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

POSTAL RATES AND FEE CHANGES, 2006) Docket No. R2006-1

Direct Testimony of

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Concerning

CERTAIN ISSUES PERTAINING TO MAIL PROCESSING COSTS

On Behalf of

VALPAK DIRECT MARKETING SYSTEMS, INC. AND
VALPAK DEALERS' ASSOCIATION, INC.

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AUTOBIOGRAPHICAL SKETCH

My name is John Haldi. I am President of Haldi Associates, Inc., an economic and management consulting firm with offices at 488 Madison Avenue, New York, New York 10022. My consulting experience has covered a wide variety of subjects for government, business and private organizations, including testimony before Congress and state legislatures.

In 1952, I received a Bachelor of Arts degree from Emory University, with a major in mathematics and a minor in economics. In 1959, I received a Ph.D. in economics from Stanford University.

From 1958 to 1965, I was an assistant professor at the Stanford University Graduate School of Business. In 1966 and 1967, I was Chief of the Program Evaluation Staff, U.S. Bureau of the Budget. While there, I was responsible for overseeing implementation of the Planning-Programming-Budgeting ("PPB") system in all non-defense agencies of the federal government. During 1966, I also served as Acting Director, Office of Planning, United States Post Office Department. I was responsible for establishing the Office of Planning under Postmaster General Lawrence O'Brien, where I established an initial research program, and hired the initial staff.

I have written numerous publications. Among those publications dealing with postal and delivery economics are an article, "The Value of Output of the Post Office Department," in *The Analysis of Public Output* (1970); a book, *Postal Monopoly*: *An Assessment of the Private Express Statutes*, published by the American Enterprise Institute for Public Policy Research (1974); an article, "Measuring Performance in Mail Delivery," in *Regulation and the Nature of Postal Delivery Services* (1992); an article (with Leonard Merewitz), "Costs and Returns from Delivery to Sparsely Settled Rural Areas," in *Managing Change in the Postal and Delivery Industries* (1997); an article (with John Schmidt), "Transaction Costs of Alternative Postage Payment and Evidencing Systems," in *Emerging Competition in Postal and Delivery Services* (1999); an article (with John Schmidt), "Controlling Postal Retail Transaction Costs and Improving Customer Access to Postal Products," in *Current Directions in Postal Reform* (2000); an article (with John Schmidt), "Saturday Delivery: Who Provides? Who Needs It?" in *Postal and Delivery Services: Pricing, Productivity, Regulation and Strategy* (2002); an article (with William J. Olson), "An Evaluation of USPS Worksharing: Postal Revenues and Costs from Workshared Activities," in *Competitive Transformation of the Postal and Delivery Sector* (2004); and an article (with William J. Olson)

"Enhancing Competition by Unbundling the Postal Administration," in *Progress Toward Liberalization of the Postal and Delivery Sector* (2006).

I have testified as a witness before the Postal Rate Commission in Docket Nos. R2005-1, R2000-1, R97-1, MC96-3, MC95-1, R94-1, SS91-1, R90-1, R87-1, SS86-1, R84-1, R80-1, MC78-2, and R77-1. I also have submitted comments in Docket No. RM91-1.

I. PURPOSE OF TESTIMONY

The purpose of this testimony is twofold. First, sections III through VII review and comment on the study of the volume variability of mail processing costs presented in this docket by Postal Service witness A. Thomas Bozzo, USPS-T-12. Attention is focused on certain implications of the study and findings in witness Bozzo's current testimony, and a number of observations and recommendations are provided for the Commission's consideration. The purpose here is not to challenge witness Bozzo's econometrics or question the quality of the Postal Service's data, even though both issues have been a source of considerable concern in prior volume variability studies of mail processing costs presented by witness Bozzo, as well as those presented by Postal Service witness Michael D. Bradley (USPS-T-14). That important task is left to others.

The second purpose of this testimony (section VIII) is to revisit certain issues pertaining to capacity constraints as they affect the way ECR saturation mail is handled, and the effect such capacity constraints have on the marginal cost of ECR saturation mail as measured by the Postal Service.

II. VALPAK MAILING PRACTICES

This testimony is presented on behalf of intervenors Valpak Direct Marketing Systems, Inc. ("VPDMS") and Valpak Dealers' Association, Inc., hereinafter collectively referred to as "Valpak." As described more fully below, Valpak's mail primarily consists of letter mail sent at the Standard Mail ECR Saturation rate. VPDMS falls into the direct mail cooperative advertising industry, specifically coupon mailers.

Headquartered in Largo, Florida, Valpak is owned and operated by Cox Target Media, one of the leading direct marketing companies in North America. Cox Target Media is a subsidiary of Atlanta, Georgia-based Cox Newspapers, owned by Cox Enterprises, Inc., one of the largest media conglomerates in the United States.

VPDMS Current Mailing Practices

VPDMS enters over 510 million pieces of its own mail in the United States annually. In addition, it entered more than 38 million solo pieces under contract for various clients in 2005.

More than 98 percent of VPDMS' mailings use letter-shaped No. 10 envelopes, while less than 2 percent use letter-shaped, 6" x 9" envelopes.

1 The average weight of a VPDMS piece is about 2.5 ounces. All mailings
2 are trayed by VPDMS for individual carrier routes and entered at the
3 Standard A Mail ECR Saturation Rate.

4 In business for more than 38 years, VPDMS operates throughout
5 the United States through approximately 200 U.S. franchisees, which are
6 members of the Valpak Dealers' Association, Inc. The work of these
7 franchisees is supplemented by efforts of approximately 1,200 sales
8 representatives.

9 VPDMS' mailings reach 45 million households in the United States
10 each year. Its mailings can be highly targeted to meet the marketing
11 needs of even the smallest retail businesses. This is accomplished by
12 Valpak's geographic advertising plan, which divides the country into
13 thousands of "Neighborhood Trading Areas" ("NTAs"), most consisting of
14 approximately 10,000 residences. These NTAs are built around
15 neighborhood purchasing patterns, taking into account factors such as
16 traffic zones and natural barriers, such as rivers. Through this NTA
17 construct, businesses can target precisely for advertising purposes those
18 geographic market segments that are most economically attractive.
19 Advertisers may purchase coverage for the entire nation, or any number
20 of NTAs, from several thousand down to only one.

Most franchisees mail at least 10 times per year, with the majority of offices mailing on a monthly schedule.

Each year, more than 80,000 individual advertisers purchase ECR Saturation advertising with VPDMS. Some of these advertisers are national or regional businesses, but the vast majority is comprised of small, local businesses.

Once an advertiser places an order with a VPDMS franchisee for distribution of a particular coupon to a particular geographic area with a particular frequency, the order is directed to Valpak's corporate headquarters in Largo, Florida. There, the graphics for the coupon are created. VPDMS fashioned as many as 344,000 graphic panels in 2005 and projects to layout more than 350,000 in 2006.

After review and approval by the advertiser, the coupons are printed in either Largo, Florida, or Elm City, North Carolina. Printing may be simple, involving only one color, or may involve sophisticated, four-color printing. In 2007, the new Valpak Manufacturing Center will begin coming online, featuring nearly 500,000 square feet under one roof and providing state-of-the-art production and handling for the blue Valpak envelope from St. Petersburg, Florida.

VPDMS has been encouraged by the Postal Service to put delivery point barcodes on all of its mail. At present, 100 percent of VPDMS' mail

is walk-sequenced Delivery Point Barcoded. VPDMS incurs additional computer charges as a result of adding the delivery point barcode to mailing lists that have only ZIP + 4 information. VPDMS works closely with firms supplying mailing lists to ensure that it buys the cleanest and most up-to-date lists available anywhere. For example, when the Postal Service changes boundary lines, these lists are updated by list companies supplying VPDMS by the next bimonthly update from the Postal Service.

Virtually all of VPDMS' mail is transported by truck at VPDMS' expense, and 99 percent is entered at the destinating SCF. The remainder is entered at BMCs, or locally, in either St. Petersburg, Florida, or Elm City, North Carolina.

VPDMS advertisers require that the Valpak mail be delivered in a timely fashion. For example, if a pizza carry-out firm issues $1-off coupons to be delivered during a particular week, it must anticipate the additional business generated by purchasing additional ingredients and hiring additional staff. If the mail is delivered too early, the client may not be prepared or, if late, the extra ingredients can be wasted and the additional staff can stand idle.

VPDMS Future Mailing Practices

VPDMS will be using the USPS Transitional Barcode on its tray labels beginning in the second quarter of 2007, and will be fully converted to the 24-digit barcode in 2008. In addition, VPDMS is moving towards the 4 State Customer barcode and other Surface Visibility opportunities.

Also, for more than 10 years, VPDMS has participated voluntarily in Postal Service tests, such as those involving traying letter-shaped carrier route mail and palletizing trays, despite the fact that these procedures have caused VPDMS to incur additional costs. VPDMS has been a national test site for such tests. Since such traying became mandatory, VPDMS has been in full compliance.

Several other national and regional firms around the country are known to operate in a manner similar to that of Valpak. Money Mailer of Manhattan Beach, California, is believed to be the second-largest such firm, followed by many others, such as SuperCoups in Taunton, Massachusetts, United Marketing Solutions in Springfield, Virginia, and Trimark in Wilmington, Delaware. Many competitors operate only in limited geographic markets.

III. INTRODUCTION

Prior to Docket No. R97-1, the assumption that volume variability of mail processing costs is approximately 100 percent was accepted without serious challenge. Since then, a rather extensive record has been developed before the Commission on the issue of the volume variability of mail processing costs. In Docket No. R97-1, the Postal Service introduced a study by witness Bradley (USPS-T-14), which challenged that long-standing assumption with a finding that volume variability of mail processing was somewhat less than 100 percent.[1] For reasons explained in the *Opinion and Recommended Decision* in that docket, the Commission did not accept witness Bradley's findings.

Subsequently, in Docket No. R2000-1, witness Bozzo (USPS-T-15), responding to criticisms that had been raised concerning witness Bradley's study in Docket No. R97-1, presented a second study of mail processing costs, again with the finding that volume variability is significantly less than 100 percent.[2] Various parties in that docket

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[1] *See* Docket No. R97-1, USPS-T-14 and USPS-RT-5; for a critique of witness Bradley's study, *see Op. & Rec. Dec.*, App. F.

