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UNITED STATES OF AMERICA
POSTAL REGULATORY COMMISSION

Before Commissioners:

Ruth Y. Goldway, Chairman;
Nanci E. Langley, Vice Chairman;
Mark Acton;
Tony Hammond; and
Robert G. Taub

Mail Processing Network
Rationalization Service Changes, 2012

Docket No. N2012-1

ADVISORY OPINION ON MAIL PROCESSING NETWORK RATIONALIZATION SERVICE CHANGES

Washington, DC 20268-0001

September 28, 2012

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I. EXECUTIVE SUMMARY

The Postal Regulatory Commission has analyzed the Postal Service's Mail Processing Network Rationalization (MPNR) initiative, a plan to provide forecasted net savings of $2.1 billion by consolidating its processing and transportation networks to better match estimated mail volume. The Commission's range of potential net savings estimates is lower than that projected by the Postal Service.

The Postal Service asserts that in order to capture the projected financial benefits of realigning its networks, it must modify service standards for First-Class Mail, Standard Mail, Periodicals, and Package Services. The changes to service standards would ultimately eliminate all overnight delivery service for single-piece First-Class Mail, and delay much of current First-Class Mail 2-day delivery to 3-day delivery. Presorted First-Class Mail and Periodicals would have to meet new mailing requirements, including new accelerated entry times, to maintain eligibility for overnight service. Standard Mail and Package Services would be affected to a lesser extent.

The Commission concludes that it is possible for the Postal Service to undertake significant network rationalization and realize substantial cost savings while preserving most current service levels. The Commission advises the Postal Service to consider its recommendations, including alternatives that would preserve service levels, before proceeding with full implementation of MPNR.

The February 23, 2012 release of completed Area Mail Processing studies result in the Postal Service reducing its net savings estimate to $1.6 billion. On May 17, 2012, the Postal Service announced its intention to proceed with a phased implementation of network rationalization. Interim service standards were adopted that preserve overnight First-Class Mail service through January 31, 2014, with the exception of First-Class Mail that is handled by more than one processing facility.

The analytical advice provided by the Commission focuses on network modeling, cost savings estimates, and estimates of potential volume loss.

The Postal Service does not take full advantage of its network modeling tools. It uses modeling to develop an initial list of facilities to be consolidated given the decision to reduce service levels, but rejects most of the facilities identified by the model. The Postal Service relies on internal expertise for final decisions. The Commission expands upon the Postal Service's model and demonstrates the benefits of modeling the initial phase of network rationalization. A more robust modeling effort would provide valuable insight to postal management.

The Postal Service's modeling effort can be improved by starting with a baseline model that is validated against known conditions, including actual plant productivities. The Postal Service designs its network using a workhours per square foot measurement of productivity. The results are counter to empirical evidence. Productivity is best measured by comparing workhours to the volume of mail processed. The Postal Service's underlying assumption that larger plants process mail less expensively than other plants should be reviewed and a reliable optimal rationalization solution that relies on shifting mail processing to those plants that currently exhibit higher productivities should be considered.

The Commission concludes that in order to capture the anticipated cost savings upon full implementation of MPNR, the Postal Service would have to improve average systemwide productivity by over 20 percent. The Commission cautions that improvements of this magnitude are remarkably ambitious and involve some risk.

The Commission estimates that MPNR cost savings may be as low as $46 million annually assuming mail processing productivities remain at current levels, or as high as $2 billion annually if all proposed assumptions prove correct. Cost savings may be offset by reduced contribution to the bottom line from volume loss by mailers who no longer believe the level of service provided meets their postal needs.

The Postal Service initially estimated lost contribution as $500 million upon full implementation of MPNR. The Commission is unable to replicate the Postal Service's analysis, and the Postal Service now concedes that there are problems with the estimate.

It remains important to estimate customer reaction to service changes in order to balance the risk of achieving projected savings with the risk of possible volume and revenue loss. Recognizing that costs are involved in developing such information, the Commission encourages continuing efforts by the Postal Service to more reliably evaluate potential volume losses associated with its various proposals.

The Commission concludes that the Postal Service's estimates of cost savings related to maintenance and facilities and most transportation cost estimates appear reasonable. The Commission also recognizes that the majority of transportation cost savings may be realized separate from implementing MPNR.

The Commission encourages the Postal Service to study the effects of the service standard changes during the initial implementation phase to inform its decisions before going forward with full implementation. While these evaluations may not be cost free, given the magnitude of service changes contemplated, it is important for the Postal Service to proceed with accurate information.

Finally, the Commission identifies areas the Postal Service has not addressed. The Commission advises the Postal Service to undertake an effort to better inform all customers of the service they should expect. The Commission also advises that a transportation hub plan be developed and made known to mailers.

II. INTRODUCTION

A. Advisory Opinions

On December 5, 2011, the Postal Service requested that the Commission issue an advisory opinion pursuant to 39 U.S.C. § 3661 regarding proposed changes in service standards.[1]

> When the Postal Service determines that there should be a change in the nature of postal services which will generally affect service on a nationwide or substantially nationwide basis, it shall submit a proposal, within a reasonable time prior to the effective date of such proposal, to the Postal Regulatory Commission requesting an advisory opinion on the change.

39 U.S.C. § 3661(b).

The Postal Service asserts "[t]here should be no doubt that the service changes described in this Request and supporting testimonies and library references will be 'nationwide' within the meaning of section 3661(b)." Request at 13. The Postal Service contends that the changes, if implemented, "could affect every sender and recipient of mail in the United States." *Id.*

The Commission's Rules of Practice and Procedure require the Postal Service to file its Request "not less than 90 days in advance of the date on which the Postal Service proposes to make effective the change in the nature of postal service involved." 39 CFR § 3001.72. In its Request, the Postal Service states it does not intend to implement the service changes associated with its Request earlier than the first half of April 2012. *Id.* at 14. Accordingly, the Postal Service contends its Request is filed "within a reasonable time prior to the effective date of such proposal." *Id.* The

[1] Request of the United States Postal Service for an Advisory Opinion on Changes in the Nature of Postal Services, December 5, 2011 (Request).

Commission established Docket No. N2012-1 to consider the Postal Service's Request.[2]

The Commission's role when considering a Postal Service request for an advisory opinion is codified in 39 U.S.C. § 3661(c).

> The Commission shall not issue its opinion on any proposal until an opportunity for hearing on the record under sections 556 and 557 of title 5 has been accorded to the Postal Service, users of the mail, and an officer of the Commission who shall be required to represent the interests of the general public. The opinion shall be in writing and shall include a certification by each Commissioner agreeing with the opinion that in his judgment the opinion conforms to the policies established under this title.

39 U.S.C. § 3661(c).

A hearing on the record allows the Postal Service and other parties the opportunity to present their "case or defense by oral or documentary evidence, to submit rebuttal evidence, and to conduct such cross-examination as may be required for a full and true disclosure of the facts." 5 U.S.C. § 556(c).

The instant case is complex. Twenty-seven parties were involved. The Postal Service and interested participants filed 41 pieces of testimony and over 170 library references. Ten days of hearings were convened, generating approximately 4,700 pages of transcript. Intervening events, such as the completion of Area Mail Processing (AMP) studies and the Postal Service's modified implementation plan, altered, but did not extend, the procedural schedule.

The advice provided by the Commission in this docket can be succinctly summarized. The Commission views positively the network rationalization actions planned by the Postal Service through January 31, 2014, and recommends that the

[2] Notice and Order Concerning Request for an Advisory Opinion Regarding the Revision of Service Standards for First-Class Mail, Periodicals, Package Services, and Standard Mail, December 7, 2011. (Order No. 1027); *See also* 76 FR 77942 (December 15, 2011).

Postal Service take into account the considerations outlined in this Advisory Opinion before proceeding further. Specifically, the Commission encourages the Postal Service to make every attempt to retain overnight delivery in keeping with the analysis presented in the subsequent chapters.

B. Establishing and Revising Service Standards

The Request asks the Commission to provide advice on proposed changes to service standards that most significantly affect First-Class Mail and Periodicals. The establishment of service standards is mandated by 39 U.S.C. § 3691, which requires the Postal Service, in consultation with the Postal Regulatory Commission, to establish by regulation a set of modern service standards for market dominant products. *See* 39 U.S.C. § 3691(a).[3] Service standards are to be consistent with certain statutory objectives (§ 3691(b)) and factors (§ 3691(c)).

The Commission has a continuing role with service standards. The modern system of rate regulation incorporates recognition of the value (§ 3622(c)(1, 8)) and quality (§ 3622(c)(12)) of mail service. The Postal Service's Annual Compliance Report to the Commission must measure the quality of service afforded market dominant products, including the level of service described in terms of speed of delivery and reliability (§ 3652(a)(2)(B)(i)). This information is used for determining Postal Service compliance with applicable requirements of title 39 as reported in the Commission's Annual Compliance Determination (§ 3653).

Specifically, the Commission must annually determine whether the Postal Service meets its service standards (§ 3653(b)(2)), and if it does not, take appropriate action (§ 3653(c)). The Commission established rules concerning the periodic reporting

[3] Consultations between the Commission and the Postal Service concerning the initial establishment of service standards concluded on November 19, 2007. The Postal Service published final rules establishing service standards for most market dominant products on December 19, 2007. 72 FR 72216 (December 19, 2007), codified at 39 CFR parts 121 and 122.

of service performance measurements.[4] Both service standards and reporting requirements have been revisited from time to time either to modify existing requirements or consider requirements that were not originally considered.

The Postal Service may adjust service standards (§ 3691(a)). However, when the Postal Service determines that there should be a change in the nature of postal services which will generally affect services nationwide or on a substantially nationwide basis, it must submit a proposal and request an advisory opinion from the Commission (§ 3661(b)). This Request seeks an advisory opinion on proposed changes to service standards consistent with this requirement.

C. The Postal Service's Request

The Postal Service proposes to revise service standards for First-Class Mail, Periodicals, Package Services, and Standard Mail. The most significant revisions would eliminate the expectation of overnight service for all single-piece First-Class Mail. Presort First-Class Mail and Periodicals will have to meet new, more stringent entry requirements in order to retain overnight service. In general, 45 percent of all First-Class Mail will no longer receive overnight service, and the majority of First-Class Mail previously receiving 2-day service will be deferred to 3-day. Within First-Class Mail, 3-digit ZIP Code origin-destination pair service standards would be modified to change overnight delivery to 2-day delivery, and to change a large portion of 2-day delivery to 3-day delivery. Request at 1. Although changes to service standards for competitive products such as Express Mail and Priority Mail are not being proposed, the realignment of 3-digit ZIP Code origin-destination pairs could also affect those products. *Id.* at 7.

[4] *See* Order No. 465, Order Establishing Final Rules Concerning Periodic Reporting of Service Performance Measurement and Customer Satisfaction, May 25, 2010; *See also* 39 CFR § 3055.

The Postal Service asserts the service standard changes are necessary to allow it to cut the number of processing plants roughly in half and to consolidate its transportation networks. It contends the consolidated networks would better align with current and projected mail volumes and result in substantial cost savings. *Id.* at 1-2. The Postal Service initially projected that this effort would result in net savings of $2.1 billion annually. *Id.* at 4. Subsequently, the Postal Service revised this estimate to $1.6 billion.

The Request as originally filed is accompanied by 13 pieces of testimony, 33 public library references, and 6 non-public library references. The Postal Service presents an overview of proposed service standard changes and the associated processing and transportation network changes in the direct testimony of David E. Williams (USPS-T-1). The Postal Service presents the financial context for pursuing MPNR in the direct testimony of Stephen Masse (USPS-T-2).

The modeling performed to study potential network changes is presented in the direct testimony of Emily R. Rosenberg (USPS-T-3). The delivery, mail processing, maintenance, and transportation operational changes that are being planned are explained in the direct testimonies of Frank Neri (USPS-T-4), Dominic L. Bratta (USPS-T-5), and Cheryl D. Martin (USPS-T-6).

The direct testimonies of Pritha N. Mehra (USPS-T-7) and Kevin Rachel (USPS-T-8) discuss potential commercial mailer impacts and labor issues relating to potential cost savings. Detailed estimates of the operational cost savings that could be achieved if the changes were in effect are provided in direct testimonies of Marc A. Smith (USPS-T-9) and Michael D. Bradley (USPS-T-10).

The direct testimony of Rebecca Elmore-Yalch (USPS-T-11) presents the quantitative and qualitative market research sponsored by the Postal Service for estimating potential volume loss associated with implementation of MPNR. Potential

revenue loss, based upon the potential volume loss, is addressed in the direct testimony of Greg Whiteman (USPS-T-12).

The Postal Service asserts the service changes described in this Request potentially affect every sender and recipient of mail served directly by the Postal Service. Accordingly, the direct testimony of Susan M. LaChance (USPS-T-13) summarizes the tools and techniques that the Postal Service has employed and will continue to employ for communicating information to customers in a timely fashion.

D. Participant Testimony

Participants filed the rebuttal testimony of 17 witnesses, including 2 witnesses sponsored by the Public Representative, and 2 Commission sponsored witnesses. These testimonies are briefly summarized below.

1. American Postal Workers Union, AFL-CIO

The rebuttal testimony of APWU witness Kathryn Kobe (APWU-RT-1) disputes the AMP study costs associated with APWU workhours, as the Postal Service has increasingly used non-career employees to perform clerk work in mail processing under the APWU 2010 National Agreement. APWU witness Marc Schiller (APWU-RT-2) provides the results of a modeling effort to display the risk of a higher volume loss in various classes of mail than that which the Postal Service calculated, as well as the potential risk that multiple changes in service would deter customers from using the Postal Service. Witness Pierre Kacha (APWU-RT-3) produced a model which indicates that the Postal Service could achieve a majority of consolidations as well as significant savings without changing service standards.

2. National Association of Letter Carriers, AFL-CIO

NALC witness Michael Crew (NALC-T-1) submits testimony arguing that the Postal Service underestimates the decline in business that will be caused by reducing

the quality of service, and criticizes the lack of confidence intervals for the Postal Service's estimates of decline in mail volume. In addition, he believes the use of the "probability of change" and "solely attributable" factors employed by the Postal Service to estimate mail loss, overestimate the savings MPNR will generate. Witness Crew recommends that the Postal Service utilize econometric studies to assess the impact of contemplated service changes. Finally, he argues that the reduction in service standards would amount to a price increase.

