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 BRADLEY TO INTERROGATORIES OF THE OFFICE OF THE CONSUMER ADVOCATE (OCA/USPS-T13-1, 3 through 22, 23(a) and (c)-(d), 24-28, 29(b), 30 through 36, 37(a), (b)(i)-(ii) and (b)(xi)-(xv), and 38)

The United States Postal Service hereby provides responses of witness Bradley to the following interrogatories of the Office of the Consumer Advocate: OCA/USPS-T13-1, 3 through 22, 23(a) and (c)-(d), 24-28, 29(b), 30 through 36, 37(a), (b)(i)-(ii) and (b)(xi)-(xv), and 38, filed on July 16, 1997.[1] Interrogatories T-13-29(a) and (c) and 37(b)(iii)-(x) were redirected to the Postal Service. Objections were filed to interrogatories T-13-2 and 23(b) on July 28, 1997.

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

[1] By agreement of counsel for the Postal Service and counsel for the OCA, the OCA's request in OCA/USPS-3(a) that witness Bradley respond to his outstanding interrogatories from Docket No. MC97-2 (OCA/USPS-T4-11-48), will be treated as if those interrogatories were served directly on witness Bradley in this docket, and accordingly were renumbered OCA/USPS-T13-1-38.

Respectfully submitted,

UNITED STATES POSTAL SERVICE

By its attorneys:

Daniel J. Foucheaux, Jr.
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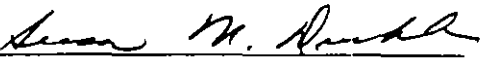

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July 30, 1997

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OCA/USPS-T-13-1. Please refer to pages 12-16 of your testimony. These pages describe the Highway Contract Support System (HCSS) and a data set created from that system, referred to as the HCSS data set. If you cannot respond, please refer these questions to a witness more knowledgeable of the HCSS.

a. Please confirm that workpaper WP-1 describes how the HCSS data set was created from the HCSS. If you do not confirm, please explain.
b. Please confirm that the HCSS itself is not documented in your workpaper WP-1. If you do not confirm, please explain.
c. Please confirm that the variables in the HCSS data set are a subset of the variables available in the full Highway Contract Support System. If you do not confirm, please explain.

OCA/USPS-T13-1 Response:

a. Confirmed.

b. Confirmed.

c. Confirmed.

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OCA/USPS-T13-2. Please provide documentation for the Highway Contract Support System. If you cannot respond, please refer this question to a witness more knowledgeable of the HCSS. This documentation should include:

a. Training manauls (sic) for the use of the Highway Contract Support System.
b. Copies of manuals for use of the system.
c. A list and description of all variables existing on the system.
d. Specifications for all computer edits or quality control checks of data input to (or generated by) the Highway Contract Support System. Include ranges for valid data for each variable included in the Highway Contract Support System and describe procedures for preventing the creation of duplicate or incomplete records.
e. Specifications for the design of the Highway Contract Support System.
f. Copies of computer specifications for the development of the Highway Contract Support System.
g. A list of all reports generated by the Highway Contract Support System.
h. Sample copies of reports generated by the Highway Contract Support System.

An objection to this interrogatory was filed on July 28, 1997.

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OCA/USPS-T13-3. Please describe all quality control checks and audits performed on Highway Contract Support System data. For example, are any procedures built into the data entry system to identify and correct unusual data entries? If you cannot respond, please refer these questions to a witness more knowledgeable of the HCSS.

a. For each of these checks or audits, please describe who performs them.
b. Would you expect that an electronic database for managing contracts would accept unusual data values? Please explain.
c. Suppose an annual contract cost of $1 were entered (or generated). Please describe the quality control checks and audits that are designed to flag such a potentially erroneous data value.

OCA/USPS-T13-3 Response:

a. I assume that you are referring to the entry of numerical data like I used in my analysis. All contract-specific data are verified on-site by a Transportation Contract Specialist. Furthermore, a printed version of the contract specifications is produced, and is reviewed and signed by the contractor.

b. Yes, if the contracts contained a wide variety of the valid data values. In the case of the Postal Service purchased highway transportation network, there is a very wide range of unusual but valid data values. In fact, I understand that the Postal Service purchased highway transportation network contains

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so many potentially unusual situations that the need for entry of unusual values is virtually a system requirement.

c. Please see my response to part a. Also please note that a value of $1 per year to pay for an annual contract is not necessarily erroneous. I have been told by Postal Service transportation experts that some such contract pay rates do exist and are valid.

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OCA/USPS-T13-4. Please refer to your response to [Docket No. MC97-2] OCA/USPS-T4-1. In this response you describe the process used to identify unusually large or small data values. In addition to that analysis, what kinds of edits or reviews did you perform to check for logically inconsistent data? For example, a data value in one field of a record may not be unusually large or small, but it could be inconsistent (or highly improbable) with respect to other fields for that record.

OCA/USPS-T13-4 Response:

My econometric analysis has three variables: the dependent variable, annual cost and the two explanatory variables, cubic foot-miles and route length. An econometric analysis attempts to identify the relationship between the dependent variable and the explanatory variables. Thus, one is concerned about observations in the data set that could possibly distort the identification of the true relationship. This distortion can only come about because of an implausible relationship, in the subject observation, between the dependent variable and the explanatory variables. In the case of the purchased highway transportation analysis, this distortion would be manifested in extremely high or low variables of cost per cubic foot-mile or cost per mile. Therefore, to check for possible distortionary observations, one should review the values of cost per cubic foot-mile and cost per mile in the HCSS data extract. I performed such a review.

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OCA/USPS-T13-5. Please confirm that the first three digits of the HCRID variable of the HCSS data set refer to a 3-digit ZIP Code. If you do not confirm, please explain how the first 3 digits of the HCRID variable are formed. If you do confirm, please state whether the ZIP Code is determined by the route's originating office or another location.

OCA/USPS-T13-5 Response:

A detailed description of the rules for assigning highway contract route numbers is provided in my testimony at Exhibit-13A, which contains Transportation Management Instruction DM-150-83-2, entitled "Highway Contracts--Assignment of Contract Route Numbers."

The first three digits of HCRID generally reflects the three-digit ZIP Code of the area in which the contract operates, but exceptions do occur. On occasion, a DNO may violate these instructions, if for example, they run out of relevant numbers.

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OCA/USPS-T13-6. Please refer to pages 1-3 of your workpaper WP-1. These pages describe the variables in the raw HCSS data set. Please confirm that the variables COST, FUEL, HDWAGE, and CPICOST in your PCR-12 SAS programs correspond to ANNUAL COST, FUEL COST, HIRED DRIVER WAGES, AND CPI COST ITEMS as described in WP-1. If you do not confirm, please provide definitions for each of the variables in your PCR-12 library reference data sets.

OCA/USPS-T13-6 Response:

Confirmed.

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OCA/USPS-T13-7. The definition of FUEL COST at page 2 of your workpaper WP-1 states, "This amount is only part of the total annual cost and this variable is not used in the analysis."

a. Please confirm that the value of FUEL cannot exceed the value of COST in the HCSS data set. If you do not confirm, please explain.

b. Did you notice that the fuel cost equaled the total annual cost in 577 of the HCSS data set observations? If so, did you make inquiries as to whether this was unusual? Please explain.

c. Please provide an explaination (sic) of why the total cost could equal the fuel cost for valid data.

OCA/USPS-T13-7 Response:

a. Confirmed.

b. I was aware that for some contract cost segments, the value for fuel cost equaled the annual cost. Because this is not useful information and does not affect my analysis, I did not count the number of times that it occurred.

c. The Postal Service pays the total cost specified in the contract, but it is up to the contractor to decide how to allocate the total cost across the various types of costs that comprise the cost statement. This allocation has no bearing on the amount of payment. Thus, the allocation of costs to various fields like fuel cost or hired driver wages is arbitrary and cannot be used in

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an analysis of purchased highway contract costs. This is why, as I stated, I did not use the variable in my analysis.

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OCA/USPS-T13-8. The definition of HIRED DRIVER WAGES at page 2 of your workpaper WP-1 states, "This amount is only part of the total annual cost and this variable is not used in the analysis."

a. Please confirm that the value of HDWAGE cannot exceed the value of COST in the HCSS data set. If you do not confirm, please explain.

b. Did you notice that the hired driver wages equaled the total annual cost in 80 of the HCSS data set observations? If so, did you make inquiries as to whether this was unusual? Please explain.

c. Please provide an explaination of why the total cost could equal the hired driver wages for valid data.

d. If the hired driver cost equals the total annual cost, then the fuel cost is zero. Please explain how fuel is provided if there is no cost.

OCA/USPS-T13-8 Response:

a. Confirmed.

b. I was aware that for some contract cost segments, the value for hired driver wages equaled the annual cost. Because this is not useful information and does not affect my analysis, I did not count the number of times that it occurred.

c. The Postal Service pays the total cost specified in the contract, but it is up to the contractor to decide how to allocate the total cost across the various

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types of costs that comprise the cost statement. This allocation has no bearing on the amount of payment. Thus, the allocation of costs to various fields like fuel cost or hired driver wages is arbitrary and cannot be used in an analysis of purchased highway contract costs. This is why, as I stated, I did not use the variable in my analysis.

d. Your assumption is that the arbitrary allocation of all costs to the hired driver wages category causes the true cost of fuel to equal zero. That assumption is not correct.