[2] For prior testimony by witness Bozzo on this issue, *see* Docket No. R2000-1, USPS-T-15 and USPS-RT-6; Docket No. R2001-1, USPS-T-14; (continued...)

strongly contested witness Bozzo's study, and the Commission again rejected the findings and continued to treat the volume variability of mail processing costs as essentially equal to 100 percent. In the Commission's *Opinion and Recommended Decision*, Appendix F, the issue of the volume variability of mail processing costs received extensive discussion. As part of that discussion, the Commission addressed the worksharing implications of the Postal Service's proposed change in volume variability of mail processing costs:

> Current estimates of avoided costs are based on the Commission's conclusion that labor costs in most mail processing operations are 100 percent variable with volume. Because the variabilities estimated by the Postal Service are dramatically lower, using them to estimate the costs avoided by worksharing would dramatically shrink the estimated costs avoided. This would require an equally dramatic reduction of the discounts offered for worksharing if they were to accurately reflect the underlying cost savings....
>
> Passing through such dramatically reduced cost savings is likely to decimate the Postal Service's current worksharing programs. If the low variabilities that the Postal Service estimates for mail processing labor are valid, passing through more than the cost savings would be counterproductive, since it would encourage a mailer to provide unbundled service even when

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[2](...continued)
and Docket No. R2005-1, USPS-T-12. For discussion of those studies, respectively, *see* Docket No. R2000-1, *Op. & Rec. Dec.*, App. F, and Docket No. 2005-1, *Op. & Rec. Dec.,* App. I.

> it was the less efficient provider. Since economic efficiency is the fundamental purpose of offering worksharing discounts, the Commission is not inclined to recommend, over the long-term, passthroughs that are substantially higher than the cost savings that they are supposed to reflect.[3]

Accordingly, the volume variability of mail processing costs should be, and is, a matter of considerable concern to all mailers that engage in extensive worksharing activities. Likewise, the method of distribution of any non-volume variable costs possibly found to exist would be a matter of equal concern to all mailers that engage in extensive worksharing activities.

In Docket No. R2001-1, witness Bozzo (USPS-T-14) presented another study on the volume variability of mail processing costs, but the case was settled without the issue being decided, or even addressed.

In Docket No. R2005-1, witness Bozzo (USPS-T-12) presented yet another study on the volume variability of mail processing costs. Almost all parties in that docket signed a settlement agreement and did not present testimony on any of the issues raised by the Postal Service's case. Nevertheless, the Commission subjected the data underlying witness Bozzo's study to a careful review and, in many important respects, found that the quality of the data was deficient and the data

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[3] Docket No. R2000-1, *Op. & Rec. Dec.,* App. F, p. 37.

generally not adequate to support his findings. In analyzing that study, the Commission analyzed witness Bozzo's focus on certain setup and takedown time:

> Postal Service witnesses have asserted that setup and takedown times are large enough to account for the low variabilities. Witness Bozzo references, for example, Postal Service witness Kingsley's "setup/takedown time" theory from past cases as an explanation for why volume variabilities may be significantly less than one. Docket No. R2000-1, USPS-T-39. With this "setup/takedown time" theory, two possible scenarios are:
>
> 1. The setup/takedown time is always a part of each mail processing run, so many runs would require many setup/takedown times.
>
> 2. The setup/takedown time is only present at the beginning (setup time) and the end (takedown time) of a long series of continuous nonstop mail processing runs, so many runs would require only one setup/takedown time.
>
> In Scenario 1, if the setup/takedown time would always be present with each run, then it would be a part of the costs for each run. Thus, if volume were to double and require a second run, associated costs would double: variability is equal to one. In Scenario 2, if the setup/takedown time costs would only be present at the beginning and end of a long series of continuous nonstop mail processing runs, then these costs would appear to be very small. Thus, if volume were to double, the costs associated with its processing would not appear

> to be significantly different: variability is not significantly different from one.[4]

Witness Bozzo has presented in this docket another statistical study on the volume variability of mail processing cost pools across the network of Management Operating Data System ("MODS") facilities. What he claims to have found is that most of the Postal Service's mail processing operations involve some labor costs that do not vary with output. These non-volume variable labor costs are sometimes referred to herein as fixed labor costs. In the cost pools that were the focus of witness Bozzo's study, these costs pertain largely to the time and cost required to set up and take down different sort schemes. They occur in all plants, both large and small, and exceed $700 million annually. Extrapolated to the entire Postal Service, they are estimated to exceed $2.3 billion.

As explained in Section IV, it is a weakness of witness Bozzo's study that he has not analyzed whether mail processing by the Postal Service is subject to economies of scale. From his study, one obtains little insight into whether the unit cost of mail processing declines as the size of facilities increases. Whether larger plants incur relatively more or less of his fixed costs — *i.e.*, whether they have a higher proportion of

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[4] Docket No. R2005-1, *Op. & Rec. Dec.*, App. I, paras. 124-125.

volume variable costs — was not part of witness Bozzo's analysis, and this omission precludes adoption of his analysis.

It is my view that the significance of witness Bozzo's conclusions, even if true, is not as great as it initially would appear. Consider what would happen if the Commission, either in this docket or in some future docket, should decide to adopt witness Bozzo's recommendation to treat as non-volume variable some portion of mail processing labor costs that heretofore have been treated as volume variable. The Commission then would need to determine the most appropriate treatment for such non-volume variable costs. For reasons explained herein, these non-volume variable costs would need to be partitioned into two groups:

- Fixed costs that are specific to a single class or subclass of mail; and

- Fixed costs that cannot be identified as being specific to a single class or subclass of mail because they are common to multiple subclasses.

The first group, which is shown to represent a substantial portion of witness Bozzo's fixed costs, should (i) be considered as product-specific intrinsic costs, (ii) be included in the incremental costs of the various classes and subclasses of mail, and (iii) continue to be attributed and distributed to the classes and subclasses of mail as the Commission has done in prior dockets.

The second group of witness Bozzo's fixed labor costs, those which are common to multiple subclasses of mail, cannot be attributed in the same manner as product-specific intrinsic costs. Instead, they would be treated as institutional costs and distributed according to the non-cost criteria set forth in Section 3622(b) of the Postal Reorganization Act of 1970 ("the Act"). At the same time, they should be treated as incremental costs of the various shapes to which they pertain and included in incremental cost tests thereof.

Once this exercise is complete, it can be seen that many of these setup and takedown costs should continue to be attributed, consistent with current practice.

IV. WITNESS BOZZO HAS NOT STUDIED ECONOMIES OF SCALE IN MAIL PROCESSING COST

In plain language, a business firm (or other organization, such as the Postal Service) has *economies of scale* when a larger producing unit can lower the unit cost. Some everyday examples illustrate economies of scale. Pipes with larger diameters can move liquids or gas at a lower unit cost than pipes with smaller diameters. Large tanker ships, such as those with 500,000 deadweight tons, can transport oil at a lower cost per barrel than smaller ships. And larger passenger aircraft, new models of which will soon carry as many as 600 to 800 passengers, are being designed to exhibit a lower seat-mile cost than smaller aircraft.

If economies of scale existed in the area of mail processing, larger facilities capable of processing larger volumes of mail — assuming that the volume profile remains the same (*i.e.*, unchanged letter-flat mix, presort mix, etc.) — would have lower unit mail processing costs than smaller facilities. Although the Postal Service knows the costs which it incurs at each plant, the Postal Service believes that cost data "are not available at appropriate levels of operational detail" to estimate the unit

cost of processing mail at individual facilities.[5] Consequently, even though the Postal Service operates mail processing facilities of widely varying sizes,[6] it cannot present data that show how mail processing costs change with the increasing size of facilities and volume of mail processed.

The labor productivity of postal facilities can and does vary significantly, as shown in the histogram provided in response to VP/USPS-T12-4 (Tr. 10/2657).[7] On average, it would appear that small facilities have higher productivity than large facilities.[8] The evidence is by no means uniform, however, as a few large plants are more productive than small plants. Thus, it is not clear whether postal facilities are subject to economies or diseconomies of scale.

Despite the lack of critical empirical data to evaluate economies of scale, the Postal Service nevertheless assumes that larger mail processing facilities are, in fact, more efficient. In Docket No. R2001-1, Postal Service witness Linda A. Kingsley (USPS-T-39) testified that:

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[5] Response to VP/USPS-T12-7 (Tr. 10/2661).

[6] A few plants have only one Delivery Bar Code Sorter ("DBCS") machine, while 257 plants have six or more, and one plant has 81 such machines. Response to VP/USPS-T42-3 (Tr.11/3102).

[7] *See also* Docket No. N2006-1, response of the Postal Service to VP/USPS-T1-16, which shows productivity for small, medium, and large plants by individual cost pools.

[8] Response to VP/USPS-T12-4 (Tr. 10/2656-57).

> the Postal Service tries to concentrate distribution operations in a single facility to create opportunities for savings due to automation and other efficiencies. *Unfortunately, we cannot do this in all situations.* Plants must be located coincident with the population they serve in order to meet service standards. With that constraint, and subject to practical requirements such as transportation costs and the need to make the best use of our existing space, we prefer larger plants. For example, it is common practice to consolidate collection mail processing for several plants when holiday processing is necessary to avoid excessive workload the following day. This is done to achieve economies. Further evidence of the Postal Service's preference for centralized distribution is processing to DPS on DBCSs in plants. It is when there are space constraints that DPS is done at delivery units on CSBCSs instead.[9]

In this docket, Postal Service witness Marc D. McCrery (USPS-T-42) supports witness Kingsley's belief, but he acknowledges that neither he nor the Postal Service has any empirical studies to support that position.[10] The Postal Service may be correct in its assumption that larger facilities "create opportunities for savings due to automation and other efficiencies."[11] Nevertheless, nothing in witness Bozzo's study either supports or refutes this belief. He has not studied whether volume

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[9] Docket No. R2001-1, USPS-T-39, p. 29, ll. 6-17 (emphasis original).

[10] Response to VP/USPS-T42-20 (Tr. 11/3123-24).

[11] Docket No. R2001-1, USPS-T-39, p. 29, ll. 7-8.

variability differs as between similar cost pools at small versus large facilities.[12] Nor does he assert that larger plants have higher rates of productivity and lower unit costs.[13] Instead, he states that his results imply the existence of what he describes as economies of "density" in the mail processing operations which he analyzed.[14] Witness Bozzo's economies of density are not the same as economies of scale. Hence, this implication, even if true, does not demonstrate by itself that mail processing time and costs decline as the size of facilities increases. (*See* Section IV. C, *infra*, for more discussion concerning economies of density.)

Economies of scale is covered in virtually every elementary economics textbook, and also has been discussed in prior testimony concerning the volume variability of mail processing costs. Still, the concept has certain subtleties that sometimes are not well understood. A

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[12] Response to VP/USPS-T12-6 (Tr. 10/2659).