3. National Newspaper Association

NNA witness Max Heath (NNA-T-1) testifies that smaller community processing plants historically offer better service, and that the Postal Service errs in aggregating mail processing in large urban plants, especially because larger plants have more difficulty absorbing higher volumes without disruption to mailers. Witness David Bordewyk (NNA-T-2) testifies that the Postal Service has not adequately considered the effect of plant closings in rural areas.

4. National Postal Mail Handlers Union

NPMHU's seven witnesses critique the Postal Service's calculations of potential cost savings, and specifically focus on the cost savings numbers derived from the AMP studies.[5]

5. Public Representative

Witness Kevin Neels (PR-T-1) contends that the Postal Service's changes to First-Class Mail service standards circumvent the price cap that market dominant products are subject to because of the relationship between price and quality of service.

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[5] *See* testimonies of Michael Hora (NPMHU-T-1); Paul Hogrogian (NPMHU-T-2); Christopher Bentley (NPMHU-T-3); James Haggarty (NPMHU-T-4); David Wilkin (NPMHU-T-5); Kenny Hayes (NPMHU-T-6); Robert J. Broxton Sr. (NPMHU-T-7).

Witness Subramanian Raghavan (PR-T-2) addresses potential flaws in the Postal Service's scoring tool, and critiques the Postal Service for not including plant-to-plant transportation costs in its analysis. He also modifies the LogicNet model utilized by the Postal Service, and concludes that the Postal Service could significantly reduce its capital stock (plants and equipment) without changing service levels.

6. Commission sponsored witnesses

Witness William Weed (PRCWIT-T-1) presents an independent evaluation of cost and staffing changes from MPNR by evaluating Postal Service assumptions for productivity gains, examining processing costs, estimating savings for proposed consolidations, and providing an alternate proposal under which a portion of mail would continue to receive overnight service. Witness Harold J. Matz (PRCWIT-T-2) identifies instances where consolidations would be possible without the elimination of overnight service standards.

E. Roadmap to the Advisory Opinion

This Advisory Opinion describes and analyzes the Postal Service's MPNR proposals, along with intervenor comments and suggestions, in seven substantive chapters.

The procedural history of this docket is reviewed in Chapter III. This chapter places into context the issues involved, along with the intervening events that altered the Postal Service's original Request and required adjustments to the initial schedule.[6]

[6] The events most affecting the procedural schedule included consideration of the February 23, 2012, release of AMP studies that resulted in revisions to the Postal Service's cost savings estimates, and the May 17, 2012 release of the Postal Service's modified MPNR implementation plan that provided new interim and final service standards to consider.

Chapter IV describes the balance between achieving cost savings and the necessity to reduce service. Alternatives are presented that demonstrate significant cost savings are possible, without a significant change in service.

The Postal Service phased implementation plan announced on May 17, 2012 is described in Chapter V. This includes a description of the service standards that will be in effect for each of the two major phases of implementation and a discussion of the differences from the service standards originally proposed in this docket. The chapter also reviews the rough financial estimates that the Postal Service provided for the first phase of implementation. The chapter concludes with recommendations for each phase of implementation, including suggestions for specific information that the Postal Service should gather while the first phase is ongoing, and review before making a final decision to proceed with the second and final phase of network rationalization.

Chapter VI analyzes the Postal Service's modeling efforts. It also provides a Commission analysis of Phase 1 using a modified model.

The Commission's analysis of the Postal Service's cost savings estimates is discussed in Chapter VII. Mail processing operations, maintenance and facilities, and transportation network cost savings are reviewed. The estimates of cost savings are combined to develop an overall MPNR cost savings estimate.

Chapter VIII describes the qualitative and quantitative research used for estimating volume loss, and the Commission's unsuccessful attempts to replicate these estimates. The Postal Service's revenue loss estimates that are based upon the volume loss estimates are also discussed.

Chapter IX reviews the applicable statutory requirements, including intervenor consideration of a price/quality and rate-cap link.

III. PROCEDURAL HISTORY

To properly understand the procedural history of this case, it is important to understand the context in which the Request was made. The Postal Service is facing unprecedented and extremely challenging financial circumstances. The Postal Service's cumulative losses over the past 5 years amount to $25.3 billion. In the 2011 Annual Compliance Determination (ACD), the Commission found that a primary reason for the Postal Service's losses is the overly optimistic Retiree Health Benefits Fund pre-funding requirement.[7] It also found that the combination of the price cap and the continuing decline of First-Class Mail prevents the Postal Service from generating sufficient funds from mail users to cover its institutional costs, noting that if First-Class Mail volume had remained at its 2006 level, the Postal Service would have generated an additional $5.2 billion in contribution in FY 2011. FY 2011 ACD at 5. The Postal Service continues to operate at a substantial deficit, and recently defaulted for the first time on a payment to the United States Treasury. Congress has been considering remedial action, and the Postal Service is continuing to pursue ways to reduce costs consistent with its current statutory authority. Under these circumstances, it has proposed to close roughly half of its processing plants, which will delay delivery of nearly 80 percent of First-Class Mail by a day.

When the Postal Service provided its proposal to the Commission, it had not fully completed its analysis of its plan. Ideally, a request for an advisory opinion would provide a fully realized plan ready for Commission evaluation. As a practical matter, when faced with the need to respond to dire financial circumstances quickly, the Postal Service may not be able to fully develop a plan before it asks the Commission for its

[7] The law mandates ten specific payments of approximately $5.5 billion each year, before being amortized over a multi-decade period. The Postal Service has paid $44 billion into the fund.

opinion. In this instance, the Postal Service provided the most reliable estimates available, and updated them as new information was received.

The procedural history reflects continuing efforts to balance the need for the Postal Service to act quickly and the need of the Commission and participants to review issues at hand and develop informed and helpful advice. The Postal Service filed its Request on December 5, 2011, asking for a determination on whether its plan to consolidate mail processing and transportation networks, and to change certain service standards conforms to the requirements of the applicable portions of title 39. When the Postal Service filed its Request, it asked the Commission to expedite the procedural schedule of the case. Request at 14-15. The Postal Service referred to the case as the Mail Processing Network Rationalization (MPNR) initiative. *Id.* at 1.

Following the filing of the Request, 25 parties filed notices of intervention. A list of parties and associated counsel, including party name short forms used throughout this document, appears in Appendix A.

In support of its Request, the Postal Service filed the direct testimony of 13 expert witnesses, as well as 39 library references.[8] The Commission issued Order No. 1027 announcing the filing of the Request, noticing the proceeding in the *Federal Register*, establishing a deadline for intervention, setting a date for a prehearing conference, and designating an officer of the Commission to represent the interests of the general public.

In Order No. 1027, the Commission discusses the Postal Service's Request to expedite and streamline the proceeding, and requests that comments on the duration and form of the proceedings should be presented during a prehearing conference scheduled for January 4, 2012. *Id.* at 4.

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[8] *See* Appendix B: Testimony Filed in Docket No. N2012-1.

During the prehearing conference, there was significant discussion about how much time should be allowed for discovery. The Commission reiterated that the Postal Service and the Commission were intent on a streamlined procedural schedule, while still allowing for due process to ensure an informed and meaningful record. Tr. 1/16.

Participants raised concerns that the Postal Service had not yet completed or filed all of the AMP studies, which were intended to be a fundamental component of its case. *Id*. at 22-23. Participants stated that the inability to examine and conduct discovery on the AMP studies would prevent them from properly analyzing and responding to the Postal Service's direct case. *Id.* Participants also expressed the need for an appropriate discovery timeline in order to understand the optimization model utilized by the Postal Service. *Id*. at 28-29. At the end of the hearing, the Commission asked the Postal Service and participants for written comments expressing their opinions on how the procedural schedule should be structured. *Id*. at 29.

The Commission received written comments concerning preferences for establishing a procedural schedule, and the need for technical conferences or other special procedures from APWU, GCA, NALC, NPMHU, the Public Representative, and the Postal Service.[9]

The Postal Service stated that closing discovery 30 days after the issuance of the scheduling order would be reasonable. *See* Postal Service Comments at 1. Most participants requested 45 days of discovery from the issuance of the scheduling order.

[9] American Postal Workers Union, AFL-CIO, Comments on Schedule and Other Procedural Matters, January 6, 2012 (APWU Comments); Greeting Card Association Response to Public Representative's Notice of Proposed Procedural Schedule, January 9, 2012; Statement Concerning Scheduling Submitted by the National Association of Letter Carriers, AFL-CIO, January 6, 2012; Supplemental Statement Concerning Scheduling Submitted by the National Association of Letter Carriers, AFL-CIO, January 9, 2012 (NALC Statement); Statement of the National Postal Mail Handlers Union Regarding Timelines for the Completion of Discovery on the Postal Service's Direct Case and the Submission of Rebuttal Testimony, January 6, 2012 (NPMHU Statement); Public Representative Notice of Proposed Procedural Schedule, January 5, 2012 (PR Notice); United States Postal Service Reply to Comments Regarding Scheduling and Other Procedural Matters, January 9, 2012 (Postal Service Comments).

See APWU Comments at 2; NALC Statement at 1; PR Notice at 3. Other participants requested additional time for discovery after a critical mass of AMP studies had been published. *See* NPMHU Statement at 5.

The Presiding Officer announced the procedural schedule on January 12, 2012.[10] Discovery on the Postal Service case was to extend for 45 days and 30 days was allowed for discovery directed to the development of rebuttal testimony. The schedule was designed to carefully balance "the Postal Service's request to expedite and streamline the proceeding and participants' rights to adequately explore and comment on the Postal Service's proposals." *Id.* at 1.

The Postal Service requested reconsideration of the procedural schedule on January 18, 2012.[11] It asked that the procedural schedule be altered to allow the Commission to issue the Advisory Opinion by mid-April; however, it offered no suggestions on how that could be achieved consistent with due process requirements. By Order, the Commission reaffirmed its procedural schedule, stating that, "[t]he complexity of the case appears to justify the schedule as issued."[12]

On January 20, 2012, the Postal Service held a technical conference to clarify how the network modeling described by witness Rosenberg was executed.[13] No other technical conferences were offered or requested by the Postal Service.

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[10] Presiding Officer's Ruling N2012-1/5, *See* Presiding Officer's Ruling Establishing Procedural Schedule, January 12, 2012.

[11] Motion for Reconsideration of Presiding Officer's Ruling No. N2012-1/5 Establishing Procedural Schedule, January 18, 2012. Replies in opposition were filed by APWU, NPMHU, and the Public Representative.

[12] Order No. 1183, Order Denying Motion for Reconsideration of Ruling Establishing Procedural Schedule, at 6, January 31, 2012.

[13] United States Postal Service Notice of Scheduling of Technical Conference in Relation to Testimony of Witness Emily Rosenberg (USPS-T-3), January 6, 2012.

On February 23, 2012, the Postal Service announced that it had completed its AMP studies and made the operational consolidation decisions regarding the plants that were pending when the Request was filed. On this date, employees at affected plants were notified of the decision on whether their operations would be consolidated. Tr. 2/128.

On March 20-23, 2012, hearings were held to receive the Postal Service's direct case. Cross-examination revealed that the release of the February 23, 2012 AMP decisions necessitated that many of the Postal Service witnesses update their testimony.[14] Witness Williams testified that based on the AMP studies, the list of plants to be closed or consolidated had changed. Moreover, he testified that there was a disparity in cost savings between what was presented in the initial proposal, and projections incorporating the February 23, 2012 AMP data. Tr. 2/422.

The Postal Service committed to summarize the results of the AMP studies, and update the testimony of the witnesses affected by the new information. Tr. 5/1539-41. However, this presented procedural problems as intervenor testimony was due by

[14] Witness Neri stated that the impacts on delivery profiles would depend on the results of individual AMP studies, and that specific management and staffing reductions could not be identified until all AMP studies had been completed. Tr. 5/1875; *Id.* at 2001. Witness Bratta explained that an accurate count of mail processing equipment that would compose the Postal Service network if the changes in the MPNR were implemented could not be provided until the AMP process was completed. Tr. 4/929. Witness Martin explained that her initial estimates for the rationalized transportation network depended on how many plant consolidations were implemented, which would be determined by the facility-specific AMP process. *Id*. at 1054. She further stated that the transportation plan for the MPNR Network was subject to "review, reevaluation, modification, and possible withdrawal" after a final decision was made by postal management to consolidate facilities based on the AMP studies. *Id*. at 1064. Witnesses Smith and Bradley's testimonies relied on the testimony of witnesses Bratta, Neri, and Martin, and would need to be revised if their testimony changed. Tr. 5/1072.

April 23, 2012, before the date all the updates would be provided. Several participants requested time for additional discovery on the modified testimony.[15]

In recognition of the need for a timely decision, written discovery was not allowed.[16] Instead, an additional hearing for oral cross-examination on the updates was scheduled. *Id.* at 3. While intervenor rebuttal testimony would still be due April 23, 2012, updates to intervenor testimony based on information gleaned from the hearing were permitted until May 24, 2012. *Id.*

Thus, the Commission integrated additional steps into the existing procedural schedule, without lengthening it, in order to accommodate accurate cost estimates. Supplemental testimony of witnesses Martin and Bratta were filed on April 16, 2012. Supplemental testimony of witnesses Smith and Bradley were filed April 30, 2012.

The hearing to receive into evidence this supplemental testimony was held on May 9, 2012. The witnesses explained how the data available February 23, 2012 affected their estimates. The updated testimony reflected a decrease in total savings from what was initially projected by the MPNR initiative. Tr. 8/2551-53.

On May 17, 2012, the Postal Service issued a press release announcing it "plans to move ahead with a modified plan to consolidate its network of 461 mail processing locations in phases."[17] The Commission scheduled an additional hearing to consider issues related to the Modified Plan, again without lengthening the procedural

[15] Statement by Intervenor National Postal Mail Handlers Union Regarding Discovery Schedule in Light of the Postal Service's Anticipated Supplementation or Revision of Testimony, March 26, 2012; Statement of the American Postal Workers Union, AFL-CIO Concerning Modification of the Procedural Schedule, March 27, 2012.

[16] Order No. 1301, Concerning Scheduling of Updated Postal Service Testimony, March 29, 2012.

[17] United States Postal Service Postal News, Release No. 12-058, May 17, 2012 (Modified Plan).

schedule.[18] The Postal Service was instructed to provide a witness to answer written questions and appear at a hearing with the ability to respond to oral questions related to the Modified Plan.[19]

On May 25, 2012, the Postal Service published final revisions to its service standard regulations, and stated that the revisions and other changes would be implemented in two phases, rather than the one phase that had been discussed throughout the case. *See* 77 FR 31190 (May 25, 2012). Witness Rosenberg responded to questions on the two-phased Modified Network Plan at a June 7, 2012 hearing.

