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

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Mailing Online Service

Docket No. MC98-1

RESPONSE OF THE UNITED STATES POSTAL SERVICE
WITNESS STIREWALT TO INTERROGATORIES OF
OFFICE OF THE CONSUMER ADVOCATE
(OCA/USPS-T3-7-10)

The United States Postal Service hereby provides the response of witness

Stirewalt to the following interrogatories of Office of the Consumer Advocate:

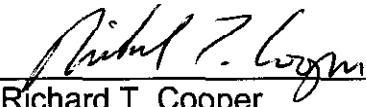OCA/USPS-T3-7-10, filed on August 3, 1998.

Each interrogatory is stated verbatim and is followed by the response.
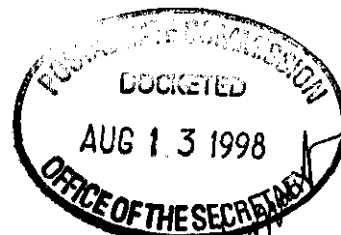
Respectfully submitted,

UNITED STATES POSTAL SERVICE

By its attorneys:

Daniel J. Foucheaux, Jr.
Chief Counsel, Ratemaking

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August 13, 1998

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OFFICE OF THE SECRETARY

OCA/USPS-T3-7.   Please refer to USPS-LR-1/MC98-1, page 6. You show "Average customer sessions per user per year" of 12. You state, "One per month is assumed based on expected mail content: invoices, announcements, statements, forms . . . ."

a.   Please confirm that "Advertising Mail" and "Newsletters" are also expected applications of Mailing Online. (See USPS-LR-2/MC98-1, page 13.) If you do not confirm please explain.

b.   Please confirm that the "Advertising Mail" and "Newsletters" applications contribute substantially to volume estimates of Mailing Online. (See USPS-LR-2/MC98-1, page 26.) If you do not confirm please explain.

c.   Please confirm that "Advertising Mail" and "Newsletters" are likely to be mailed more frequently than monthly. (See USPS-LR-2/MC98-1, page 13.) If you do not confirm please explain.

d.   Please confirm that most Mailing Online volume in 1999 and 2000 is expected to be Standard Mail. (See USPS-LR-2/MC98-1, page 34.) If you do not confirm, please explain.

e.   Did you request an estimate of the average frequency of use of Mailing Online from witness Rothschild or anyone else? If so, what was the response? If not, why not?

f.   Please confirm that the market research data collected by witness Rothschild can generate an estimate of the average frequency of use of Mailing Online by respondents. If you do not confirm, please explain. If you confirm, please provide that estimate.

g.   Please confirm that your estimate of "Incoming bytes Per Second During Peak Hours" is directly proportional to the assumed "Average customer sessions per user per year"—that is, doubling the latter would double the former. If you do not confirm, please state the mathematical relationship between "Incoming bytes Per Second During Peak Hours" and "Average customer sessions per user per year."

RESPONSE

a.   I can neither confirm nor deny. My involvement was limited to estimating information technology costs.

b.   I can neither confirm nor deny. My involvement was limited to estimating information technology costs.

c. I can neither confirm nor deny. My involvement was limited to estimating information technology costs.

d. I can neither confirm nor deny. My involvement was limited to estimating information technology costs.

e. No. Average frequency of use was not a data element in any published material available to me at the time I formulated my estimates.

f. I can neither confirm nor deny. My involvement was limited to estimating information technology costs.

g. Confirmed.

OCA/USPS-T3-8. Please refer to USPS-LR-1/MC98-1, page 6. You show "Percentage usage during daily peak period" of 0.75. You state, "A Peak Period of Usage is required to plan for maximum capacity. % of users expected during such a period is unknown, 75% usage is therefore assumed."

a. If the 75-percent figure was chosen on some basis other than randomness, please state that basis.

b. Is the assumption of 75 percent usage during the peak period mathematically equivalent to assuming that 75 percent of each customer's transmissions occurs during the peak period? If not, please explain further the purpose of this assumption.

c. Please confirm that there is some positive probability that more than 75 percent of customer transmissions may occur in the peak period. For example, all customers might try to send their monthly transmissions during a peak period near the end of the month. If you do not confirm, please explain.

d. Please confirm that your estimate of "Incoming bytes Per Second During Peak Hours" is directly proportional to the assumed "Percentage usage during daily peak period"—that is, increasing the latter by ten percent would increase the former by ten percent. If you do not confirm, please state the mathematical relationship between "Incoming bytes Per Second During Peak Hours" and "Percentage usage during daily peak period."

