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

POSTAL RATE AND FEE CHANGES, 1997

Docket No. R97–1

RESPONSE OF UNITED STATES POSTAL SERVICE WITNESS HATFIELD TO INTERROGATORIES OF UNITED PARCEL SERVICE (UPS/USPS–T16—1–6(A), 7(B)-16)

The United States Postal Service hereby provides responses of witness Hatfield to the following interrogatories of United Parcel Service: UPS/USPS–T16—1–6(a), 7(b)-16, filed on July 28, 1997. Interrogatory subparts UPS/USPS-T16-6(b) and -7(a) were withdrawn by United Parcel Service.

Each interrogatory is stated verbatim and is followed by the response.

Respectfully submitted,

UNITED STATES POSTAL SERVICE

By its attorneys:

Daniel J. Foucheaux, Jr.
Chief Counsel, Ratemaking

Anne B. Reynolds

475 L'Enfant Plaza West, S.W.
Washington, D.C. 20260–1137
(202) 268–2970; Fax –5402
August 11, 1997

RESPONSE OF U.S. POSTAL SERVICE WITNESS HATFIELD
TO INTERROGATORIES OF UNITED PARCEL SERVICE

UPS/USPS-T16-1. Refer to page 12 of USPS-T-16. Were the oversized parcels that are proposed to be charged the balloon rate included in the cube-weight regression analyses? Why, or why not?

RESPONSE:

The volume of parcel post that is used in the regression analyses contained in my testimony includes parcels that are proposed to be made subject to a balloon surcharge, because the costs associated with transporting those parcels are included in the test year before rates parcel post transportation costs. The purpose of the regression analyses is to determine the relationship between the weight of various rate categories of parcel post and their cubic volume. Among other things, this relationship is used to estimate the total number of cubic feet of parcel post by zone. The estimates of cubic feet are then used to distribute parcel post costs to zones and to calculate unit costs. It is necessary for the number of cubic feet to be consistent with the pool of transportation costs that are distributed to rate category and zone in my testimony. If a subset of parcel post volume were omitted from the regression analyses, the results could yield cubic foot estimates that either overestimate or underestimate the total number of cubic feet of parcel post.

RESPONSE OF U.S. POSTAL SERVICE WITNESS HATFIELD
TO INTERROGATORIES OF UNITED PARCEL SERVICE

UPS/USPS-T16-2. Refer to page 10, lines 14-16 through line 1 on page 11 of your Direct Testimony, where you state, "Increases in intermediate transportation distance for intra-BMC parcels do not necessarily cause parcels to migrate towards a higher zone."

(a) Do you agree that, on average, a higher zone intra-BMC parcel likely will have a higher intermediate transportation cost than a Zone 1/2 intra-BMC parcel? Why, or why not? Provide all evidence and supporting documentation for your answer.

(b) Do you agree that a higher zone intra-BMC parcel will always travel a significant distance to and from the BMC, but that a Zone 1/2 intra-BMC parcel may or may not? Explain your answer.

RESPONSE:

(a) I do not agree that, on average, a higher zone intra-BMC parcel will necessarily have a higher intermediate transportation cost than a Zone 1/2 intra-BMC parcel. Because, as stated in the cited portion of my testimony, increases in intermediate transportation distance for intra-BMC parcels do not necessarily cause parcels to migrate to higher zones, it is reasonable to treat intermediate transportation for intra-BMC parcels as non-distance related. It could be the case that, on average, higher zone intra-BMC parcels do travel further on intermediate transportation than Zone 1/2 intra-BMC parcels. It could also be the case that, on average, Zone 1/2 intra-BMC parcels travel further on intermediate transportation than higher zone intra-BMC parcels. For example, if the majority of Zone 1/2 intra-BMC volume had a transportation pattern similar to Parcel A shown in Figure II-3 of my testimony, it could very well be the case that Zone 1/2 intra-BMC parcel post travels further than higher zone intra-BMC parcel post on intermediate transportation.

(b) I do not agree that a higher zone intra-BMC parcel will *always* travel a significant distance *both to and from* the BMC but that a Zone 1/2 intra-BMC parcel may or may not. It is true that a Zone 1/2 intra-BMC parcel may or may not travel a long distance to or from a BMC. A higher zone intra-BMC parcel, on the other hand, could still travel a shorter distance than a lower zone intra-BMC parcel either to or from a BMC. Simply put, it is not true that all higher zone intra-BMC parcels travel a significant distance *both to and from* the BMC.

RESPONSE OF U.S. POSTAL SERVICE WITNESS HATFIELD
TO INTERROGATORIES OF UNITED PARCEL SERVICE

UPS/USPS-T16-3. Please refer to Table III-3 on page 25 of USPS-T-16.

