

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

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OFFICE OF THE SECRETARY

POSTAL RATE AND FEE CHANGES, 2001

Docket No. R2001-1

DIRECT TESTIMONY
OF
WILLIAM M. TAKIS
ON BEHALF OF
UNITED STATES POSTAL SERVICE

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AUTOBIOGRAPHICAL SKETCH

1

2

3 My name is William M. Takis. I am a Partner in PricewaterhouseCoopers' (PwC)
4 Washington Consulting Practice, located at 1616 North Fort Myer Drive, Arlington,
5 VA 22209.

6

7 Over the past fifteen years, I have been responsible for directing many of PwC's
8 projects in the areas of cost analysis and rate design for regulated utilities. My work
9 has focused on cost of service studies, cost of capital studies, rate design analyses,
10 and other related financial and economic studies for utilities in the electric, natural
11 gas, telecommunications, and water supply industries. I have performed these
12 studies for numerous utilities in the United States and abroad.

13

14 I am also the leader of PwC's Mail, Package, Freight Industry Market Team,
15 comprised of over 300 full-time professionals providing consulting services to the
16 U.S. Postal Service and other participants in the mail, package, freight, and
17 transportation industries. Over the past fifteen years, I have directed numerous cost
18 analysis projects for the U.S. Postal Service, focusing on the following areas:

19

20

- incremental costs
- mail processing
- surface transportation
- air transportation
- window service
- new product introductions.

21

22

23

24

25

26 I have also written several papers and articles concerning my work in regulated
27 industries which have been published in various journals and presented at industry
28 conferences.

29

1 I have a B.A. in Economics from Williams College and an M.A. in Economics from
2 the University of Maryland. In addition, I have completed most of the requirements
3 for a Ph.D. in Economics at Maryland, including core coursework and
4 comprehensive theory exams. I have also passed the Ph.D. field exam in Industrial
5 Organization.

6
7 I have appeared before the Postal Rate Commission on five separate occasions. In
8 Docket No. MC95-1 (USPS-T-12), I presented testimony concerning a variety of
9 costing issues, concentrating on Standard Class letter-shaped mail processing
10 costs. In that same docket, I presented rebuttal testimony (USPS-RT-4) concerning
11 costing issues for Standard Class Enhanced Carrier Route mail. In Docket No. R97-
12 1 (USPS-T-41), I presented estimates of the Postal Service's incremental costs. I
13 provided rebuttal testimony on general costing issues in Docket No. MC98-1 (USPS-
14 RT-2). Finally, I developed appropriate costing approaches for a new postal product
15 (Mailing On-Line) in Docket No. MC2000-2 (USPS T-4).

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PURPOSE AND SCOPE

The purpose of my testimony is to describe the appropriate approach to cost attribution for the costs associated with the new FedEx air transportation agreement, under which the Postal Service has purchased air transportation services on FedEx's day-time and night-time networks. As Witness Spatola (USPS-T-20) points out, this agreement represents a significant advance by the Postal Service in utilizing shared transportation networks with a single provider. However, the proper approaches to attributing the costs associated with these networks to individual products are not new at all – they rely on the important principle of *cost causality* used by the Postal Service and the Commission to attribute costs for a variety of postal operations, including transportation, mail processing, and delivery over the past 30 years. Any cost allocation methodology that is not based on this principle may result in final prices for the products that do not reflect the true costs of providing the service, with potentially adverse effects on customers, competitors, and the Postal Service alike.

My testimony focuses on three major cost elements associated with the FedEx air transportation agreement that represent payments to FedEx:

- "Start-Up" fee;
- Day-time transportation costs;
- Night-time transportation costs.

I also discuss proper attribution approaches to other costs associated with the new approach to air transportation operations that are not actual payments to FedEx:

- costs associated with third party ground handlers for mail flying on the FedEx networks;

- 1 • other costs associated with the FedEx networks, including excise taxes and
2 additional highway transportation costs.

3

4 Finally, I discuss the appropriate treatment of costs associated with terminating
5 previous dedicated air transportation contracts.