[13] Response to VP/USPS-T12-4 and 6 (Tr. 10/2656-57 and Tr. 10/2659). *See also* Docket No. N2006-1, USPS library reference N2006-1/7, General Accountability Office Audit Report — GAO-05-261, *US Postal Service: The Service's Strategy for Realigning Its Mail Processing Infrastructure Lacks Clarity, Criteria and Accountability* (April 2005). A key finding of that study was that in FY 2004, on average, the total pieces handled per person per hour in processing plants **declined** as plant size **increased**. Although this finding can be criticized on various grounds, it certainly lends no support to any belief about the existence of economies of scale in mail processing.

[14] Response to VP/USPS-T12-4 (Tr. 10/2656-2657).

few basics concerning economies of scale are therefore reviewed briefly below.

A. Economies of Scale Is Not a Short-run Concept

Economies of scale is **not** a concept that deals with short-run costs. Basic micro-economics typically considers every plant or firm as having a short-run cost curve that both isolates and depicts how costs change in response to changes in volume. Every plant is designed and constructed with some capacity limitation and, over a period to which the short-run cost curve is applicable, the design, size, and capacity of a plant or facility are considered fixed. The short-run unit cost for most plants or firms is presumed to decline up to some volume level, as the most efficient factors of production are utilized. Once the plant reaches its design capacity, however, unit cost tends to increase as less efficient factors are utilized in an effort to overcome short-run capacity constraints.[15]

The preceding description would be reasonably accurate for a mail processing plant that used its most efficient equipment until reaching capacity of that equipment, after which mail then would be processed to

[15] If such short-run economies did not exist — *i.e.*, if the cost curve did not decline over some range, and exhibit volume variability less than 100 percent over that range — at best the firm would exhibit constant returns to scale, and possibly continually increasing costs.

1 meet service standards using less efficient and, therefore, more costly
2 methods; *e.g.*, equipment primarily intended for a different purpose, or
3 older, less efficient equipment kept for spare capacity, or even manual
4 sortation, if volume on some days should exceed capacity of the facility's
5 equipment (*e.g.,* utilization of the FSM 1000 when the Automated Flats
6 Sorting Machine ("AFSM") 100 is fully utilized). If processing an
7 increased volume of mail on a plant's most efficient equipment (up to
8 capacity limits) is viewed as achieving **economies of density**, then any
9 short-run surge in volume that requires using less efficient automated
10 equipment or manual sortation might be viewed as resulting in
11 **diseconomies of density** in mail processing operations.[16]
12 Any postal facility, whether small or large, could be operating well
13 above optimum capacity, where **diseconomies** have set in and **marginal**
14 **cost is increasing sharply**.[17] Nevertheless, a myopic focus on the
15 statistical relationship between labor hours and output of individual cost

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[16] Using the latest equipment until full capacity is reached, and then utilizing older equipment or manual sortation to meet service standards probably is the most efficient way to operate a mail processing plant subject to fluctuations in the volume of mail that must be processed within service windows ranging from hours to one or two days; it is all very common-sensical. It does not, however, accord with the way the Postal Service describes the production function that underlies its costing methodology. For further discussion on this subject, *see* Section VIII, *infra*.

[17] For example, capacity on all automated sorting machines has been reached and the facility has been forced to sort manually a substantial volume of mail in order to meet service standards.

pools within a plant might find volume variability in each cost pool to be less than 100 percent. In terms of overall operating efficiency, the plant's increasing short-run marginal cost results, of course, from the fact that an excess volume of mail has forced it to resort to extra hours of manual sortation, even though the manual cost pool exhibits volume variability of less than 100 percent (based on an econometric study that focuses exclusively on individual MODS cost pools).

In other words, by focusing on individual cost pools, witness Bozzo would be unlikely to observe increasing marginal cost in any facility, even one where volume substantially exceeded capacity of the most efficient automated equipment and marginal cost was rising, even if rising sharply. This illustrates a critical difference between economies of density in individual operations, such as MODS cost pools, and economies of scale over plants that range in size from small (*e.g.,* only one or two DBCS machines) to rather large (*e.g.,* from six to 81 DBCS machines). To reiterate, neither the volume variability of individual MODS labor costs pools, nor a finding of economies of density, should be interpreted as evidence that larger facilities exhibit any meaningful economies of scale.

Also, the volume variability of individual MODS costs pools does not indicate how the cost incurred to sort mail would change if the

capacity of various facilities were expanded to handle a permanent increase in volume. In fact, since mail processing plants typically are expanded by having more machines similar to those already in use — rather than utilizing larger machines that incorporate a different and more efficient/productive technology[18] — one normally would not expect any significant economies of scale.

B. Economies of Scale Is a Long-run Concept

Economies of scale is a long-run concept. It refers to how cost changes after the organization has had full opportunity to make all requisite adjustments to a change in volume. Over longer-run periods, plant capacity is not considered to be fixed.[19] In fact, the organization is presumed to make optimal adjustments to capacity in response to sustained changes in volume. Only after such adjustments are made will economies (or diseconomies) of scale, if they exist, become evident.

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[18] By way of illustration suppose (i) there existed a machine capable of sorting 500,000 letters per hour, which is well over 10 times the rate that existing DBCS machines can sort letters, and (ii) the cost of operating the machine were only five times the cost of operating an existing DBCS machine. Such a (hypothetical) machine would not be economical in smaller plants, while larger plants with sufficient volume to utilize such capacity would be expected to exhibit economies of scale. New machines, incorporating unproven technologies, are being pursued now; response to VP/USPS-T42-26 (Tr. 11/3132). Whether these new machines someday will give rise to economies of scale is not known.

[19] *See* Docket No. R2005-1, response to VP/USPS-T2-15 (Tr. 8D/5769).

In economic textbooks, the concept of economies of scale sometimes is illustrated graphically (i) as an **envelope curve** drawn tangent to a series of short-run cost curves, and (ii) depicting **a declining unit cost** as the organization fully adapts to increases in volume. It should be noted that this envelope curve is strictly conceptual; it makes no pretense of depicting the cost curve for any single plant or facility. Importantly, no single plant or facility, no matter how large or small, by itself can be depicted by the envelope curve. Nor can the economics of operating a single plant yield much insight into whether different size plants are subject to economies (or diseconomies) of scale.

Significantly, the envelope curve, like the series of short-run cost curves that define it, **isolates** the change in unit cost with respect to volume. This "isolation" does not mean that either the envelope curve, or the cost curves of different size plants that define the envelope curve, are immutably fixed. Rather, the cost curves of individual plants and the envelope curve can **shift** up or down in response to changes in **other factors** not related to plant size or a change in volume. Any change in cost **not** related to a change in volume is considered to be exogenous with respect to the envelope curve and economies of scale, and is not pertinent to any empirical study thereof. Such shifts can occur as often as daily or weekly, and they can reflect changes in unit cost that far

1 exceed any cost change likely to result from a change in volume,
2 especially a marginal change in volume that falls within the capacity
3 limitation of existing facilities.[20] Witness Bozzo acknowledges this when
4 he states that "[t]he demonstrated existence of significant facility-specific
5 cost-causing factors implies that the productivity variations are due in
6 large part to factors other than volumes (workloads)."[21]
7 Mail processing costs are subject to many factors that are
8 exogenous to an individual facility's cost curve or the long-run envelope
9 curve. Witness McCrery cites examples of such an exogenous factor.[22]
10 As he points out, larger plants may serve more congested metropolitan
11 areas, which can cause wider variation in mail arrival times at the end of
12 the working day due to traffic congestion. Any increases or decreases in
13 unit cost on account of such other **exogenous** factors should **not** be
14 interpreted as evidence tending to prove or disprove the existence of

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[20] Many of these other factors, although exogenous to the envelope cost curve, are not considered exogenous by plant managers, who quite rightly focus much effort on trying to minimize costs under all operating conditions, and in response to all changes that affect their operation, not just changes in volume. Plant managers and supervisors do not have the luxury of focusing solely on how costs change in response to changes in volume.

[21] Response to VP/USPS-T12-4(b) (Tr. 10/2656).

[22] Response to VP/USPS-T42-20 (Tr. 11/3123-25).

1 economies of scale. In general, exogenous factors simply are not relevant
2 to a discussion about economies of scale.[23]

3 To sum up, "economies of scale" pertains to a declining envelope
4 curve (often referred to in economic textbooks as the long-run average
5 cost curve — or "LRAC"), which, in turn, is defined by the cost curves of
6 facilities of different sizes. **If LRAC is not declining, the long-run**
7 **variability should be 100 percent (or greater). In order to accept**
8 **variability less than one, witness Bozzo should have demonstrated**
9 **that we are operating in a range of scale economies. He has not**
10 **done so.**

11 From an investigative standpoint, the Postal Service operates
12 numerous mail processing facilities of widely varying sizes which could
13 be studied and compared. Whether postal facilities benefit from
14 economies of scale is an important issue that deserves to be studied. For
15 example, if unit costs do not decline as the size of facilities and volume
16 processed therein increase, important implications follow:

17 • First, as the Postal Service consolidates its
18 network into fewer, larger facilities, unit mail

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[23] I address exogenous factors because, in some discussions concerning possible economies of scale in mail processing, there has sometimes been a tendency to identify irrelevant, exogenous factors as being relevant to the issue.

processing costs would not be expected necessarily to decline.[24]

- Second, if mail volume were to increase so that existing facilities had to be expanded in order to maintain optimal size for the area which they serve, unit mail processing costs would not be expected necessarily to decline.

In no way, however, does witness Bozzo's study show that unit mail processing costs decline with increasing facility size. His concern is focused narrowly on the short-term volume variability of individual MODS cost pools in facilities of all sizes, ranging from smallest to largest.

C. Economies of Density Are Not Shown to Vary Systematically with Either Plant Size or Mail Volume

The Postal Service processes mail by shape. Hence, all setup and takedown costs are incurred with respect to specific shapes of mail; *e.g.*, letters and flats. Within each shape, because of differing service standards, the Postal Service tends to process separately classes with differing priorities, such as First-Class and Standard, at least until they are ready to be

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[24] *See* Docket No. N2006-1 for extensive discussion about consolidation of postal facilities. Referring to the histogram provided in response to VP/USPS-T12-4 (Tr. 10/2656-57), if the Postal Service moved work from facilities with low productivity to facilities with high productivity, cost would be expected to decline. Where feasible, this could mean concentrating work in smaller facilities with high productivity, at least until they reach full utilization of their most efficient equipment, while keeping to a minium workloads in large facilities with low productivity.

