varmp_man_LETFLT_by2005.tsp

The 33 regressions were individually run with the original vv9905.xls input file.

The results of these regressions do not appear to support inferences of economies of scale or density. In order to obtain a more specific indication of what aspect of the structural cost equations support such an inference

- a. Please fill out the table in Attachment 2 using the data and methods employed by the Postal Service to estimate the cost functions described in its response to VP/USPS-T1-21.
- b. Provide all underlying programs and data sets used in preparing the Postal Service's response to a. above. Please include an identification of the time period covered by the data set used and the docket from which the mail processing cost variability model came that is the source of the linearized equations that the END model uses.
- c. Provide a rationale for the classification criteria used for each size within each operation.

Variability factors by operation size for selected operations using the models and dataset provided in USPS-LR-L-56			
Source: Docket No. R2006-1, T-12, LR-L-56			
Witness Bozzo			
Operation	Size¹	TPH cutoffs	Variability factor
D/BCS Incoming	Small	<= 72537	0.53702
	Medium	72538 - 156422	1.15008
	Large	> 156422	0.753747
D/BCS Outgoing	Small	<= 14456	0.570698
	Medium	14457 - 56826	0.725645
	Large	> 56826	1.32706
OCR/	Small	<= 11885	1.49201
	Medium	11886 - 30965	0.551178
	Large	> 30965	0.801015
FSM/1000	Small	<= 3437	0.992176
	Medium	3438 - 5773	0.734923
	Large	> 5773	0.744788
SPBS	Small	<= 2314	0.687394
	Medium	2314 - 5415	1.09805
	Large	> 5415	-0.171569
Manual flats	Small	<= 1438	1.16158
	Medium	1439 - 3437	0.931318
	Large	> 3437	0.254093
Manual letters	Small	<= 6078	-1.54237
	Medium	6079 - 14446	0.073337
	Large	> 14446	0.822586
Manual parcels	Small	<= 253	1.28123
	Medium	254 - 666	-9.23005
	Large	> 666	1.01047
Manual Priority	Small	<= 432	3.51535
	Medium	433 - 1477	-18.8484
	Large	> 1477	0.168578
Cancellation	Small	<= 13161	0.954874
	Medium	13162 - 29361	0.237738
	Large	> 29361	-1.22148
Notes:			
All observations with zero values were deleted			
1/ Size classifications were made by partitioning the number of nonzero observations into approximately thirds			

[1] Operation	[2] Classification Criteria	[3] Average TPH per Hour	[4] Variability Factor	[5] Marginal Cost Consistent with Variability Factor
OCR				
Small	< _____			
Medium	____ to ____			
Large	> _____			
MPBCS				
Small	< _____			
Medium	____ to ____			
Large	> _____			
DBCS				
Small	< _____			
Medium	____ to ____			
Large	> _____			
Man. Letters				
Small	< _____			
Medium	____ to ____			
Large	> _____			
Man. Flats				
Small	< _____			
Medium	____ to ____			
Large	> _____			
FSM				
Small	< _____			
Medium	____ to ____			
Large	> _____			
Man. Priority				
Small	< _____			
Medium	____ to ____			
Large	> _____			
Man. Parcels				
Small	< _____			
Medium	____ to ____			
Large	> _____			

SPBS				
Small	< _____			
Medium	____ to ____			
Large	> _____			
AFCS				
Small	< _____			
Medium	____ to ____			
Large	> _____			
APPS				
Small	< _____			
Medium	____ to ____			
Large	> _____			
AFSM100				
Small	< _____			
Medium	____ to ____			
Large	> _____			
PSM				
Small	< _____			
Medium	____ to ____			
Large	> _____			
NMO				
Small	< _____			
Medium	____ to ____			
Large	> _____			
Platform				
Small	< _____			
Medium	____ to ____			
Large	> _____			
Open Unit Pref				
Small	< _____			
Medium	____ to ____			
Large	> _____			
Open Unit Bulk				
Small	< _____			
Medium	____ to ____			
Large	> _____			
Pouching				
Small	< _____			
Medium	____ to ____			
Large	> _____			

SPBS Other				
Small	< _____			
Medium	_____ to _____			
Large	> _____			

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The results of these regressions do not appear to support inferences of economies of scale or density. In order to obtain a more specific indication of what aspect of the structural cost equations support such an inference

- a. Please fill out the table in Attachment 2 using the data and methods employed by the Postal Service to estimate the cost functions described in its response to VP/USPS-T1-21.
- b. Provide all underlying programs and data sets used in preparing the Postal Service's response to a. above. Please include an identification of the time period covered by the data set used and the docket from which the mail processing cost variability model came that is the source of the linearized equations that the END model uses.
- c. Provide a rationale for the classification criteria used for each size within each operation.

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RESPONSE

The Postal Service has not been able to replicate the results provided in Attachment 1. Nevertheless, it should be noted that twenty-two of the results in Attachment 1 are variabilities less than 100 percent. The Postal Service will provide corrected results for Attachment 1 as warranted.

Not all of the variabilities in the "structural cost equations" used in the END model yield variabilities less than 100 percent, however, the weighted average variability for the BY 2005 models is 85 percent. See Docket No. R2006-1, USPS-T-12 at 3.