(a) Confirm that the transportation cost for Zone 1/2 DDU is the difference between the $0.3997 per cubic foot for Zone 1/2 DSCF minus the DDU avoided transportation cost of $0.3337 per cubic foot, or $0.0660 per cubic foot. If not confirmed, explain.

(b) Explain in detail why the local zone intra-BMC transportation cost of $0.9402 per cubic foot is substantially more than that for Zone 1/2 DDU.

(c) Explain in detail why the transportation cost for local zone intra-BMC of $0.9402 per cubic foot is substantially more than that of Zone 1/2 DSCF of $0.3997 per cubic foot.

RESPONSE:

(a) Confirmed, as indicated on Appendix III page 9.

(b) In Docket No. R94-1, the methodology employed by the Commission for calculating the purchased transportation cost per cubic foot for intra-BMC parcels resulted in a local zone unit cost which was equal to the non-distance related unit cost in all other intra-BMC zones. Using this methodology resulted in a local zone intra-BMC transportation cost that was based primarily on intra-SCF purchased highway transportation, approximately $0.34 per cubic foot (see Docket No. R94-1, PRC LR-12). The methodology used in my testimony, whichresults in $0.94 per cubic foot, differs in two primary ways. First, the parcel post transportation cost analysis in my testimony includes postal owned vehicle costs (see pages 14-15). Inclusion of these costs substantially increases the amount of transportation costs that are incurred transporting parcels between AOs and P&DCs. In addition, my calculation of local zone intra-

BMC transportation costs also includes a portion of the transportation costs that are incurred transporting parcels between P&DCs and BMCs.

The costs associated with a piece of DDU parcel post do not include any of the transportation costs associated with transportation between AOs and P&DCs or between P&DCs and BMCs. Because the local zone intra-BMC transportation cost estimate includes a portion of the costs associated with transportation between AOs and P&DCs and between P&DCs and BMCs, whereas the DDU transportation cost estimate does not, the local zone intra-BMC transportation cost estimate is substantially higher than the DDU transportation cost estimate. The reason that local zone intra-BMC parcel post and DDU parcel post are treated differently is that, by definition, DDU parcel post will not receive any transportation between the delivery unit and the P&DC or between the P&DC and the BMC. Because DDU parcel post must originate at the destination delivery unit, there is no reason why DDU parcel post would travel to the P&DC. By contrast, local zone intra-BMC parcel post may receive transportation between the associate office where it originates and the P&DC and between the P&DC and the BMC. In order for local zone intra-BMC parcel post not to receive any transportation beyond the origin AO, the origin AO must identify and separate local zone pieces from the rest of the originating parcel post. Often times this separation does not occur because of space and time considerations. Therefore, because local zone intra-BMC parcels will not always

avoid transportation beyond the origin AO, only a portion of these costs were removed from the local zone transportation cost calculations.

(c) As stated in my response to part (b) of this question, the local zone intra-BMC parcel post transportation cost estimate includes a portion of the costs associated with transportation between the AO and the P&DC and between the P&DC and the BMC. Again, this is due to the fact that local zone intra-BMC will not always avoid transportation beyond the origin AO and will be treated as non-local zone intra-BMC. On the other hand, DSCF parcels, by definition, will only receive one leg of transportation between the destination P&DC and the destination AO. Because DSCF parcels must originate at the destination P&DC, these parcels will not receive transportation from an AO to a P&DC. Instead, these parcels will only receive transportation from the P&DC to the destination AO. Since parcels entered at the destination SCF will only incur approximately one leg of transportation between the P&DC and the AO, and a portion of local zone intra-BMC parcels will receive approximately two legs of transportation between both the AO and the P&DC and the P&DC and the BMC, the costs for local zone intra-BMC parcels are significantly higher than the costs for DSCF parcel post.

RESPONSE OF U.S. POSTAL SERVICE WITNESS HATFIELD
TO INTERROGATORIES OF UNITED PARCEL SERVICE

UPS/USPS-T16-4. Please refer to Appendix I, page 2-3 of 13, of USPS-T-16.

(a) Confirm that inter-SCF highway costs are primarily associated with intra-BMC parcels. If not confirmed, explain.

(b) Will those intra-BMC parcels that are transported directly from the origin P&DC to the destination P&DC avoid incurring intra-BMC highway costs?

(c) State separately for each the percentage of inter-BMC, intra-BMC, DBMC, DSCF, and DDU parcels that are expected to be transported directly from the origin P&DC to the destination P&DC in the Test Year.

(d) What analytic methodology and data would be required to take into account the impact of the percentage of parcels transported directly from the origin P&DC to the destination P&DC in your transportation cost analysis?

