

UNITED STATES OF AMERICA
POSTAL RATE COMMISSION
WASHINGTON, DC 20268-0001

Before Commissioners:

George Omas, Chairman;
Dawn A. Tisdale, Vice Chairman;
Ruth Y. Goldway; and
Tony Hammond

Evolutionary Network Development
Service Changes

Docket No. N2006-1

PRESIDING OFFICER'S INFORMATION REQUEST NO. 3

(Issued May 16, 2006)

The United States Postal Service is requested to provide the information described below to assist in developing a record for the consideration of the Postal Service's request for an advisory opinion. In order to facilitate inclusion of the required material in the evidentiary record, the Postal Service is to have a witness attest to the accuracy of the answers and be prepared to explain to the extent necessary the basis for the answers at our hearing. The answers are to be provided by May 31, 2006.

1. This question is intended to ascertain what operational factors underlie the END model predictions that result from consolidating mail processing operations in the future network.
 - a. Please state whether the END model assumes that the current set of 5-digit ZIP Code and 3-digit ZIP Code areas will remain unchanged in the future network.
 - b. Please state whether the END model assumes that the volume by type of mail that originates from each 5-digit ZIP Code and 3-digit ZIP Code area,

and the volume that destinations in each 5-digit ZIP Code and 3-digit ZIP Code area, is assumed to remain the same in the future network.

- c. Please state whether the number of facilities where single-piece mail currently receives an incoming sort would remain unchanged in the future network.
- d. Under the assumption that the set of 5-digit ZIP Codes, 3-digit ZIP Codes, 3-digit ZIP Code pairs and the volumes traveling between each of these elements remain unchanged in the future network, please state whether the number of separate incoming sort schemes that would be run on an average processing day in the future network would be fewer than the existing network, and, if so, why.
- e. Please state whether the average length of run for the set of incoming sort schemes that is performed on an average processing day in the future network would go up relative to the existing network, and, if so, how.
- f. Please state whether the average hourly throughput achieved performing the sort schemes for the assumptions made in “d” would go up in the future network, and, if so, how.
- g. Please state whether average hourly labor productivity achieved performing the sort schemes described in “d” would go up relative to the existing network, and, if so, how.
- h. Please state whether the number of facilities where single-piece mail currently receives an outgoing primary sort would remain unchanged in the future network.
- i. Please state whether the number of separate outgoing primary sort schemes that must be run on an average processing day in the future network would be reduced relative to the existing network, and, if so, how.

- j. Please state whether the average length of run for the set of outgoing primary sort schemes described in “i” would go up relative to the existing network, and, if so, how.
- k. Please state whether the average hourly throughput achieved performing the sort schemes described in “i” would go up relative to the existing network, and, if so, how.
- l. Please state whether the average hourly labor productivity achieved performing the sort schemes described in “i” would go up relative to the existing network, and, if so, how.
- m. Please provide the information requested in “h” through “i” above for outgoing secondary sort schemes.
- n. Please provide the percent of total variable mail processing costs for single-piece mail that is accounted for by outgoing sortation operations, and the percent that is accounted for by incoming sortation operations in the existing network and how that would change in the future network.

The following questions refer to USPS Library Reference N2006-1/9.

- 2. On page 3 it states that “one scenario within END requires a predefined Distribution Concept.”
 - a. Was the model run without a predefined distribution concept? If so, what did the resulting network look like?
 - b. How many predefined distribution concepts were optimized using the END optimization model and what were the results of these runs?
 - c. If these results differ from the current distribution concept please explain how and why the decision to forgo pursuit of these results in favor of a predefined distribution concept was made.