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OCA/USPS-T13-9. The definition of CPI COST ITEMS at page 2 of your workpaper WP-1 states, "This amount is only part of the total annual cost and this variable is not used in the analysis."

a. Please confirm that the value of CPICOST cannot exceed the value of COST in the HCSS data set. If you do not confirm, please explain.

b. Did you notice that the CPI cost items equaled the total annual cost in 78 of the HCSS data set observations? If so, did you make inquiries as to whether this was unusual? Please explain.

c. Please provide an explaination of why the total cost could equal the CPI cost items for valid data.

d. If the CPI cost items equals the total annual cost, then the fuel cost and hired driver wages are zero. Please explain how fuel is provided if there is no cost. Under what circumstances would a contract have neither fuel costs nor driver wages? Please explain.

OCA/USPS-T13-9 Response:

a. Confirmed.

b. I was aware that for some contract cost segments, the value for items covered by the CPI adjustment equaled annual cost. Because this is not useful information and does not affect my analysis, I did not count the number of times that it occurred.

c. The Postal Service negotiates with each contractor as to what cost items will be covered by the CPI cost adjustment. In any particular case, it could be

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all of the costs on the contract or it could be none of the costs on the contract. The amount of cost covered by the CPI adjustment varies on a case-by-case basis.

d. Your assumption is that if the costs covered by the CPI adjustment equals the total cost of the contract, then the actual fuel costs and the actual hired driver wages are zero. That assumption is not correct on two grounds. First, as stated in my response to OCA/USPS-T13-7 and OCA/USPS-T13-8, the allocation of costs to these various categories is arbitrary. Second, the CPI cost item just lists those costs covered by the CPI adjustment. It is not an amount of cost and would include things like fuel and hired driver wages. Adding the costs covered by the CPI adjustment to other cost categories would amount to double counting in many cases.

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OCA/USPS-T13-10. Please consider the relationship between the variables COST, FUEL, HDWAGE, and CPICOST in the HCSS data set.

a. Other than FUEL, HDWAGE, and CPICOST, are there other costs which must be added to produce the total annual cost, COST? If so, please explain.

b. Please confirm that according to the definitions at page 2 of your workpaper WP1, the following relationship should hold for valid data: COST≥FUEL+HDWAGE+CPICOST.

c. Suppose that an observation had values for these variables so that COST<FUEL+HDWAGE+CPICOST. Please confirm that these data values are not logically consistent with one another. If you do not confirm, please explain.

d. If COST<FUEL+HDWAGE+CPICOST for an observation, would that observation be considered unusual? Please explain.

e. Did you notice that COST<FUEL+HDWAGE+CPICOST for 536 of the HCSS data set observations? If so, did you make inquiries as to whether this was unusual? Please explain.

f. Please provide an explaination of why the total cost could be less than the sum of the fuel cost, the hired driver wages, and the CPI cost items for valid data.

g. Please confirm that a data entry error for any one of the variables (COST, FUEL, HDWAGE, or CPICOST) could result in an illogical relationship, such as COST<FUEL+HDWAGE+CPICOST.

OCA/USPS-T13-10 Response:

a. No costs are "added together" to produce total annual cost. The total annual cost is specified in the contract and the contractor can arbitrarily assign those

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costs to the cost categories. In addition, the CPI cost item is not a category of cost but an articulation of the amount of cost covered by the CPI adjustment. This amount could be as much as all of the costs on the contract. Obviously it is a mistake to add this listing of costs covered by the CPI adjustment to other categories of cost.

b. Not confirmed.

c. Not confirmed. As explained above, adding the CPI cost items to other categories of cost amounts to double counting and could easily generate a value which is greater than the total annual cost of the contract. That number is not meaningful, however.

d. No. Please see my answer to part c. above.

e. Because the summation of costs that you propose is meaningless, I did not make the calculation. I thus did not look for the conditions posed in this question.

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f. Please see my answer to part c. above.

g. Data entry errors could occur for any of the variables, but the condition you propose will occur with correctly entered data. It is thus not a useful way to look for data entry errors.

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OCA/USPS-T13-11. Please refer to Table 2 of your response to OCA/USPS-T4-1. In this table, the contract with HCRID 99730 is designated as unusual because its route length is 501.0 mile.

a. Are there SCFs that cover a large enough geographic area to allow route lengths of 501 miles? For example, could an SCF in Alaska contain a 501 mile route lengh (sic) contract?
b. Could this observation have been mistakenly entered as intra-SCF instead of, for example, inter-BMC? Please explain.

OCA/USPS-T13-11 Response:

a. Because highway routes are not necessarily straight line routes, it would seem like there would be many SCF areas that could contain a 501 mile route.

b. It is possible, but given that the contract specifies an 800 cubic foot truck, it seems unlikely.

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OCA/USPS-T13-12. Please refer to the HCSS data set contained in library reference PCR-12.

a. In the creation of the HCSS data set, did you check for records identical or almost identical? If so, what were the results and how was this accomplished. If not, why not?

b. Please confirm that there are 3 identical records in the HCSS data set with HCRID 77341. If you do not confirm, please explain. If you confirm, please explain how these duplicate records are handled in your analysis. Is it unusual to have duplicate records in this data set? Please explain.

c. Please confirm that cost segments A and B of HCRID 12507 have identical records on the HCSS data set (except for cost segment values). If you do not confirm, please explain. If you do confirm, please explain how this duplicate data is handled in your analysis. Is it unusual to find records that are identical except for one value in this data set? Please explain.

d. Please refer to Table 1 of your testimony. This table suggests that data values for annual cost, truck size, number of trucks, and annual miles should be different for distinct cost segments in one HCRID. Please clarify whether different data values for distinct cost segments is the usual case.

OCA/USPS-T13-12 Response:

a. Yes, for example, as discussed on page 16 of my testimony, if there are multiple truck sizes on a contract cost segment, my HCSS extract data set will have virtually identical records. Identical records are eliminated in the computer programs. See, for example, the program TRANSEQ.INTERBMC.FIN.CNTL. At lines 76 to 79, identical observations

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would be eliminated by the use of PROC MEANS.

b. Confirmed. The duplicate records are eliminated through the application of PROC MEANS in the computer programs. I believe that it is unusual to have duplicate records in this data set because of the small number of observations eliminated at this stage of the program.

c. Confirmed. Contract 53135 is a Plant Load Trip contract. If two identical trips were scheduled at two different times of the year, two identical contract/cost segments could be generated. I would note that this contract also has three contract/cost segments that are similar, but different. In my analysis, each of the 5 cost segments reflects a separate transaction between the contractor and the Postal Service, and each would be included in my data set. Because of the relatively small frequency of multiple cost segment contracts, I would think that this type of phenomenon occurs with relatively low frequency.

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d. *In footnote 9 on page 15 (two lines before Table 1) I state:*

> Route part / cost segments can also arise if there is more than one payment type on a contract. For example, there could be an annual pay route part/ cost segment and a per-trip pay route part / cost segment on a single contract.

If the rate for the per-trip segment was essentially the same as for the annual pay segment, the two could generate very similar, if not identical, records. Table 1 was demonstrates the other occurrence of multiple cost segments in which the two cost segments were heterogenous. As I state starting at line 16 on page 15:

> The additional detail is useful because it permits breaking a relatively heterogenous contract into two relatively homogenous cost segments. The cost of each route part / cost segment (and thus type of transportation) is associated with just the cubic foot miles on that route part / cost segment. I can thus treat each cost segment as if it were a separate contract. This disaggregation provides information that is a degree finer than the contract level. The finer detail allows for the possibility that discrete types of transportation can be specified and paid for separately within a single contract.

As the quotation indicates, the disaggregation is useful because it *permits* breaking up a heterogenous contract into its homogenous parts. It does not *require* that the contract be heterogeneous.

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OCA/USPS-T13-13. Please refer to your testimony at pages 44-47 and to your response to [Docket No. MC97-2] OCA/USPS-T4-1, page 4. You note that you deleted from your database a contract with the "unusual" route length of 501 miles, which is approximately 10 times the average route length for Intra-SCF Van contracts.

a. Did you consider deleting contracts that were shorter than average by a factor of 10 (i.e., less than five miles)? If not, why not? If you did, were any contracts deleted as a result of such consideration? If so, please list the HCRID of each such contract.

b. Did you consider deleting contracts that were shorter than average by a factor of 100 (i.e., less than 0.5 miles)? If not, why not? If you did, were any contracts deleted as a result of such consideration? If so, please list the HCRID of each such contract.

OCA/USPS-T13-13 Response:

a. As I stated on page 2 of my answer, I did not impose *a priori* numerical boundaries in looking for unusual observations or outliers. In this case, I relied upon visual inspection of the data, therefore, I did not use the factor of ten that you suggest. In other circumstances, when visual inspection is not feasible, the use of numerical boundaries may be appropriate.

b. As I stated on page 2 of my answer, I did not impose *a priori* numerical boundaries in looking for unusual observations or outliers. In this case, I relied upon visual inspection of the data, therefore, I did not use the factor of one

hundred that you suggest. In other circumstances, when visual inspection is not feasible, the use of numerical boundaries may be appropriate.