The Commission held hearings to receive 15 pieces of rebuttal testimony from 5 intervenors on June 13-14, 2012. *See* Appendix B. Two Commission sponsored witnesses also presented testimony. The Commission held a hearing to receive Postal Service surrebuttal testimony on June 28, 2012.

The record in this docket closed on July 5, 2012.[20]

On July 10-11, 2012, briefs were filed by APWU, GCA, NALC, NNA, NPMHU, NPPC, Popkin, the Public Representative, the Postal Service, and Valpak.[21]

On July 18, 2012, the Commission issued an order directing the Postal Service to provide a response to POIR No. 9, question 1, regarding the volume loss calculations

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[18] Order Scheduling Hearing Concerning Postal Service's Modified Network Consolidation Plan, May 24, 2012 (Order No. 1353).

[19] Commission Information Request No. 1 (CIR No. 1) was issued on the same day as Order No. 1353, and witness Rosenberg responded as the Postal Service representative to CIR No. 1 on June 4, 2012.

[20] Presiding Officer's Ruling No. N2012-1/74, Presiding Officer's Ruling Incorporating Final Designations into the Record and Closing the Evidentiary Record, July 5, 2012.

[21] *See* Appendix C: Briefs/Reply Briefs Filed in Docket No. N2012-1.

performed by witness Elmore-Yalch.[22] The question posed was the third attempt to clarify issues related to replicating her analysis. At the June 28 hearing, a response had been promised by July 5, 2012. On July 20, 2012, the Postal Service filed an answer providing some, but not all of the information requested, and indicated errors had been newly identified.[23]

On July 20, 2012, reply briefs were filed by APWU, NALC, NPMHU, Public Representative, Postal Service, and Valpak.[24]

On July 20, 2012, the Postal Service filed a motion to strike sections of the Public Representative's initial brief.[25] On July 24, 2012, APWU filed a motion to strike the "V.E Supplement" section from the Postal Service Reply Brief.[26] The Commission shall treat the material identified in the motions to strike as argument or comment, and not as record evidence. Material submitted on brief or reply brief is not part of the evidentiary record. The same is true for the Response to POIR No. 9 submitted on July 20, 2012.[27]

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[22] Order No. 1406, Order Directing the Postal Service to Provide a More Responsive Answer, July 18, 2012.

[23] Response of United States Postal Service Witness Elmore-Yalch to Presiding Officer's Information Request No. 9, question 1, as Amended by Tr. 12/4501, July 20, 2012 (Response to POIR No. 9).

[24] *See* Appendix C: Briefs/Reply Briefs Filed in Docket No. N2012-1.

[25] Motion of the United States Postal Service to Strike a Portion of the Initial Brief of the Public Representative, July 20, 2012.

[26] American Postal Workers Union, AFL-CIO, Motion to Strike a Portion of the USPS Reply Brief, July 24, 2012.

[27] A factor to consider when determining how much weight is to be given to arguments presented on brief is the extent to which the material relies upon evidence in the record. The Postal Service's calculations of revenue loss appearing in its reply brief are based in part on Response to POIR No. 9, which is not part of the evidentiary record. Furthermore, the Postal Service's intermediate calculations have not been vetted in any manner. Thus, calculations of revenue loss presented on brief after the close of the record will not be relied upon. However, the Postal Service's statements that it believes it has identified errors in its original testimony may be relied on.

As evident from the above procedural history, the case was complex and evolving.[28] Although the Postal Service needed to update its testimony, and change its plan for adjusting service standards, the Commission was able to provide additional hearings and discovery when necessary, consistent with due process, and without extending the procedural schedule.

[28] During the course of the proceedings, the Postal Service was presented with over 1,000 interrogatory requests, and put forth a great effort to answer all promptly. However, because of the number of requests and the issues involved in the case, the Postal Service had to submit approximately 90 requests for late acceptance. In addition, the Postal Service filed 90 additional library references, supplemental testimony, and added an additional witness to testify about the phased implementation plan.

IV. BALANCING SAVINGS AND SERVICE REDUCTIONS

A. Overview

The Postal Service presented its original network plan premised on the belief that in order to achieve significant savings by realigning its networks, it must necessarily modify its service standards.[29] The Postal Service's network rationalization analysis did not include an investigation of whether slowing First-Class Mail service by a day is necessary to capture substantial mail processing savings from network reconfiguration. The testimonies of several participants in this docket investigate this assumption. These participants conclude that the Postal Service could make large reductions in its capital stock (buildings and mail sorting equipment) and capture the associated savings without significantly slowing service.

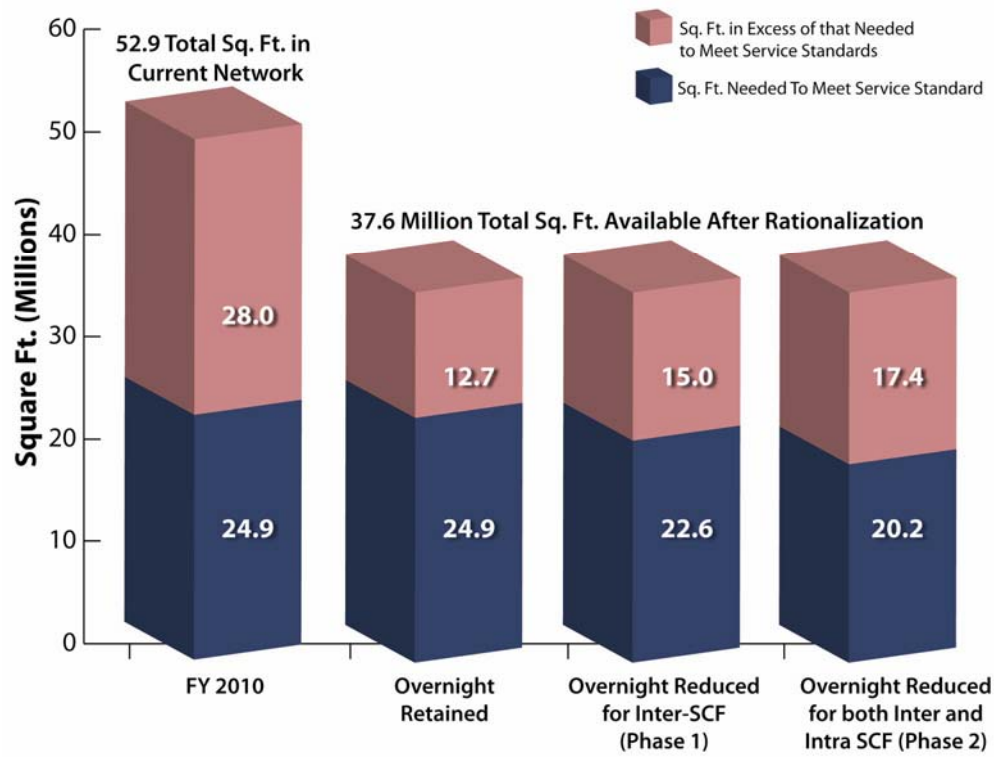
Using a modified version of the modeling tool presented by the Postal Service, the Commission concludes that it may be possible to realize significant savings with little or no change in service standards.[30] Figure IV-1 shows that a large percentage of the Postal Service's capital stock could be eliminated with relatively small reductions in service. The remainder of this chapter describes how the Commission reaches this conclusion.

[29] Approximately 80 percent of single-piece First-Class Mail, and an unknown portion of presort First-Class Mail would be delivered at least 1 day later under the proposed changes.

[30] The software is IBM LogicNet Plus 6.0 XE (LNP).

Figure IV-1

Available vs. Required Square Feet



The network optimization tool presented by the Postal Service can be used to allocate the necessary square feet and number of machines across the network while minimizing costs and limiting the impact on service levels.[31] Investigating alternative approaches to network optimization of this kind helps ensure that network downsizing and associated savings are achieved with the minimum change of service necessary and the minimum attendant loss of volume and revenue that may accompany service changes. The testimony on this record evaluates the tradeoff between cost reduction and service changes demonstrates there is a point in the Postal Service's cost curve

[31] The LogicNet software can be used for a wide variety of purposes. The Postal Service uses its LNP model to assign 3-digit ZIP Codes to plants, given a change in service standards. The participants in this docket, as well as the Commission, use the LNP software to determine the square footage required in the network with and without a change in service standards.

beyond which the additional savings captured are too small to justify the additional reduction of service that would result.

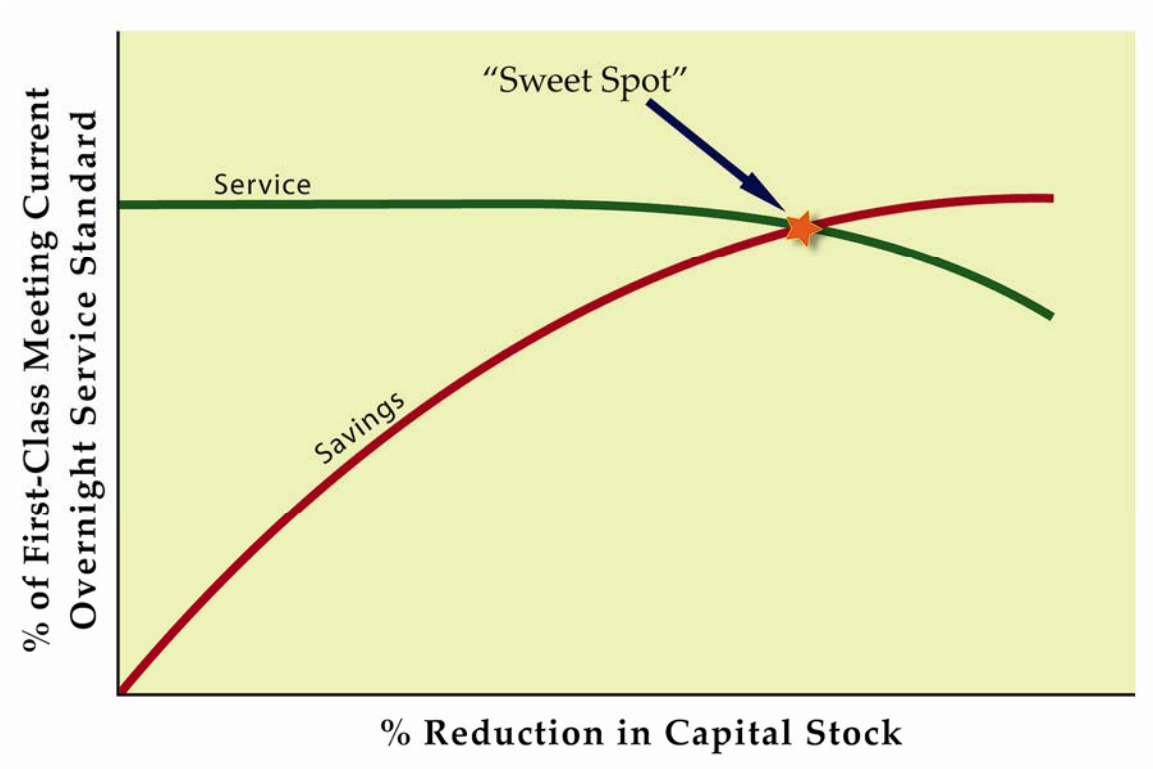
Systematically evaluating this tradeoff is not only in the interests of the consumers of postal services, but the Postal Service's institutional self-interest as well. The Postal Service is aware that adding an additional day to the delivery time of what is currently overnight and 2-day First-Class Mail involves a risk of revenue loss, since mailers may find reduced value in the service provided.

The Postal Service originally estimates that its proposal would result in $500 million in lost revenue. As detailed in Chapter VIII, Commission analysis determines that the estimate is not reliable. The Postal Service acknowledges an error that would have changed the result of the calculations. *See* Postal Service Reply Brief at 67. It is likely, however, that some revenue loss will occur if the Postal Service's proposed service changes are fully implemented.

Figure IV-2 shows the tradeoff that the Postal Service encounters when it reduces its capital stock to save mail processing costs and the amount of mail that must receive slower service as a result.

Figure IV-2

Depiction of Savings/Service Trade-Off in Network Rationalization



In Figure IV-2, the horizontal axis shows reductions of buildings and equipment under the network reconfiguration scenarios evaluated on this record. As one moves from left to right along the horizontal axis, the evaluated network configuration shrinks. The vertical axis shows the reduction in First-Class Mail receiving current levels of service as the size of the capital stock is reduced. As one moves from the top down along the vertical axis, the percent of First-Class Mail volume that is delivered within current service standards goes down. This is represented by the green curve. The red curve represents the level of savings generated by the reduction in capital stock, which increases as service standards are relaxed.

Figure IV-2 indicates that as the Postal Service closes plants and retires mail processing equipment, a virtual "sweet spot" is reached where the savings available from reducing the network's capital stock is likely to taper off and the volume of mail that

is delayed beyond current service standards is likely to accelerate. Taking network rationalization to this “sweet spot” is likely to maximize mail processing savings while minimizing the change to service. This would have the added benefit of protecting the market value of First-Class Mail, thereby preserving volumes and revenues.

B. Modeling Changes in Service Standard

The analysis that the Postal Service has submitted in this proceeding missed an opportunity to leverage fully the potential of network modeling because it assumed, before modeling work began, that the response to declining volume with the least financial risk is to slow delivery by a day.

There is a convergence of opinion on this record that the vast majority of mail processing savings that the Postal Service expects to attain can be captured without significantly changing service. These savings could be captured without incurring significant risk of lost revenue from reduced service. Consequently, the Commission concludes that consolidating as many plants as possible without significantly reducing service may involve less financial risk to the Postal Service than proceeding to full implementation of the network configuration and service level changes.

Table IV-1 and the discussion that follows summarizes the results of the analysis of the impacts that network reconfiguration would have on the Postal Service’s mail processing costs and on First-Class Mail service.