1 merged for final delivery by carriers. That is not always the case,
2 however.
3 According to witness McCrery, when a facility does not have
4 sufficient volume to justify separate outgoing sortations of Standard and
5 First-Class Mail, the two may be merged in a single sortation.[25]
6 Wherever this situation prevails, at some point a **marginal increase in**
7 **volume** will lead the facility to **cease merging** the mail, and instead to
8 incur the **additional** cost to set up and take down the machine twice,
9 instead of only once. This illustrates that, within a low-volume range,
10 setup and takedown costs do not diminish uniformly as volume
11 increases.
12 Similarly, if originating **volume decreased** at such a low-volume
13 facility, at some point the facility could be expected to **merge** the sorting
14 of its First-Class and Standard Mail, thereby enabling the cost of one
15 setup and one takedown operation to be **eliminated**. Although
16 occasions when such situations arise may be limited, they illustrate that
17 witness Bozzo's economies of density and classical economies of scale do
18 not behave necessarily in the same manner. With economies of scale,

[25] *See* responses to VP/USPS-T-42-8(e), 9(d), 10(e), 11(e), and 12(a) (Tr. 11/3108, 3109, and 3111-13).

costs would be expected to decrease as volume increases — and vice versa.

A somewhat similar observation can be made about facilities with multiple machines and very large volumes of mail. As volume increases, at some point a marginal increase in volume can result in the facility running identical sortation schemes on two (or more) machines in order to meet service standards.[26] When identical sort schemes are run on two (or more) machines, any economies of density clearly have been exhausted. In fact, when a **marginal increase** in volume causes an **additional machine** to be brought on-line to run the same sort scheme, then for mail processed on that sort scheme, setup and takedown costs per unit of mail volume, rather than decreasing, will increase.[27]

Again, the situation here is symmetrical with regard to decreasing volume. When the same sort scheme is being run on two (or more) machines, then, at some point a marginal **decrease** in volume will enable the sort scheme on one of the machines to be eliminated, *i.e.*, a marginal decrease in volume will result in a decrease in cost. Although occasions

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[26] USPS-T-42, p. 36, ll. 11-14. Should workshare discounts be reduced significantly and cause a large volume of mail to revert to non-workshared status, the Postal Service often might find it necessary to run identical sort schemes on multiple machines in order to meet service standards.

[27] Witness Bozzo explicitly recognizes this possibility; response to VP/USPS-T12-11(a) (Tr. 10/2666).

when such situations arise also may be limited, they provide yet another illustration that economies of density and economies of scale do not necessarily behave in the same manner.[28]

To sum up, witness Bozzo's failure to study economies of scale in mail processing omits an important component in our understanding of how these costs vary with volume, which could have informed the Commission better prior to suggesting significant change in the volume variability and attribution of mail processing costs.

[28] The existence of significant economies of scale is regarded as a barrier to entry. Witness Bozzo has not alleged that his economies of density constitute a meaningful barrier to entry, and it is unclear whether they should be considered to be a barrier to entry. If they are not a barrier to entry, that would be another distinguishing characteristic between economies of density and economies of scale.

V. WITNESS BOZZO FINDS THAT CERTAIN FIXED LABOR COSTS ARE PERVASIVE IN MAIL PROCESSING OPERATIONS

Rather than comparing the total unit cost of processing, say, letters, **at different size facilities**, witness Bozzo instead has focused on the volume variability of individual MODS cost pools **across facilities of all different sizes**.

In his testimony, witness Bozzo neither asserts, nor concludes, that the unit cost of mail processing declines with increases in the size of facilities and the volume of mail processed at a facility. He obviously is aware that **fixed labor costs** of the type he has studied must be **incurred** each time the Postal Service deploys another sorting machine. And, conversely, some of those fixed labor costs will **disappear** each time the Postal Service takes a sorting machine out of service.[29]

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[29] In large part, the Postal Service's fleet of sorting machines exists because of the volume of mail that needs to be sorted, and the number of sorting machines operated by the Postal Service can be expected to increase or decrease in response to changes in volume. In particular circumstances, however, the number of sorting machines in operation also may change in response to other factors, such as expansion or consolidation in the number of facilities, without necessarily being accompanied by a change in volume. When this occurs, a change in the number of sorting machines or sort schemes is attributed to a change in the Postal Service's operating plan. Response to VP/USPS-T12-15 (Tr. 10/2676).

1 Any evidence about how mail processing costs vary with the
2 volume of mail processed at facilities of different sizes would appear to
3 be, at best, incidental to witness Bozzo's study of volume variability in
4 MODS cost pools. In fact, he compares two hypothetical plants, one
5 serving 750,000, and the other serving 150,000, delivery points, and
6 judiciously observes that "the two plants may not differ very much in the
7 extent to which non-volume-variable scheme change costs are spread
8 over their volumes. Consequently, both sizes of plants may have similar
9 opportunities to achieve economies of density — e.g., by processing more
10 mail to their respective (existing) delivery networks."[30] If I understand his
11 testimony correctly, he is asserting that almost every mail processing
12 activity entails **fixed labor costs** — regardless of a facility's size — just
13 as plants of every size have fixed equipment and space costs.[31] Smaller
14 plants can experience economies of density, perhaps on par with, or even
15 exceeding, those of larger plants.

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[30] Response to VP/USPS-T12-6(b) (Tr. 10/2659-60).

[31] It is worth noting that, although plants of every size — small, medium, and large — have fixed equipment costs, the mere existence of such fixed costs does not mean that mail processing plants have either economies or diseconomies of scale.

1 **A. Magnitude of Non-volume Variable Mail Processing Labor Costs**

2 According to Postal Service witness Eliane Van-Ty-Smith (USPS-T-
3 11) in this docket, the mail processing labor cost pools that witness
4 Bozzo analyzed explicitly had total costs of $5.08 billion in Base Year, of
5 which $0.72 billion were considered to be non-volume variable. USPS-T-
6 11, Attachment Table 1, pp. 32-33. My Table 1 here reproduces witness
7 Bozzo's estimates of volume variability in column 1, and column 2 shows
8 the corresponding estimates of non-volume variability.[32] Base Year mail
9 processing costs are shown in column 3. The costs that the Postal
10 Service would treat as volume variable are shown in column 4. Finally,
11 the costs that would be treated as non-volume variable are shown in
12 column 5.

13 The MODS cost pools explicitly analyzed by witness Bozzo had
14 non-volume variable costs of some $720.7 million. Witness Bozzo
15 extrapolates his analysis of volume variability to other mail processing
16 costs incurred within plants, as well as in post office stations and
17 branches, and BMCs. With this extrapolation, total non-volume variable
18 mail processing cost is estimated to be $2.38 billion, a not insignificant
19 sum. Based on this analysis, it would appear that the Postal Service
20 would have the Commission add virtually the entire amount to

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[32] The numbers in columns 1 and 2 sum to 1.00.

institutional costs and distribute it to all classes and subclasses according to the non-cost factors contained in Section 3622(b) of the Postal Reorganization Act. For reasons explained below, closer analysis indicates that a substantial portion of even those costs witness Bozzo finds to be non-volume variable should be treated as fixed specific costs, and therefore should continue to be attributed.

Table 1

Postal Service Estimate of Non-volume Variable
Mail Processing Costs in Base Year 2005

Cost Pool	(1) Variability Factor	(2) Non-Variability Factor	(3) Total Pool Costs ($, 000)	(4) Volume Variable Cost ($, 000)	(5) Non-Volume Variable Cost ($, 000)
BCS/DBCS/CSBCS	0.88	0.12	1,482,016	1,309,246	172,770
OCR	0.78	0.22	201,547	157,207	44,340
AFSM1000	0.99	0.01	538,794	533,406	5,388
FSM/1000	0.72	0.28	218,122	157,048	61,074
SPBS - non-priority	0.87	0.13	410,170	356,848	53,222
SPBS - Priority	0.87	0.13	145,691	126,751	18,940
Manual flats	0.94	0.06	239,251	224,896	14,355
Manual letters	0.89	0.11	917,249	816,352	100,897
Manual parcels	0.80	0.20	83,115	66,492	16,623
Manual Priority	0.75	0.25	317,740	238,305	79,435
RBCS	1.00	0.00	220,604	220,604	0
Cancellation	0.50	0.50	307,118	153,559	153,559
Subtotal			5,081,417	4,360,714	720,703
Composite	0.85	0.15	5,098,424	4,266,270	832,154
TOTAL FOR PLANTS			10,179,841	8,626,984	1,552,857
TOTAL FOR P.O. STA/BRs			4,115,979	3,406,051	709,928
TOTAL FOR BMCs			789,224	670,840	118,384
TOTAL, COST SEGMENT 3			15,085,044	12,703,875	2,381,169

Sources: Column 1 -- USPS-T-12, p. 3, Table 1.
Column 2 = 1.00 – Column 1.
Columns 3-4 – USPS-T-11, pp. 32-33, Table 1.
Column 5 = Column 3 – Column 4.

B. Composition of Non-volume Variable Costs

The mail processing cost data used by witness Bozzo in his study of variability analysis are from MODS labor cost pools. Consequently, the entirety of the costs shown in column 5 of Table 1 represents **fixed labor** costs. Any other fixed costs associated with mail processing, such as depreciation of mail processing equipment or space costs, are not included in these fixed labor costs.

So long as all mail processing costs in Cost Segment 3 are treated as 100 percent attributable and 100 percent volume variable, there are no non-volume variable costs. The issue of how to treat non-volume variable costs simply does not arise. However, under witness Bozzo's proposal to reduce the volume variability of mail processing costs, the proper treatment of non-volume variable costs — *i.e.,* whether institutional or product-specific — becomes a $2.4 billion issue which would need to be resolved.

C. Functional Activities Encompassed by Non-volume Variable Costs

Witness Bozzo's variability factors are estimates obtained by applying econometric techniques to samples of MODS pool data for labor hours and volumes processed. When asked to indicate specific activities that might account for non-variability factors, witness Bozzo previously

1 referred to prior testimony by Postal Service witness Kingsley in Docket
2 No. R2001-1, USPS-T-39, at pages 28-30 and 34-38, and Postal Service
3 witness Carl G. Degen in Docket No. R2000-1, USPS-T-16, at pages 32-
4 54.[33] In this docket, he also relies on testimony by Postal Service witness
5 McCrery (USPS-T-42).[34]
6 With respect to sorting operations on automated equipment, major
7 activities discussed by those witnesses included, most importantly,
8 scheme setup and takedown time, as well as varying vehicle arrival times
9 (for cancellation), and the need to have excess capacity in gateway
10 operations.

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[33] *See* Docket No. R2005-1, response of witness Bozzo (USPS-T-12) to ABA&NAPM/USPS-T21-2 (Tr. 5/1428).

[34] USPS-T-12, p. 31, ll. 9-10.