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OCA/USPS-T13-14. Please refer to pages 131-34 of your workpaper WP-7. These pages contain a listing of "unusual" contracts deleted from your analysis.

a. The fourth column of data in this listing is labeled "CAT." This column contains numerical values between one and seven, inclusive. Please state the purpose of "CAT" and indicate the meaning of each possible value appearing in this column.

b. Observation 10 on page 131 has HCRID of 92640 and AVECUBE of 13500. Please confirm that the value 13500 is erroneous. (The largest vehicle cube shown on page 7 of WP-1 is 3000.) If you do not confirm, please explain.

c. As part of your search for "unusual" contracts, did you sort on the field "AVECUBE" and examine very small and very large values of this variable? If not, why not? If you did, were any contracts deleted as a result of such consideration? If so, please list the HCRID of each such contract.

d. Observation 11 on page 131 has HCRID of 12801, VEHGRP of 1, and AVECUBE of 8100. Please confirm that the value 8100 is erroneous. (The largest vehicle cube shown on page 7 of WP-1 is 3000.) If you do not confirm, please explain.

e. Observation 140 on page 133 has HCRID of 25013, VEHGRP of 10, and AVECUBE of 5164. Please confirm that the value 5164 is erroneous. (The largest vehicle cube shown on page 7 of WP-1 is 3000.) If you do not confirm, please explain.

f. As part of your search for "unusual" contracts, did you sort on the fields "VEHGRP" and "AVECUBE" and examine values of AVECUBE that were inconsistent with VEHGRP? If not, why not? If you did, were any contracts deleted as a result of such consideration? If so, please list the HCRID of each such contract.

g. The smallest vehicle cube shown on page 6 of WP-1 is 40. Please confirm that any value for AVECUBE less than 40 is erroneous. If you do not confirm, please explain.

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OCA/USPS-T13-14 Response:

a. The variable CAT identifies the unusual observations. If the value is greater than zero, the observation is unusual and deleted. See line 30 that states:

IF CAT GT 0 THEN DELETE.

The term "GT" means "greater than" in SAS language. All of the observations in the data listed on pages 131 through 134 should have a value for CAT greater than zero (they do.)

b. Not confirmed. The values of vehicle cubic capacity listed on page 7 of workpaper one is illustrative only. I do think that the average cube is unusual and possibly erroneous.

c. The purpose of my data inspection is to identify any observations that could distort the estimation of the true econometric relationship. To that end, I examined the variables included in the regression, annual cost, annual cubic foot-miles and route length the relationship among them (cost per cubic foot-mile and cost per mile). To the extent additional variables like the average capacity provided information on a variable, I examined them. In this particular case, two observations stand out. HCRID 92640 has an average

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cube of 13,500 cubic feet and HCRID 12801 has an average cube of 8,100 cubic feet. Both of these HCRIDs have very low cost per cubic foot-mile and were deemed unusual and omitted on that basis.

d. Not confirmed. The values of vehicle cubic capacity listed on page 7 of Workpaper WP-1 are illustrative only. I do think that the average cube is unusual and possibly erroneous. This observation was omitted.

e. Not confirmed. The values of vehicle cubic capacity listed on page 7 of workpaper one is illustrative only. I do think that the average cube is unusual and possibly erroneous. This observation was omitted.

f. No. The numerical values for the variable VEHGRP are illustrative only and are not used in my analysis. The creation of this variable was part of an early attempt to investigate the HCSS, before I found out that the truck cube for each HCRID cost segment was available from HCSS. I included this variable in the documentation for the sake of completeness so that inquisitors could observe all of the variables requested, including those not used. The only role that the variable VEHGRP plays is to identify the Intra-

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BMC "power only" contracts. (They do not have cubic capacity specified). Because the numerical values for variable VEHGRP have no meaning for my analysis, no sorting should be done on their values.

g. Not confirmed. The value of 40 for vehicle capacity shown in Workpaper WP-1 is merely illustrative. I used the actual vehicle capacities from HCSS and did not rely on the illustrative numerical values for the variable VEHGRP.

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OCA/USPS-T13-15. Please refer to page 5 of your workpaper WP-1. Item 5 on this page appears to document the values for the route type variable on the HCSS data set.

a. Please confirm that the route type codes of 1 through 6 correspond to the possible values of the variable RTYPE on the HCSS data set. If you do not confirm, please explain.

b. Please explain the difference in meaning between codes 5 and 6. Code 5 appears to be "Combination - Transportation/Box Delivery" and code 6 is described as "Combination - Box Delivery/Transportation."

OCA/USPS-T13-15 Response:

a. Confirmed.

b. Codes 5 and 6 are both codes for "combination" routes types. Combination route types, as the title indicates, combine transportation and box delivery on a given contract cost segment. Code 5 is for combination contract cost segments that initiate their service with transportation service and Code 6 is for combination contract cost segments that initiate their service with box delivery service.

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OCA/USPS-T13-16. Please refer to item 10, pages 6-7 of your workpaper WP-1. This appears to document the relationship between vehicle type, vehicle group, and cubic feet for the vehicle.

a. Please explain how this table is used in creating the HCSS data set.

b. Please confirm that according to this table, vans in vehicle group 6 have cubic capacity of 1000 cubic feet. If you do not confirm, please explain the entry for vehicle group 6 in this table.

c. Please explain why group 12 has "No Cube" as its entry in this table.

OCA/USPS-T13-16 Response:

a. As explained in my answer to OCA/USPS-T13-14, the numerical values for this variable played no role in my analysis. The table created before I was aware that the actual cubic capacities were available from HCSS.

b. Not confirmed. The numbers in this table are merely illustrative.

c. This grouping would include "power only" contracts that do not require the contractor to provide cubic capacity. Please see page 22, line 5, for a discussion of these contracts. Footnote 13 on that page states:

> These contracts were identified with vehicle capacity that is in "Vehicle Group 12." Being in this group signifies that the capacity of the vehicle used in the contract has zero cubic feet, suggesting the possibility that only a power unit was provided.

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OCA/USPS-T13-17. Please refer to your response to [Docket No. MC97-2] OCA/USPS-T4-5(d). There you state, "The HCSS system generates the hard copy contracts, it is not a 'data entry' system in which hard copy data is entered."

a. Did the HCSS generate every value of every field in your datasets? If not, please identify the fields of your datasets that were generated by the HCSS.

b. Are some numerical data entered into the HCSS manually? If so, did any of that manually entered data find its way into your datasets? If so, please identify the fields of your datasets that were originally entered into the HCSS manually.

c. Did you generate some of the values in your datasets? If so, please identify the fields you generated and provide citations to the computer code that generates the values.

d. Please describe how the fields CSTSEG, YRMILE, BOX, COST, VEHGRP, NUMTRK, TRCUBE, NUMTRP, and RL are entered into or generated by the HCSS.

.OCA/USPS-T13-17 Response:

a. No. The cubic capacity for intra-BMC power only contracts was derived from a survey of BMCs. Please see page 22 of my testimony and Docket No. MC97-2 Library Reference PCR-13 for a discussion of the survey. The remaining input variables were generated by HCSS. For a listing, please see workpaper WP7 at page WP7-4, Section C.1., " Definitions of Input Variables.

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b. My data are taken as an output from HCSS. If data for the relevant variables were entered manually into HCSS, then those data would have "found their way" into my HCSS extract.

c. I did not generate any of the values for the data that are read into my analysis. As even a cursory review of my workpapers reveals, however, I did create new variables. The mathematical definitions and verbal descriptions for the variables that I created are contained in my workpapers. For example, please see page Workpaper 7, at page WP7-5, Section C.2., "Output Variables" where I state:

> Although there are not any output variables, this is a listing of any important intermediate variables created by the program. The mathematical definitions of all of these variable are given in the source code.
>
> CUBE - This is the sum of all truck capacities (in cubic feet) on the HCRID/cost segment.
>
> BOXRT - This is an indicator variable that identifies box routes.
>
> AVECUBE - Total truck Capcity (in cubic feet) divided by the number of trucks.

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CFM	-	Cubic foot-miles. This is the product of average cubic capacity and annual miles.
CSTCFM	-	Cost per cubic foot-mile.
A1 - A12	-	Indicator variables, each identifying the area from which the HCRID/cost segment comes.

d. For a description of how these variables were generated for my analysis data set please see Workpaper 1 where the variables are defined in verbal terms and the computer code that generated them is presented.

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OCA/USPS-T13-18. Please refer to page 12, line 9 of your testimony. You state, "HCSS is a tool that is useful in managing contracts."

a. Is the HCSS used in any way relating to disbursement of payments to contractors?

b. Does the HCSS have built-in edit checks that flag inconsistent or implausible data with respect to specific contract segments?

c. If so, can these edit checks be ignored or over-ridden by users of the HCSS?

d. If a contract is amended, corrected, or otherwise modified, do old versions of the contract remain in the HCSS?

e. If a contract is amended, corrected, or otherwise modified, is it ever given a new HCRID?

f. How is it that duplicate, or almost duplicate, records exist in your datasets?

OCA/USPS-T3-18 Response:

a. No. The HCSS does not determine the actual payments.

b. Because of the variety of actual contract specifications, the HCSS designers determined that it was not feasible to build in these "inconsistency" checks. For example, there is a valid contract in which the contractor, for his or her own reasons, provides the service for $1 a year. As long as the service is reliable, the Postal Service benefits from, and should take advantage of,

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these unusual circumstances.

c. Not applicable.

d. Yes.

e. Rarely. The only circumstance that I could find in which an amended contract will be give an new HCRID is when the contract specialist changes the "headout" or starting point of the transportation specified on the contract. In this case, the HCRID could change.

f. A duplication would occur if a contract specialist fails to terminate an old contract when the new contract is activated. Although the two services would not overlap in reality, it is possible for both to be contained in the database. Although each was a valid observation in its own time, they should not overlap.