RESPONSE:

(a) Not confirmed. Inter-SCF highway transportation costs are associated with contracted highway transportation that travels primarily between P&DCs. This type of transportation can be incurred by different rate categories of parcel post. Page 3 of Appendix I of my testimony indicates that inter-SCF highway transportation costs have been categorized as intermediate transportation. Intermediate transportation is incurred by all types of parcel post, inter-BMC and DBMC, as well as intra-BMC. Being categorized as intermediate transportation does not mean that the costs are only associated with intra-BMC parcel post. As shown in table III-2 on page 20 of my testimony, intermediate transportation costs are distributed to all three of the rate categories of parcel post. Because the costs in the inter-SCF transportation account are treated as intermediate, they are also distributed to all three rate categories of parcel post.

(b) Yes, if a piece of intra-BMC parcel post is transported directly from origin P&DC to destination P&DC, that piece will most likely not incur intra-BMC highway transportation costs.

(c) The amount of parcel post that will travel from origin P&DC directly to destination P&DC is not known for the rate categories of parcel post in the test year or in the base year. There is currently no data on how specific types of mail are routed through the transportation network. Estimates of the amount of inter-BMC, intra-BMC, and DBMC traveling on inter-SCF highway are not available.

(d) The methodology used to distribute parcel post transportation costs to rate category and zone used in my testimony could be modified to account explicitly for the situations where parcel post travels directly from origin P&DC to destination P&DC. By categorizing inter-SCF transportation costs as intermediate, however, my testimony has an implicit distribution of inter-SCF transportation costs to the rate categories of parcel post. In order to account explicitly for pieces that travel directly from origin P&DC to destination P&DC, the information described in part (c) of this question is needed. As stated in my response to part (c) of this question, however, these data were not collected for FY 96. Because inter-SCF transportation costs account for less than 8 percent of the base year parcel post transportation costs shown in my testimony, a new method of distributing them would likely have a minimal impact on the transportation cost estimates.

RESPONSE OF U.S. POSTAL SERVICE WITNESS HATFIELD
TO INTERROGATORIES OF UNITED PARCEL SERVICE

UPS/USPS-T16-5. Please refer to Appendix I, page 13 of 13, of USPS-T-16. Confirm that the source of Row 14, the "Percentage of DBMC parcels entered at destination SCFs," is Mayes WP 1.F at 1 and that the percentage used is for the Test Year Before Rates. If confirmed, why was the percentage for the Test Year After Rates not used? If not confirmed, explain.

RESPONSE:

Confirmed, the percentage of DBMC parcel post entered at destination SCFs used in my testimony is 7.11 percent. This figure was obtained from Mayes WP 1.F. which shows the percentage of DBMC that was entered at the destination SCF in calendar year 1996. The percentage reflects the amount of DBMC entered at the destination SCF under the existing rate structure. This percentage was used, as opposed to the percentage of DBMC that will be entered at the destination SCF if a DSCF discount is offered, in order to ensure that all figures used to distribute transportation costs to rate category and zone are consistent with the transportation costs that are analyzed in my testimony. The transportation costs shown on page 13 of Appendix I are test year before rates transportation costs. These costs reflect the percentage of DBMC parcels that are entered at the destination SCF given the current rate structure. The current rate structure offers no additional incentives to enter DBMC mail at a destination SCF. If the percentage of DBMC entered at the destination SCF (assuming the existence of a DSCF discount) were used in lieu of the figure used in my testimony, this would result in a misallocation of test year before rates costs.

RESPONSE OF U.S. POSTAL SERVICE WITNESS HATFIELD
TO INTERROGATORIES OF UNITED PARCEL SERVICE

UPS/USPS-T16-6. Refer to page 7 of the Direct Testimony of Nicholas Acheson in Docket No. R90-1 (USPS-T-12).

(a) Confirm that the mail flow diagram for third class mail shown on that page is similar to that used to derive transportation costs for parcel post in your testimony (e.g., Figure II-1, on page 6 of USPS-T-16). If not confirmed, explain in detail.

(b) Do you agree with Mr. Acheson's statement on line 2 of page 7 of his testimony that the mail flow diagram shown on that page is a "simplistic model"? Explain your answer.

RESPONSE:

(a) Not confirmed. The methodology used in my testimony to distribute parcel post transportation costs to rate categories and zones does not rely on a mail flow diagram such as the one used by Mr. Acheson in Docket No. R90-1. Figure II-1, on page 6 of my testimony, is used for illustrative purposes. The figure represents the typical travel pattern for a piece of inter-BMC parcel post and is used only to illustrate the determination of distance relation in inter-BMC parcel post transportation costs. Nowhere in my testimony is it stated that Figure II-1 is a representation of all mail flows in parcel post or that the figure is used to derive transportation cost estimates.

(b) This subpart was withdrawn by UPS.