VI. WITNESS BOZZO'S FIXED LABOR COSTS ARE INCREMENTAL TO EACH OPERATION IN WHICH THEY ARISE

In prior dockets, various Postal Service operations witnesses have offered explanations, along with illustrations, designed to support witness Bozzo's statistical findings that volume variability in the MODS mail processing cost pools which he studied is less than 100 percent; *i.e.*, that those cost pools include certain costs that are fixed and do not vary with volume.[35] In general, most of those explanations are to the effect that (i) before sorting can begin, a scheme must be set up, and (ii) once sorting for a particular scheme is complete, all mail sorted under that scheme must be taken down before sorting under the next scheme can begin.[36] Setup and takedown costs thus provide the basis for most of witness Bozzo's findings that volume variability of mail processing cost

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[35] *See* Docket No. R2000-1, testimony by witness Degen, USPS-T-16, at pp. 32-54, and Docket No. R2001-1, testimony by witness Kingsley, USPS-T-39, at pp. 28-30 and 34-38. In this docket, witness McCrery, USPS-T-42, offers similar testimony.

[36] Most of the mail processing cost pools actually analyzed by witness Bozzo involved sorting operation. His "composite" volume variability has been extended, without econometric analysis, to non-MODS facilities, BMCs, and post office stations and branches, as shown in preceding Table 1.

is less than 100 percent. The following sections explore in more detail the nature of these costs.

A. The Incremental Nature of Setup and Takedown Costs

Considering the nature of the fixed, non-volume variable costs that result from witness Bozzo's statistical estimating procedure, it would appear almost axiomatic that they are **incremental** to the **services** provided by each MODS pool in which they occur. Postal Service witness Dion E. Pifer (USPS-T-18) concurs, but with a reservation that "this does not imply that the non-volume variable cost ... [is] **incremental** to any Postal Service **product**."[37]

The essence of an incremental cost, after all, is that it can be identified with a specific (incremental) change in output of some identifiable mail product.[38] For example, if certain sorting operations are discontinued, then the setup and takedown costs associated with those sorting operations will cease to exist, which means that those costs are incremental to the discontinued operations. The question that needs to be asked is whether the discontinued operations were performed on a

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[37] Responses to VP/USPS-T18-4, 5, and 6 (Tr. 9/2223-25) (emphasis added).

[38] For definition of "mail product," *see* response to VP/USPS-T18-9 (Tr. 9/2228).

1 **single** mail product, or concurrently on **multiple** mail products. This
2 issue is not addressed by witness Bozzo.
3 By way of illustration, consider what happens when outgoing
4 sortation at a Processing and Distribution Facility ("P&DF") is
5 **consolidated** to a nearby Processing and Distribution Center ("P&DC").[39]
6 When outgoing sortation at the P&DF ceases, the setup and takedown
7 times required for outgoing sortations at the P&DF **no longer will exist**.
8 Similarly, if mail volume at some facility were **to decrease** and cause a
9 letter or flat sorting machine to be retired from service, all setup and
10 takedown costs associated with that machine, for both outgoing and
11 incoming sortations, would be eliminated. By the same token, if volume
12 were **to increase** to the point where an additional letter or flat sorting
13 machine needed to be deployed, it would be necessary to incur additional
14 setup and takedown costs when operating the machine. Thus,
15 regardless of whether the volume of mail increases or decreases, setup
16 and takedown costs are seen as **incremental**, not only to the **machine**,
17 but also to each particular **sort scheme** run on the machine.[40]

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[39] *See* Docket No. N2006-1, USPS-LR-N2006-1/5, for 10 illustrations of such consolidation. Although the discussion here focuses on automated mail processing, it likewise applies to manual sorting to the extent that those cost pools also exhibit volume variability of less than one.

[40] As noted previously, these fixed labor costs are associated with each machine and have nothing to do with size of the facility (or the number of (continued...)

Of the 13 MODS cost pools studied by witness Bozzo, mail is physically sorted in 11 of them. And, of course, since mail processing operations are organized by shape, each of those 11 cost pools is confined to a specific shape; *i.e.*, letters, flats or parcels. In only two of witness Bozzo's cost pools is mail not sorted; they are:

- Cancellation; and
- Composite.

B. Mail Processing Is Always by Shape, Even When Subclasses Are Commingled

Since mail processing is organized by shape, for the 11 MODS cost pools in which mail is sorted, any non-volume variable cost is clearly an incremental cost of the sortation services provided to the respective shapes involved. Thus, any non-volume variable costs in the BCS/DBCS cost pool are clearly part of the **incremental cost of letter sortation services** provided to letter products. Similarly, any non-volume variable costs in the AFSM 100 cost pool are part of the **incremental cost of flat sortation services** provided to flat products. Finally, non-volume variable costs in parcel sorting cost pools are **an incremental cost of parcel sortation services.**

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[40](…continued)
similar machines within the facility); nor do they reflect either economies or diseconomies of scale.

C. Mail Processing within Shape-Related MODS Cost Pools Is Often Exclusively or Primarily for a Single Class or Subclass of Mail

Use of data based on MODS cost pools has helped to disaggregate the Postal Service's cost system and provide more detailed information concerning the cost of individual products.[41] In a similar vein, disaggregation and examination of what occurs **within** MODS costs pools will refine and enrich the analysis of Postal Service costs. Witness Bozzo studies volume variability only at the level of MODS cost pools.[42] For the purpose of determining proper cost treatment, however, treating MODS cost pools as homogeneous entities is an unnecessary and undesirable simplification.

When it comes to distributing the **volume variable costs** identified with each cost pool, the Postal Service goes to considerable length, and incurs considerable expense, to sample activities and mail handled within a cost pool. I would suggest that it is entirely appropriate to examine, in like manner, what goes on inside individual cost pools with respect to witness Bozzo's **non-volume variable costs**, rather than to

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[41] The USPS Data Quality Study states that "The Postal Service's use of operational cost pools, as defined by the Management Operating Data System (MODS) … to aggregate all labor costs of MODS operational activity centers is a useful step in refining mail processing cost pool formation." Technical Report #1, p. 64: Economic Analysis of Data Quality Issues.

[42] Response to VP/USPS-T12-18 (Tr. 10/2680).

1 treat each one as though it were some homogeneous aggregate that is
2 neither capable of, nor worth, more detailed analysis. For example,
3 within the 11 cost pools where letters, flats, and parcels are sorted,
4 clerks and mailhandlers are engaged in the following activities:

5 • Outgoing sortation, both primary and secondary
6 • Incoming sortation, both primary and secondary
7 • Delivery point sequencing (letters only in Base Year, flats
8 and letters in Test Year)

9 Within individual cost pools, such as the letter or flat sorting cost
10 pools, some sort schemes, such as an outgoing primary or secondary
11 sort, may be performed exclusively, or almost exclusively, on **only one**
12 **class of mail** (*e.g.*, First-Class Mail). Further, although most classes of
13 mail receive an incoming primary sort, First-Class and Standard Mail
14 usually are kept separate during incoming primary sortation, and are
15 merged only when sorted to carriers or to carrier sequence. Whenever a
16 particular sort scheme is used for **separate** classes of mail, both the
17 setup and takedown time are **for a single mail product, or class of**
18 **mail**. Many of the sortation schemes which the Postal Service runs every
19 day are for a single class of mail, and this important fact should not be
20 masked by the aggregation of all sorting costs across all facilities for a

single cost pool, such as DBCS, Optical Character Reader ("OCR") or AFSM 100.[43] To elaborate:

- In general, Standard Regular letter mail processing is kept separate from other classes on outgoing primary sortation.[44]

- In general, Standard Regular letter mail processing is kept separate from other classes on outgoing secondary sortation.[45]

- Generally, outgoing Periodicals flat-shaped mail is kept separate from First-Class Mail on the AFSM 100.[46]

- Standard Regular flats receiving outgoing primary sortation should not be merged with First-Class Mail flats, though on limited occasions it does occur.[47]

- Standard Regular flats receiving outgoing secondary sortation should not be merged with First-Class Mail flats, though on limited occasions it does occur.[48]

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[43] The Postal Service has not submitted any data that would indicate the percentage of sortations that are performed exclusively or primarily on one class or subclass of mail. MODS data do not identify subclasses or rate categories; response to VP/USPS-T11-6 (Tr. 10/2476). If the In-Office Cost System ("IOCS") were able to distinguish between the various outgoing and incoming sort schemes run in the DBCS cost pool, the revised IOCS data used for estimating subclass distribution key shares may be capable of providing such information; *see* response to VP/USPS-T11-7, redirected to witness Bozzo (USPS-T-46) (Tr. 9/2360-2361). If not, gathering of such information would not appear to present any major difficulties.

[44] Response to VP/USPS-T42-8(e) (Tr. 11/3108).

[45] Response to VP/USPS-T42-9(d) (Tr. 11/3109).

[46] Response to VP/USPS-T42-10(c) (Tr. 11/3110).

[47] Response to VP/USPS-T42-10(e) (Tr. 11/3111).

[48] Response to VP/USPS-T42-11(e) (Tr. 11/3112).

- In general, Standard Regular letters are merged with First-Class Mail letters during incoming secondary sortation. On limited occasions, Standard Regular letters are merged with First- Class letters on incoming primary, for example, if there is not enough volume of Standard Regular letters to justify setting up separate sortation schemes.

In a somewhat similar vein, in the cancellation cost pool (one of witness Bozzo's two cost pools that does not involve sortation), the operation of facing, culling, and cancellation that occurs there is performed essentially **on only one class of mail**; *i.e.*, First-Class Mail, and primarily single-piece First-Class Mail.[49] According to witness McCrery, the collection "cost pool processes anything that can be placed in a collection box — letters, flats, small parcels, priority mail, return-to-sender, missent, keys, trash, etc."[50] Except for "trash," the collection cost pool consists almost entirely of single piece First-Class and Priority Mail (a subclass of First-Class Mail). "A minimal but undetermined number of small parcels from collection boxes also are cancelled in this cost pool."[51] Whether such small parcels that get into a collection box were mailed as First-Class, Priority Mail or Parcel Post is not known.[52]

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[49] Response to VP/USPS-T42-12(c) (Tr. 11/3113).

[50] Response to VP/USPS-T42-7 (Tr. 11/3106).

[51] *Id.*

[52] The Aviation Mail Security policy requires that customers directly deposit domestic and Priority Mail service packages weighing 16 ounces or (continued...)

1 **D. Only Some Schemes Effects Result in Common Costs**

2 As indicated above, a substantial portion of the mail processing
3 costs in the MODS cost pools explicitly studied by witness Bozzo can be
4 identified with a single shape of mail — *i.e.*, letters, flats, or parcels. In
5 only some operations is mail from multiple subclasses processed
6 concurrently. For instance, when mail is being delivery point sequenced
7 ("DPS'd"), the operation will handle letters from First-Class (both single-
8 piece and presorted), Standard Regular and ECR (both commercial and
9 nonprofit), possibly along with some small volume of Periodicals mail
10 that was entered as letters. And in the future, when addressed flats are
11 sequenced on the flat sequence sorter ("FSS"), flats from all classes will
12 be sorted together.