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OCA/USPS-T13-19. Please refer to the observations for HCRID 179GR, CSTSEG A and B, in the HCSS data set of PCR-12.

a. Please confirm that these two records have identical data for all variables except for NUMTRK (10 for CSTSEG A and 1 for CSTSEG B). If you do not confirm, please explain.

b. Please explain why CSTSEG A has a NUMTRK value ten times as large as that of CSTSEG B, yet the cost variables for both records are identical.

c. Please confirm that the variable CUBE in your WP-7 SAS programs would be ten times larger for CSTSEG A than for CSTSEG B for this HCRID. If you do not confirm, please explain.

OCA/USPS-T13-19 Response:

a. Almost confirmed. As your question indicates, the two records have different values for the variable "Cost Segment". Other than that, they are identical.

b.& c. Confirmed, but I would note that the cubic foot-miles variable, that I use in my analysis, will *not* be 10 times as large for Cost Segment B. The variable "CUBE" is not used in constructing cubic foot-miles. The variable AVECUBE is multiplied by annual miles to construct cubic foot-miles. AVECUBE is calculated by dividing CUBE by the number of trucks. Because HCRID 179GR Cost Segment B has values for both CUBE and numbers of trucks which are 10 times as large as those for Cost Segment A, the AVECUBE variable will be identical. Thus the calculated cubic foot-miles, like the costs, will be the same size for both cost segments.

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OCA/USPS-T13-20. Please refer to the HCSS data set of PCR-12. Except for the value of HCRID, all data for the following pairs of HCRIDs are identical: (25838, 25839) and (60223, 68023).

a. Please confirm that only one of the HCRID values in each pair is correct, and the other represents erroneous data. If you do not confirm, please comment on the probability that all data fields would exactly match for two separate contracts.

b. Did you review the contracts for each of these HCRIDs to determine whether they could be duplicates, with an incorrect HCRID? If so, what were the results? If not, why not?

OCA/USPS-T13-20 Response:

a. It is not that the data contained in the contract specification are erroneous, but that they are duplicative. In the instance of the first two HCRIDs (25838 and 25839) a new contractor may have replaced an old one. The contract specifications remained the same, but the HCRID was changed. Apparently the old contract was not eliminated from the HCSS when the new one was activated, and an overlap occurred. In the instance of the last two HCRIDs, the contract was switched from one administrative area to another and was not eliminated from the HCSS database at the original administrative area.

b. I did not review the contracts for each of these HCRIDs. I was not aware of

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the near duplication of the HCRIDs until you brought it to my attention. The results of my subsequent investigation into the matter is described in my answer to part a. above.

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OCA/USPS-T13-21. Please refer to your Response to [Docket No. MC97-2] OCA/USPS-T4-4, dated April 8, 1997. You state that "HCSS is a transportation contract management system in which each of the hardcopy contracts was replaced by an electronic representation." What is your understanding of how difficult or easy it is to retrieve and look at actual contractual provisions? For example, can one use a computer on-line with the HCSS system to call up a specific contract and view or print the actual contract provisions?

OCA/USPS-T13-21 Response:

It is my understanding that one could go to a DNO, sit down at a computer with an HCSS specialist and call up the current technical specifications (annual miles, cost, etc.) of a particular contract cost segment. It is also my understanding that it is more difficult to print a contract because of the necessity of replicating all of the language included in the contract.

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OCA/USPS-T13-22. *In response to part (b) of your response to interrogatory* [Docket No. MC97-2] OCA/USPS-T4-4, you replied in part that "HCSS is an actively used management data system that exists only in electronic form . . . ." Please *now refer to the Objection of the United States Postal Service to Office of the* Consumer Advocate Interrogatory OCA/USPS-T4-2 to Witness Bradley, filed March 17, 1997 ("Objection"). There it is stated:

> *Moreover, producing the hard copy contracts would be unduly* burdensome. As should be clear from his testimony, witness Bradley had no need for, and thus does not have, the hard copy contracts. *The Postal Service does not have all of the contracts in a central* repository. The hard copy contracts for their respective areas are kept by each of the twelve Distribution Network Offices ("DNO's") and *branches. In fact, since these were contracts in force in* FY 1995, some of the DNO's may even have archived some of the pertinent contracts.

Please explain the apparent contradiction as to whether or not hard copy contracts actually exist.

OCA/USPS-T13-22 Response:

I apologize for any confusion I have created over the existence of the hard copy contracts. I apparently wasn't as clear as I might have been. I will try now to clearly explain my understanding of how HCSS works, which I think will resolve the apparent contradiction.

HCSS is indeed an electronic system. It is used in the management and production of contracts. It is not a "database" in the sense that data from hardcopy contracts are continually being entered into HCSS to update it. Just the opposite. HCSS is

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used to generate the hardcopy contracts. Suppose a new contract is being let. The specifications will be manually entered into the HCSS and the set of contract provisions will be established. This provisional contract will then be put out to bid. Once a winner is found, the HCSS will be used to generate the hard copy contract. That contract is then signed and archived. These hardcopies are not kept centrally or even on site at some or all of the DNOs.

Of course, the HCSS had to be initialized when it was set up. This initialization is where the keypunching of the data that had been in the hardcopy contracts took place. The data were entered primarily by transportation specialists and were checked against the hardcopy contracts by Postal Service supervisors. In addition, the initialization process at each of the 12 DNOs was reviewed and verified by a team of HCSS programming and transportation experts. Finally, a copy of the output from each contract was sent to the relevant contractor for approval. For each initialized contract, each contractor signed that data for their contract(s), as they exist in HCSS, are correct. Thus, the data that exist in HCSS are, by definition, "correct," and all future contract actions work off the data as they were entered in HCSS. The HCSS data thus constitute the hard copy data. For all subsequent contracts and contract actions, the hardcopy contracts are generated from HCSS.

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It is also my understanding that although a computer program can extract the required information in electronic form from HCSS with relative ease, locating and retrieving the hard copy contracts is a difficult and time consuming process.

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OCA/USPS-T13-23. Please refer to the portion of the Objection, supra, where it is stated: "As should be clear from his testimony, witness Bradley had no need for, and thus does not have, the hard copy contracts." However, in response to [Docket No. MC97-2] OCA/USPS-T4-5(b), in which OCA had asked whether you had ever requested to look at the contracts in their hard copy form, you stated:

> Yes, I provided contractors for the Postal Service with a list of the unusual HCRIDs and area offices (DNOs) in which they reside. I then requested that they attempt to either obtain the hardcopy contracts or explanations for the observations. It is my understanding that an administrative mixup resulted in the information not being obtained.

a. Please explain the apparent contradiction as to whether you "had no need" to see the hard copies of the contracts.

b. Did attorneys for the Postal Service interview you for purposes of filing the Objection?

c. Please describe in full what you understand the "administrative mixup" to have been.

d. Once the "administrative mixup" had been explained to you, was it not possible to pursue the matter further, by straightening out whatever "administrative mixup" had occurred.

OCA/USPS-T13-23 Response:

a. In fact, my entire response is given by:

> Yes. I provided contractors for the Postal Service with a list of the unusual HCRIDs and area offices (DNOs) in which they reside. I then requested that they attempt to either obtain the hardcopy contracts or explanations for the observations. It is my understanding that an administrative mixup resulted in the information not

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> being obtained. Because of the extremely small number of such observations (30 out of 4,000), because I made explicit the effect of these observations and thus brought them to the attention of all participants, and because I am not relying upon them in my recommended variabilities, I did not delay filing my testimony in the absence of a response.

My interpretation of the quotation is that I was able to complete my analysis and file my testimony without reviewing the hard copy contracts. It is in that sense that I had "no need" for the hardcopy contracts. Moreover, because: (1) I presented a complete list of the observations eliminated, (2) I estimated and presented variabilities with unusual observation included, (3) I estimated and presented variabiliities with the observations excluded, and (4) there are very small number of observations at issue, I believe that the Commission can evaluate my results without seeing the hardcopy contracts.

b. Objection filed on July 28, 1997.

c. To the best of my knowledge, there was a communications problem between Postal Service contractors and Postal Service headquarters staff about the production and dissemination of a letter requesting the desired information.

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d. I was not aware of the mixup until I after I received your interrogatory. I interpreted the lack of response from the DNO's as an indication of the difficulty they had in tracking down hard copy contracts. Once I found out about the mixup, I did encourage pursuing the matter further. The responses the Postal Service received are in Library Reference H-181.

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OCA/USPS-T13-24.You also state that "HCSS is a 'live' data set in the sense that contract information is regularly updated. It is therefore necessary to take a cross section at a single point in time. Review of the same HCRID, at a later point in time, generally will not provide the same information, if the contract has been changed."

a. Does this mean that retrieving both the numerical data from the contracts and the verbal contractual provisions in the corresponding contracts from the HCSS or any other source cannot be replicated?

b. If this information database cannot be replicated, please comment on the observation that it is a fundamental tenet of econometric (and scientific) analysis that data, findings and conditions upon which conclusions are based (here, the original database) must be able to be replicated.

OCA/USPS-T13-24 Response:

a. I am not familiar with the verbal contract provisions. (I did not receive them in Docket No R87-1 when I constructed an electronic data set from hardcopies. Even then the "hardcopy contracts" were just those pages that listed the technical specifications of the contract.)

Unlike most data sets, it may be possible to replicate the extract that was created from HCSS. HCSS apparently keeps an electronic history of each contract and it is theoretically possible to reconstruct the contract as it stood at the time the extract was created.