- d. Please describe in detail how the distribution concept on which the future network is based was determined.
 - i. Indicate what other concepts were considered and why they were rejected.
 - ii. Discuss what foreign postal networks or other industries were studied in developing a theory of best practices.
 - iii. Provide any relevant documentation that supports the use of the RDC concept as a best practice.
3. Page 5 provides a crosswalk between the current and future network. Please explain in detail:
 - a. What is required in terms of equipment changes, building modifications, workforce restructuring, mail flow rerouting, and any other significant changes, to convert:
 - i. a P&DC to a RDC;
 - ii. a P&DC to a LPC or DPC;
 - iii. a BMC to a RDC;
 - iv. a L&DC to a RDC; and
 - v. HASPs to STCs.
 - b. Will any BMCs or L&DCs be converted to LPCs or DPCs?
 - c. Will all annexes be closed?
 - d. Will any HASPs remain outside of the STC network?
 - e. Will all STCs be located at RDCs?
 - f. Describe in detail the difference between an AMC and an ATC.
 - i. Will there be fewer ATCs than the current number of AMCs?
 - ii. Will the ATCs be in different locations than the current AMCs?
 - g. Will all, some, or no LPCs and DPCs be co-located in the same building?
 - h. Confirm that no outgoing sorts will be performed at DPCs. If you cannot confirm, please explain fully.

- i. Where will inbound and outbound international mail be processed in the future network?
 - j. Will the future network include the same number of DDU's as the current network?
4. In the future network will any mail travel directly between Origin and Destination LPCs? If so, under what circumstances?
5. Refer to page 18. Please explain fully the meaning of the phrase "[e]ach item simulated is time-and-place traced in the model."
6. Refer to pages 28 and 29. The definition of volume given there is "[t]otal individual mail pieces entered into the mail stream during the specified time frame." Please provide a step-by-step explanation of how these volumes are derived including:
 - a. how ODIS data are used;
 - b. how DSAS appointments are used;
 - c. how permit volume from the PostalOne system is used; and
 - d. how the volumes are scaled to match RPW volume.
7. At page 7 of USPS-T-1, it is stated that two of the primary objectives of END are to reduce overall transportation costs and reduce redundancy in the current transportation network. Please explain:
 - a. the specific transportation elements that are optimized within the END optimization model;
 - b. which transportation elements are predetermined inputs to the END optimization model (i.e. the location of STCs.); and

- c. the transportation elements that are addressed outside of the END model, and how cost savings for these elements will be achieved.

8. On page 19 it states that the objective of the simulation model is to test the feasibility of the solutions suggested by the optimization model.
 - a. Has the simulation model been run on the future network as a whole?
 - b. If so, please provide the results, including the geographical location (i.e., metropolitan area, urban cluster or rural area) of all RDCs, LPCs and DPCs that were deemed to be part of the future network.
 - c. If not, please explain the extent to which the simulation model has been used to identify the future network and provide the results obtained for all simulation model runs that resulted in feasible solutions to date.
 - d. Does execution of the simulation model ultimately determine what service standards will exist in the future network? Please explain in detail.

9. Page 16 states that the model will “reassign ZIP Codes within the feasible assignments to maximize utilization and minimize costs.” Please explain in detail how the model minimizes costs. For example,
 - a. In step one of the optimization—as shown on pages 14 through 16—are ZIP Codes assigned to facilities based on mileage alone, regardless of facility costs?
 - b. How, and at what point, are the cost functions discussed on pages 37 through 40 used in the optimization or simulation models?
 - c. Where in the optimization or simulation model are facility-specific costs considered?

10. Slide 40 of USPS-LR-N2006-1/9 states that the cost model used in the END analysis uses direct cost functions for small, medium, and large operations for each mail shape and that these cost functions “match actual productivities in small, medium, and large operations.” Slide 41 shows a graph of these cost functions. The attachment to this POIR shows the productivities for five major mail processing operations expressed in terms of TPH per labor hour. The productivities are separated into three groups according to the scale of the operation (measured as a level of FHP performed by that operation).
 - a. The data in the attachment show that hourly labor productivity generally declines as the scale of the operation increases. Please explain how estimated cost functions matching these productivities result in unit costs that generally decline as the scale of the operation increases.
 - b. Does the Postal Service believe that the correlation of increasing scale with decreasing productivities is coincidental, rather than caused by the scale of the operation?
 - c. If so, please list the factors that account for the MODS data showing that productivities decline as the scale of the processing operation increases, e.g., multi-floor plants, age of plants, traffic congestion, difficulty of supervising large workforce, skill level of workforce, etc.
 - d. Of the factors listed in your response to “c,” please state which the Postal Service believes will not affect the costs at the plants to which volume is shifted in the future network, and why.