6

7 The following section of my testimony provides an overview of the FedEx air
8 transportation agreement and its impact on Postal Service costs relating to the
9 operational considerations presented by Witness Spatola (USPS-T-20). I then
10 address the proper attribution approaches for each of the six cost elements
11 described above in the next six sections of my testimony, focusing on a description
12 of the cost element, the appropriate treatment, and the rationale for such treatment
13 (again, based on the principle of cost causality introduced above). Witness Hatfield
14 (USPS-T-18) uses these approaches in developing estimates for the cost impact of
15 the FedEx air transportation agreement in his testimony.

16

17 There are no Workpapers or Library References associated with my testimony.

1 I. OVERVIEW OF FEDEX TRANSPORTATION AGREEMENT AND MAJOR
2 COST ELEMENTS

3
4 As discussed by Witness Spatola (USPS-T-20), the Postal Service entered into a
5 transportation agreement with FedEx in January 2001 whereby FedEx will provide
6 air transportation on its networks to the Postal Service. FedEx agreed to share its
7 transportation capacity on its two existing air networks: the day-time network (i.e.,
8 the "day turn") and the night-time network (i.e., the "night turn"). This agreement
9 represents a change in the way that certain Postal Service mail volumes will travel
10 through the Postal Service networks. The USPS-FedEx air transportation
11 agreement replaces virtually all of the Postal Service's existing dedicated air
12 operations.

13
14 The agreement itself has three major elements that will affect Postal Service costs:

- 15
- 16 • *"Start-Up" Fee:* As part of the overall air transportation agreement, the
17 Postal Service agreed to pay FedEx a "start-up" fee of \$100 million. This
18 payment is a non-recurring fee (in two equal payments) not associated
19 with any specific transportation services.
20
 - 21 • *Day-time Transportation Costs:* These are the payments to FedEx
22 associated with the day-time network. They are comprised of several
23 different elements, including payments for non-fuel transport, fuel
24 transport, and package handling costs (FedEx handlings at the Memphis
25 hub). Unlike the "start-up" fee described above, these payments will be
26 made over the life of the contract for on-going transportation services
27 provided by FedEx.
28
 - 29 • *Night-time Transportation Costs:* These are the payments to FedEx
30 associated with the night-time network. They are comprised of several

1 different elements, including payments for non-fuel transport and fuel
2 transport. Like the day-time transportation costs described above, these
3 payments will be made over the life of the contract for on-going
4 transportation services provided by FedEx.

5
6 In addition to these payments to FedEx, the Postal Service will also incur other costs
7 associated with the transportation agreement that need to be addressed from a cost
8 attribution standpoint. These costs include the following:

- 9
- 10 • *Third Party Ground Handling Costs:* As discussed by Witness Spatola
11 (USPS-T-20), the Postal Service has contracted with private sector
12 companies to provide certain ground handling services to help ensure that
13 the potential operational efficiencies associated with the new FedEx air
14 transportation agreement are realized. Specifically, these contractors are
15 responsible for maximizing the amount of mail in each FedEx container on
16 the day-time network. They are also required to accept arriving mail from
17 FedEx at destination airports and separate the mail according to local
18 distribution plans.
 - 19
 - 20 • *Other Costs:* The Postal Service will also incur other costs associated
21 with excise taxes and highway transportation costs. Similar to past
22 contractual relationships for dedicated air networks, the Postal Service will
23 be responsible for paying its share of excise taxes on the linehaul portion
24 of the day-time and night-time networks. Also, the FedEx transportation
25 agreement will require additional purchased highway transportation from
26 certain cities into the FedEx hub in Memphis, Tennessee. The purpose of
27 this highway transportation is to truck mail that originates near Memphis
28 into the hub so that it can board outbound flights to the various
29 destinations.
 - 30

1 Finally, the FedEx air transportation agreement replaces previously existing
2 dedicated air networks associated with a variety of different contracts, including the
3 ANET, TNET, and WNET contracts. In replacing the previously existing dedicated
4 contracts, it was determined that the Postal Service would incur "termination for
5 convenience" costs to terminate these three contracts. These costs reflect potential
6 payments to the previous operators of these contracts to compensate them for their
7 own costs associated with early termination.