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In contrast, I think it would be even more difficult, if not impossible, to replicate the purchased highway contract data that I and the Commission used in Docket No. R87-1, and that served as the basis for the estimated variables used since that time.

b. I think that you are confusing replication of econometric results with replication of data. Most econometric data are from one-time events like surveys of household income, collection of firm-specific data on output and costs, or macroeconomic conditions. Because the conditions that generate these data will never and can never be repeated, the data they generate cannot be replicated. The key issue is whether the econometric results can be replicated from that data.

The replication programs in econometrics that I am familiar with, and have participated in, require researchers to submit their data, to see if others can replicate the results alleged generated by those data. These programs do not require replication of the data.

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OCA/USPS-T13-25. In response to [Docket No. MC97-2] OCA/USPS-T4-4(d) you stated, in part:

> Before the data were converted to spreadsheet form, I uploaded them to the Postal Service mainframe computer. There, I performed certain manipulations, like calculation of descriptive statistics. I then downloaded the data from the Postal Service mainframe computer, read it into a spreadsheet program, and parsed it. After parsing the data, I checked the means of each variable against the means of the same variables calculated on the mainframe. Observing that the number of observations and the means were identical, I concluded that the data were identical.

Confirm that this exercise would not have uncovered data input errors into the HCSS by personnel at the twelve DNOs (where, we presume, contractual data originally was entered). If not confirmed, please explain.

OCA/USPS-T13-25 Response:

Confirmed. However, I would note that other procedures, such as having each contractor review and verify to the HCSS data for his or her contract, are used by the Postal Service to uncover data errors.

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OCA/USPS-T13-26. Please refer to your response to OCA/USPS-T4-5. You stated that you "discussed the existence and general nature of these unusual observations with postal personnel and contractors."

a. Please describe your full recollections of these discussions.

b. Did Postal Service employees or contractors ever state or hypothesize that any of the unusual observations could be accounted for by contracts that were inappropriately entered into? If so, describe fully.

OCA/USPS-T13-26 Response:

a. I recall bringing the existence of these observations to the attention of Postal Service employees or contractors and suggesting that the be excluded from the data on which the recommended variabilities were estimated. I also recall discussing an effort to obtain either the contracts for these observations or an explanation of the observations themselves.

b. No.

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OCA/USPS-T13-27. In your response to [Docket No. MC97-2] OCA/USPS-T4-5, you stated that "[i]n my judgement, whether the unusual observations are the result of data entry errors or simply cover an atypical situation is irrelevant for the econometric exercise."

a. Is it your position, then, that data may be excluded from a set for no other reason than that the data is "atypical, i.e., much higher or lower than comparative data?" If it is, please provide citations to the economics literature supporting such a position.

b. You also state that "given the fact that much more data are available now than in the past, 'correcting' these observations, even if possible, is not necessary."
(I) Given your understanding of the HCSS system, is "correcting" these observations possible, e.g., by looking at the underlying hard copy contracts?
(ii) Please explain why correcting these observations is not necessary when Table 15 of your Direct Testimony ("Effects of Eliminating a Small Number of Unusual Observations") shows variability changes as high as 10.47%.

OCA/USPS-T13-27 Response:

a. The quotation that is in your question does not appear in my answer. My actual statement is:

> Because of the extremely small number of such observations (30 out of 4,000) and because I am not relying upon them in my recommended variabilities, I felt that it was not critical to pursue the matter further. In my judgement, whether the unusual observations are the result of data entry errors or simply cover an atypical situation is irrelevant for the econometric exercise.

I did not equate an atypical observation with being "much higher or lower

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than comparative data." Rather, my recommendation was that in the case that the data were atypical or erroneous, it is appropriate to remove them from the econometric exercise. The fact that an observation came from an atypical situation will distort the true relationship being investigated. This is not to say that data that are in extreme ranges are not valuable. Rather. it is trying to be sure that all of the data used in the estimation are from the *same structural econometric relationship. For example, researchers often* omit the "war years" from historical econometric analyses because the structure of the economy was distorted during the period of World War II. If the data are not generated by the same data generating process, or if the data are erroneously constructed, they should be excluded from the analysis.

Finally, please recall that while I did estimate econometric regressions excluding these observations, I did not exclude these observations from the data set. That is, I presented econometric results both with the observations included and with the observations excluded.

b.i. I believe it may be possible. To the extent that a historical record exists, then the current observations can be checked against that historical record.

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However, it is my understanding that hardcopy contracts are printed from the HCSS and this limits the usefulness of hardcopies in "checking" the values contained in HCSS.

b.ii. The reason that the variabilities change when the observations are omitted is because those observations are dramatically different from the rest of the observations in terms of their relationship between cost and cubic foot-miles. If these observations were corrected so that they were like all of the other observations, then they would no longer exert an influence on the regression and the current results (with the observations omitted) would be maintained.

By way of analogy, suppose we were trying to determine the color of marbles in an urn. Consider an earn full of 100 marbles, of which 95 are red and 5 are white. If one removes the 5 white marbles, then the urn is filled with just red marbles. If one "corrects" the 5 white marbles by painting them red and returns them to the urn, once again the urn is filled with just red marbles.

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OCA/USPS-T13-28.Please refer to your response to [Docket No. MC97-2] OCA/USPS-T4-5 in which OCA asked whether or not the data sets with which you worked could have been infected with data entry errors. You replied that the HCSS system "is not a 'data entry' system in which hard copy data is entered." You further replied that you "attempted to minimize keypunch errors by using a computer program to extract the data from each HCSS site rather than keypunching it."

a. One of our concerns is the possibility of data entry errors by the personnel who originally entered the data into the HCSS system, presumably at the twelve DNOs. Please explain how contract data gets into the system in the first place.

b. Please explain how employees who first enter the data into the system are monitored in terms of quality control. If you do not personally know the answer to this, as with all other interrogatories, please refer it to another person for response.

c. Please respond again to OCA/USPS-T4-7, with respect to the initial input of contractual information into the HCSS system, presumably at the twelve DNOs.

OCA/USPS-T13-28 Response:

a. Please see my response to OCA/USPS-T13-22.

b. As HCSS existed at the time I took my extract, the "data" were entered as the contract is constructed. That is, the transportation specialists use HCSS to specify and build the contract. The specifications are checked by the transportation specialist, the contractor, and by an administrative official

responsible for making payments on the contract.

When HCSS was initialized, the data entry was reviewed by Postal Service transportation specialists, Postal Service supervisors and the contractor, who signed a contract amendment agreeing to its accuracy.

c. The initialization of the data occurred before I was involved with obtaining an HCSS extract. Therefore, it was impossible for me to have contact with the individuals who entered the data. After the initialization, the HCSS data existed in electronic form and no further data entry was required to produce the data sets that I analyzed.

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OCA/USPS-T13-29. Please refer to your response to [Docket No. MC97-2] OCA/USPS-T4-9, including the standard Postal Service forms that were attached.

a. The first page of the attachment is entitled "Transportation Services Bid or Proposal & Contract for Regular Service." Is this the basic contract document from which information is extracted to be put into the HCSS system? If not, what is its purpose?

d. Refer to the block with the heading "2. Rate of Compensation, Bid or Proposal" on that same first page. Inside the block appears the following: "WRITTEN DOLLAR AMOUNT (Bid or proposal must be submitted on a single annual rate basis unless the solicitation specifically calls for bids/proposals at a per mile, per trip, or other unit rate.)" Is it possible that some of the "unusual observations" noted in your analysis may have occurred because of confusion as to what type of solicitation was called for, e.g., a contract recorded as having an "annual cost" of $1 in reality reflected a contract for $1 per mile?

c. Refer to the page entitled "Highway or Domestic Water Transportation Contract Information and Instructions" which follows the page entitled "Amendment No. 3." In Part (A)(2) of the instructions, reference is made to contract solicitations for "advertised contracts" and "negotiated contracts." Please explain the differences between the two types of contracts, and what discretion the Postal Service has to employ one kind of contract over another. Please also supply documents containing guidelines or regulations that explain the differences and the scope of Postal Service discretion.

OCA/USPS-T13-29 Response:

a. Redirected to the Postal Service.

b. It is possible, but unusual values for compensation do exist for valid contracts. For example, I have been told about a valid contract that is in

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place for annual service at the rate of $1 per year. I am also told that there is no requirement that the contractor make a profit. It is thus quite possible that these unusual values are valid but just atypical.

c. Redirected to the Postal Service.

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OCA/USPS-T13-30. Please refer to page 76 of your workpaper WP-7.

a. Please confirm that at lines 61-67, you are assigning values to the TRCUBE variable. If you do not confirm, please explain.

b. Please explain how the values for individual vehicle cubic capacity can be determined and assigned by your SAS program, yet these values do not appear in the HCSS data set.

OCA/USPS-T13-30 Response:

a. Partially confirmed. Lines 61-67 are assigning values for just the intra-BMC "power only" contracts.

b. As explained on page 22 of my testimony, the cubic capacity values for intra-BMC power only contracts were derived from a special survey. In fact, the values for the capacities listed on lines 61-67 are presented in my testimony on page 23 in Table 4 under the title "Average-Size Trailers in Leased Trailer Fleets."