RESPONSE

a. It is not reasonable to assume that all customers on a given business day will use Mailing Online during any particular fraction of that day. Conversely, it is not reasonable to assume that usage will be spread evenly through any given business day. Information technology must be estimated to accommodate the maximum expected usage during any given business day . Information on a daily peak usage period was not made available to me at the time I formulated my estimates. I therefore assumed a four hour peak period because the vast majority of users would be within four time zones: Eastern, Central, Mountain, and Pacific. The period of time that the business day (9Am - 5PM) for all four time zones coincide is five hours (12Noon to 500PM Eastern time). I reduced

this period to 0100PM to 500PM Eastern. I assumed that the majority (i.e. over 50%), but not all (i.e. 100%), of the usage would be during this four hour period. Based on this I believe it is reasonable to assume a percentage usage of between 50 and 100%; that is 75%.

b.   No. My calculation equates 75% peak usage with 75% of the of customer transmissions occurring within a hour period on any given business day.

c.   I can not speculate regarding the example. I can confirm that there is some non-zero probability that over 75% of customer transactions may occur in the peak period.

d.   An increase to the assumed "Percentage usage during daily peak period" alone will change the "Incoming bytes Per Second During Peak Hours" proportionally up to 25% (there cannot be more than 100% usage). As noted in my response to "a.", above, my professional opinion is that without specific facts available regarding the timing of Mailing Online usage during a business day, it is not reasonable to expect 100% usage during any given portion of a day. "Percentage usage during daily peak period" is one of several variables used to calculate "Incoming bytes Per Second During Peak Hours", as noted explicitly in Attachment #2 in the "Source" column. Two of these variables, "Average Session Duration", and "Peak Usage hours", are based on assumptions.

OCA/USPS-T3-9. Please refer to USPS-LR-1/MC98-1, page 6. You show "Avg. No. Concurrent Sessions During Peak Hours" of 21.57 for 1999. The formula for calculating this number is given as "Customer sessions during peak period/peak period/avg. session duration."

a.   Please confirm that this calculation assumes that customer sessions are all of exactly one-half hour duration. If you do not confirm, please explain.

b.   Please confirm that this calculation assumes that customer sessions are uniformly distributed over the peak period. If you do not confirm, please explain.

c.   Please confirm that this calculation assumes that exactly 21.57 customer sessions commence exactly at the beginning of the peak period, continue for exactly one-half hour, and are immediately replaced by another 21.57 customer sessions lasting exactly one-half hour, etc. until 172.53 customer sessions have been completed in four hours. If you do not confirm, please explain.

d.   Please confirm that there is a positive probability that more than 21.57 customers will attempt to transmit documents to the Mailing Online processing center simultaneously at some time during 1999. If you do not confirm, please explain.

e.   Please confirm that it is, in fact, virtually certain that more than 21.57 customers will attempt to transmit documents to the Mailing Online processing center simultaneously at some time during 1999. If you do not confirm, please explain.

f.   Please confirm that if 21.57 is, in fact, the average or expected number of customer sessions during the peak period, then this number will be exceeded on approximately one-half the business days in 1999. That is, to the extent that this average is a measure of central tendency, then one-half of all occurrences will be less than 21.57 and one-half will be greater. If you do not confirm, please explain.

g.   Is the "Avg. No. Concurrent Sessions During Peak Hours" of 21.57 for 1999 used at any other point in USPS-LR-1/MC98-1? If so, please identify all such other uses.

h.   Is the "Avg. No. Concurrent Sessions During Peak Hours" of 21.57 for 1999 used by any other witness in MC98-1? If so, please identify all such other uses.

i.   During the operations test period, how many access ports were available at the MOL processing center to receive transmissions from MOL customers? Did this number vary during the operations test period? If so, for what reasons? (E.g., did some or all of the ports fail temporarily?)

j.   Please confirm that "Avg. No. Concurrent Sessions During Peak Hours" is directly proportional to "Customer sessions during peak period" —that is, doubling the latter would double the former. If you do not confirm, please state the mathematical relationship between "Avg. No. Concurrent Sessions During Peak Hours" and "Customer sessions during peak period."

k.   Please confirm that "Avg. No. Concurrent Sessions During Peak Hours" is directly proportional to "Average session duration" —that is, doubling the latter would double the former. If you do not confirm, please state the mathematical relationship between "Avg. No. Concurrent Sessions During Peak Hours" and "Average session duration."

l.   Please confirm that "Avg. No. Concurrent Sessions During Peak Hours" is inversely proportional to "Peak Usage Period Hours" —that is, doubling the latter would halve the former. If you do not confirm, please state the mathematical relationship between "Avg. No. Concurrent Sessions During Peak Hours" and "Peak Usage Period Hours."