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[52](...continued)
more by handling them to a retail clerk or Postal Service representative or agent. Since Parcel Post has a minimum weight of 16 ounces, it would appear that no Parcel Post should be deposited in collection boxes.

VII. SUGGESTED TREATMENT OF ANY MAIL PROCESSING LABOR COSTS DETERMINED TO BE NON-VOLUME VARIABLE

A. Recommended Treatment of Fixed, Non-volume Variable Labor Costs when only One Class or Subclass of Mail Is Processed

As discussed in preceding Section VI, MODS mail processing cost pools are identified with a single shape of mail. Within MODS cost pools, many identifiable sortation operations are confined exclusively to a single class or subclass of mail. When not confined to a single class, the volume of mail from other classes often is incidental to the sort scheme being run. When any mail processing operations are exclusively, or primarily, for the benefit of one class or subclass, it would seem clear that any non-volume variable costs arising from those operations (i) pertain solely to the subclass in question, (ii) are product-specific to the product in question,[53] and (iii) thus are an incremental cost of the subclass which is served exclusively, or primarily, by the operation in question (*e.g.*, sorting or cancellation).

Witness Bozzo's proposal that these non-volume variable costs be considered a fixed labor cost also would require an analysis of how they

[53] Postal Service witness Pifer (USPS-T-18) concurs; response to VP/USPS-T18-10(a) (Tr. 9/2229).

should be treated within the established cost methodology used by the Postal Service and the Commission.

According to the incremental cost framework set out in Docket No. R2000-1 by witness Bradley, USPS-T-22, and adopted by the Commission, fixed costs are classified as either (i) common, or (ii) product-specific. In particular, that testimony by witness Bradley, at page 35, equation 17, defines fixed costs as either:

- Fixed and common cost (F_{oj}), or
- Product-specific (F_{ij}), which can be either:
  - Specific-fixed, or
  - Intrinsic.

Whenever setup and takedown costs are incurred exclusively or primarily **for a single class or subclass of mail**, it clearly would **not** be correct to classify them as a fixed and **common** cost (F_{oj}). According to witness Bradley, product specific costs (F_{ij}), whether they be specific fixed or intrinsic, **should be included in a product's incremental costs**. Witness Bozzo concurs:

> If the sort scheme solely processed First-Class Mail, then the setup and takedown time could be considered incremental to the class in the sense that the associated cost could be avoided

> if the First-Class Mail service were no longer provided.[54]

With respect to specific-fixed costs, the first of witness Bradley's two product specific categories, these "do not vary with variations in the product's volume; indeed, they would be incurred **even if the product's volume fell to zero.**"[55] (Emphasis added.) Obviously, setup and takedown costs would **not** be incurred whenever the volume of mail to be sorted on a particular machine falls to zero, hence setup and takedown costs would not fit easily within witness Bradley's definition of specific-fixed costs.

On the other hand, product-specific intrinsic costs, according to witness Bradley, "are **variable costs** that arise because of the particular characteristics of a product **but do not vary at the margin**."[56] (Emphasis added.) Since fixed schemes costs for a single subclass of mail are neither common costs nor do they fit the definition of a specific fixed cost, they appropriately fall within the definition of an intrinsic fixed cost; *i.e.,* they would fall within witness Bradley's category of variable costs that do not vary at the margin.

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[54] Response to VP/USPS-T12-11(b) (Tr. 10/2666).

[55] Docket No. R2000-1, USPS-T-22, p. 33, l. 15 to p. 34, l. 2.

[56] Docket No. R2000-1, USPS-T-22, p. 34, ll. 6-7. For a definition and further discussion of intrinsic costs, *see* USPS-LR-L-1, App. I, pp. 1-4.

In order for a product-specific cost to be treated as intrinsic and incremental, witness Bradley explains that it is **not necessary** for an operation to be 100 percent dedicated to a single product. The rationale, as well as an example, provided by witness Bradley concerns Priority Mail distribution operations, which:

> exist for the purpose of expediting the handling of Priority Mail. **They can and do sort other classes of mail,** but without Priority Mail, those classes would be sorted in other operations. Consequently, if the Postal Service decided not to provide Priority Mail, the institutional costs for these operations would not exist. These costs thus are part of Priority Mail's incremental cost.[57]

Witness Bozzo concurs that without First-Class letters, the small volume of Periodicals letters would not be sufficient to justify a letter sorting machine, along with the requisite setup and takedown costs. In other words, when a small volume of Periodicals letters should happen to be merged with, and receive an outgoing or incoming sort along with, First-Class letters, the small volume of Periodicals letters in relation to First-Class letters would not be sufficient to convert the setup and takedown costs of the sort schemes into common costs. Similarly, if a First-Class sort scheme is being run at some particular facility, and a

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[57] Docket No. R2000-1, USPS-T-22, p. 34, ll. 10-14 (emphasis added). Responses to VP/USPS-T12-16 and 17 (Tr. 10/2677-79).

small volume of Standard letters is sorted concurrently because there is not enough volume of Standard letters to justify setting up a separate sortation scheme, the scheme exists for the purpose of sorting First-Class Mail. If the Postal Service decided not to provide First-Class Mail, or to consolidate the sortation of this First-Class Mail to another location, the scheme cost in question would not exist. Thus, all such scheme costs are specific fixed intrinsic costs, and in this instance are part of First-Class Mail's incremental cost.

To conclude, if witness Bozzo's results concerning the volume variability of mail processing costs were to be adopted by the Commission, then a substantial, but unknown and as yet unmeasured, portion of his non-variable setup and takedown costs should be (i) classified as product specific intrinsic costs, (ii) included in the incremental cost of the appropriate subclass, and (iii) attributed the same way they currently are attributed.[58] This treatment would be in accord with Postal Service witness Donald J. O'Hara's understanding

[58] USPS-LR-L-1, App. I, p. 5, fn. 8, states that the inclusion of intrinsic costs in a cost component "is a rare occurrence in the CRA." That statement is undoubtedly correct, so long as the volume variability of mail processing costs is considered to be 100 percent. If scheme costs are to be treated as non-volume variable, however, the Postal Service then will discover that intrinsic fixed costs have become an extremely common occurrence. In terms of the cost pool classification scheme propounded in LR-L-1, App. I, virtually all of the cost pools analyzed by witness Bozzo should be considered as Type 6, "more than 1 Product, Intrinsic Costs, Variability < 1."

that "product-specific" costs are included in "attributable cost" under the Commission's costing methodology.[59]

B. Recommended Treatment of Fixed, Non-volume Variable Labor Costs when Multiple Classes or Subclasses of Mail Are Processed

As indicated in Section V, any non-volume variable cost in the BCS/DBCS cost pool is clearly **an incremental cost of providing sortation services to letter products.**[60] Similarly, any non-volume variable cost in the AFSM 100 cost pool is **an incremental cost of providing sortation services to flat products.**[61] They are shape-specific fixed costs, and they also are operation-specific fixed costs. In a limited sense, they accord with witness Bradley's description of intrinsic costs, in that they "are variable costs that arise because of the particular characteristics of a product but do not vary at the margin."[62]

When multiple subclasses of mail need to be sorted concurrently, however, they are common to all subclasses that are run through the sort scheme. For the portion of witness Bozzo's non-volume variable

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[59] Response to OCA/USPS-T31-1 (Tr. 17/5106-12).

[60] Response to VP/USPS-T18-4 (Tr. 9/2223).

[61] Response to VP/USPS-T18-5 (Tr. 9/2224).

[62] Docket No. R2000-1, USPS-T-22, p. 34, ll. 6-7.

costs that may be classified as **common fixed costs** — and which also are incremental to the shape and operation wherein they arise — the Commission may choose to treat them as institutional costs and distribute them according to the non-cost criteria of the Act. In this event, recognition needs to be given to the fact that all mail products consist solely of one shape, and many mailers use only one product. To prevent a situation where one shape, such as parcels, is being cross-subsidized by flats or letters, the Commission would need to construct an incremental cost test according to shape — a substantial undertaking not done by witness Bozzo. If the Commission continues to treat mail processing cost as 100 percent volume variable, it would not be necessary to consider any shape-incremental cost test such as that suggested here.

C. Conclusion

In conclusion, so long as the Commission continues to treat mail processing costs as essentially 100 percent volume variable, it has no need to study how to treat non-volume variable mail processing costs, nor does it need to resolve the thorny issues raised thereby. Should the day ever arrive, however, when the Postal Service overcomes the data quality and econometric problems that have plagued its analysis of the

volume variability of mail processing costs, the Commission then would need to consider the issue of which non-volume variable costs are attributed appropriately as specific-fixed intrinsic costs, and which are common costs that do not warrant attribution to any specific product. If the Commission then were to adopt the above recommendations to attribute the non-volume variable costs that are intrinsic to specific products, the result may well be that witness Bozzo has gone to great lengths to support a long-standing preference of the Postal Service which, as a practical matter, may not change appreciably the attribution of costs to the subclasses. When viewed in this way, the wisdom behind the current Commission practice of treating mail processing costs as being 100 percent volume variable becomes more apparent.

VIII. THE EFFECT OF CAPACITY CONSTRAINTS IN THE POSTAL SERVICE'S PRODUCTION FUNCTION ON MEASUREMENTS OF MARGINAL COST

The purpose of this section is to focus the Commission's attention on significant existing problems in the measurement of marginal cost of saturation mail. These problems arise because in the current environment some, but not all, saturation mail can be taken directly to the street by city carriers. In economic terms, the problem in marginal cost measurement is created by "capacity constraints" — those that limit the ability of city carriers to take all saturation mail directly to the street as "extra bundles." The issue has great importance to the proper costing of ECR saturation mail, and it also has broader ramifications beyond the issue of saturation mail raised here. Set forth below is my review of the treatment of this issue in Docket No. R2005-1, followed by my summary of what further information has surfaced in the current docket.