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OCA/USPS-T13-31. Please refer to page 6 of your workpaper WP-1. The programming specifications for vehicle cubic capacity states:

> Determine which Vehicle Group by selecting the VC_CODE from the Vehicle_Characteristic_T table to determine which Vehicle Group that vehicle belongs. Also, specify how many cubes for the vehicles for that same VC_CODE exists for that route.

a. Please amplify or clarify the above instructions.

b. Were you involved in the creation of the HCSS data set or the preparation of the computer specifications? If so, when did you become involved in the preparation of the HCSS data set?

c. Did you examine values of the variable TRCUBE as part of your process of identifying unusual observations? If so, please explain the results of your analysis of that variable.

d. Please confirm that workpaper WP-1, page 6, indicates permissible values for vehicle cubic capacity of 40, 50, and 90 for group 1 vehicles. If you do not confirm, please explain what the values 40, 50, and 90 represent. Please list all permissible values fro TRCUBE for group 1 vehicles and explain how you arrived at those values.

e. Please explain how the HCSS data set can contain values for group 1 vehicles for TRCUBE as large as 136 (HCRID 12976) or as small as 25 (HCRID 31537). Are these observations unusual since the TRCUBE values are outside of the range of values given in your WP-1 for vehicle group 1? Please explain.

f. Please confirm that the largest vehicle cubic capacity listed in the table at pages 6-7 of WP-1 is 3000 for 48-foot tandem axle trailers. If you do not confirm, please provide the correct figures and explain what the 3000 figure represents.

g. Among the "usual" observations in your data set, there are nine HCRIDs (12048, 32712, 35021, 50019, 755AA, 91716, 92032, 92333, and 92354) with TRCUBE values exceeding 5000. Please explain why these should not

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be classified as unusual observations.

h. Please refer to the observation for HCRID 12048, CSTSEG A. This contract is for a group 1 (passenger car, four wheel drive, boat, or station wagon) vehicle with a TRCUBE value of 5400. Please confirm that this is an erroneous value for vehicle capacity. If you do not confirm, please explain any special characteristics of this vehicle. If you do confirm, please explain why it is not considered unusual.

I. Please refer to the observation for HCRID 755AA, CSTSEG A. This contract is for a group 6 (van, with WP-1 cube listed at 800) vehicle with a TRCUBE value of 9000. Please confirm that this is an erroneous value for vehicle capacity. If you do not confirm, please explain any special characteristics of this vehicle. If you do confirm, please explain why it is not considered unusual.

OCA/USPS-T13-31 Response:

a. Select the vehicle group for a given contract cost segment. Obtain the cubic capacity of the vehicle(s) on a given contract cost segment. The computer code identifies the actual cubic capacity of the vehicles on the contract cost segment. In the case of the automobile group and the pickup/minivan group there are multiple truck sizes (over a small range). For these instances, the average-size vehicle for the vehicles actually on the contract is used.

b. I was involved in specifying the variables that would be extracted from HCSS. I was not involved in writing any computer code that does the

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extraction. I was involved with constructing the HCSS extract from the beginning of the process.

c. No. My investigation took place at the analysis data set stage. TRCUBE is not an active variable at that stage. Morever, the econometric relationship depends upon the relationship between cost, cubic foot-miles and route length. TRCUBE only matters to the extent it influences cubic foot-miles.

d. Not confirmed. These values are illustrative. There is no limit on the permissible values.

e. The HCSS data set contains the actual recorded cubic capacity of a vehicle regardless of what group it is in. These values are not outside the range of values for group 1 because there is no limit on the range. The values in WP-1 are illustrative only.

f. Not confirmed. This value is illustrative only.

g. There are two types of HCRIDs listed. The first type includes HCRIDs 12048,

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35021, 50019, 91716, 92032, 92333, and 92354. These contract cost segments include vehicle capacities of 5,400 or 6,000. There is nothing unusual, per se, about these capacities, as these values could be associated with tandem trailers. The other two contract cost segments, 32712 and 755AA, are more unusual and were certainly candidates for exclusion. In fact, both are on the borderline in terms of cost per cubic foot-mile within their account categories. (All of the observations with a lower cost per cubic foot-mile were eliminated.) However, in the spirit of parsimonious exclusion, these contract cost segments were left in the analysis, in part because their cost per mile was in the middle of the pack.

h. Not confirmed. This capacity is associated with a tandem trailer and is thus not unusual. The vehicle grouping variable is only illustrative.

i. I cannot confirm that it is erroneous because I have not investigated this single data point. As discussed in my answer to part g., this particular cost segment is on the borderline, in terms of cost per cubic foot-mile but I chose to include it.

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OCA/USPS-T13-32. Please refer to workpaper WP-7, page 13, lines 38-65.

a. Please confirm that this code identifies box route contracts by examining values for the variables HCRID, BOX, RTYPE, and TRCUBE. If you do not confirm, please explain.

b. Please confirm that contracts with RTYPE 5 or 6 (combination - transportation/box delivery) are classified as box route contracts if they are not intra-city contracts, if BOX>0, and if TRCUBE≤300. If you do not confirm, please explain and correct this statement.

c. Please confirm that there are approximately 75 observations on the HCSS data set that have RTYPE 5 or 6, are not intra-city, have BOX>0, but have TRCUBE>300. If you do not confirm, please correct these figures.

d. Please refer to HCRID 04467, CSTSEG A. This contract has one vehicle with capacity of 330 and 241 boxes. Please explain why this should not be considered a box route contract. Please confirm that you classify this contract as an intra-SCF contract. If you do not confirm, please explain. If you do confirm, please explain whether this box route would be an "unusual" intra-SCF contract.

OCA/USPS-T13-32 Response:

a. Confirmed

b. Confirmed .

c. Of the 6,231 observations in the regular intra-SCF data set, I found 71 observations that match your criteria.

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d. The existence of combination contract cost segments that provide both transportation services and box route services creates a classification problem. Fully aware than any classification scheme is in part arbitrary and subject to second guessing, I attempted to find, from an operational perspective, the best classification rule. That rule came from Postal Service transportation experts who consider a cubic capacity of 300 cubic feet to be a good dividing line between the type of vehicle that provides transportation services and the type of vehicle that provides box route services. According to that rule, the contract cost segment that you cite would provide primarily transportation services rather than box route services, and that is how it is classified.

This contract cost segment has annual miles of 14,049 and a truck capacity of 330 cube implying an annual cubic foot-miles of 4,636,038. At an annual cost of $20,466 this implies a cost per cubic foot-mile of $0.006018 and a cost per mile of $1.9858. While both of these values are relatively high values for the intra-SCF account category, neither are extraordinary and this contract cost segment is not designated as unusual.

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OCA/USPS-T13-33. Please refer to page 5 of your workpaper WP-1. The computer specification for box count states:

> Box Count should be broken down by route part. Reference the Line of Travel screen (LAC018X1.INP) to see the select Service_Point_Trip_T table.

a. Please explain in more detail how the box count variable is constructed.

b. Did you examine values of the variable BOX as part of your process of identifying unusual observations? If so, please explain the results of your analysis.

c. Please refer to HCRID 00645, CSTSEG A. This contract record shows a value of 1882 for BOX, one vehicle of group 1 (car, four wheel drive, etc.) and a route length of 16.4. Please describe the characteristics that could allow a single vehicle to serve 1882 boxes. Could the data for this observation be erroneous, or just unusual? If it is just unusual, then please explain why this observation was not included in the list of unusual HCRID, CSTSEG pairs.

OCA/USPS-T13-33 Response:

a. The box count variable is constructed by counting the number of boxes on the route.

b. Yes, I examined the cost-per-box and the cost-per-mile for box route contracts as they are the relevant right-hand-side variables. In the instances where I found a very high or low cost per box, I looked at both the cost and

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the number of boxes for unusual values. Three contract cost segments stand out. Each has an unusually low cost-per-box and an unusually high number of boxes. Each was designated as an "unusual" observation and omitted from the final analysis data set. The three HCRIDs and their numbers of boxes are listed below:

HCRID	Number of Boxes
32057	4,435
80660	6,560
18480	8,044

c. The data for this contract cost segment appears to be neither erroneous nor unusual. There are over 70 contract cost segments that serve over 1,000 boxes. In addition, the fact that it is a relatively short route (16.4) reinforces the likelihood that it is a route that serves a dense concentration of rural cluster boxes, apartment buildings, or NCDBUs.

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OCA/USPS-T13-34. Please refer to the computer specifications for total annual mileage at page 5 of your workpaper WP-1.

a. Please confirm that this is the specification for the creation of the variable YRMILE on the HCSS data set. If you do not confirm, please explain what the specification relates to and provide a definition of the YRMILE variable on the HCSS data set.

b. Did you examine values of the variable YRMILE as part of your process of identifying unusual observations? If so, please explain the results of your analysis.

c. Please refer to the HCSS record for HCRID 27291 CSTSEG A. Please confirm that this contract has just one vehicle (NUMTRK=1) and its annual mileage is 587,134. If you do not confirm, please explain the meaning of these variable values.

d. Please confirm that one would have to average 67.025 mph, 24 hours a day, for 365 days in order to travel 587,134 miles in one year. Is this average vehicle speed usual for contract vehicles? Please explain.

e. Please confirm that the HCRID 27291 CSTSEG A data is erroneous. If you cannot confirm, please explain how the vehicle can travel so many miles in one year.

f. Please confirm that there are at least a dozen records on the HCSS data set for which the average annual miles per vehicle exceeds 400,000. If you do not confirm, please provide the correct figures. Please explain whether these contracts, vehicles, or possibly drivers are unusual.

OCA/USPS-T13-34 Response:

a. Confirmed.