8
9 In the following six sections of my testimony, I describe the proper approach to the
10 attribution of these costs.

1 II. TREATMENT OF START-UP FEE

2
3 A. Nature of the Costs

4
5 As noted above, as part of the overall air transportation agreement, the Postal
6 Service agreed to pay FedEx a "start-up" fee of \$100 million. This payment is a non-
7 recurring fee (in two equal payments) not associated with any specific transportation
8 services.

9
10 B. Appropriate Treatment

11
12 The start-up fee described above should be treated as institutional and not attributed
13 to any specific products.¹ There are two reasons for this treatment.

14
15 First, the payment to FedEx described above represents a non-recurring cost to the
16 Postal Service, and is therefore "fixed". The payment does not vary with volume,
17 and therefore cannot be treated as volume variable.

18
19 Second, while it is clear that this payment is fixed and not volume variable, it is also
20 not specific to any particular product. The start-up payment by the Postal Service is
21 associated with the entire FedEx transportation agreement and is not specific to
22 either the day-time or the night-time network. Because these networks carry a
23 variety of Postal Service products, this fixed fee is not caused by any of the
24 individual products that travel on the networks. As I discuss in greater detail below
25 (and both Witness Hatfield, USPS-T-18, and Witness Spatola, USPS-T-20, discuss
26 in their testimonies), the day-time network is designed to carry First-Class Mail and
27 Priority Mail, while the night-time network is designed to carry express postal

¹ It should also be noted that the \$100 million payment will not be made in the test year. It is my understanding that \$50 million was paid in FY01 and \$50 million is scheduled to be paid to FedEx in FY02, and that the entire amount was accrued for accounting purposes in FY01.

1 products.² The only way an argument can be made to make these costs "specific
2 fixed" or "product specific" to any particular product would be to determine the
3 existence of a causal relationship between one of these products and the start up
4 costs themselves.³ The existence of such a causal relationship is not present in this
5 case, as the start-up fee is neither network- nor product-specific. Rather, this fee is
6 fixed and common across products, and any attempt to allocate them across
7 products would necessarily rely on arbitrary allocation rules. The start-up fee should
8 therefore be treated as institutional.

² More specifically, the day-time network will carry mail in containers that have First-Class and Priority Distribution and Routing (D&R) labels, and the night-time network will carry mail in containers that have Express D&R labels. Witness Hatfield (USPS-T-18) further discusses this distinction.

³ The term *product-specific* was introduced by the Postal Service in Docket No. R97-1. It corresponds roughly (but not exactly) to the Commissions' use of the term *specific-fixed*. Please see Tr. 9/4733-36 in Docket No. R97-1 for a complete discussion of these terms.

1 III. TREATMENT OF DAY-TIME NETWORK COSTS

2 3 A. Nature of the Costs

4
5 As noted by Witness Spatola (USPS-T-20), day-time network costs consist of
6 separate charges for non-fuel transport costs, fuel costs, and package handling
7 costs. Each of these charges (with the exception of package handling, which can be
8 converted to cubic feet, as is done by Witness Hatfield, USPS-T-18) are stated in the
9 transportation agreement on a per cubic foot basis, meaning that as the number of
10 cubic feet purchased by the Postal Service changes over time, payments to FedEx
11 change proportionately. The Postal Service has contracted for a minimum average
12 daily capacity from FedEx. However, the Postal Service and FedEx can "flex" the
13 network capacity upward for definite periods of time. Additionally, the minimum
14 capacity purchase specified in the contract will increase over the life of the contract.
15 Both of these situations result in changes in payments to FedEx.

16
17 As noted by Witness Spatola (USPS-T-20), the day-time network was designed for
18 both First-Class and Priority Mail. Both products "cause" the network to exist for a
19 variety of reasons. The day-time network was designed to meet a combination of
20 service requirements and cost considerations for both First-Class Mail and Priority
21 Mail:

- 22
23 • *Service Considerations:* The day-time network is critical for meeting the
24 service commitments of both First-Class Mail and Priority Mail, particularly on
25 routes where commercial air transportation (ASYS network) and the
26 associated Air Mail Center operations cannot meet these commitments. As
27 noted by Witness Spatola (USPS-T-20), the Postal Service explicitly designed
28 the day-time network operating plan with the relative service performance of
29 the FedEx network and the ASYS network in mind. Therefore, it is important

1 that both First-Class Mail and Priority Mail be on the FedEx day-time network
2 in order to meet service commitments.