RESPONSE OF U.S. POSTAL SERVICE WITNESS HATFIELD
TO INTERROGATORIES OF UNITED PARCEL SERVICE

UPS/USPS-T16-7. Refer to Table 2 on page 8 of Mr. Acheson's testimony in Docket No. R90-1 (USPS-T-12), entitled "Flowpaths in Postal Transportation System," in which 13 possible flowpaths are identified for third class bulk mail.

(a) Do you agree with Mr. Acheson's statement on line 12 of page 7 of USPS-T-12 in Docket No. R90-1 that the transportation patterns shown on Table 2 are "more realistic" than the "simplistic model" shown on page 7? Explain your answer.

(b) Confirm that your analysis of parcel post transportation costs considers only 5 of the 13 flowpaths shown on Table 2 and does not consider flowpaths 1, 2, 4, 5, 6, 8, 9, and 12? If confirmed, why did you not take into account all 13 flowpaths in your parcel post transportation analysis? If not confirmed, explain in detail.

(c) Confirm that if all 13 flowpaths were considered in your analysis of parcel post transportation costs, the proportion of local and intermediate transportation legs incurred by DBMC and DSCF parcels would be greater. If not confirmed, explain in detail.

(d) What modification to your analysis would be required and what data would be needed to take into account all 13 flowpaths in your analysis of parcel post transportation costs? Explain in detail.

RESPONSE:

(a) This subpart was withdrawn by UPS.

(b) Not confirmed. As stated in my response to UPS/USPS-T16-6, the methodology used in my testimony to distribute parcel post transportation costs to rate categories and zones does not rely on a mail flow diagram such as the one used by Mr. Acheson in Docket No. R90-1. The methodology employed in my testimony accounts for the purchased transportation costs associated with all mail flows in parcel post, whether or not they are pictured in Mr. Acheson's table 2.

(c) Not confirmed. Again, the methodology used in my testimony to distribute parcel post transportation costs to rate categories and zones does not

rely on a mail flow diagram such as the one used by Mr. Acheson in Docket No. R90-1. In order to respond to a hypothetical question regarding what an analysis of parcel post transportation costs using the methodology presented by Mr. Acheson in Docket No. R94-1 would yield requires that such an analysis be done. My testimony does not employ this methodology. In addition, there is no indication that the methodology used by Mr. Acheson is appropriate for distributing parcel post transportation costs to rate category and zone. Mr. Acheson's testimony uses a mail flow methodology to calculate destination entry discounts for third-class mail. The methodology does not consider distribution of transportation costs to rate categories or distribution of transportation costs to zones.

(d) As stated in my response to part (c) of this question, there is no indication that the methodology used by Mr. Acheson is appropriate for distributing parcel post transportation costs to rate category and zone. Mr. Acheson's testimony uses a mail flow methodology to calculate destination entry discounts for third-class mail. The methodology does not consider distribution of transportation costs to rate categories and distribution of transportation costs to zones. It does not make sense to consider modifying the methodology presented in my testimony to take into account certain flowpaths pictured in Mr. Acheson's table 2, because the methodology does not rely on a mail flow diagram such as the one described in table 2.

RESPONSE OF U.S. POSTAL SERVICE WITNESS HATFIELD
TO INTERROGATORIES OF UNITED PARCEL SERVICE

UPS/USPS-T16-8. Refer to Table 3 on page 9 of Mr. Acheson's testimony (USPS-T-12) in Docket No. R90-1.

(a) Confirm that the "Category of Contract Highway Service" for each of the 13 flowpaths identified in the Table is correct for parcel post in the Base Year and in the Test Year in this proceeding. If not confirmed, provide the correct information.

(b) Provide all available data for parcel post in the Base Year and in the Test Year for this proceeding on the "Proportion of Volume From the Origin" for each of the 13 flowpaths shown in the Table. If not available, explain why parcel post data was not gathered in the same manner that Mr. Acheson gathered them for his analysis of third class transportation costs.

RESPONSE:

(a) Confirmed.

(b) The data shown in Mr. Acheson's table 3 which indicates Proportion of Volume From the Origin are not available for parcel post. These data were not gathered in the same manner that Mr. Acheson gathered them for his analysis of third-class destination entry discounts because Mr. Acheson's flow model is only concerned with third-class mail. Similar estimates for parcel post were not made because they were not necessary for the analysis of parcel post transportation costs contained in my testimony.

RESPONSE OF U.S. POSTAL SERVICE WITNESS HATFIELD
TO INTERROGATORIES OF UNITED PARCEL SERVICE

UPS/USPS-T16-9. Refer to Table 1 on page 6 of USPS-T-12 in Docket No. R90-1. For parcel post in the Base Year and in the Test Year in this proceeding, provide the same entry profile data as is contained in that Table. Also provide the data broken out separately for inter-BMC, intra-BMC, and DBMC.