A. Brief Review of Docket No. R2005-1

In Docket No. R2005-1, Postal Service witness Jeffrey W. Lewis (USPS-T-30) described the operational method used by the Postal Service for handling ECR saturation mail, which consists of (i) letters,

1 (ii) addressed flats, and (iii) unaddressed wraps accompanied by
2 detached address labels ("DALs"). Succinctly, since such mail is
3 presorted by the mailer to a carrier's delivery sequence (either walk
4 sequence or line of travel), it is possible for saturation mailings to be
5 taken directly to the street with no in-office preparation. Alternatively,
6 where appropriate or necessary, letters can be cased or DPS'd, flats can
7 be collated or cased, and the DALs may be cased by the carrier or,
8 possibly, DPS'd.[63] Carriers with delivery vehicles put their saturation
9 mail, along with all their other mail, into a hamper, which they roll out to
10 the parking lot; they then load all mail into the vehicle.[64] Postal Service
11 delivery vehicles have space for two or three trays near the driver's seat.[65]
12 As described by witness Lewis, the preferred procedure is a highly-
13 efficient, least-cost method for handling saturation mail. So long as the

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[63] Just as the Postal Service had no data on the volume of DALs, so also it has no data on how DALs are handled in the office. Many DALs are said to lack a barcode and be printed on stock that is less than the weight required to be machinable. IOCS tallies do not indicate when a DAL is being cased. Instead, if a city carrier casing DALs is the subject of an IOCS tally, it is the characteristics of the host piece that are recorded. Casing of DALs is likely a major source of the in-office costs recorded for saturation flats. The Postal Service has proposed a 1.5 cent surcharge for DALs to help cover the additional cost caused by casing and delivering DALs.

[64] Tr. 13/3741-42. Carriers serving foot routes prepare the mail to be dropped off in storage boxes along their route.

[65] Docket No. R2005-1, oral cross-examination of Postal Service witness Lewis (USPS-T-30) (Tr. 6/2420, ll. 6-7, 6/2422, ll. 1-2, and 6/2422, l. 23 to 6/2423, l. 1.)

1 Postal Service is able to follow the preferred procedure just described, I
2 concur with witness Lewis. Moreover, the Postal Service's costing
3 system, based on IOCS tallies, consistently has reflected a generally low
4 in-office cost for saturation mail, particularly flats. This result is
5 consistent with witness Lewis's description. It reflects the fact that
6 whenever carriers are able to follow the preferred procedure described
7 above, they spend practically zero time handling saturation mail in the
8 office,[66] and that greatly reduces the number of times that saturation
9 mail could be the subject of an IOCS tally. Consequently, the in-office
10 volume variable cost recorded for saturation mail is rather low.
11 In Docket No. R2005-1, my testimony for Valpak (VP-T-2)
12 questioned whether unit volume variable costs developed for saturation
13 mail by the Postal Service's existing costing system should be regarded
14 as a good approximation for marginal cost. In developing unit volume
15 variable costs, the IOCS is simply unable to recognize when capacity
16 constraints of one kind or another have limited the Postal Service's
17 ability to utilize the lowest-cost procedure described above, and caused it
18 to resort to higher cost methods for handling some portion of the mail.
19 One example of effects caused by a "capacity constraint," cited in my

[66] This was confirmed in this docket by witness Joyce K. Coombs (USPS-T-44) (Tr. 13/3741, ll. 14-18).

previous testimony, occurs when saturation letters are "bumped" from the lowest-cost handling method and instead are DPS'd, or possibly cased, in order to allow mailings of saturation flats to be taken directly to the street as extra bundles. When saturation letters are not taken directly to the street, and instead are DPS'd, extra costs will be incurred in the DPS cost pool because of the desire to avoid incurring even greater costs in the carrier cost pool. In other words, the cost pools here are **not independent** — rather, they are **interdependent**.

The capacity constraint of particular interest here concerns contractual and operational limits on the ability of city carriers to take more than one bundle of saturation mail directly to the street on a given day. For those route segments that carriers cover by foot, it was recognized that the contract between the Postal Service and the carriers' union strictly limits the total number of bundles to three. Since carriers on foot segments always have a bundle of DPS'd (or cased) letters and a bundle of cased flats, that leaves them with the capacity for only one extra bundle.

For all other segments of city carrier routes, on the basis of witness Lewis' testimony (USPS-T-30) in Docket No. R2005-1, the capacity to handle saturation mailings as extra bundles, as well as the procedure followed when carriers have more than one saturation bundle, could be

1 described as ambiguous.[67] In rebuttal testimony, Postal Service witness
2 Lewis, USPS-RT-2, testified that, except for the third bundle constraint
3 on foot routes, the Postal Service's ability to handle saturation mail as
4 extra bundles faced no effective capacity constraint; he implied a
5 virtually unconstrained and unlimited ability to take saturation mailings
6 directly to the street,[68] with no in-office handling costs (except for some
7 occasional carrier casing of DALs).

8 The fundamental issue presented here is that "Postal Service
9 costing methods do not presuppose persistent processing capacity
10 constraints."[69] Unfortunately, the Postal Service in the past has refused
11 to recognize or address problems that are created when capacity
12 constraints are demonstrated to exist.

13 Other parties have raised this issue as well. The Office of the
14 Consumer Advocate ("OCA"), in its initial brief in Docket No. R2005-1,
15 pointed out that the problem results from the basic assumptions that

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[67] The number of deliveries affected by the third bundle restriction is unknown. In Docket No. R2005-1, witness Lewis (USPS-RT-2) testified that the actual number of deliveries affected by the third bundle restriction is less than 44.3 percent. No other data were made available in this docket. Response to VP/USPS-T44-4(c) (Tr. 13/3698-99).

[68] Docket No. R2005-1, rebuttal testimony of witness Lewis (USPS-RT-2).

[69] Docket No. R2005-1, response to VP/USPS-T2-15 (Tr. 8D/5169).

underlie the Postal Service's costing methodology. It cites the Data Quality Study[70] as follows:

> Two key assumptions implicit in the [Postal Service's costing methodology] should be noted. First, cost is additively **separable** … across cost components (where these cost components or pools are in the postal context costs related to transportation, mail processing and so forth). Second, it is assumed in this formulation that there is a single driver (such as Total Pieces Handled) for each cost component, although more complex multi-driver models could be analyzed in the same manner.[71] [Docket No. R2005-1, OCA Initial Brief, p. 37, emphasis added.]

As the OCA's brief further points out, in order for the Postal Service to "prove" that its volume variable costs are marginal costs, its cost functions require assumptions of "additivity," "separability," "proportionality," and "temporal stability."[72] It is the separability assumption which requires that cost pools be independent of each other. In other words,

> [T]he Postal Service's costing methodology prohibits the level of volume (or the level of

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[70] A.T. Kearney Inc., Data Quality Study, Technical Report #1: Economic Analysis 73, April 16, 1999.

[71] Docket No. R2005-1, OCA Initial Brief, p. 37 (emphasis added).

[72] Docket No. R2005-1, OCA Initial Brief, p. 36, fn. 63.

> capital) in **one cost pool** from **affecting** the level of cost in **another cost pool**.[73]

Whenever mail gets bumped from one cost pool to another with different cost attributes, however, cost pools are not independent and the separability assumption is violated, as discussed in my previous testimony.[74] The OCA goes on to state that

> Overall, the Postal Service's costing methodology, particularly in mail processing, places strong and unnecessary restrictions on the mail processing technology. It constrains the way that inputs are allowed to substitute for each other, in a way that is inconsistent with the observed substitution of automated for manual operations and later generation automation for earlier generation automation over the last decade.[75]

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[73] *Id.*, p. 38 (emphasis added). A footnote (fn. 68) adds that, "Stated mathematically, the Postal Service sets all cross-partial derivatives of cost in one pool with respect to volume or capital in any other pool equal to zero. This is a consequence of assuming additivity and separability of cost functions."

[74] Docket No. R2005-1, VP-T-2, pp. 26-52.

[75] *Id.*, p. 37. In this docket, witness McCrery states that "Occasionally, when flats sorting equipment is at full capacity some flat mail must be processed in manual operations in order to ensure that service standards are met." USPS-T-42, p. 19, ll. 25-27. Said another way, the Postal Service sometimes encounters capacity constraints. When that occurs, some flats get "bumped" from automated sortation to manual sortation. On such occasions, the marginal cost most definitely is **not** the cost of sorting flats on the AFSM 100, nor is it the average cost of flats sorted manually and on automated equipment. Under conditions when any **additional flats must be sorted manually,** the marginal cost of flats is **the cost of manual sortation**.

Under circumstances such as described by witness McCrery, the level of activity in the FSM 1000 cost pool can be contingent upon the level of activity in the AFSM 100 cost pool, and the level of activity in the manual flats sorting pool can be contingent upon the level of activity in both the AFSM 100 and the

(continued...)

To sum up, models always reflect the basic assumptions which they incorporate. When the assumptions do not fit the facts, either because they are too simplifying or just plain wrong, the conclusions do not follow and they should not be relied on.

B. Developments in this Docket

Curbline carriers have constrained capacity for handling extra bundles. Oral cross-examination in this docket has revealed additional information concerning the ability of city carriers to carry extra bundles of saturation mail directly to the street, especially when carriers must deliver more than one saturation mailing on the same day. According to Postal Service delivery expert witness Coombs, the standard Postal Service delivery vehicle, known as the long-life vehicle ("LLV"), which generally is used by city carriers on curbline and other routes, has racks for three trays of mail conveniently located within arm's reach of the driver's seat. (Tr. 13/3743-45). Currently, one rack is used for DPS'd letters, one rack is used for flats that the carrier has cased in the office,

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[75](...continued)
FSM 1000 cost pools. However, the interdependency of shape-based cost pools is at variance with the severability assumption that underlies the Postal Service's implicit production function. According to witness McCrery, "[m]anual processing of machinable mail is a last resort." Response to VP/USPS-T42-28(a) (Tr. 11/3134).

1 and the third rack is available for an extra bundle of mail, which could
2 be either saturation letters or flats.[76]
3 The average length of a carrier's arm, coupled with the number of
4 racks in the delivery vehicle, limits the number of separate bundles from
5 which a curbline carrier can operate conveniently and expeditiously.
6 Combined, they also serve as a definite practical and operational
7 constraint, respectively, on capacity. Moreover, these constraints differ
8 in a significant way from, say, a deficiency in the number of flat sorting
9 machines such as the AFSM 100. To overcome this latter type of
10 capacity constraint, the Postal Service can purchase additional flat
11 sorters and, if space is a collateral constraint, it can construct new
12 facilities or lease annexes (as it often has done in the past). The Postal
13 Service, however, can neither expand the interior of an LLV during its
14 hoped-for "long life" nor lengthen carriers' arms. It might be possible to
15 develop and deploy a redesigned delivery vehicle with more space for
16 trays within easy reach of the driver, but that certainly will not occur

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[76] Routinely in an FSS environment, carriers will be expected to leave the office with three bundles: (i) DPS'd letters, (ii) FSS'd flats, and (iii) residual letters and flats that could not be sorted on DPS or FSS equipment. Whether this will leave room for an extra bundle of saturation mail is unknown at this time. Oral cross-examination of witness Coombs (Tr. 13/3764, ll. 15-23). If not, however, the preferred operating procedure of taking an extra bundle of saturation mail directly to the street may be even further constrained.