- 3
- 4 • *Cost Considerations:* The mixture of First-Class Mail and Priority Mail allows
5 the Postal Service to efficiently utilize the space provided by FedEx at a
6 relatively low cost. As noted by Witness Spatola (USPS-T-20), cost was one
7 of the primary design factors in developing the day-time network. Specifically,
8 because the Postal Service is buying *space* on FedEx's aircraft (i.e., a
9 specified amount of cubic feet), there is an incentive to pack this space with
10 the most dense product practical (i.e., the highest pounds per cubic foot), all
11 else being equal. Since it is generally acknowledged that First-Class Mail is
12 much denser than Priority Mail, the network was designed to take advantage
13 of the higher density of First-Class Mail while still maintaining adequate
14 service performance for both Priority Mail and First-Class Mail.

15
16 Therefore, it is clear, contrary to some press reports, that the day-time network was
17 designed to carry both First-Class Mail and Priority Mail.

18 19 B. Appropriate Treatment

20
21 For the purposes of this case, the costs associated with the day-time network should
22 be treated as 100 percent volume variable and attributable to First-Class Mail and
23 Priority Mail based on a distribution key comprised of the relative volumes (in cubic
24 feet) of the two classes of mail. There are two reasons for this treatment:

- 25
- 26 • *Volume Variability.* As discussed briefly above, the costs associated with the
27 day-time network change proportionately with additional purchases of
28 capacity by the Postal Service, both in the short-term (i.e., day-to-day and

1 month-to-month) and in the long-term (i.e., over the life of the contract).⁴ This
2 proportionality argues for an assumed variability of 100 percent.

- 3
- 4 • *Cost Driver/Distribution Key.* The day-time network is "caused" by both First-
5 Class Mail and Priority Mail, and therefore, both classes should bear a portion
6 of the costs of the network. Because changes in costs are caused by
7 changes in cubic feet of each class tendered to FedEx, the relative amount of
8 cubic feet is the proper distribution key to use for distributing volume variable
9 costs among the products that are carried on the network.

10

11 Several points should be kept in mind when analyzing this proposed approach for
12 attributing the day-time network costs.

- 13
- 14 • *Consistency with Accepted Commission Methodologies:* The approach
15 described here is consistent with accepted Commission methodologies for
16 attributing transportation costs. When analyzing inter-facility highway
17 transportation costs, for example, the Commission has used a longstanding
18 approach of first determining volume variability and then using a distribution
19 key to spread these costs across individual classes based on the cost driver
20 which causes those costs.
 - 21
 - 22 • *Cost Attribution based on Causality.* The approach described above exactly
23 mimics the operations and design characteristics which cause costs on the
24 day-time network. Changes in costs are caused by changes in volume, and
25 these costs are caused by two different products.

⁴ It should be noted that there are contract minimums below which capacity cannot fall over specific time periods, but as Witness Spatola (USPS-T-20) indicates, it is expected that the reconciliation payments associated with these minimums will be infrequent and insignificant. Therefore, in the absence of empirical data on the relationship between changes in costs and changes in capacity on the day-time network, an assumption of proportionality and 100 percent variability is warranted.

1 IV. TREATMENT OF NIGHT-TIME NETWORK COSTS

2
3 A. Nature of the Costs

4
5 As noted by Witness Spatola (USPS-T-20), night-time network costs consist of
6 charges for non-fuel transport costs and fuel costs (in contrast to the day-time
7 network, which also has charges for package handling). Each of these charges are
8 stated in the transportation agreement on a per pound basis (again in contrast to the
9 day-time network, where charges are based on cubic feet), meaning that as the
10 number of pounds purchased by the Postal Service changes over time, payments to
11 FedEx will change proportionately. The Postal Service has contracted for a
12 *minimum average nightly capacity from FedEx. However, the Postal Service and*
13 *FedEx can "flex" the network capacity upward for definite periods of time.*
14 Additionally, the minimum capacity purchase specified in the contract will increase
15 over the life of the contract. Both of these situations result in changes in payments
16 to FedEx.