- a. The cost functions described in VP/USPS-T1-21 were not estimated by size-based subsets of the data but rather over the full range of data. Thus, the Postal Service does not have a set of results similar to those presented in the question with which it could complete Attachment 2.

With respect to the table requested for Attachment 2, please note that the productivities, variabilities, and calculations of marginal time (workhours) per piece handling at the operation level employed in the BY 2004 CRA models that were the source for the END model was provided at Docket No. R2005-1, Tr. 5/1452.

- b. The Postal Service's BY 2004 mail processing cost variability models are the sources for the linearized equations in the END model. Thus, the full data sets and estimation programs have been provided in Section I of USPS-LR-K-56

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RESPONSE to Question 1 (continued):

(Docket No. R2005-1). The time period covered by the data set is FY 1999-FY 2004.

- c. As indicated in the response to part (a), the mail processing variability models were not estimated by size category. The Commission's approach appears to have some potentially serious deficiencies, particularly in that its methods will not (in general) assign all observations for a facility to the same size category, seasonal fluctuations in piece handlings may affect the size classification, and facilities will not necessarily be assigned to the same size category (or categories) across operations.

The Postal Service has investigated methods that address these potential deficiencies. The results are reflected in the attached spreadsheet. The refined results, expanded to include AFSM operations (not reported in the Commission's Attachment 1) show similar evidence for the existence of economies of density to the models used in the Postal Service's BY 2005 CRA. Overall, only seven of the thirty-three elasticities differ by statistically significant amounts from the estimates used in the CRA; none of those exceed 100 percent. Six of the eight elasticities exceeding 100 percent occur in operations where the Postal Service's estimated elasticity for the CRA is within one standard error of 100 percent, and no elasticities exceed 100 percent by a statistically significant amount.

Attachment to Response to POIR 6 Q1

[1] Operation	[2] TPH/TPF Cutoffs	[3] Elasticity PRC Attachment 1	[4] Elasticity Corrected, w/ Size Categories by Site ID	[5] Standard Error	[6] Productivity	[7] Marginal Productivity
D/BCS Incoming						
Small	<=72537	0.53702	0.752	0.145	9,577	12,735
Medium	72537 to 156422	1.15008	0.819	0.092	8,751	10,685
Large	>156422	0.753747	0.734	0.100	7,991	10,887
D/BCS Outgoing						
Small	<=14456	0.570698	0.753	0.084	9,395	12,477
Medium	14456 to 56826	0.725645	1.011	0.065	9,559	9,455
Large	>56826	1.32706	1.057	0.079	7,399	7,000
OCR						
Small	<=11885	1.49201	0.822	0.083	7,399	9,001
Medium	11885 to 30965	0.551178	0.892	0.066	6,782	7,603
Large	>30965	0.801015	0.654	0.092	5,252	8,031
FSM/1000						
Small	<=3437	0.992176	0.752	0.054	519	690
Medium	3437 to 5773	0.734923	0.807	0.045	608	753
Large	>5773	0.744788	0.628	0.061	521	830
SPBS						
Small	<=2314	0.687394	0.845	0.070	306	362
Medium	2314 to 5415	1.09805	0.657*	0.082	298	454
Large	>5415	-0.171569	0.853	0.069	274	321
Manual Flats						
Small	<=1438	1.16158	1.518	0.301	435	287
Medium	1438 to 3437	0.931318	0.635*	0.114	490	772
Large	>3437	0.254093	0.716*	0.103	438	612
Manual Letters						
Small	<=6078	-1.54237	0.934	0.131	710	760
Medium	6078 to 14446	0.073337	0.784	0.437	610	778
Large	>14446	0.822586	0.16*	0.099	514	3,213
Manual Parcels						
Small	<=253	1.28123	0.307*	0.154	186	606
Medium	253 to 666	-9.23005	1.778	0.965	307	173
Large	>666	1.01047	0.957	0.545	349	365

Attachment to Response to POIR 6 Q1

Manual Priority

Small	<=432	3.51535	2.880	3.210	211	73
Medium	432 to 1477	-18.8484	0.660	0.081	292	442
Large	>1477	0.168578	0.339	0.289	323	953

Cancellation

Small	<=13161	0.954874	0.857*	0.101	4,034	4,707
Medium	13161 to 29361	0.237738	0.198*	0.122	3,997	20,187
Large	>29361	-1.22148	0.356	0.185	3,567	10,020

AFSM 100

Small	<=20000	n/a	1.101	0.108	2,087	1,896
Medium	20000 to 45000	n/a	1.094	0.104	1,976	1,806
Large	>45000	n/a	1.135	0.145	1,936	1,706

*Differs from BY 2005 elasticity at 5% significance level or better

Attachment to Response to POIR 6 Q1

[8] BY 2005 Elasticity	[9] BY 2005 Std. Error
0.820	0.070
1.060	0.060
0.780	0.050
0.720	0.030
0.870	0.050
0.890	0.090
0.940	0.070
0.800	0.180

Attachment to Response to POIR 6 Q1

0.750 0.090

0.500 0.070

0.990 0.080