RESPONSE:

The entry profile shown in Mr. Acheson's table 1 is not available for parcel post, either in total or by rate category. For the purposes of Mr. Acheson's analysis, these data were collected for third-class mail by means of a special study. A special study to develop a similar entry profile for parcel post was not conducted because all of these data were unnecessary for the analysis of parcel post transportation costs contained in my testimony. Certain estimates similar to the those contained in Mr. Acheson's table 1 are, however, available for parcel post and are used in my testimony. Specifically, the percentage of inter-BMC parcel post that is entered at the origin BMC is available from Ms. Mayes (Mayes WP I.F.). The percentage of DBMC which is entered at a destination SCF is also available in Mayes WP I.F. The amount of parcel post that is entered at a destination BMC can be calculated by subtracting the portion of DBMC entered at a destination SCF from total DBMC volume.

RESPONSE OF U.S. POSTAL SERVICE WITNESS HATFIELD
TO INTERROGATORIES OF UNITED PARCEL SERVICE

UPS/USPS-T16-10. Refer to Exhibit G, page 2 of 3, of USPS-T-12 in Docket No. R90-1, where, relying on a 1980 study, Mr. Acheson assumed that "approximately 67% of intra-SCF costs is associated with service to stations, branches, and AOs."

(a) Have there been any updates to the information contained in this 1980 study? If so, provide all such updates.

(b) Confirm that you assume that DDU parcel post avoids 33.37 cents per piece, or 83.5%, of the 39.97 cents per piece of unit attributable transportation costs for DSCF parcel post. If not confirmed, explain.

(c) Do you agree that you have overstated DDU transportation cost savings if Mr. Acheson's assumption that "67% of intra-SCF costs is associated with service to stations, branches, and AOs" is correct? If you do not agree, explain in detail.

(d) Provide all analyses and supporting documentation for your statement contained in Appendix III, Page 5 of 9, of your testimony (USPS-T-16) that Intra-SCF van and Intra-SCF trailer contract costs are completely avoided by DDU parcel post. Confirm that your statement cannot be true if Mr. Acheson's assumption that "67% of intra-SCF costs is associated with service to stations, branches, and AOs" is correct; if not confirmed, explain.

RESPONSE:

(a) Based on figures presented by Dr. Bradley (Exhibit USPS-13B) my testimony shows that 83.63 percent of intra-SCF purchased highway transportation costs are associated with transportation between P&DCs and AOs. Development of this percentage represents a new method of calculating the figure presented by Mr. Acheson. A description of the derivation of this percentage can be found on pages 5 and 9 of Appendix III of my testimony.

(b) Not confirmed. The analysis of the cost difference between DSCF and DDU parcel post shows that DDU parcel post transportation costs are 83.50 percent of DSCF transportation costs. This calculation is based on the estimate of the portion of intra-SCF purchased highway transportation costs that are

associated with transportation between P&DCs and AOs described in my response to part (a) of this question. The result of the calculations shows that cost difference between DSCF and DDU parcel post is 33.37 cents per cubic foot. I do not simply assume that the cost difference is 33.37 cents per piece; rather, I *calculate* that the difference is 33.37 cents per *cubic foot*.

(c) I do not agree. As stated in my response to part (a) of this question, my estimate of the proportion of intra-SCF highway costs that are associated with transportation between P&DCs and AOs, 83 percent, represents a new method of calculating the 67 percent figure used by Mr. Acheson in Docket No. R90-1. The estimate used in my testimony is based on the best and most recent data available and there is no evidence that would suggest it is either overstated or understated.

(d) As stated on page 5 of Appendix III of my testimony, intra-SCF van and intra-SCF trailer contracts are primarily associated with purchased transportation between P&DCs and AOs. The other elements of intra-SCF highway transportation costs, intra-city and box-route contracts, are associated with transportation between AOs and other locations. Because, by definition, DDU parcel post will be entered at the destination AO, there is no reason to believe DDU parcel post would travel on transportation between the AO and the P&DC. Therefore, DDU parcel post will avoid all transportation costs associated with intra-SCF van and intra-SCF trailer contracts. This is entirely consistent with Mr. Acheson's adjustment to intra-SCF highway transportation costs in Docket No. R90-1.

The second sentence of this question appears to jump to erroneous inferences based on the mistaken impression that intra-SCF costs are synonymous with subsets thereof. My statement that DDU parcel post avoids all intra-SCF *van* and intra-SCF *trailer* costs is not inconsistent with Mr. Acheson's statement that 67 percent of *intra-SCF costs* are associated with service to AOs. Indeed, Mr. Acheson excludes all intra-SCF highway transportation costs not associated with service from SCFs to AOs from his calculations because these costs will not be avoided by destination entry mail. My testimony likewise excludes these costs from the calculation of the DDU parcel post transportation cost difference because they will not be avoided by DDU parcel post.