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b. When the cost per mile or the cost per cubic foot-mile on a contract cost segment was particularly high or low, the annual miles variable was examined.

c. Not confirmed. This contract cost segment has 7 vehicles, one vehicle that has a cubic capacity of 2,700 cubic feet and six vehicles that have a cubic capacity of 3,000 cubic feet. Contract cost segments with multiple sized trucks have multiple records in my HCSS data extract. Please see lines 5 through 10 on page 16 of my testimony for a discussion of this fact.
More generally, the number of vehicles is not a variable that is used in my analysis except to find the average capacity on contract cost segments that have multiple sized trucks.

d. As the calculation is not relevant, I did not check the arithmetic.

e. Not confirmed. The 587,134 miles were not specified as being driven by one truck. Instead they are driven by 7 trucks. The yields a value of just over 83,000 miles per year per vehicle.

f. Not confirmed, I could only find five such observations. Recall that the

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designation of an "unusual" observation relates to estimating the relationship between cost and cubic foot-miles. If this relationship is unusual, then including the observation could distort the estimated equation. Whether or not these five observations are unusual in this sense depends upon the relationship between the cost and cubic foot-miles. If they have extremely high or low cost per cubic foot-mile, then they are candidates for omission. Because these observations are not in the extreme values for these key indicators, they should not be considered unusual for the purpose of estimating the econometric equation.

Finally, I understand that the number of trucks represents a guideline, but not absolute requirement, for a contract. In other words, the contractor can use any number of vehicles as long as the desired capacity is available where it should be when it should be. This means your inferences about actual operating conditions are not necessarily accurate.

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OCA/USPS-T13-35. Please refer to the computer specifications for total number of trips at page 7 of your workpaper WP-1. This specification is as follows:

> You may use the sqlca.sqlerrd[2] (number of rows processed) area as the Total Number of Trips. Do not use the highest trip number as the total number of trips since trip numbering is not always representative of the true coinciding trip number.

a. Please confirm that this is the specification for the creation of the variable NUMTRP on the HCSS data set. If you do not confirm, please explain what the specification relates to and provide a definition of the NUMTRP variable on the HCSS data set.

b. Did you examine values of the variable NUMTRP as part of your process of identifying unusual observations? If so, please explain the results of your analysis.

c. Please explain whether NUMTRP refers to the number of trips in a day, month, year, or other time period.

d. Please explain whether the time period for the NUMTRP variable is the same for the various account numbers, segments, and areas. How did you determine this to be the case?

e. Please confirm that the HCSS data set variable SUMLNGTH is the product of NUMTRP and route length (RL) for routes having just one vehicle. If you do not confirm, please explain.

f. Please refer to the HCSS observation with HCRID 619PR and CSTSEG A. This observation has NUMTRK=1, SUMLNTH(sic)=10924.7, NUMTRP=31, and RL=352.41. Please confirm that SUMLNTH(sic)=NUMTRP*RL and that SUMLNGTH represents the annual mileage figure. If you do not confirm, please explain.

g. Please refer to the HCSS observation with HCRID 841AD and CSTSEG A. This observation has NUMTRK=2, SUMLNTH(sic)=435.6, NUMTRP=66, and RL=6.60. Please confirm that SUMLNTH(sic)=NUMTRP*RL and that SUMLNGTH represents less than 1/300th the total annual mileage figure. If you do not confirm, please

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explain and correct any figures. If you do confirm, please explain any differences between the definitions of the SUMLNGTH variable for this observation and for the HCRID 619PR observation.

OCA/USPS-T13-35 Response:

a. Confirmed.

b. No. The number of trips is not used in my econometric analysis.

c. None. The number of trips does not refer to any time period. It is the number of different scheduled route trips on the contract cost segment.

d. There is no time period for the variable NUMTRP so there is nothing of this sort to be compared across account numbers segments and areas.

e. Not confirmed. As I state on page 3 of Workpaper WP1-3:

> This variable measures the total route mileage for all trips on the contract cost segment. This is not the annual miles traveled.

The variable SUMLNGTH is the product of number of trips (NUMTRP) and route length (RL) for contract cost segments having route trips of all the same route length. (In this particular case the sum of route lengths equals the product of the

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number of trips times the route length for each.) For contract cost segments having multiple-length route trips, SUMLNGTH is the sum of the route lengths on all route trips.

f. I confirm that for this plant load trip contract cost segment, the SUMLNGTH variable equals the product of number of trips time route length. (Recall that on a plant load - trip contract cost segment, the service is contracted on a per-trip basis) This is because each of the 31 plant load trips had the same route length (perhaps the route between the plant and the postal facility.) I also confirm that for this contract cost segment the annual miles equals the SUMLNGTH variable. That is because for this plant load contract, each route trip occurs only once. On a contract cost segment in which the route trip is made daily, the annual miles will be about 300 times the route length as the trip is made about 300 times a year.

g. I confirm that for this intra-SCF contract cost segment, the SUMLNGTH variable equals the product of number of trips time route length. This is because each of the 66 scheduled trips had the same route length (perhaps the route between two nearby postal facilities.) I also confirm that annual miles is a little more than 300 times the SUMLNGTH. This is what it should be if the trips are made daily (there are about 305 delivery days in the year). For a given trip, annual miles equals the

the route length for that trip times the annual frequency (number of times per year the trip is made.)

The variable SUMLNGTH is defined in the same way for both observations cited in the question.

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OCA/USPS-T13-36. Please refer to the SAS code at lines 81-89 of page 14 of your workpaper WP-7. This section of code begins with a comment that states, "CONSTRUCTING THE DATA SET ON THE BASIS OF THE HCRID & THE CONTRACT COST SEGMENT."

a. Please confirm that the PROC MEANS contained in this section of the program combines multiple records having the same HCRID and CSTSEG into single observations. If you do not confirm, please explain.

b. Please confirm that the PROC MEANS can assign a value to an output variable that is not a value contained in any of the original records having the same HCRID/CSTSEG combination. If you do not confirm, please explain.

c. Please refer to HCRID 365AU, CSTSEG A. Two records are identified with this HCRID/CSTSEG combination, one having YRMILE= 12425.90 and the other having YRMILE= 12183.40. Please confirm that at the conclusion of the PROC MEANS procedure, the value of YRMILE is 12304.65 in data set TRASCF2 (neither of the above values for HCRID 365AU, CSTSEG A). If you do not confirm, please explain. If you do confirm, please confirm that the value of YRMILE used for analysis does not correspond to an actual value on the contract having HCRID 365AU.

d. Please refer to lines 3-8 on page 16 of your testimony. Please confirm that if there are multiple records on a given cost segment because of multiple truck sizes on that cost segment, the multiple cost segment records would be combined into a single observation for that HCRID/CSTSEG by the PROC MEANS statement.

OCA/USPS-T13-36 Response:

a. Confirmed.

b. Not confirmed. In the code that you cite, PROC MEANS assigns to the output variable either the average value for the input variables being averaged or the

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summed value for the input variables being summed. Thus, PROC MEANS must assign a value to the "output variable" that contains the values for the "input variables." Those input values are either summed or summed and divided by the number of input values. However, it is clear that unless the values for the input variable are identical, the mean value will not equal the value for any one the input variables. In addition, the summed value will never equal the value of any one of the input variable.

c. Confirmed The value of 12,304.65 is the average of the two input values. It is 121.25 miles (less than one percent) larger than 12183.4 and 121.25 miles (less than one percent) smaller than 12425.90.

d. Confirmed.

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OCA/USPS-T13-37. Please refer to your response to OCA/USPS-T4-7 and to your workpaper WP-1.

a. Your response to part a of [Docket No. MC97-2] OCA/USPS-T4-7 states,

> There was no data entry required for the construction of the dataset I used. It existed in electronic form before the construction of the extract of the data used in my analysis.

Page 1 of WP-1 states,

> A program was developed that could be used to extract the required variables from the HCSS data base at each individual HCSS site.

(i) Do you consider entering data and developing a program to be different processes? If so, please describe the differences.
(ii) Would you agree that entering data and writing computer code both involve keystroking? If not, please explain.
(iii) Did the data in the HCSS data base always exist in electronic form? If so, please describe how the data were initially generated.

b. Your response to part b of [Docket No. MC97-2] OCA/USPS-T4-7 states,

> I did work closely with postal data processing professionals and HCSS experts to ensure that the same type of data that I had used in Docket No R87-1 would be available, in reliable form, from HCSS.

(i) Did you participate in drafting the "Programming Specifications" that appear at pages 4-7 of WP-1? If so, please describe your participation and state the beginning and ending dates of your participation.
(ii) What is meant by the statement, "This project will initially be independent of the HCSS system." (WP-1 at 4.)
(iii) Please provide a copy (hard copy and diskette) of the program LAC990C1.PC referred to at page 4 of WP-1. How many versions of this program were tested at a single site before data were extracted at the 12 HCSS sites? At which HCSS site was the program tested? What "checks were made to ensure that the data were extracted correctly"?
(iv) Please provide copies (hard copy and diskette) of the programs actually used at each of the 12 HCSS sites to extract the variables required for your dataset.

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(v) Please provide a copy (diskette) of the file LAC990D1.LST referred to at page 4 of WP-1.

(vi) Please provide copies (diskettes) of the files actually generated at each of the 12 HCSS sites containing the variables required for your dataset and "sent to the St. Louis ISSC for collating into one file." State the dates on which each file was "sent to the St. Louis ISSC."

(vii) Please provide a copy (diskette) of the collated file prepared at the "St. Louis ISSC [and] forwarded to Headquarters." State the dates on which this collated file was (a) completed and (b) received at Headquarters.