17
18 In further contrast to the day-time network, the night-time network was designed to
19 transport express postal products that require expedited, overnight service.
20 Specifically, overnight air transportation is required for a large portion of domestic
21 Express Mail volumes to meet their service standards. However, as noted by
22 Witness Spatola (USPS-T-20), Express Mail International and Global Priority Mail
23 also require overnight expedition. It is my understanding that no other mail
24 classifications are planned for the night-time network. However, incidental volumes
25 of non-express mail may occasionally appear on the night-time network because of
26 operational failures or because mail is incorrectly sorted into sacks with express
27 distribution and routing (D&R) tags. According to Witness Spatola (USPS-T-20), the
28 amount of non-express mail on the night-time network is expected to be insignificant.
29

1 B. Appropriate Treatment

2
3 For the purposes of this case, the costs associated with the night-time network
4 should be treated as 100 percent volume variable and attributable to the "express
5 mail"⁵ volume described above that require expedited, overnight air transportation.
6 As with the day-time network, costs on the night-time network will vary
7 proportionately with volume, and therefore, an assumption of 100 percent variability
8 is justified. Additionally, the mail that requires expedited service (i.e., mail travelling
9 in containers with "express" D&R tags) causes the costs of the night-time network.
10 Furthermore, because this mail will be the only type of mail flying on the night-time
11 network, it should bear these costs directly, with no further attribution to other
12 classes necessary.

13
14 As with the approach for the day-time network, this approach for attributing costs for
15 the night-time network has several advantages. These advantages include
16 consistency with accepted Commission methodologies and attribution based on cost
17 causality.

⁵ I refer to "express mail" (lower case "e" and "m") as all mail that needs expedited, overnight air service, including Express Mail International and Global Priority Mail, as well as domestic Express Mail. Express Mail (upper case "E" and "M") refers exclusively to the specific domestic mailclass.

1 V. TREATMENT OF THIRD PARTY GROUND HANDLING COSTS

2
3 A. Nature of the Costs

4
5 As discussed by Witness Spatola (USPS-T-20), the Postal Service has contracted
6 with third parties to provide ground handling services at a number of stations across
7 the FedEx day-time network. Their primary purpose is to pack containers for the
8 day-time network with Priority and First-Class Mail to help the Postal Service
9 achieve optimum density on the network. They are also required to unpack arriving
10 containers at destination facilities on the day-time network (with specified
11 separations according to local distribution operations).

12
13 B. Appropriate Treatment

14
15 The costs associated with third party ground handlers should be treated in the same
16 manner as the day-time network non-fuel transport and fuel costs. Specifically,
17 these costs should be treated as 100 percent volume variable and attributable to
18 First-Class Mail and Priority Mail based on a distribution key of the relative volumes
19 (in cubic feet) of the two products. This treatment is appropriate for two reasons:

- 20
21 • *Volume Variability.* Obviously, no empirical studies are available analyzing
22 the effect of changes in volume on changes in third party ground handling
23 costs. Without the appropriate data, a variability of 100 percent for third party
24 ground handling costs is the most appropriate assumption for the purposes of
25 this case. This assumption is based on the fact that the Postal Service has
26 employed third party ground handlers to perform similar activities on its
27 previous dedicated networks. These costs have been treated traditionally by
28 the Postal Service and the Commission as 100 percent volume variable.
29

1 • *Cost Driver/Distribution Key:* As with the non-fuel transport and fuel costs on
2 the day-time network, these costs are driven by the amount of cubic feet
3 available on the network.⁶ As the third party ground handlers more effectively
4 pack containers (i.e., achieve higher containerized densities), the utilization of
5 the cubic feet available on the day-time network is improved, thereby resulting
6 in a lower total air transportation cost. Therefore, the desire for efficient
7 utilization of cubic capacity creates the need for more effective container
8 packing, and this situation causes the third party ground handling costs to be
9 incurred. Pending more complete analysis of the relationship between
10 changes in volume and changes in ground handler costs (which can only be
11 performed when empirical data are available), relative cubic feet is a
12 reasonable distribution key for these costs in this case because of the
13 relationship between the need for effective utilization of those cubic feet and
14 the third party ground handling costs themselves.