RESPONSE OF U.S. POSTAL SERVICE WITNESS HATFIELD
TO INTERROGATORIES OF UNITED PARCEL SERVICE

UPS/USPS-T16-11. Refer to lines 23 and 24 on page 31 of USPS-T-12 in Docket No. R90-1, which states: "Unlike intra-BMC transportation, which every piece of DBMC mail would avoid, only a certain percentage of DBMC parcels would avoid intra-SCF transportation as well." Do you agree with this statement?

(a) If yes, did you take into account in your analysis of parcel post transportation costs that only a certain percentage of DBMC parcels would avoid intra-SCF transportation? Explain your answer.

(b) If no, explain in detail why you do not agree.

RESPONSE:

In his Docket No. R90-1 testimony, Mr. Acheson calculates the difference in transportation cost between intra-BMC parcel post and DBMC parcel post. Within the context of his analysis, I agree that not all DBMC parcels would avoid intra-SCF highway transportation that is incurred by intra-BMC parcel post. When calculating the difference in transportation cost between intra-BMC parcel post and DBMC parcel post, as Mr. Acheson did in Docket No. R90-1, there is a certain percentage of intra-BMC parcels that do not incur any intra-SCF transportation because they travel directly from the origin AO to the BMC. If a piece of intra-BMC parcel post does not incur intra-SCF transportation costs, then it would be reasonable to exclude intra-SCF costs in the cost difference between intra-BMC and DBMC parcel post for those pieces not receiving intra-SCF transportation.

(a) Yes, in distributing parcel post transportation costs to rate category, the methodology used in my testimony accounts for parcel post which avoids intra-SCF transportation implicitly. There are a number of reasons why parcel

post may not receive intra-SCF transportation, such as when the delivery unit for a piece of parcel post is co-located with the P&DC or when the BMC has a direct transportation link with the AO. When considering parcel post volume that avoids intra-SCF transportation, there are two situations that need to be considered: (1) when parcel post outbound from the BMC avoids intra-SCF transportation and (2) when parcel post inbound to the BMC avoids intra-SCF transportation. To incorporate both of these situations into my testimony, the average number of local legs of transportation for each of the three rate categories could be reduced explicitly. The effect of this reduction in average number of legs would not, however, change the distribution of local transportation costs to rate category based on the assumption that the percentage of parcel post inbound to the BMC that avoids intra-SCF transportation is the same as the percentage of parcel post outbound from the BMC that avoids intra-SCF transportation. Because there are no data to suggest that these two percentages are different, there was no need to account for them in my testimony. Since the amount of parcel post that avoids intra-SCF transportation does not affect the distribution of costs to rate category or zone, there was no need to estimate this volume using the percentage that Mr. Acheson used in Docket No. R90-1.

(b) N/A

RESPONSE OF U.S. POSTAL SERVICE WITNESS HATFIELD
TO INTERROGATORIES OF UNITED PARCEL SERVICE

UPS/USPS-T16-12. Refer to lines 25-26 on page 31, through lines 1-3 on page 32, and Exhibit N of USPS-T-12 in Docket No. R90-1. Confirm that Mr. Acheson assumed that 73.8% of parcel post came to the BMC from satellite facilities.

(a) If confirmed, do you agree with this assumption? If not confirmed, explain in detail.

(b) Provide all studies analyzing the percentage of parcel post at BMCs that originated at satellite facilities which update or refine the information contained in the study relied upon by Mr. Acheson.

RESPONSE:

Not confirmed. Mr. Acheson does not simply *assume* that 73.8 percent of parcel post arrives at the BMC from satellite facilities. My review of his testimony, which was prompted by this interrogatory, indicates that Mr. Acheson obtained an estimate of this volume from a special study.

(a) As stated in my response to UPS/USPS-T16-11, I agree that a certain portion of parcel post avoids intra-SCF transportation. I do not have any detailed knowledge about the sources of Mr. Acheson's estimate and did not have occasion or reason to review this information in preparation for my testimony in this docket; consequently, I do not draw any conclusions about whether the 73.8 percent figure would be reflective of the BY or TY in this docket. As stated in my response to UPS/USPS-T16-11, the amount of parcel post that avoids intra-SCF transportation both outbound from the BMC and inbound to the BMC does not ultimately affect the transportation cost estimates contained in my testimony.

(b) I am not aware of any studies that have updated the percentage of parcel post at BMCs that originated at AOs. It is my understanding that what Mr. Acheson refers to as satellite facilities in his R90-1 testimony are any non-SCF facilities. These would primarily be AOs.