(viii) Please provide a copy of the programming specifications and the actual code (hard copy and diskette) used for collating the data from 12 HCSS sites at the "St. Louis ISSC."

(ix) Please describe the measures taken at the "St. Louis ISSC" and at Headquarters to maintain the integrity of the data extracted at the 12 HCSS sites.

(x) Please state the number of records (observations, contract segments) in each of the following datasets: the extracted file produced at each HCSS site, the file for each HCSS site as received at the "St. Louis ISSC," the collated file produced at the "St. Louis ISSC," the collated file as received by Headquarters, and the collated file received by you.

(xi) Is it your belief that no records (observations, contract segments) were lost, modified, or created during the process of being transferred from the 12 HCSS sites to the "St. Louis ISSC"? Please state the basis for your belief.

(xii) Is it your belief that no records (observations, contract segments) were lost, modified, or created during the process of being collated at the "St. Louis ISSC"? Please state the basis for your belief.

(xiii) Is it your belief that no records (observations, contract segments) were lost, modified, or created during the process of being transferred from the "St. Louis ISSC" to Headquarters? Please state the basis for your belief.

(xiv) Is it your belief that no records (observations, contract segments) were lost, modified, or created at any time during the process of being transferred from the 12 HCSS sites to your custody? Please state the basis for your belief.

(xv) Is it your belief that no records (observations, contract segments) were accidentially (sic) deleted, modified, or created while in your custody? Please state the basis for your belief.

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OCA/USPS-T13-37 Response:

a.(i). I consider them to be so. In so far as I know, data entry consists of creating an electronic data set from a set of existing data that are, perhaps, in a different medium. Developing a program includes things like learning the relevant computer language, figuring out the goals of the program, constructing the logic required to accomplish the goals of the program, and so forth.

a. (ii.) They certainly can. If a keyboard is used to do the data entry or enter the computer code that comprises the program, then I would think that keystroking would be required. If a mouse or some other type of input device is used, then keystroking may not be necessary.

a. (iii.) Yes. Please see my response to OCA/USPS-T13-22.

b.(i.) Please see my answer to OCA/USPS-T13-31.b.

b.(ii.) The HCSS extract for my analysis will be a one-time "snapshot" of the HCSS data, not a continuous extraction process.

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b.(iii.) Redirected to the Postal Service.

b.(iv.) Redirected to the Postal Service.

b.(v.) Redirected to the Postal Service.

b.(vi.) Redirected to the Postal Service

b.(vi.) Redirected to the Postal Service.

b.(vii.) Redirected to the Postal Service.

b.(viii.)Redirected to the Postal Service

b.(ix.) Redirected to the Postal Service.

b.(x.) Redirected to the Postal Service.

b.(xi.) Yes. My experience with working with the Postal Service computer people is that they were serious, professional and competent. They understood the importance of taking care of the data and had no incentive, to my knowledge, to modify or manipulate the data in any way.

b.(xii.) Yes. My experience with working with the Postal Service computer people is that they were serious, professional and competent. They understood the importance of taking care of the data and had no incentive, to my knowledge, to modify or manipulate the data in any way.

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b.(xiii.) Yes. My understanding is that the diskettes were mailed to headquarters. The security of the mailstream is well known.

b.(xiv.) Yes. Please see my answers to b.(xi.) though b.(xiii) above.

b.(xv.) Yes. I was careful as I could be with the data. In addition, I recorded the number of observations that I originally received and, to the best of my ability, verified that I continued to have the number of observations in my data set.

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OCA/USPS-T13-38. Please refer to the HCSS data set record having HCRID 608MR, and CSTSEG A. This contract record has a value of NUMTRK=150, indicating 150 trucks are on the contract.

a. Please confirm that the total annual cost for this contract is approximately $65,902. If you do not confirm, please correct this figure.

b. Please confirm that the eight largest NUMTRK values on this data set are 35, 36, 37, 39, 41, 45, 48, and 150. If you do not confirm, please explain.

c. Please confirm that the total annual cost for all other HCSS data set contracts having NUMTRK values from 35 to 48 ranges between $1,221,975 and $5,269,309. If you do not confirm, please provide the correct range of annual contract costs for contracts having from 35 to 48 vehicles as reported in the NUMTRK variable.

d. Please explain why this contract is so much less costly than any of the other contracts having large NUMTRK values.

e. The following is a listing of plant load (ACCOUNT=53135) observations having annual cost between $50,000 and $100,000.

OBS	HCRID	RTYPE	YRMILE	COST	VEHGRP	NUMTRK	TRCUBE	SUMLNGTH	NUMTRP	RL
1	023BR	1	30600.00	68048.68	9	2	2400	85.0	1	85.00
2	080DR	1	35254.60	92251.00	10	5	2700	140.2	4	35.05
3	173AR	1	43784.00	69516.26	9	3	2400	168.4	2	84.20
4	173NR	1	56615.30	65673.00	10	1	2700	1085.0	1	1085.00
5	177HR	1	40126.40	52080.19	9	1	2400	769.0	1	769.00
6	180QS	1	42682.80	59663.00	10	8	2700	238.0	4	59.50
7	194BR	1	25146.00	64134.36	9	2	2400	100 0	4	25.00
8	227MR	1	35757.60	51486.00	10	4	2700	142.2	2	71.10
9	227MX	1	64669.00	74928.00	10	4	2700	210.6	2	105.30
10	303AR	1	50090.80	50018.59	10	1	2700	192.0	2	96.00
11	467NR	1	44664.70	55426.14	11	1	3000	254.1	2	117.90
12	469NR	1	51902.00	91312.50	9	1	2400	142.1	1	142.10
13	478MR	1	96053.00	89233.00	10	2	2700	376.0	2	188.00
14	493CK	1	61989 60	83330.35	8	3	1650	1188.0	6	198.00
15	531MR	1	64900.00	59500.00	11	2	3000	259.6	2	129.80
16	535MR	1	47269.80	90590.52	10	3	2700	942 0	6	157.00
17	535NR	1	63450.90	94079.00	10	2	2700	1216.0	3	405.33
18	604BR	1	56979.00	78205.45	10	6	2700	156.0	2	78.00
19	606MR	1	322588.91	55640 00	10	3	2700	883.2	6	147.20
20	608MR	1	118341.20	65902.33	10	150	2700	324.0	6	54.00
21	610AR	1	101000.00	93000.00	10	4	2700	202.0	2	101.00
22	628DR	1	70200.00	73266.85	10	4	2700	180.0	2	90.00
23	724GR	1	57241.50	91100.50	11	1	2900	1147.0	1	1147.00

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i. *Would you classify any of the above observations as unusual? If so, which ones?*
ii. Does there appear to be a "break" in the data values for the variable NUMTRK? If so, what is the value of this "break" and how did you identify it?
iii. Would you consider HCRID 608MR unusual, based on its NUMTRK value? If not, why not?
iv. *Is it possible that only the value for NUMTRK is unusual for HCRID 608MR and that* in all other aspects, the observation is "usual?" If this is the case, would you recommend removing the observation from the data relied on for any plant load analysis? Please explain.

OCA/USPS-T13-38 Response:

a. Confirmed.

b. Not confirmed. I found contract cost segments with higher values for NUMTRK.

c. Not confirmed. I did not have to perform any such distributions in the course of my analysis. To perform such a distribution, one should first identify the observations having a value for NUMTRK in the range specified and examine the high and low values for the data included in that range.

d. I don't believe that the value of NUMTRK as a determinative influence on the cost of the contract. I would be extremely hesitant to attempt to infer such a relationship. The key determinant of the cost of the contract is the cubic foot-miles of

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transportation that are specified and the nature of the transportation required. I suspect that the other contracts that you cite have a higher amount of cubic foot-miles and thus a higher value of cost. As a general matter, cost rises as cubic foot-miles increase. To determine if a particular contract is unusual, I would recommend examining its cost per cubic foot-miles, not the number of trucks specified. In fact, I understand that the number of trucks represents a guideline but not absolute requirement for the contracts. In other words, the contractor can use any number of vehicles as long as the desired capacity is available where it should be when it should be.

e.i. No. To determine if a particular contract is unusual, I would recommend examining its cost per cubic foot-miles, not the number of trucks specified

e.ii. Because I did not use the variable NUMTRK in investigating the data, I did not review its values for breaks.

e.iii. No. To determine if a particular contract is unusual, I would recommend examining its cost per cubic foot-miles, not the number of trucks specified. On this basis, I would not consider HCRID 608MR unusual.

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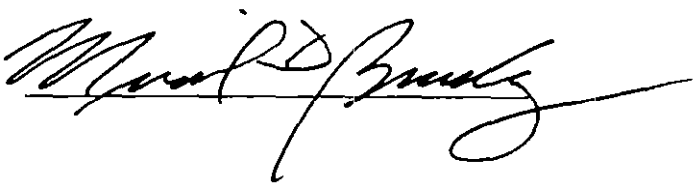
e.iv. Yes. No. To determine if a particular contract is unusual, I would recommend examining its cost per cubic foot-miles, not the number of trucks specified. On this basis, I would not consider HCRID 608MR unusual.

DECLARATION

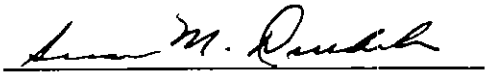
I, Michael D. Bradley, declare under penalty of perjury that the foregoing answers are true and correct, to the best of my knowledge, information, and belief.



Dated: July 30, 1997

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.



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July 30, 1997