Table IV-1

Savings/Service Trade-Off Using Alternative Cost Driver Assumptions

	Cost Driver Assumptions	Reduction in Mail Receiving Overnight Service	Reduction in Plants	Estimated Savings ($ billions)	Estimated Revenue Loss ($ billions)
Postal Service	Assumes Larger Plants are Less Expensive	Majority[32]	238	2.1	(0.50)
Kacha (APWU)	Assumes Larger Plants are Less Expensive	14%	191	1.6	Unknown
Raghavan (Public Rep.)	Assumes Larger Plants are Less Expensive	Minimal	203	1.7	Unknown
Productivity Based (PRC)	Uses Actual Productivities	Minimal	107	1.8	Minimal

The assumptions underlying mail processing cost behavior and the corresponding reconfiguration strategy vary in these evaluations,[33] as does the width of the processing window.[34] Notwithstanding their differing assumptions and reconfiguration strategies, all of the evaluated network configurations except the Postal Service's lead to the conclusion that most of the savings that the Postal Service expects to achieve by reducing its capital stock could be achieved without a substantial change in service.

[32] All overnight single-piece First-Class Mail, plus an unknown portion of overnight presort First-Class Mail and Periodicals would no longer receive overnight service.

[33] The Postal Service, and witnesses Raghavan and Kacha, base their reconfiguration of the network on the assumption that larger plants have lower processing costs. Their reconfiguration closes smaller plants first. The Commission developed a LogicNet optimization that assumes actual productivity differences among plants will persist in a reconfigured network. *See* PRC-LR-N2012-1/NP3. Its reconfiguration closes less efficient plants first.

[34] The Postal Service's Phase 2 reconfiguration adds 1 day to current First-Class Mail delivery, with corresponding widening of processing windows. The other evaluated configurations depicted keep current service standards and operating windows.

C. Estimates of the Impact of Rationalizing the Postal Service Network

The Postal Service's planned reconfiguration assumes that large plants have lower processing costs, and selects plants to close based on this assumption.[35] The scenarios modeled by witnesses Raghavan and Kacha incorporate the same basic assumptions. They differ from the Postal Service in that their network configurations test the effect of eliminating as much of the Postal Service's capital stock as possible while maintaining current processing windows and service standards. Their model results suggest that reconfiguring the network without abandoning current service levels can capture more than 85 percent of the savings that the Postal Service expects to achieve by closing more than half of its plants and slowing First-Class Mail delivery by a day.

1. The Postal Service's estimates of savings given reduced service levels

The Postal Service estimates that it can achieve slightly more than $2 billion in savings. The network configuration and associated savings are driven by the assumption built into its version of the LNP model that larger plants will have lower unit costs. When fully implemented, this network reconfiguration will have reduced the number of processing plants from 441 to 203 and eliminated the equipment associated with the closed plants.[36]

The Postal Service estimates that the optimized network will save $968 million in direct mail processing costs and $449 million in indirect mail processing costs, for a total mail processing savings of $1.4 billion annually.[37] The Postal Service has not indicated what portion of this $1.4 billion reflects what it believes to be the effects of increasing

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[35] In Chapter VI, the Commission explains why this assumption is not likely to be valid.

[36] In FY 2010, 441 of the 461 plants identified by the Postal Service's Modified Plan had 3-digit ZIP Code assignments. *See* USPS-LR-N2012-1/NP2.

[37] *See* Table VII-1.

the volume processed at plants on the rationalized network (scale effects) and what portion reflects the effects of dramatically wider processing windows. In addition to the $1.4 billion in mail processing costs saved, the Postal Service estimates savings of $585 million for reduced maintenance labor and the salvage value of buildings and spare parts. *Id.* These savings are proportional to reduced plants and equipment.[38]

2. Witness Raghavan's estimate of savings under current service levels

Witness Raghavan accepts the Postal Service's version of the LNP model and its key assumption that larger plants have lower unit costs. PR-T-2 at 41-42. After modeling a baseline network as a reference point, he optimizes the modeled network, leaving intact current transportation and operating windows and the current service standard that they support.[39] From the optimized model results, he concludes that the number of active plants could be reduced by 202 without changing service standards. The Postal Service would dispose of 238 plants and their associated equipment. The Raghavan scenario, therefore, disposes of 85 percent (202/238) of the plants that the Postal Service would dispose of.

It is plausible to assume that the savings captured by witness Raghavan's rationalized network would be proportional to the number of plants disposed of. This should be the case if the sources of savings are: (1) processing productivity savings from the scale effect (rather than the elimination of idle labor time due to the

[38] Transportation savings are not included in this estimate because the small amount of ground transportation costs that the Postal Service believes would be saved in Phase 2 is almost exactly offset by increased air transportation costs.

[39] Appendix F discusses witness Raghavan's critique of the Postal Services model and the changes he made to the model.

lengthened processing window; and (2) maintenance/salvage related costs.[40] Under these assumptions, the Raghavan scenario would save 85 percent of $1.4 billion ($1.2 billion) as well as 85 percent of the $585 million in maintenance/salvage costs that the Postal Service expects to capture. Witness Raghavan's optimized network, therefore, should capture an estimated $1.7 billion in savings (85 percent of the Postal Service's estimate).[41]

Most of the $1.7 billion in savings implied by closing the number of plants that witness Raghavan would close could be captured without lengthening the processing window or significantly changing First-Class Mail service standards.

3. Witness Kacha's estimate of savings under current service levels

Witness Kacha did not design his model to find a reconfigured network that could meet current service standards using the minimum number of plants and their associated costs. Instead, he programmed his model to run scenarios assuming specific numbers of plants and to calculate the estimated effect of reducing the number of plants to that level on costs and service. When he instructs his model to simulate a network consisting of only 250 plants, his model calculates that $1.09 billion of mail processing costs would be saved. APWU-RT-3 at 5. This amount represents reductions in both direct and overhead mail processing costs. Witness Kacha's reconfigured network at this level would close 191 processing plants. This number is 80

[40] A more refined measure of the savings to expect from reduced maintenance labor and higher salvage value of real estate and spare parts would be the reduction in used square feet in the optimized network rather than the reduction in the number of plants. Witness Raghavan, however, provided the number of plants that his optimized network would close, but not the specific plants or their associated square feet.

[41] To the extent that the expected savings of network rationalization derive from the extension of operating windows, rather than from closing plants, Raghavan's scenario would result in fewer savings because it assumes no changes in operating windows. Under the extreme assumption that all of the Postal Service's expected productivity improvements are due to expanded operating windows, the Raghavan scenario would generate only those savings that are due to workload transfer and maintenance/salvage, which would be approximately $0.56 billion.

percent of the 238 plants that the Postal Service would close in Phase 2. *See* Appendix D for a discussion of his model.

Savings of maintenance labor and the value of (80 percent of $585 million) buildings and spare parts would come to $469 million. Total savings, therefore, would be $1.56 billion. Witness Kacha's model calculates that with this network configuration, the volume of First-Class Mail delivered within current overnight service standards would decline from 92.5 percent to 86 percent. *Id.* at 3.

4. Commission's use of conceptual recommendations of witnesses Weed and Matz to develop productivity based model

Witnesses Weed and Matz were hired by the Commission to provide an independent assessment of the effect of the Postal Service's network rationalization plan on costs and service. Their assessment does not assume that bigger plants will have lower unit processing costs in a reconfigured network. It focuses, instead, on the empirical evidence available on processing plant productivities and what inferences about future plant productivities can be drawn from the available empirical evidence.

The data on the productivity of processing plants shows that larger plants (measured by volume processed) historically are less productive. Witness Weed argues that if this historical pattern persists in the Postal Service's rationalized network where only the largest plants survive, productivities will either decrease, or be much less than the Postal Service expects, depending on how closely the performance of plants adheres to their historical pattern. He observes that large processing plants have inherent characteristics that explain most of their systematically lower productivity. He concludes that their lower productivities are likely to persist in the Postal Service's

rationalized network unless other effects overcome the drop in productivity that can be expected to occur when workload is systematically transferred to larger plants.[42]

Considerably less speculation is required to calculate the cost effects of consolidating volumes into the most productive plants than is required to calculate the cost effects of consolidating volumes into the largest plants. It is not necessary to adopt a theory that plant size determines unit processing costs in any particular way, for any particular reason. Nor is it necessary to assume that a lengthened processing window will affect unit costs in a particular way, for a particular reason. It is only necessary to assume that the factors that have determined plant-level productivities in the past are likely to continue to determine them in the rationalized network.

It is advantageous to have a model of a baseline network available to provide a benchmark for assessing the results of reconfiguring the network on the basis of individual plant productivities, as witnesses Weed and Matz recommend. Using Postal Service data, the Commission developed a baseline model. The Commission followed the advice provided by witnesses Kacha and Raghavan in modifying the Postal Service LNP model to incorporate current actual operating windows and other network characteristics.

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[42] In addition to considering productivity improvements, witnesses Weed and Matz also present an alternative proposal to preserve overnight service for the majority of First-Class Mail, while still generating substantial cost savings. Witness Matz testifies that nearly 75 percent of the volume of single-piece letter shaped First-Class Mail is "turnaround" mail. He says that if the current Outgoing Primary processing window were to be retained, and the Delivery Point Sequencing (DPS) window were lengthened modestly from 4 to 7 hours, turnaround single-piece First-Class Mail could still be delivered overnight. He notes that much of the current 2-day single-piece First-Class Mail (most of which the Postal Service plans to make 3-day mail under Phase 2) could remain 2-day mail under the 7-hour DPS window. PRCWIT-T-2 at 5-7.

Witness Weed says that lengthening the current 4-hour second-pass DPS window to 7 hours would allow operational changes to be made that would make the DPS operation more productive, saving from $48 to $92 million. He estimates that lengthening the DPS window to this modest degree would also allow between a 15 and a 25 percent reduction in the Postal Service's fleet of DPS machines, saving between $107 and $178 million. By modestly lengthening the second-pass DPS window, overnight delivery could be preserved for over 75 percent of the single-piece First-Class Mail that currently receives overnight delivery, and mail processing cost savings would range from $155 million to $270 million.

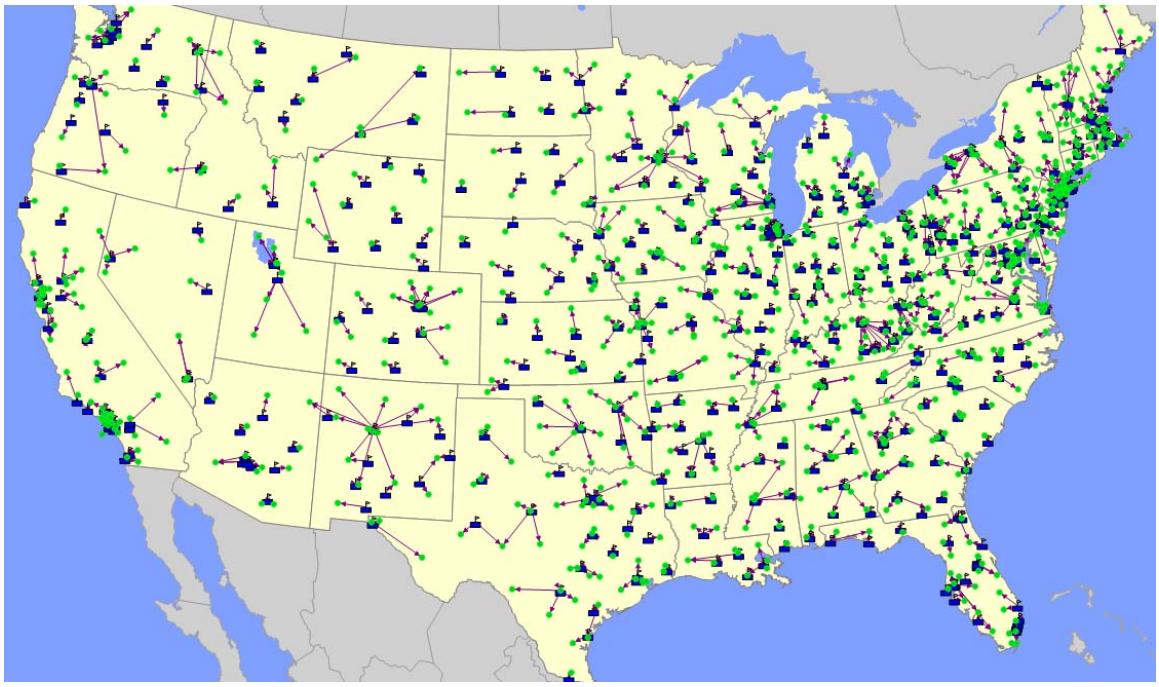
As explained in Appendix F, to determine which plants to close, the Postal Service's model used a regression based on the relationship between plant workhours and total square feet, not the portion of plant square feet that was actually devoted to mail processing. Using processing square feet to find the relationship of plant workhours to plant unit cost, captures the actual labor productivity of individual plants. This is important because productivity varies significantly among processing plants and indicates the workhours needed to process volume at particular plants. Workhours translates directly into mail processing labor costs. In Library Reference PRC-LR-N2012-1/NP2, NP3, the Commission modifies the Postal Service's LNP modeling procedure to develop a baseline model and evaluates the cost of the Postal Service's planned consolidations if historical productivity patterns hold.

The baseline model uses the productivities exhibited by specific plants to calculate capacity. This follows the recommendation of witnesses Weed and Matz that actual productivities exhibited by specific plants be taken into account in reconfiguring the network. The result is a modeled baseline network that closely resembles the current postal network and predicts the impacts that reconfiguration will have on the network if the Postal Service is unable to achieve significant productivity changes.

Figure IV-3 is a LogicNet output map that details the FY 2010 assignments of 3-digit ZIP Code customers to plants. In LogicNet graphics, the blue squares represent the location of 3-digit ZIP Code customers. The green triangles represent Postal Service processing plants. The purple lines are the transportation links between plants and their customer assignments.

Figure IV-3

LogicNet Map of Postal Service Plants in Baseline Network



In the baseline, the current operating window is used, and thus the current service standards are used. Table IV-2 summarizes the baseline model.

Table IV-2

FY 2010 Baseline Network

	FY 2010
Number of Plants	441
Mail Processing Cost ($ millions)	7,308
Fixed Cost ($ millions)	493
Total ($ millions)	7,802

After developing the baseline network, the Commission uses the LogicNet Plus software to optimize the network based on historical productivities. In this exercise, the LogicNet Plus software relies on a decision rule that workload should be added to the

most productive plants first. The current service changes are not changed. The estimated cost of the network generated by the productivity-based LNP optimization is presented in Table IV-3.

Table IV-3

Estimated Savings if Network is Optimized Based on Current Productivity

	FY 2010 Baseline	Optimized on Productivity	Difference	Percent Difference
Mail Processing Cost ($ millions)	7,308	5,971	1,337	18%
Plants	441	334	107	24%

The table shows that the baseline network would be reduced to the 334 most productive plants in the network.[43] Shifting volume from less productive to more productive plants, without changing operating windows or service standards, would increase productivity by 18 percent, and save $1.3 billion in direct mail processing costs.