1 anytime before the end of the Test Year in this case.[77] The Postal Service
2 thus faces an intractable capacity constraint that will persist long after
3 the Test Year ends.

4 According to witness Coombs, carriers sometimes place other items
5 on the floor of the vehicle close to the driver's seat, or pile trays on top of
6 other trays, but these procedures are not authorized and are
7 discouraged, as they create safety problems. (Tr. 13/3761, l. 1 through
8 13/3762, l. 8.) This three-rack capacity constraint, along with safety
9 concerns, is alluded to by witness Coombs in her responses to VP/USPS-
10 T44-30 and 34 (Tr. 13/3727 and 3731, respectively). Consequently,
11 when carriers on curbline routes follow authorized procedures, it is now
12 clear that they currently have only one extra tray rack that can be used
13 for saturation mail that has been taken directly to the street.

14 The inability to work safely and conveniently from more than the
15 three separate tray racks in the carrier's vehicle presents the Postal
16 Service with a problem each time it has more than one saturation
17 mailing for delivery on a curbline route. The preference of the Postal

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[77] Interestingly, one of the assumptions invoked by the Postal Service's effort to "prove" that its volume variable costs are marginal costs is temporal "stability" of the cost function. Length of carriers' arms, as well as layout of the LLV, are almost certainly two of the more stable practical constraints in its entire cost model. Neither has changed in years, and one is unlikely to change anytime in the foreseeable future. Ironically, perhaps, it is these stable technological features that give rise to what may be its most persistent capacity constraint.

1 Service, for reasons that should be fairly obvious, is to take only one
2 mailing directly to the street and defer the other mailing to the next day.
3 Tr. 13/3749-50. When deferral is possible, the in-office preparation time
4 for each mailing is **essentially zero**.[78] Tr. 13/3741.

5 **Same-day delivery for more than one saturation mailing**
6 **creates conflicts.** When the Postal Service has two (or possibly more)
7 saturation mailings that cannot be deferred, and must be delivered on
8 the same day, according to witness Coombs, the Postal Service then is
9 faced with what she accurately describes as a "conflict."[79] If one of the
10 two mailings consists of saturation letters, the conflict can be resolved by
11 DPSing or casing the letters. When both mailings consist of flats,
12 however, the options are more limited. It sometimes may be possible for
13 a portion of each of the two flat mailings to be put in the third tray rack.
14 Tr. 13/3753-54. Of course, this procedure would appear to require the
15 carrier to refill the third tray perhaps twice as often when it contains only
16 one saturation mailing. Otherwise, the carrier either (i) can collate the
17 two mailings into one "combined" bundle, which then can be placed in
18 the vehicle's third tray rack, or (ii) case one of the two mailings and take

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[78] *See* responses to VP/USPS-T44-3, 4(f), and 21 (Tr. 13/3696-97, 3698-99, and 3721, respectively).

[79] Responses to VP/USPS-T44-4(f) and 21 (Tr. 13/3698-99 and 3721).

1 the other directly to the street.[80] Based on testimony of witness Lewis
2 (USPS-RT-2) in Docket No. R2005-1 and witness Coombs in this docket,
3 it would appear that collation is the preferred alternative, but casing may
4 be required where it cannot be determined that the two mailings are
5 being sent to identical lists of addresses.[81]
6 Collation enables carriers to take more than one mailing of
7 saturation flats directly to the street as one extra bundle. Regardless of
8 whether one mailing is cased, or the two mailings are collated, a second
9 saturation mailing for same-day delivery can cause the Postal Service to
10 incur a substantially higher cost than it does with only one mailing.
11 The situation is essentially the same, regardless of whether the
12 mailings consist of addressed flats, or unaddressed flats accompanied by
13 DALs. The presence of DALs makes the situation slightly more complex,
14 and can add to the cost, but it does not change the basic picture.[82] The

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[80] Response to VP/USPS-T44-3, 4(f) (Tr. 13/3698-99). After the FSS is deployed, sequencing one of the addressed flat mailings on the FSS may be an option.

[81] Response to VP/USPS-T44-16 (Tr. 13/3715-16).

[82] Witness McCrery's testimony states that "Detached Address Labels (DALs) … are also often transported back to the plant for DPS processing in order to eliminate the need to manually case the cards in delivery." (USPS-T-42, p. 12, l. 27 to p. 13, l. 1.) The 1.5 cent surcharge seems likely to reduce the volume of DALs. As noted here, however, that will not alter the fact that a second saturation flat mailing of any sort for same-day delivery creates a "conflict" whose resolution requires the Postal Service to incur a marginal cost that greatly exceeds the average volume variable unit cost.

1 effect is that the marginal cost of one (or more) additional mailings for
2 same-day delivery is vastly different from the marginal cost of a single
3 saturation mailing.[83] It also means that marginal cost is most definitely
4 not equal to the average volume variable cost. The Postal Service's
5 costing system is only capable of estimating average volume variable
6 cost. When marginal cost exceeds average variable cost, an important
7 issue concerning fairness in costing arises; for further discussion of this
8 issue, see testimony of Robert W. Mitchell, VP-T-3.

9 In this docket, the Postal Service proposes to eliminate the
10 discount for destination entry of ECR letters at DDUs. Although letters
11 will still be accepted at DDU's, that change should eliminate most
12 conflicts arising from having mailings of saturation letters and saturation
13 flats for delivery on the same day. It also may impose a consistently
14 higher cost on saturation letters. In effect, saturation letters are being
15 "bumped" permanently to plants so that the DPS option can be
16 implemented without a backhaul. It will not, however, mitigate potential
17 conflicts created from two mailings of saturation flats which are
18 generally, and will continue to be, entered at DDU's.

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[83] Since the in-office time (and cost) to handle one saturation mailing is considered to be essentially zero, dividing the incremental time (and cost) of the second mailing by the first would result in an almost **infinite increase in cost for the second mailing.**

No information is available on how often the Postal Service is faced with conflicts of the type discussed here. As witness Coombs has testified,

> ECR saturation mailings are not uniformly distributed over all Zip codes. Some of the characteristics of the areas that receive disproportionately higher numbers of these mailings include high-volume, high-income areas. Conversely, low-volume with lower income areas tend to receive less of these types of mailings.[84]

Systemwide data pertaining to lack of conflicts are thus inapposite. The Postal Service could have any number of routes which are never faced with a single saturation mailing, much less conflicts, while other routes in high-volume, high-income areas could be faced with conflicts on a regular basis.[85] Data that might indicate the concentration of ECR saturation mailings, and the number of occasions where marginal cost greatly exceeds average volume variable cost, are not available. For example, the Postal Service does not have Billing Determinant volumes broken out by ZIP code.[86] This is unfortunate, because neither the Postal Service nor the Commission knows how many conflicts already exist, nor

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[84] Response to VP/USPS-T44-34(c)-(d) (Tr. 13/3731).

[85] The fact that collation is seemingly well-understood throughout the Postal Service as an alternative for handling conflicts could be taken as an indication that conflicts are not so rare.

[86] Response to VP/USPS-T44-34(a)-(b) (Tr. 13/3731).

do they have any insight as to how many more conflicts would likely be created by pricing which has the effect of encouraging substantial growth in the volume of saturation flats.

Up to this point, **city carrier in-office costs** (Cost Segment 6) have been the focus of the discussion. With respect to **city carrier street costs** (Cost Segment 7), Postal Service witness John P. Kelley (USPS-T-30) states that his Segment 7 unit costs constitute valid base-year marginal costs **only at the subclass level:**

> I have not done an analysis of the costs calculated at the rate category level, by shape, by mail preparation or characteristic, to determine if these disaggregated costs are valid estimates of the marginal street time costs to handle one more Saturation flat/DAL. I do not know of any location where such a marginal cost analysis can be found.[87]

Pricing decisions need to reflect marginal costs. Distinguished economists have testified previously before this Commission about the importance of using marginal costs for pricing decisions,[88] and there is no need to repeat here the case for using marginal costs. What I would stress, though, is that situations do exist within the Postal Service where marginal cost can and does differ sharply from average volume

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[87] Response to VP/USPS-T30-26(e) (Tr. 12/3480-82).

[88] *See*, *e.g.*, Docket No. R84-1, direct testimony of Postal Service William J. Baumol, USPS-T-5 (November 10, 1983).

variable cost in a way that its cost model would fail to predict. When that occurs, setting prices based on average volume variable cost, rather than marginal cost, can lead to unintended consequences.

For instance, DPSing all saturation letters enables those letters to help the Postal Service reduce the number of same-day saturation mail delivery conflicts at DDUs. And the 1.5 cent surcharge proposed for DALs will reduce the volume of DALs, including the number that are cased. Except for the cost of resolving same-day conflicts for saturation flat mailings, the **in-office** volume variable costs recorded for **saturation flats** may be close to **zero**, while **saturation letters** routinely incur **more costly** DPSing.

Beyond the mischief in underpricing flats and overpricing letters in this docket, it could be worse in the future. If witness Bradley's delivery model continues to treat "sequenced" letters and flats the same,[89] and continues to show, counter-intuitively, that the unit volume variable cost of handling an individual **saturation flat** at each stop is **less than** the unit cost of handling **DPS'd letters** or **cased flats**, then prices based on average volume variable costs (*i.e.*, near-zero in-office costs plus delivery costs) in the future easily could result in rates for saturation flats being

[89] Postal Service witness Bradley (USPS-T-14) stated on cross-examination that he may want to investigate separating sequenced flats and letters in the future (Tr. 13/3860-61).

less than the rate for saturation letters. Should that eventuate, it would not be difficult for mailers of the 3-plus billion saturation letters now in the system to respond logically to such perverse price signals and change envelope dimensions to become flats, thereby paying lower rates while creating many more same-day delivery "conflicts" whose resolution requires a much higher marginal cost.[90]

The bias in existing costing systems to understate the cost of handling and delivery saturating flats, and overstate the cost of handling and delivery saturation letters, needs to be recognized. Certainly the Commission would not want to send the wrong price signals to saturation mailers by underpricing saturation flats relative to letters. At a minimum, recognition of this bias in costing systems supports the letter-flat adjustments being proposed in this docket by Valpak witness Robert Mitchell (VP-T-1).

For the future, the Commission should urge the Postal Service to develop alternate and better ways to measure marginal cost of individual products where capacity constraints are present, beginning with the

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[90] An important asymmetry in mailpiece design exists here. Converting a flat-shaped mailpiece, especially a wrap, into a letter-shaped piece ranges from difficult to impossible, whereas converting either or both dimensions of a letter-shaped piece to flat dimensions would be a relatively simple matter.

1 problem of “conflicts” in delivery of saturation flats and letters on city

2 carrier routes.