⁶ It should be noted that the use of third party ground handlers is only planned for the day-time network.

1 VI. TREATMENT OF OTHER COSTS

2
3 In implementing the new approach to shared air network transportation, the Postal
4 Service will also incur costs associated with excise taxes and highway transportation
5 costs into FedEx's Memphis hub. However, these costs do not represent payments
6 to FedEx. In this section of the testimony, I describe the appropriate approach for
7 attributing these costs to individual classes of mail

8
9 A. Excise Taxes

10
11 The Postal Service will pay excise taxes on the linehaul portion of the day-time and
12 night-time networks. Because these costs vary proportionately with the linehaul
13 non-fuel transport costs and the linehaul fuel transport costs associated with the
14 day-time and night-time networks, they should be treated in the same manner as the
15 costs associated with the day-time and night-time networks. Specifically, excise
16 taxes on both networks should be treated as 100 percent variable with a distribution
17 key based on relative product volumes (in cubic feet for the day-time and pounds for
18 the night-time) for each network (i.e., treating each network separately).

19
20 B. Highway Transportation Costs

21
22 The FedEx transportation agreement will cause the Postal Service to purchase
23 additional highway transportation for cities surrounding FedEx's Memphis hub where
24 air service is not warranted. This highway transportation will feed volume to
25 Memphis for outgoing air transportation on the day-time network.

26
27 Obviously, no empirical studies are available analyzing the effect of changes in
28 volume on changes in these specific highway costs. However, I believe that this
29 transportation will exhibit variability similar to the accepted variability used for Inter-

1 SCF highway transportation.⁷ This highway transportation is similar to the longer-
2 haul, plant-to-plant highway transportation that the Postal Service purchases on a
3 regular basis. The distribution key for this highway transportation into Memphis
4 should be the distribution key for the FedEx day-time network for the purposes of
5 this case, as the volume distributions on the Memphis inbound highway network
6 should generally mirror the volume distributions on the day-time network.

⁷ USPS-T-11, Workpaper B, Cost Segment 14.

VII. TREATMENT OF TERMINATION FOR CONVENIENCE COSTS

A. Nature of the Costs

Prior to August 27, 2001, the Postal Service operated several dedicated air transportation networks using a variety of contracts, which were terminated when the Postal Service began tendering mail to FedEx on a regular basis. The Postal Service determined that the termination of the ANET, WNET, and TNET contracts would result in termination for convenience costs that the Postal Service would have to pay the operators of these networks. These costs represent payments to the operators to compensate them for costs they may incur because of early termination, which may include (but may not be limited to) the following:

- loss of useful value of contractors' assets;
- employee "stay pay";
- storage and repositioning costs for assets.

These costs are one-time, fixed restructuring costs associated with past dedicated air networks, and will not occur again in the future. Furthermore, these costs are not payments to FedEx under the air transportation agreement, nor are they associated with ongoing operations related to the agreement.

B. Appropriate Treatment

These terminations for convenience costs should be treated as institutional. The reason for this treatment is two-fold:

- *"Sunk" Nature of Costs:* From an economic point of view, these costs are backward looking, "sunk" costs associated with specific dedicated air network contracts that operated in the past. These costs do not generate any asset

1 going forward, and therefore should not be capitalized/amortized for
2 ratemaking purposes. Sunk costs should have no bearing on cost attribution.

- 3
- 4 • ***“Fixed” Nature of Costs:*** These costs are “one-time”, non-recurring costs.
5 Because they are non-recurring, they are “fixed” (i.e., they do not vary with
6 volume), and therefore cannot be treated as volume variable. Furthermore,
7 they are not specific to any particular product, and therefore cannot be
8 considered “specific fixed” or “product specific”.
- 9