The $1.3 billion compares favorably to the $968 million in direct mail processing costs that the Postal Service expects to save. The productivity-based optimization path has the added virtue that savings can be captured without lengthening mail processing windows or changing service. It thereby reduces the risk of hastening the current decline in volumes and revenues.

5. The analytical assumptions of witnesses Rosenberg, Raghavan, and Kacha describe a relatively high risk path to the "sweet spot."

The narrative above describes two contrasting analytical paths that reach essentially the same conclusion. The analytical path followed by witnesses Raghavan and Kacha estimates the mail processing costs that could be saved by eliminating a considerable portion of the network's plants and the equipment that are not needed to

[43] As was done by the Postal Service, any model results would need to be validated by field personnel.

maintain current service standards. Under their approach, however, the elimination of unneeded capital stock would be guided by the Postal Service's assumption that larger plants have lower unit processing costs. The evidence on the record demonstrates that this assumption is likely invalid. The analytical path outlined by witnesses Weed and Matz, however, makes no assumptions about the effect of plant size on unit mail processing costs. Their approach uses the historical data that shows the productivity differences among plants, determines the capacity available in each plant, and shifts as much volume as possible into the plants with the highest productivity.

The conclusion reached by both analytical paths is that the Postal Service could retain current service standards for most of its single-piece First-Class Mail and at the same time reap most of the savings that it expects to achieve from eliminating underused buildings and equipment in its network. This represents a well-considered balance between the Postal Service's need to reduce mail processing costs and its need to preserve, to the extent possible, the market appeal of First-Class Mail in order to protect its revenue stream.

D. Estimating Cost Changes from the Postal Service's Rationalized Network using Plant Specific Productivities

The Commission also modeled the Postal Service's network by applying the plant specific costs per productive square feet to the plants the Postal Service has identified as remaining after rationalization. This analysis provides insight into the possible impact of MPNR if the Postal Service's assumption regarding processing costs at larger plants is not valid.

The Commission modeled the cost of processing the mail in the 191 plants remaining in the rationalized network assuming FY 2010 productivities. The result is shown in Table IV-4.

Table IV-4

Cost Impact of Postal Service Planned Reconfiguration Assuming Historical Productivities Persist

	Phase 2 ($ millions)
Mail Processing Cost	7,968
Fixed Cost	333
Total	8,301

The consolidations, on the whole, move processing assignments from more productive plants to less productive plants. Based on the FY 2010 productivities, this reorganization will lead to an increase in total costs of $500 million. This includes an increase in mail processing labor costs of $660 million and reduction in fixed costs of $160 million. *See* PRC-LR-N2012-1/NP3. To overcome the increase in mail processing labor costs, productivity at plants that receive additional workload will have to increase by 6.5 percent.

The Postal Service expects the productivity of those plants to change for the better, and witnesses Raghavan and Kacha incorporate that expectation into their models. The productivity gains can be generated in two ways. Either all plants can improve productivity due to the expansion of the operating window or plants that remain in the network after consolidation can increase their current productivity rate.

Productivity improvements that result from the expansion of the operating window lower the costs at all plants. Productivity improvements related to plants that remain in the network after rationalization and process additional workload at a higher productivity rate impact only those plants that were consolidated.

The plants that the Postal Service has picked to remain after network rationalization will have to achieve historically unprecedented gains in productivity to reach the level of savings that the Postal Service (and, by inference, witnesses

Raghavan and Kacha) expects. Table IV-5 compares the productivity increases necessary under the two analytical paths to achieve the $968 million the Postal Service expects to achieve after implementation of MPNR.

Table IV-5

Comparison of Productivity Improvements Necessary to Achieve Postal Service Estimated Cost Savings

Row		Source	Baseline (FY 2010) ($ millions)	Cost of Network After Phase 2 ($ millions)	Productivity Based Optimization ($ millions)
1	Cost of network assuming FY 2010 productivities	Table IV-3 and Table IV-4	$7,308	$7,968	$5,971
2	Postal Service estimated savings	USPS-T-10	$968		
3	Postal Service estimated costs	$7,308 minus $968		$6,340	$6,340
4	Savings needed from new baseline network	Row 1 minus Row 3		$1,628	($369)
5	Percentage increase in productivity needed to achieve Postal Service estimated cost savings	Row 4 divided by Row 1		20.4%	(6%)
6	Percentage increase in productivity needed to maintain FY 2010 costs	($7,308 divided by $6,340) minus 1		8.4%	

Table IV-5 shows that the productivity ground lost by shifting volume from high productivity plants to low productivity plants is considerable. To simply restore mail processing costs to FY 2010 levels, the set of plants surviving after reconfiguration will have to increase their productivity by an average of 8.4 percent above the productivities

that they achieved in FY 2010.[44] Further, the Postal Service will have to increase the average productivity of all plants in the network by 20.4 percent to achieve the level of savings that it expects.

The Postal Service's presentation does not describe any technological breakthroughs that would lead to productivity increases of this size, nor any change in mail sorting methodologies or staffing practices that are expected to achieve them. This does not mean that productivity increases of this magnitude cannot be achieved. In recent years the Postal Service has made progress in this area. It does, however, indicate that selecting this analytical path to capturing approximately $1.7 billion in total mail processing savings without a major change in service standards (as witnesses Raghavan and Kacha believe could be done) involves considerable risk that these savings expectations may not be met. Similarly, it also indicates that the $2 billion in total mail processing savings that the Postal Service believes it will capture by reducing service by 1 day also involves considerable risk that its savings expectation may not be met.

The Postal Service has prudently chosen to implement its network rationalization in phases. Developing a baseline model and modeling the cost savings opportunities presented in the various phases of network rationalization is a useful exercise. The modeling tool presented by the Postal Service in this docket, offers an opportunity to monitor progress on reaching productivity goals as the Postal Service proceeds. The Postal Service can use the modeling tool to assess the advisability of fully implementing MPNR and gain insights into how to proceed if full implementation is deemed necessary.

[44] More significantly, to simply restore mail processing costs to current 2010 levels, the gaining plants in Phase 2 will have to increase their productivity by an average of 20 percent. To achieve the cost savings estimated by the Postal Service the gaining plants will need to increase productivity by 25.5 percent. *See* PRC-LR-N2012-1/NP2.

The Commission recommends that the Postal Service develop a model of a baseline network grounded in current, actual operating windows and plant-specific productivities. This would provide a means of validating its modeled rationalized network, and would provide a benchmark for measuring the impact of changing its operating plan and the impact of reducing the size of its network.

V. ANALYSIS OF SERVICE STANDARD CHANGES

A. Reasons for Making a Change

1. Postal Service argument

David E. Williams, Postal Service Vice President of Network Operations, provides an overview of the operational changes the Postal Service intends to implement through MPNR, and the resulting revisions to service standards for First-Class Mail, Standard Mail, Periodicals, and Package Services. *See* USPS-T-1.

He explains that the current network was designed and configured to accommodate an overnight First-Class Mail delivery standard. USPS-T-1 at 4; Tr. 7/2434. Since December 2007, the economic recession combined with a precipitous and largely irreversible decline in First-Class Mail volume have resulted in a network with excess capacity.

Witness Williams discusses the systemwide review undertaken by the Postal Service which led to the Postal Service's conclusion that plant-specific mail processing network consolidations must be undertaken beyond what was already completed or underway as part of the June 2008 Network Plan submitted to Congress. *See* USPS-LR-N2012-1/2. The Postal Service further determines that to align its network with anticipated volumes, it is necessary to modify market dominant service standards on a systemwide basis. *Id.* The Postal Service contends that further alignment of its network to meet anticipated volumes for the most part is unachievable without relaxation of certain market dominant service standards, particularly service standards applicable to First-Class Mail.[45]

[45] 76 FR 58434 (September 21, 2011); 76 FR 77942, 77943 (December 15, 2011).

Witness Williams states that it is necessary to relax service standards. *See* Tr. 2/351, 353; USPS-T-1 at 10. The planned service standard revisions will eliminate the availability of overnight service for a large portion of First-Class Mail and Periodicals. Mail no longer eligible for overnight service would be shifted to a 2-day service standard and a substantial portion of mail currently subject to a 2-day standard would be deferred to 3-day delivery. He asserts that the revisions will allow for significant consolidation of the Postal Service's processing and transportation networks, resulting in infrastructure that better match current and projected mail volumes while achieving significant cost savings.

He explains that the most significant network change under MPNR will be the consolidation of mail processing and distribution operations occurring in 251 Processing and Distribution Center/Facilities (P&DC/Fs). *Id.* at 10. He states that when the Request was filed, the Postal Service was applying USPS Handbook PO-408 guidelines to consolidate those plants into approximately 200 facilities, and make corresponding changes to the transportation network. *Id.* Concurrently, a significant operational change will be to expand the operating window for Delivery Point Sequencing (DPS) of letters and to expand the operating window for flats sorted by means other than Flats Sequencing Systems (FSS). *Id.* at 11.

Stephen J. Masse, Postal Service Vice President Finance and Planning, provides financial context for pursuing MPNR. *See* USPS-T-2. Witness Masse argues that the mail processing network after MPNR consolidations will be more efficient, better aligned with reduced mail volumes, and make possible net annualized savings of at least $2.1 billion.

Witness Masse states that the Postal Service liquidity continues to decline in the face of mounting financial losses and projections of continued losses for the foreseeable future. *Id.* at 8. In order to stem the losses and return to profitability, the Postal Service is seeking to significantly reduce expenses through dramatic cost reductions and efficiencies. Witness Masse notes that generating sufficient additional revenues would

be challenging. First-Class Mail would have to grow almost 16 percent over FY 2011 levels to generate sufficient revenues to offset the planned $2.6 billion in savings estimated from the closing of processing centers.[46] The option of increasing prices to generate the needed net revenues would require an 8 percent increase over FY 2011 revenues. *Id.* at 9-10.

Witness Masse recognizes MPNR will have implementation expenses, but asserts the expenses will not be material when compared to the overall savings generated by the initiative. He projects expenses of $191 million for facilities projects, $124 million for equipment transportation, and less than $6,000 per bargaining employee for relocation. He recognizes there undoubtedly will be other miscellaneous costs as well. Tr. 2/66. These costs have not been factored into the estimates of savings. *Id.* at 168, 377.

2. Commission sponsored analysis

Commission sponsored witness Harold J. Matz discusses the feasibility and desirability of preserving overnight service standards for a portion of First-Class Mail. He presents an alternative concept to the Postal Service's proposals that preserves more than half of current overnight service while capturing a large portion of the savings proposed by the Postal Service. *See* PRCWIT-T-2; Tr. 11/4061-106.

Witness Matz explains that mail receiving overnight service can be either intra-SCF (mail that both originates from and destinates to the 3-digit ZIP Codes served by a Sectional Center Facility) or inter-SCF mail (mail that comes from another plant with an overnight commitment). Tr. 11/4070. He states that the Postal Service proposes to eliminate all overnight service (with the exception of some presorted mail) without distinguishing between intra-SCF and inter-SCF mail. He contends this most directly

[46] Subsequently revised to $2.1 billion.

impacts single-piece First-Class Mail users, because of the higher percentage of single-piece mail currently receiving overnight service (54.5 percent) compared to presorted mail (27.4 percent), and because presort mailers will be provided with an opportunity to adjust their schedules and continue receiving overnight service. *Id.* at 4072.

As an alternative, witness Matz proposes that the Postal Service eliminate inter-SCF, but maintain intra-SCF overnight delivery. *Id.* at 4073-8. He estimates that 74 percent of single-piece First-Class Mail is intra-SCF mail. *Id.* at 4074. Thus, a significant portion of overnight delivery could be preserved. He states that his alternative nearly doubles the DPS window, thus creating the opportunity to capture much of the savings identified in the Postal Service's Request. Witness Matz also claims that his alternative would avoid much of the planned shift of 2-day mail to 3-day mail described by the Postal Service. *Id.* at 4075.

3. Postal Service revised plans

On May 17, 2012, the Postal Service moved forward with a modified plan that preserves approximately 80 percent of previous overnight service through January 31, 2014. Intra-SCF mail will continue to receive overnight service through this date. On July 1, 2012, interim service standards were adopted that included eliminating overnight service for inter-SCF First-Class Mail. 77 FR 31190 (May 25, 2012). The Postal Service has not presented the Commission with a reliable estimate of expected cost saving from this action.[47]

[47] The Postal Service press release concerning the modified plan projects an annual cost savings of $1.2 billion. Tr. 9/2713. However, the Postal Service later states this is only a target based upon the $2.57 billion total cost savings estimate originally filed in this docket. It is not based on the revised $2.1 billion total cost savings filed later in this docket, nor does it include revenue loss due to reduced volumes caused by lowering service standards. *Id.* at 2716-18.

4. Commission analysis

The Postal Service has flexibility to configure its network in the context of title 39. The Commission's opinion includes advice as to the potential consequences of the Postal Service actions upon itself and the mailing community, and informs the Postal Service with options and considerations that it should take into account before proceeding, including steps it should take in order to ameliorate the impact of these proposals.

The Postal Service presented its original network rationalization plan premised on the belief that it cannot attain significant savings without reducing service standards, especially for First-Class Mail. However, as discussed in this chapter, convincing evidence that viable alternatives exist, and that network rationalization can occur while preserving the current level of service for much of First-Class Mail has been presented. In fact, the Postal Service's modified implementation plan undertakes considerable network rationalization while preserving most First-Class Mail service at least through January 31, 2014.

In evaluating the Postal Service's presentation, the Commission assesses what forms of network rationalization may occur while preserving existing service to a reasonable extent. Although the Postal Service did not consider alternative options, the Commission looked at participants' testimony and its own analysis to address this issue.

The Commission concludes that it is possible for the Postal Service to undertake significant network rationalization and realize substantial cost savings while preserving most current service levels. Under ideal circumstances, the Commission would encourage the Postal Service to proceed with network rationalization to the extent that existing service levels could be preserved. However, the Postal Service has already instituted some changes (Phase 1 implementation). For First-Class Mail, approximately 20 percent of mail previously subject to overnight service will be changed to 2-day service. Depending on the specifics of network rationalization, this may also require a

portion of 2-day mail to move to 3-day. Phase 1 implementation is consistent with the Commission's position of preserving service levels whenever feasible, similar to the proposals put forth by intervenors in this docket.