RESPONSE OF U.S. POSTAL SERVICE WITNESS HATFIELD
TO INTERROGATORIES OF UNITED PARCEL SERVICE

UPS/USPS-T16-13. You state on page 5, lines 23-25, of your testimony that "The distance used to calculate zones is the greater circle distance ("GCD") between origin and destination 3-digit ZIP Code area."

(a) What is the minimum, average, and maximum GCD for each of the postal zones for inter-BMC parcels?

(b) What is the minimum, average, and maximum GCD for each of the postal zones for intra-BMC parcels?

(c) What is the minimum, average, and maximum GCD for each of the postal zones for DBMC parcels?

RESPONSE:

(a)-(c) The minimum and maximum GCD for each postal zone does not vary by rate category of parcel post. The minimum and maximum GCD for each postal zone can be found in the Domestic Mail Manual (DMM) and are listed below:

Zone	Minimum GCD	Maximum GCD
1 / 2	0	150
3	>150	300
4	>300	600
5	>600	1,000
6	>1,000	1,400
7	>1,400	1,800
8	>1,800	

The average GCD for each of the postal zones can be calculated using data from Library Reference USPS LR-H-135. By dividing the total inter-BMC

cubic foot miles in each zone by the total inter-BMC cubic feet in each zone, an estimate of average GCD miles by zone can be obtained. Using the same method, estimates of the average GCD for intra-BMC and DBMC can be calculated as well. The results of these calculations for each rate category of parcel post are listed below:

Zone	Inter-BMC Average GCD	Intra-BMC Average GCD	DBMC Average GCD
1 / 2	113	45	57
3	251	213	221
4	459	401	361
5	808	497	768
6	1,178		
7	1,593		
8	2,419		

RESPONSE OF U.S. POSTAL SERVICE WITNESS HATFIELD
TO INTERROGATORIES OF UNITED PARCEL SERVICE

UPS/USPS-T16-14. Please confirm that it is the use of GCD measurements between origin and destination 3-digit ZIP Code area to establish Parcel Post zones that leads you to assert that intermediate transportation costs are non-distance related for intra-BMC parcels. If not confirmed, please explain.

RESPONSE:

Intermediate transportation costs for intra-BMC parcels are treated as non-distance related because GCD, as measured for calculating postal zones, for intra-BMC parcels is not necessarily related to the actual distance that intra-BMC parcels travel on intermediate transportation.

RESPONSE OF U.S. POSTAL SERVICE WITNESS HATFIELD
TO INTERROGATORIES OF UNITED PARCEL SERVICE

UPS/USPS-T16-15. Please explain why Parcel Post zones are derived from GCD measurements between origin and destination 3-digit ZIP code area, and not, as described in your testimony and shown in Figure II-1, on the distance the parcel will travel under parcel transportation patterns. Please provide all studies in which the Postal Service has contemplated revising how a Parcel Post zone is derived.

RESPONSE:

Although I was never involved with the determination of how to calculate postal zones, GCD may have been used to define postal zones because data on transportation routings are not available. There are no specific data available on exactly how a piece of parcel post or another postal product will flow from any particular origin to any particular destination. This data would be needed in order to determine the actual miles traveled by any given piece of mail. In addition, using actual traveled distance to determine postal zones could introduce considerable transaction costs in offering zoned products. If actual traveled distance were used, the algorithm used to determine zone would need to be modified each time there were a change in transportation patterns. Changing this algorithm for all postal retail outlets is no doubt a costly exercise. By using GCD based on the origin and destination of a piece of mail to determine zone, the algorithm for determining zone does not change with changes in transportation patterns.

I am not aware of any studies conducted by the Postal Service that contemplated using data other than GCD in order to determine postal zones.

RESPONSE OF U.S. POSTAL SERVICE WITNESS HATFIELD
TO INTERROGATORIES OF UNITED PARCEL SERVICE

UPS/USPS-T16-16. Please refer to pages V-120 and V-121 of the Commission's Recommended Decision in Docket No. R94-1. Confirm that in your rate design for Parcel Post transportation costs, you have not taken into account "distance taper" as requested by the Commission. If not confirmed, explain how and where you did so, and provide all data used for this purpose. If confirmed,

(a) Why was "distance taper" not taken into account in your rate design?

(b) What information and data would you need in order to take distance taper into account in the Parcel Post rate design?

(c) Do you agree that there is distance taper in transportation costs? Explain your answer.

(d) Identify in detail the information and data that is currently available that would help design a distance taper into the Parcel Post rate design and explain how this information and data could be used to estimate distance taper. What are the weaknesses associated with using these particular data to estimate distance taper?