11. Do the scale economies in mail processing indicated by the operation- and/or plant-specific cost functions that are inputs to the END model reflect the economies achieved historically in those plants and/or operations, or do they reflect the economies that the Postal Service assumes will be achieved in the future network?
12. If the scale economies referred to in "11." reflect economies that the Postal Service assumes will be achieved in the future network, does their achievement depend on an assumption that best practices will be applied to the plant and the operation to which volume is shifted?
13. Please assume for purposes of this question that "the future network" referred to in witness Williams' response to APWU/USPS-T2-11 is implemented before modification by any AMP review. Provide the best estimate you can of the following:
 - a. the mail processing and transportation cost savings that would result from replacing the current network with the future network
 - i. expressed as unit costs by subclass. If this cannot be estimated, then
 - ii. expressed as unit costs by shape. If this cannot be estimated, then
 - iii. expressed as unit costs for all mail. If this cannot be estimated, then
 - iv. expressed in aggregate terms, and
 - b. the changes in service performance that would result from replacing the current network with the future network, expressed as

- i. a table in the form that the Postal Service used to respond to DBP/USPS-80. If changes of those kind cannot be estimated, then express the changes in terms of
- ii. the percent of volume for each subclass of mail that would receive an upgrade, and the percent that would receive a downgrade, of its service standard. If that cannot be estimated, then
- iii. the percent of total 3-digit ZIP Code pairs that would receive an upgrade, and percent that would receive a downgrade, by subclass of mail. If that cannot be estimated, then
- iv. the percent of volume for each shape of mail that would receive an upgrade, and the percent that would receive a downgrade, of its service standard. If that cannot be estimated, then
- v. the percent of 3-digit ZIP Code pairs that would receive an upgrade, and the percent that would receive a downgrade, by shape of mail. If that cannot be estimated, then
- vi. the percent of volume for all mail that would receive an upgraded, and the percent that would receive a downgraded, service standard. If that cannot be estimated, then
- vii. for all mail, the percent of 3-digit ZIP Code pairs that would receive an upgraded, and the percent that would receive a downgraded, service standard.

14. What assumptions were made in the network optimization model or the simulation model concerning the acceptable number of 3-digit ZIP Code pairs or the total mail volume for which service standards could be downgraded in order to reduce costs?
 - a. Was the number of downgrades assumed to be acceptable if a similar number of upgrades would also result?
 - b. Was the volume downgraded assumed to be acceptable if an equal volume was upgraded? Explain fully.
 - c. Please respond to parts “a” and “b” separately for each subclass of mail.

Dawn A. Tisdale
Presiding Officer

Total Pieces Handled per Hour for Selected operations
Quarter 4, 2005

Operation	Size¹	TPF	TPH per Hr
<u>Cancellation</u>	Small	< 15,000	5,073
	Medium	15,000 - 29,999	3,784
	Large	>=30,000	3,383
<u>OCR</u>	Small	< 15,000	5,503
	Medium	15,000 - 34,999	5,532
	Large	>=35,000	4,110
<u>DBCS - Outgoing</u>	Small	< 18,000	10,540
	Medium	18,000 - 82,999	8,690
	Large	>=83,000	7,636
<u>DBCS - Incoming</u>	Small	< 107,000	10,452
	Medium	107,000 - 239,999	9,457
	Large	>=240,000	8,749
<u>AFSM</u>	Small	< 20,000	2,110
	Medium	20,000 - 44,999	2,037
	Large	>=45,000	1,964

Notes:

Source: Docket no R2006-1, LR-L-56

All observations with zero values were deleted

1/ Size classifications were made by splitting the number of observations into roughly thirds.