The Commission's analysis indicates that the Postal Service underestimates the extent that network rationalization can occur without further reducing service in Phase 2. The Commission cannot conclude that the benefits of eliminating most overnight delivery of First-Class Mail, and deferring a substantial amount of current 2-day mail an additional day, outweigh the risks of exacerbating declining volume trends or harm to the Postal Service brand based on the evidence provided in this docket (Phase 2 implementation). The Commission encourages the Postal Service to consider the advice in this opinion and study the effects of the service standard changes implemented on July 1, 2012, before going forward with Phase 2, and its further reductions in service.

B. Description of Postal Service Phased Implementation Plan

On May 17, 2012, the Postal Service announced it intended to move forward with a modified plan to consolidate its network of 461 mail processing plants. Tr. 9/2713-14. Consistent with the announcement of the modified plan, the Postal Service published final rules in the *Federal Register* concerning new service standards. 77 FR 31190 (May 25, 2012); USPS-LR-N2012-1/99.

The Postal Service now plans to close or consolidate 229 plants in two phases.[48] Phase 1 will include the closing of approximately 140 plants occurring through February of 2013. Phase 2 will include the closing of the remaining plants scheduled to begin in February of 2014.

[48] Tr. 9/2719, 2780. The Postal Service clarified which plants compose the 229 plants to be consolidated. *Id.* at 2713.

The Phase 1 closings will occur in two segments. Approximately 48 plants will be closed starting as early as May of 2012 (Phase 1A). No closures will occur between September 1, 2012 and December 31, 2012, to avoid disrupting fall election and holiday seasons. Closures will resume in January/February of 2013 to complete the consolidations of the remaining 92 Phase 1 plants (Phase 1B).

The Postal Service explained that the significant service standard difference between Phases 1 and 2 is that during Phase 1, the Postal Service intends to preserve overnight delivery for approximately 80 percent of First-Class Mail. Tr. 9/2714. Upon the implementation of Phase 2, overnight delivery will be eliminated for virtually all single-piece First-Class Mail and significantly curtailed for presorted First-Class Mail.[49] The rules governing service standards for Phase 1 are effective July 1, 2012 through January 31, 2014, with the rules for Phase 2 going into effect February 1, 2014, and thereafter. *See* USPS-LR-N2012-1/99.

The Postal Service describes significant operational changes with DPS operations associated with the service standard changes as each phase is implemented. Currently, DPS operations typically run for six and one half hours (12:30 a.m. to 7:00 a.m.). DPS operations will expand up to 10 hours once Phase 1 implementation is complete (8:00 p.m. to 6:00 a.m.), and up to 16 hours once Phase 2 implementation is complete (12:00 p.m. to 4:00 a.m.). USPS-LR-N2012-1/99 at 31192.

The Postal Service assigned Emily Rosenberg to appear at the June 7, 2012, hearing for the purpose of providing an accurate description of the modified plan and associated service standards, and to explore the effects of the Postal Service's announcements on existing record material. Tr. 9/2707. Witness Rosenberg indicates that by the completion of Phase 2, service standards and the processing network configuration will be as described in the Docket No. N2012-1 proposal, *i.e.,* the Postal

[49] The Postal Service has not performed an analysis to determine what percentage of First-Class Mail will retain overnight delivery after completion of Phase 2. Tr. 9/2765.

Service's "end game is still the same." Tr. 9/2751-52, 2768, 2813. She asserts that "the only thing that will change us from getting to that end game is either congressional action or comments based on the advisory opinion of the Postal Regulatory Commission." Tr. 9/2814.

C. Service Standards by Class of Mail for Each Implementation Phase

1. Overview Phases 1A and 1B

The service standards for Phases 1A and 1B, with comparisons to current service standards and service standards originally proposed in Docket No. N2012-1, are discussed below. In the discussion that follows, "current" service standards refer to the service standards in effect on December 5, 2011, the day Docket No. N2012-1 was filed.[50] The description of service standards was obtained from 39 CFR Part 121 dated July 1, 2011. "Proposed" service standards refer to the service standards proposed by the Postal Service in its Request at the initiation of Docket No. N2012-1. The description of service standards was obtained from 76 FR 77942 (December 15, 2011) and USPS-LR-N2012-1/7. "Implemented" service standards refer to two sets of service standards announced by the Postal Service as governing Phase 1 and Phase 2 of the modified plan. The description of Phase 1 and Phase 2 service standards was obtained from 77 FR 31190 (May 25, 2012) and USPS-LR-N2012-1/99.[51] As of July 1, 2012, the Phase 1 service standards are in effect.

Service standards are comprised of two components: (1) a delivery day range, which is the range of days within which all mail within a given product is expected to be delivered, and (2) business rules that determine the specific number of days, within the

[50] Technically, the Postal Service adopted new service standards on July 1, 2012, that some may consider the "current" service standards.

[51] There may be instances where the description of service standard in Postal Service testimony would appear to conflict with the service standards described in the *Federal Register* notice. This section relies on the description in the *Federal Register* notice.

delivery day range, when a given mailpiece within the product is expected to be delivered.[52] Business rules are established based on origination and destination 3-digit ZIP Code pairs.

The clock for measuring service performance is started based upon a Critical Entry Time (CET), which is the latest time on a particular day that a mailpiece can be entered into the postal network and have its service standard calculated based on that day. Currently, CETs vary based upon mail entry location, mail preparation level, and other factors. CETs for retail locations are generally posted at the retail location. For example, the CET for a blue collection box is the latest listed pickup time.

2. First-Class Mail

Consistent with what the Postal Service originally proposed, the Postal Service is not changing the delivery day range of the service standard for First-Class Mail in either phase under the modified plan. The delivery day range will remain at 1 to 3 days for mail that originates and destinates within the contiguous states, and 1 to 5 days for mail that originates or destinates in Alaska, Hawaii, Puerto Rico, the U.S. Virgin Islands, or other U.S. territories. *See* Table V-1.

However, the Postal Service is changing the business rule component of the service standard. The changes go beyond what was originally proposed by introducing different interim, or Phase 1 business rules, and final, or Phase 2 business rules. The final or Phase 2 business rules taking effect on February 1, 2014, are consistent with those originally proposed. When Phase 2 is implemented the business rule dictates that overnight or 1-day service for all single-piece First-Class Mail and most presort First-Class Mail is eliminated, and the vast majority of 2-day mail is deferred to 3-day.

[52] The business rules are complex and specify many exceptions. To provide the reader with a general sense of the business rules, all of the exceptions are not covered in this section.

Currently, intra-SCF mail, and some inter-SCF mail, entered before the applicable CET is subject to an overnight delivery standard. For Phase 1, the business rule specifies that the overnight service standard will be applied to only intra-SCF mail. It will no longer apply to inter-SCF mail. This business rule will retain overnight service for roughly 80 percent of First-Class Mail previously eligible for overnight service through January 31, 2014.

For Phase 2 beginning February 1, 2014, the overnight delivery rule will only apply to intra-SCF presorted First-Class Mail entered prior to the CET. The SCF CET will be 8 a.m., with the exception of intra-SCF First-Class Mail sorted and containerized to 5-digit ZIP Codes or 5-digit scheme level. This will have a noon CET. This change effectively eliminates overnight delivery for all First-Class Mail entered by retail customers, mail not entered at a designated SCF, mail destinating outside the delivery area of the applicable SCF (inter-SCF mail), and mail not meeting preparation requirements for presorted mail. Further, it lengthens the effective time frame between entry and delivery for presorted intra-SCF overnight mail.

The 2-day business rule will be modified to reflect that intra-SCF mail entered before the CET, but not otherwise meeting the criteria for overnight service will be subject to a 2-day service standard. Additionally, the current 2-day business rule applies to mail entered before the CET with a driving time of twelve hours or less between the origin P&DC/F and the destination Area Distribution Center (ADC).

The Phase 1 business rule changes the maximum drive time to six hours or less. The Phase 2 business rule further revises the drive time requirement to a less than four hour drive time between an origin P&DC/F and in this case its destination SCF (previously ADC). The Postal Service believes that under the rationalized network it will be able to sort to the SCF level at the originating plant generally bypassing ADCs and allowing transportation directly to SCFs.

All mail currently provided 2-day service, but not meeting the criteria under the new 2-day business rule will be accorded 3-day service. The 3-, 4-, and 5-day business rules otherwise remain unchanged. The domestic travel time for International First-Class Mail also will be adjusted accordingly.

Table V-1

Service Standard Day Ranges for First-Class Mail

	Current	Proposed	Phase 1	Phase 2
Contiguous United States	1-3	1-3	1-3	1-3
Non-Contiguous United States and Territories	1-5	1-5	1-5	1-5

3. Standard Mail

Standard Mail service standards are implemented as originally proposed in Docket No. N2012-1, and become effective immediately. There is no distinction between service standards for Phase 1 or Phase 2. *See* Table V-2.

There are no changes to the service standards for Standard Mail that originate and destinate within the contiguous states. The delivery day range will remain 2 to 10 days. The business rules remain essentially unchanged.

However, there are service standard changes for Standard Mail that originate or destinate outside the contiguous states. The business rules for destination entry Standard Mail will increase the maximum number of days to delivery from 10 days to 14 days. The business rules for end-to-end Standard Mail will increase the maximum number of days to delivery from 22 days to 27 days. These changes are unrelated to network rationalization. They are being made to more accurately represent the service that is actually being provided for mail subject to surface transportation. *See* USPS-T-1 at 25.

Table V-2

Service Standard Day Ranges for Standard Mail

	Current	Proposed	Phase 1	Phase 2
Contiguous United States				
Destination Entry	2-5	2-5	2-5	2-5
End-to-End	3-10	3-10	3-10	3-10
Non-Contiguous United States and Territories				
Destination Entry	2-10	2-14	2-14	2-14
End-to-End	3-22	3-27	3-27	3-27

4. Periodicals

The Postal Service implemented service standards for Periodicals that are both different from those originally proposed and different for Phases 1 and 2 under the modified plan. *See* Table V-3.

The Postal Service originally did not propose to change service standard day ranges for Periodicals that originate and destinate within the contiguous states. Day ranges of 1 to 2 days for the destination entry and 1 to 9 days for end-to-end were retained. However, during Phase 1, the Postal Service has implemented day ranges of 1 to 3 days for destination entry and 2 to 9 days for end-to-end. During Phase 2, the Postal Service has implemented day ranges of 1 to 3 days for destination entry and 3 to 9 days for end-to-end.

The Postal Service originally proposed to change service standard day ranges for Periodicals that originate or destinate outside the contiguous states. *See* USPS-T-1 at 25. The day range changes were further modified under Phases 1 and 2. Currently, the day ranges are 1 to 11 days for the destination entry and 1 to 20 days for end-to-end. As originally proposed, the day ranges would be 1 to 11 days for the destination entry and 1 to 26 days for end-to-end. As implemented in Phase 1, the day ranges are 1 to 11 days for destination entry and 2 to 26 days for end-to-end. As implemented in

Phase 2, the ranges are 1 to 3 days for destination entry and 3 to 26 days for end-to-end.

Currently, intra-SCF end-to-end Periodicals receive overnight service when entered prior to the CET and the origin P&DC/F and SCF are located in the same building. The Postal Service originally proposed new, additional requirements in order for end-to-end Periodicals to receive overnight service. Instead, the Phase 1 and 2 rules entirely eliminate overnight service for end-to-end Periodicals. The Phase 1 and 2 rules also eliminate overnight service for destination entry Periodicals entered at Network Distribution Centers and Auxiliary Service Facilities.

The changes to CETs for Periodicals entered at non-FSS facilities originally proposed by the Postal Service will now take effect with the commencement of Phase 2. The changes depend upon whether the mail requires a bundle sort. For mail entered at a non-FSS facility and requiring a bundle sort, the CET will change from 4 p.m. to 11 a.m. This, in effect, changes the definition of overnight delivery by lengthening the time up to five hours. For mail entered at a non-FSS facility and not requiring a bundle sort, the CET will change from 5 p.m. to 2 p.m. No changes to CETs are proposed for Periodicals entered at FSS facilities. For mail entered at a FSS facility and requiring a bundle sort, the CET will remain at 8 a.m. For mail entered at a FSS facility and not requiring a bundle sort, the CET will remain at 11 a.m.

Table V-3

Service Standard Day Ranges for Periodicals

	Current	Proposed	Phase 1	Phase 2
Contiguous United States Destination Entry End-to-End	 1-2 1-9	 1-2 1-9	 1-3 2-9	 1-3 3-9
Non-Contiguous United States and Territories Destination Entry End-to-End	 1-7 1-20	 1-11 1-26	 1-11 2-26	 1-11 3-26

5. Package Services

Package Services service standards are implemented as originally proposed in Docket No. N2012-1, and become effective immediately. There is no distinction between service standards for Phase 1 or Phase 2. *See* Table V-4.

There are no changes to the service standards for Package Services that originate and destinate within the contiguous states. The delivery day range will remain 1 to 8 days. The business rules remain essentially unchanged.

There are service standard changes for Package Services that originate or destinate outside the contiguous states. The business rules for destination entry Package Services will increase the maximum number of days to delivery from 8 days to 12 days. The business rules for end-to-end Package Services will increase the maximum number of days to delivery from 20 days to 26 days. These changes are unrelated to network rationalization. They are being made to more accurately represent the service that is actually being provided for mail subject to surface transportation. *See* USPS-T-1 at 26.

Table V-4

Service Standard Day Ranges for Package Services

	Current	Proposed	Phase 1	Phase 2
Contiguous United States Destination Entry End-to-End	 1-3 2-8	 1-3 2-8	 1-3 2-8	 1-3 2-8
Non-Contiguous United States and Territories Destination Entry End-to-End	 1-8 2-20	 1-12 2-26	 1-12 2-26	 1-12 2-26

D. Commission's Analysis of Final MPNR (Phase 2) Impact on First-Class Mail

The following discussion attempts to describe the impact full implementation of MPNR will have on mailers; not in terms of technical service standards and business

rules, but rather in terms of how many days longer it will take for First-Class Mail to be delivered. Full implementation of MPNR would result in substantial elimination of next day delivery, and defer a significant portion of 2-day mail to 3-day, such that approximately 80 percent of First-Class Mail will be delivered one day later than it is now.

A comparison of actual delivery days for single-piece First-Class Mail subject to the current versus the proposed 1-, 2- and 3-day service standards is presented in Table V-5. The table includes a two-week time period to provide examples of both a week with no federal holiday and a week with a Monday federal holiday. Note the table only provides examples of 3 origination/destination ZIP Code pairs.