RESPONSE:

First, it is not accurate to describe the analysis contained in my testimony as "rate design." Witness Mayes' testimony (USPS-T-37) describes the rate design of parcel post. Although the unit transportation costs by rate category and zone play an integral part in rate design, characterizing their development as rate design is not accurate.

Distance taper analysis was considered in the preparation of my testimony. As a result of the functional approach to allocating transportation costs to rate categories and zones within parcel post, parcels that tend to travel in higher zones, inter-BMC parcels, have a lower cost per cubic foot mile than parcels that tend to travel in lower zones, intra-BMC and DBMC parcels.

Although not a direct measurement of cost per cubic foot mile by zone, the analysis contained in my testimony does incorporate certain distance taper effects.

The development of unit transportation cost estimates contained in my testimony, by virtue of the functional analysis, does include an implicit distance taper. As the Commission stated on page V-120 of the Recommended Decision in Docket No. R94-1, "A distance taper occurs when the cost per mile on longer routes tends to be less than the cost per mile on shorter routes." If a distance taper does exist in parcel post, it would be true that the cost per mile for transportation costs that have been categorized as long distance in my testimony would be less than the cost per mile for other transportation costs. By assigning long distance costs only to inter-BMC parcel post, the average cost per mile for inter-BMC parcel post would be lower than the average cost per mile in other rate categories. It is difficult to quantify the degree of this implicit distance taper because the number of cubic foot miles traveled by parcel post pieces on the different categories of transportation are not known. However, an aggregate measure of total transportation cost per cubic foot mile by rate category can be calculated. This calculation results in approximately $0.0055 for inter-BMC, $0.0240 for intra-BMC, and $0.0095 for DBMC.

(a) Explicit distance taper analysis beyond that described above was not conducted in the development of parcel post unit transportation costs because it would have little to no impact on the parcel post rates proposed in this

proceeding. One of the most significant differences between the analysis contained in my testimony and previous developments of parcel post transportation cost estimates is the treatment of the costs I have categorized as intermediate. By accurately treating these costs as non-distance related in certain instances, the resulting unit transportation cost estimates by zone tend to be significantly lower in higher zones and higher in the lower zones. The addition of an explicit distance taper analysis, that included lower costs per cubic foot mile in higher zones, would further decrease the unit transportation costs in higher zones and increase the unit transportation costs in lower zones. It is my understanding that the effects of the analysis contained in my testimony are significant enough that certain bounds were reached in rate design such that the full effect of the changes could not be reflected in the proposed parcel post rates (see USPS-T-27 at 5, lines 1-5). Because of constraints in rate design, it is my understanding that the additional impact of a distance taper analysis would have had little to no impact on parcel post rates proposed in this proceeding.

(b) In order to incorporate a distance taper explicitly into the development of unit transportation costs for parcel post, several issues would need to be resolved. Assume for the sake of argument that the relationship between transportation cost per cubic foot mile and distance could be calculated for each type of highway transportation based on current information. Incorporating these relationships into the development of unit transportation costs by zone still poses two significant problems. First, the distance taper

relationships by type of highway transportation would, no doubt, be based on the highway miles traveled on different types of transportation. Since information does not exist that would allow the determination of actual miles traveled by parcel post pieces in each zone, there is an inconsistency in the data. In order to incorporate the distance taper relationships, the issue of to incorporate relationships based on highway miles into zones based on GCD miles would need to be resolved. Second, data does not exist that would allow the determination of the mix of highway transportation accounts by zone. Because distance taper relationships would vary by highway transportation account, information regarding the mix of such accounts in each zone would needed.

(c) From a theoretical point of view I agree that certain types of transportation will exhibit a distance taper. Further, Dr. Bradley's testimony in Docket No. MC93-1 (check-second-class pallet discount case) provides strong evidence that a distance taper exists in certain Postal Service purchased transportation costs.

(d) Based on my response to part (b) of this question, there are three areas that would need to be investigated further to incorporate a distance taper explicitly into the development of unit transportation cost estimates: (1) the relationship between cost per cubic foot mile and distance in each transportation account where a distance taper exists, (2) resolution of how to apply relationships based on actual distance to zone distance, and (3) how to accurately distribute the effects of distance taper by transportation account to

each zone. Currently, not enough data or analysis exist to suggest a method of incorporating distance taper into the development of unit transportation cost estimates by zone.

DECLARATION

I, Philip A. Hatfield, declare under penalty of perjury that the foregoing answers are true and correct, to the best of my knowledge, information, and belief.

Philip A. Hatfield

Dated: 8/11/97

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon all participants of record in this proceeding in accordance with section 12 of the Rules of Practice.

Anne B. Reynolds

475 L'Enfant Plaza West, S.W.
Washington, D.C. 20260–1137
August 11, 1997