RESPONSE

a.   Yes, one half hour exactly.

b.   Yes, uniformly spread across the four hour period.

c.   No. As stated explicitly in Attachment 1 for "Avg .no Concurrent Sessions during Peak Hours", under the "Source" column, this figure is calculated as follows: Customer sessions during peak period/(Peak Usage Period Hours/session duration).

d.   I confirm that there is a non-zero probability that this will occur. The telecommunications link specified for cost component TEL 2 in the Detailed Cost Estimates can accommodate 400% of the estimated "Incoming bytes per second during peak hours" . "Incoming bytes per second during peak hours" shown for year 2003 is 44841 bytes per second (358731 bits per second). The telecommunication line specified in TEL 2 can accommodate 1,5440,00 bits per second - over 400% of the requirement.

e.   I can not confirm this. I have provided an estimate based on projections

and assumptions. Refer to in my response to "d." above for details.

f.   I can not confirm that 21.57 will be exceeded on half of the days in 1999.

As noted in my response to "d" above, the telecommunication link specified in

the Detail Cost Estimate can accommodate over 400% of the estimated

"Incoming bytes per second during peak hours" .

g.   No, but "Incoming bytes per second during peak hours", which is partially

derived from "Avg .no Concurrent Sessions during Peak Hours", is used in two

other places in Attachment 1 to calculate Items #2 and #3.

h.   To the best of knowledge, it is not.

i.   I do not have this information.

j.   Yes. Please refer to the "Source" column in the Attachment 1 for a

description of the mathematical relationships of all elements.

k.   There is no mathematical relationship between these two elements.

Please refer to the "Source" column in the Attachment 1 for a description of the

mathematical relationships of all elements.

I.   Yes, they are inversely proportional.

OCA/USPS-T3-10. Please refer to USPS-LR-1/MC98-1, page 6. You show "Peak Usage Period Hours" of 4. You state, "No peak usage period has been observed during the operation test, but must be considered to plan for maximum capacity: 1PM-5PM EST is assumed here."

a. Please confirm that for purposes of your analysis, only the length of the peak period matters; i.e., the actual time of day (1PM-5PM EST) makes no difference. If you do not confirm, please explain.

b. If the 4-hour figure was chosen on some basis other than randomness, please state that basis.

c. Please confirm that the shorter the chosen duration of the peak period the lower the probability that all access ports are in use when an MOL customer attempts to transmit a job (because a shorter duration produces a higher number of access ports under your analysis). If you do not confirm, please explain.

d. Please confirm that under your analysis, all access ports will be in use for the entire peak period of four hours. If you do not confirm, please explain.

e. Please confirm that the length of time during which all ports are busy during a given 24 hours is virtually certain to be much less than four hours in 1999. If you do not confirm, please explain.

f. Are there any data available from the operations test that would shed light on the likely length of the peak period? If so, please supply those data.

RESPONSE

a. Yes, the hours of the day did determine this, as I explained in my response to

OCA/USPS-T3-8(a).

b. Please refer to my response to OCA/USPS-T3-8(a).

c. Not confirmed. I did not calculate the probability of a user gaining access to a

port.

d. Not confirmed. I did not specify the number of access ports available, but the

number required to accommodate peak usage.

e. Not confirmed. I did not specify the number of access ports available, but the

    number required to accommodate peak usage.

f. I don't know. No such data were available when I developed my estimates. I

    am informed that additional details regarding usage patterns during the

    operations test are being filed in response to OCA/USPS-T1-24.

DECLARATION

I, Daniel Stirewalt, declare under penalty of perjury that the foregoing answers

are true and correct, to the best of my knowledge, information, and belief.

_____

Dated: _8 - 13 - 98_

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.

Richard T. Cooper

Richard T. Cooper

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August 13, 1998