Table V-5
Example of Actual Days to Delivery for Single-Piece First-Class Mail Assuming Precise Compliance with Service Standard Dates

Dispatch Location	Delivery Locations					
United States Postal Service blue collection box located in Wethersfield, CT 06109	Hartford, CT 06106		Columbia, MD 21045		Venice, CA 90291	
Day single-piece, 0.9 ounce, First-Class Mail letter dropped into collection box	Current (days to delivery)	MPNR (days to delivery)	Current (days to delivery)	MPNR (days to delivery)	Current (days to delivery)	MPNR (days to delivery)
Thursday	1	2	2	4	3	4
Friday	1	3	3	3	3	3
Saturday	2	2	2	3	3	3
Sunday	2	3	3	4	4	4
Monday	1	2	2	3	3	3
Tuesday	1	2	2	3	3	3
Wednesday	1	2	2	3	3	3
Thursday	1	2	2	5	5	5
Friday	1	4	4	4	4	4
Saturday	3	3	3	3	3	3
Sunday	3	4	4	5	5	5
Monday* (Federal Holiday)	2	3	3	4	4	4
Tuesday	1	2	2	3	3	3
Wednesday	1	2	2	3	3	3

* Note that Monday is assumed to be a Federal Holiday with no mail delivery. Derived from Tr. 2/194-99.

Mail dispatched from Wethersfield, CT and delivered to Hartford, CT is currently subject to an overnight or a 1-day service standard. An overnight service standard does not mean that the mail will always be delivered the next day. Depending on whether there is a Sunday or an intervening federal holiday after dispatch of the mail, the current days to delivery range from 1 to 3 days.[53] This assumes that the Postal Service precisely meets its service standards. In reality, the days to delivery will be slightly longer on average to account for the times the service standard is not met. Table V-6 summarizes the delivery day range discussion appearing in this section.

No single-piece First-Class Mail will be subject to an overnight or 1-day service standard once the proposed service standards go into effect. A portion of presorted First-Class Mail will remain eligible for this level of service. The mail previously subject to the overnight service will now be subject to a 2-day service standard with a delivery range of 2 to 4 days.

Mail dispatched from Wethersfield, CT and delivered to Columbia, MD is currently subject to a 2-day service standard. Depending on whether there is a Sunday or an intervening federal holiday after dispatch of the mail, the current days to delivery can range from 2 to 4 days. It appears that under the proposed service standards this mail will now be subject to a 3-day service standard with a delivery range of 3 to 5 days.

Mail dispatched from Wethersfield, CT and delivered to Venice, CA is currently subject to a 3-day service standard. Depending on whether there is a Sunday or an intervening federal holiday after dispatch of the mail, the current days to delivery can range from 3 to 5 days. Under the proposed service standards this mail will continue to be subject to a 3-day service standard with a delivery range of 3 to 5 days.

[53] Delivery day ranges are provided in calendar days, whereas service standard days are as defined by business rules.

The information presented in Table V-5 considers the affects of MPNR in isolation. The Postal Service also provided days to delivery if MPNR is combined with a reduction in street delivery from 6 to 5 days.[54]

Table V-6

Example of Changes in Delivery Day Ranges for Single-Piece First-Class Mail Assuming Precise Compliance with Service Standard Dates

Origination and Destination	Wethersfield, CT 06109 to Hartford, CT 06106	Wethersfield, CT 06109 to Columbia, MD 21045	Wethersfield, CT 06109 to Venice, CA 90291
Applicable standard on December 5, 2011 after MPNR	 1-day 2-day	 2-day 3-day	 3-day 3-day
Delivery day range December 5, 2011 service standards	1-3	2-4	3-5
Delivery day range after MPNR	2-4	3-5	3-5
Delivery day range after MPNR and 6- to 5-day street delivery	2-5	3-6	3-6

Even though a reduction in street delivery from 6 to 5 days does not affect service standards as defined by the Postal Service, it increases total days to delivery. The cumulative effect of combining the 6- to 5-day initiative with the MPNR initiative increases days to delivery beyond what would occur under MPNR alone. In this case, the Commission is not offering an opinion on the cumulative effect of a 6- to 5-day delivery change. It is proceeding on the basis of current law. However, the cumulative effects of two or more service standard changes are important for policy makers to be

[54] Considering the same 3-digit ZIP Code pairs used above, mail subject to the current overnight service standard delivery range of 1 to 3 days would increase to 2 to 5 days. The current 2-day service standard delivery range of 2 to 4 days would increase to 3 to 6 days. The current 3-day service standard delivery range of 3 to 5 days would increase to 3 to 6 days. Tr. 2/199.

aware of. The Commission suggests that the Postal Service include, where applicable and feasible, discussion of the cumulative effects of active Postal Service initiatives in future requests for advisory opinions. This could provide greater transparency for the overall direction of the Postal Service, allow better understanding of how individual initiatives fit into the Postal Service's plans, and may generate more informed responses from interested parties.

The above examples highlight instances of where mail previously subject to a 1-day service standard will be moved to a 2-day service standard and mail previously subject to a 2-day service standard will be moved to a 3-day service standard. The Postal Service has a website tool which informs retail customers of the days to delivery between 5-digit ZIP Code pairs. The Commission stresses the importance of keeping this tool up-to-date and accurate, especially since the Postal Service asserts that it has yet to fully adjust 3-digit ZIP Code pairs. Additionally, customers should be informed about CETs.

Table V-7 displays First-Class Mail volume shifts for the 1-, 2- and 3-5-day service standards both before and after implementation of MPNR.

Table V-7

Before and After MPNR
Percentage of Total Volume of Each First-Class Mail Domestic Product
Delivered Within 1-, 2- or 3-5-Days

First-Class Mail (Domestic Products)	Delivered Within 1 Delivery Day		Delivered Within 2 Delivery Days		Delivered Within 3-5 Delivery Days	
	Q4 FY 2011 (%)	MPNR Projected (%)	Q4 FY 2011 (%)	MPNR Projected (%)	Q4 FY 2011 (%)	MPNR Projected (%)
Single-Piece Letters/Postcards	58.0	0.0	26.6	63.8	15.1	36.2
Presorted Letters/Postcards	37.7	0.0*	37.3	30.4	24.7	69.6
Flats	36.0	0.0	31.4	58.6	30.3	38.9
Parcels	13.1	0.0	49.1	10.5	35.7	89.5

* The Postal Service does not have an estimate of the volume of mail from presort customers that may utilize the new critical entry time, or the proportion of Caller Service mail that may be available for pickup. Derived from Tr. 2/191-93.

Table V-7 shows that in addition to the elimination of overnight delivery with the associated mail volume moving to 2-day, a significant volume of mail also migrates from 2-day service to 3-5-day service.[55] What is not apparent is that 1.3 percent of 1-day mail actually moves to 3-5-day. Tr. 2/175.

An accurate estimate of the volume of mail subject to each day of the service standard is necessary for designing a processing network to handle that mail. However, the Postal Service does not know how many presort mailers will use the option of overnight service or their corresponding volume of presorted First-Class Mail that will be entered prior to the overnight critical entry time. Tr. 2/179, 202. Without an estimate it is difficult to appropriately size the processing network to handle the expected volume of

[55] The Postal Service combines the volumes subject to the 3-day, 4-day and 5-day service standards into a 3-5-day category because the volumes subject to the 4-day and 5-day service standards are negligible when compared to the volume subject to the 3-day service standard.

mail. A similar problem exists because the Postal Service has not finalized the determination of which 3-digit ZIP Code pairs fall under each day of the service standards. The Commission recommends that the Postal Service develop estimates of presorted First-Class Mail that will be subject to an overnight delivery standard and identify applicable 3-digit ZIP Code pairs well in advance of proceeding with the full implementation of MPNR (Phase 2).

E. Impact on Mailers

1. Postal Service plans for outreach to stakeholders

Susan M. LaChance, Postal Service Vice President of Consumer and Industry Affairs, describes customer outreach undertaken by the Postal Service. *See* USPS-T-13. She explains that a communications plan was designed "to provide every stakeholder with adequate time and sufficient information to provide input on, prepare for, and adapt to potential changes to service standards and network operations." *Id.* at 13. Her testimony focuses on the September 21, 2011, Advance Notice of Proposed Rulemaking and Request for Comments, 76 *Federal Register* 58433, which elicited comments related to potential service standard changes. She also discusses the AMP Communications Plan, which governs the communications process for all AMP studies and determinations.

Pritha N. Mehra, Postal Service Vice President of Mail Entry and Payment Technology, provides an overview of the commercial mail entry channel and insight into the impact of service standard changes on commercial mailers. She discusses Postal Service measures intended to mitigate impact due to service standard changes and other planned improvements in the commercial mail channel. *See* USPS-T-7.

Witness Mehra explains that the commercial mail entry function comprises mail acceptance and verification, and that commercial mail entry activities include guidance on mail preparation, account management and payment, and acceptance and

verification. USPS-T-7 at 1-2. She further explains that commercial customers enter mail through Business Mail Entry Units (BMEUs), Detached Mail Units (DMUs) located at mailer plants, and designated Retail/Associate Office units. *Id.*

Witness Mehra discusses actions taken by the Postal Service to address customer concerns. In particular, the Postal Service is communicating with customers to allow them time to prepare for any possible changes to plant load agreements or customer supplier agreements, and providing information concerning changes in mail separation and preparation requirements. *Id.* at 4-5. It also is providing information to local mangers to allow adjustments to local Postal Service staffing levels and plant capacity for gaining plants in order to maintain quality customer service. *Id.*

She states that BMEUs will remain in impacted plants, or if this is not feasible, acceptance units will be located within close proximity to the impacted plant. Mailers will also retain SCF discounts for the foreseeable future for BMEU entered mail. *Id.* at 4. Witness Mehra states that Plant-Verified Drop Ship appointment windows in the Facility Access and Shipment Tracking (FAST) system will be adjusted to support changing volumes in the network. *Id.* She explains that First-Class Mail presort mailers will be provided options for retaining an overnight delivery option. *Id.* Finally, she asserts that customers will be able to maintain existing permit account numbers from their former sites, and use existing indicia. *Id.* at 6.

2. Concerns of Periodicals mailers—Newspapers

National Newspaper Association witness Max Heath, NNA Postal Committee chairman, discusses the effects service standard changes will have upon community newspapers and provides suggestions for the Commission's consideration. Tr. 10/2834-60. Witness Heath explains that same day and overnight delivery is essential to maintaining viable newspapers. *Id.* at 2838. He contends that new postal rules are already affecting newspaper service, and that the Postal Service has not adequately considered the additional ramifications of MPNR. *Id.* at 2842-3.

Witness Heath offers a number of suggestions. He supports preserving overnight delivery for time sensitive mail within SCF zones. *Id.* at 2847. He is encouraged by AMP study recommendations to create hubs and suggests categories of mail that should be handled through hubs. *Id.* at 2847-8. He suggests that Business Mail Entry Units remain within closing SCF zones. *Id.* at 2848-9. Concerning mail entry, he argues that overnight mail drop privileges must be preserved and extended, and the Mail.XML software interface be made more workable. *Id.* at 2849-50. He contends that critical entry times at hubs must be meaningfully set to allow both same-day and next-day delivery. *Id.* at 2850-51. Finally, he argues for modification of containerization rules to maximize mail that goes through hubs. *Id.* at 2851-52.

National Newspaper Association witness David Bordewyk, general manager of the South Dakota Newspaper Association, describes how newspapers and others have been affected by the previous closing of the Mobridge Sectional Center Facility and the resulting decline in service performance. Tr. 10/3046-56. He explains that South Dakota is a rural state where mail is a lifeline for local economies and the residents' political and civic lives. *Id.* at 3049. He recites many anecdotal stories highlighting the potential detrimental effects of not receiving adequate mail service. Witness Bordewyk concludes "the proposed changes in mail service standards will have grave effects upon the ability of the newspapers in my state to reach readers." *Id.* at 3048.

3. Commission analysis

The Postal Service's MPNR plans are evolving. Notable changes during the course of this docket were revisions based on release of the February 23, 2012, AMP studies, and revisions based on the May 17, 2012, announcement revising the implementation of MPNR. The absence of finalized plans makes addressing the concerns of mailers challenging.

For some aspects of MPNR, the Postal Service has yet to fully develop plans. Periodicals mailers identified the hub network as an area that the Postal Service has not

fully considered. The Commission urges the Postal Service to address Periodicals mailers' concerns regarding the hub network. The Postal Service should develop a plan for hubs, and communicate its plan to mailers, as soon as practical.

The Postal Service appears to have some programs in place to address the concerns of commercial mailers. Periodicals mailers, specifically newspapers, appear to be taking an active role in communicating their concerns to the Postal Service and developing ways to accommodate the new processing schedules.

However, there appears to be only limited communication with retail customers and small commercial mailers, specifically single-piece First-Class Mail users. Popkin asserts that the Postal Service does very little to publicize service standards, except to major mailers. DBP Brief at 1. Based on the perceptions of participants in the Postal Service's marketing research focus groups, the Postal Service has not communicated existing service standards to its customers. Tr. 12/4418. While the Postal Service indicates that large businesses and a segment of small businesses are aware of service standards, home-based businesses and individuals are less aware or unaware of service standards. *Id.* at 4492. The Postal Service has not identified in this docket any programs to effectively communicate the new service standards to its retail and small commercial customers.

Retail consumers and small businesses are at risk by remaining uninformed. For example, mailers sending remittance mail must be aware of service standards to avoid late fees. The failure to adequately inform customers of how quickly and reliably First-Class Mail can meet their bill-payment needs could exacerbate the flight of customers to on-line bill paying. The Postal Service should go beyond informing customers of the technical service standards. Information should be conveyed in an understandable manner to explain actual calendar days to delivery. The Commission recommends that the Postal Service undertake efforts to fully explain service standards to retail and small businesses consumers.

F. Attempts to Estimate Phase 1 Cost Savings

The May 17, 2012, Postal Service announcement that it is moving forward with a modified implementation plan states that the Postal Service projects annual cost reductions of $1.2 billion upon completion of Phase 1. Tr. 9/2713. Upon completion of Phase 2, the Postal Service states that total projected annual cost reductions should increase to $2.1 billion. *Id*. at 2714.

The cost reduction estimates for each phase of implementation are developed from different baselines and should not be compared. The Postal Service explains that the Phase 1 cost reduction estimate of $1.2 billion only represents an "internal target for cost reductions" or a "ballpark estimate." Tr. 9/2716; 13/4690. It is based upon the $2.57 billion total cost reduction estimate originally filed in this docket, and not the revised $2.1 billion total cost reduction estimate filed later to reflect the results of the February 23, 2012 AMP studies. *Id.* at 2716-18. However, the Postal Service's Phase 2 cost reduction estimate accurately represents the revised total cost reduction estimate provided in this docket, which does reflect incorporation of information from the February 23, 2012, AMP studies.

The $1.2 billion cost reduction estimate is based on the square footage of plants that could potentially close during Phase 1 compared to the square footage of plants that could potentially close under both phases of MPNR. *Id.* The Postal Service determined that 64 percent of the overall square footage saved could be achieved in Phase 1. The 64 percent figure was used to estimate the savings associated with workload transfer, supervision and plant management reductions, in plant support reductions, indirect cost reductions, Postal Vehicle Service (PVS) to Highway Carrier Route (HCR) conversions, plant-to-post office network restructuring, building maintenance and custodial labor, utilities, supplies and contractor costs, and rents or rental opportunity cost. *Id.* at 2717.

In addition, subject matter experts at headquarters project the following percentages of savings for Phase 1: 10 percent of plant-to-plant HCR; 35 percent of productivity gains; and 75 percent of maintenance labor and parts and supplies.[56] The Postal Service did not include savings estimates for: premium pay reductions; reduction in outgoing secondary sorting; replacement of CSBCS and USFM 1000; and additional DPS sorting. The Postal Service also projects that 51.4 percent of the additional air transportation cost will be incurred in Phase 1. *Id.*

The Postal Service does not disaggregate estimates of volume and contribution loss between Phases 1 and 2. Tr. 9/2717. Assuming that there will be some volume loss due to each phase of implementation, the net financial benefit to the Postal Service will be less than the cost reduction estimates it provides. *Id.* at 2716-18.

G. Incorporation of Lessons from Phased Implementation

The scale and scope of the operational changes that the Postal Service needs to make to implement MPNR are immense. The decision to use a phased approach to transition to the new network is a prudent and practical one. For an organization the size of the Postal Service to implement changes of such magnitude is not a simple matter, nor one that can be executed quickly without risking significant disruption to the nation's postal system.

Each consolidation has ripple effects on the functioning of the rest of the network. Allowing time between closings should provide an opportunity for the system to adapt and respond in a more manageable way than if all consolidations were attempted simultaneously. In making changes of a scale and nature unlike any in its recent history, the Postal Service will inevitably encounter challenges that have not been fully

[56] Tr. 9/2718. Additional information supporting subject matter expert estimates is provided in response to POIR No. 10, question 1. Tr. 13/4690-93.

anticipated. By rolling out the changes in phases, the Postal Service may be able to anticipate, avoid, or mitigate similar problems in subsequent consolidations.

Predicting the effects of MPNR on costs, service performance, and customers' responses is extremely difficult. Phasing in the implementation will create an opportunity to evaluate the assumptions that underlie the Postal Service's forecasts of these effects. The analysis of data about the actual impacts of the first phase of MPNR will allow the Postal Service to make informed decisions about whether to proceed with Phase 2, and if so, whether modifications are appropriate. This section outlines various data that may provide insight to assist this effort.

1. Using modeling tools to assess changes

The testimony and analysis provided by the Postal Service and participants show the importance of isolating the impact of each network change when undergoing a transformative process. While the Postal Service did not provide a network model that included a baseline analysis, the Postal Service gathered and developed the data necessary to build a baseline model. The phasing approach means that the changes to network characteristics will occur incrementally. In Phase 1, 140 locations will be consolidated, and inter-SCF overnight service will be eliminated at all facilities. In Phase 2, 89 additional locations will be consolidated, and intra-SCF overnight will be largely eliminated. There are two changes in network characteristics that are expected to lead to savings: productivity improvements from the consolidation of workload into fewer square feet of building capacity, and productivity improvement due to workload smoothed over longer operating windows which will reduce peak load costs.

The information provided in this docket does not isolate the expected cost impact of the changes for each phase of network consolidation. The Postal Service has provided an "internal target" of projected savings due to the implementation of Phase 1, but has not isolated the savings opportunity between the plants that will be consolidated and the network wide change in operating plan. This phasing process presents the

Postal Service with the opportunity to measure actual results with modeling expectations.

Given the importance of these network changes, and the uncertainty regarding the impact, it is vital that the Postal Service use the data and tools at its disposal to confirm that the cost and service impacts that it expects are realized. Modeling tools give the Postal Service the ability to objectively analyze the tradeoffs involved in alternative approaches to network reconfiguration.

Modeling the potential impacts of each phase will provide the Postal Service with guideposts with which to evaluate the success of realignment at each stage of an ongoing process. These models should be constructed in a manner that allows the Postal Service to explore the separate impacts of operating window changes and plant consolidations. The Postal Service should begin with a baseline model that provides a benchmark from which the impact of reconfiguring the network, as it moves through the phases, can be measured. The baseline model should reflect the Phase 1 service standards and operating windows and should incorporate plant-level data that reflect the differences in mail processing productivity among plants. The model should also incorporate plant-to-plant transportation so that the tradeoff between mail processing and transportation costs can be analyzed.[57] Most importantly, the Postal Service should routinely evaluate plant performance against both the baseline and modeled cost changes.

2. Measuring productivity changes

The phased implementation of MPNR presents the Postal Service with a unique opportunity to study the effect of consolidation and operational changes on productivity.

[57] PRC-LR-N2012-1/NP2 contains a baseline model to which plant-to-plant transportation links and costs could be added. The Commission recognizes that such efforts are not without cost, which should be weighed in light of the network rationalization.

Up until now, the Postal Service has not had experience with productivity improvements related to varying the length of the operating window. However, Phase 1 of MPNR will extend the DPS operating window to 10 hours. This will allow collection and analysis of data regarding the productivity changes associated with lengthening the operating window and small-scale consolidations.

If the Postal Service finds that productivities are not increasing as expected after assessing the implementation of the first phase of MPNR, the Postal Service could consider alternative strategies, such as shifting volume from low to high productivity plants.[58] The Postal Service Office of Inspector General (OIG) recommends for the Postal Service a yearly goal of "raising the bar" on productivity levels for those plants that are the least productive.[59] In FY 2010, plants that were the least productive reduced workhours by more than 5.9 million and increased productivity by 6.95 percent. Moreover, the OIG finds that the Postal Service has the opportunity to improve operational efficiency by further reducing workhours by 14.2 million by the end of FY 2014. *Id.* Past improvements of this magnitude suggest that if the Postal Service finds that the savings opportunities realized at the end of the first phase of MPNR are not as large as expected, it will be well-equipped to focus on alternative productivity improvement strategies.

Before the Postal Service moves forward with Phase 2 it should carefully review all available data on the successes or failures of improving productivity rates. For this reason it is particularly important that the Postal Service complete the Final PIR process for the AMP packages associated with MPNR as these reviews will provide an invaluable data source for this critical review. The Postal Service may find it unnecessary to complete MPNR in order to achieve its saving goal.

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[58] In Chapter VI the Commission provides an optimization analysis with implications for moving mail volume from low to high productivity facilities.

[59] *See, e.g.,* "Assessment of Overall Plant Efficiency, 2012" Office of Inspector General, US Postal Service, http://www.uspsoig.gov/foia_files/NO-MA-12-001.pdf.

3. Measuring maintenance savings

Collecting and studying maintenance cost data as operating windows are expanded will allow a determination of the effects of extended run times and reduced maintenance windows. The Postal Service has indicated that it does not yet know how many facilities will be retained to provide bulk mail acceptance and retail services, or what the costs of such retentions (or, alternatively, the provision of these services at an alternative location) will be. Implementation of Phase 1 should provide data on these issues.

4. Measuring transportation changes

The Phase 1 changes should allow the Postal Service to collect data to test the Postal Service's expectation that it will achieve greater capacity utilization with the relaxing of service standards. The Postal Service anticipates a reduction in the number of trips resulting from improvement in truck capacity utilization coupled with reduction in the number of processing plants. The distance between plants or a plant and a post office will be longer in a consolidated processing network, thereby increasing the length of trips. The net effect of improvement in the capacity utilization of trucks, reduction in the number of trips and increase in trip length; on frequency of trips, operating miles, and costs is not clear cut. In addition, the Postal Service's plan with regard to hub operations is not defined. The Postal Service may need to establish, close or modify hubs to improve transportation efficiency and decrease costs.

The Postal Service will be able to collect data on, and monitor the actual impact of, the proposed changes on the transportation network during Phase 1 including changes in the number of routes and trips, trip length, trip frequency, operating miles, capacity utilization of trucks, and associated costs for HCR plant-to-plant transportation, HCR plant-to-post office transportation, and for those PVS sites that will remain open. The Postal Service should also collect data about the characteristics of PVS transportation that is converted to HCR, including the mileage, labor and vehicle costs

of the PVS sites, and the mileage and costs of the HCR replacements. Data on changes in air transportation volume by class and the associated costs, as well as the costs of establishing new hubs, closing existing hubs, and retaining hubs at consolidated mail processing facilities should also be collected.[60]

5. Measuring potential volume loss from service standard changes

Research exploring the relationship between quality, including speed of delivery, and mailing behavior is of critical importance as the Postal Service considers strategies to ameliorate its current financial crises. *See* Chapter VIII for a full discussion of the volume impact estimates provided in this case.

The Postal Service will, at the end of Phase 1, be able to study the actual impact of eliminating the overnight service standard for inter-SCF First-Class Mail. This amounts to an approximately 20 percent reduction in volume currently receiving overnight delivery and could provide the Postal Service with the kind of historical data needed to undertake an econometric analysis of the relationship between speed of delivery and mailing behavior. In fact, a 2008 article by Whitehead *et al.* surveys the econometric literature on stated preference models (surveys) and revealed preference models (econometric modeling) and finds that in combination each can exploit the advantages of the other while mitigating the problems associated with their weaknesses.[61] The authors conclude that jointly estimated stated and revealed preference models are often superior to independently estimated models. The Commission encourages the Postal Service to consider such an approach for future

[60] The Commission recognizes such efforts are not without costs, which should be weighed in light of the magnitude of the impact of network rationalization.

[61] Whitehead, J.C., Pattanayak, S.K., Van Houtvan, G.L, and Gelso, B.R. Combining Revealed and Stated Preference Data to Estimate the Nonmarket Value of Ecological Services: An Assessment of the State of the Science. Journal of Economic Surveys (2008) No. 5, at 872-908.

estimation strategies, especially in light of the historical data that will be observable after the implementation of Phase 1.

In addition, the Commission suggests that the Postal Service study the possible impact of the multiple simultaneous strategies being considered by the Postal Service, such as 5-day delivery and reduced speed of delivery. The All Causes survey initially undertaken and eventually abandoned by the Postal Service paved the path for this kind of comprehensive analysis. *See* Chapter VIII for a further discussion on surveys.

The concept statement in this survey outlined the wide variety of changes being considered by the Postal Service but asked consumers to narrow their focus to the changes to service standards. Even the Postal Service contends that the All Causes research reflects the context in which MPNR might be introduced, along with other efforts to meet its financial challenges. A study that seeks to understand the joint impact of all proposed strategies is of great value to the postal community. The Commission encourages the Postal Service to augment any future research related to specific proposals with market research examining the cumulative implications of its multiple cost-saving initiatives. The decision of whether to conduct this type of research should balance the cost and reliability against the value of the information.[62]

6. Measuring ability to meet service standards

In addition to cost effects, there also may be impacts on the ability of the Postal Service to meet its service standards. Parties have raised concerns about the potential for ripple effects on service to more distant service areas, including rural, remote, and

[62] In his oral testimony, witness Whiteman discussed some of the potential difficulties of this type of research. *See* Tr. 3/869-71.

noncontiguous areas. Service performance scores should be monitored closely for signs of such impacts.[63]

Based on the experience it gains from the partial implementation represented by Phase 1 through data collection, careful analysis, and an examination of its assumptions, the Postal Service will have an opportunity to adapt its plans. The Postal Service has indicated in this case that it will reconsider whether and how to proceed with Phase 2 based on instructions from Congress or the Commission. Tr. 9/2814. However, the Postal Service should also re-examine its decisions based on its experiences with Phase 1.

Experience may reveal the extent of additional savings possible from the further expansion of operating windows and the corresponding service reductions. Similarly, after Phase 1 the Postal Service should be better informed as to whether large gaining plants are able to process the additional mail more efficiently than suggested by current productivities. This information should inform decisions about how many and which additional plants should be consolidated.

With the benefit of better information about the cost, service, and volume impacts of consolidations and the expansion of operating windows, the Postal Service will be positioned to better assess the cost-benefit calculus of the full elimination of overnight service and whether more modest changes may deliver sufficient or perhaps greater savings with a smaller impact on mailers.

[63] The Commission anticipates that the Postal Service's next Special Study on delivery performance to remote areas of Alaska, Caribbean, and Honolulu districts will provide insight. *See* 39 CFR § 3055.7.

VI. ANALYSIS OF NETWORK DESIGN

A. Overview

The Postal Service presents a powerful modeling tool that potentially can be used to assess various network realignment strategies for decreasing costs and improving efficiency. The Postal Service also develops the data inputs necessary for an in-depth analysis of its mail processing and, to a lesser extent, its transportation network. However, the Postal Service does not fully utilize this tool to determine its network rationalization. The Postal Service concedes that its model is used essentially as a starting point for discussion and, indeed, the model results are significantly altered after discussion with management and subject matter experts.

The Postal Service's model needs further development before it can provide informative insight into network rationalization. It uses a regression which estimates a general relationship between costs and plant size as the key input to the network rationalization model. As currently used in the model, the regression may shift workload in a manner that actually increases costs and lowers overall network efficiency. The Postal Service should account for actual plant productivities, and modify questionable decision rules that run counter to empirical evidence in future modeling efforts.

This chapter discusses the Commission's analysis of the Postal Service's use of optimization modeling tools and reviews the input data used in the model. Based on the Postal Service's model, the Commission develops a baseline model and proceeds to analyze potential cost savings from implementation of Phase 1 of the Postal Service's rationalized network.[64]

[64] A detailed discussion of the technical aspects of the Postal Service's model and the development of the input data, as well as parties' comments on these technical matters, is found in Appendix F.

B. Postal Service Use of LogicNet Plus Model

One of the key benefits of developing an optimization model is the flexibility to incorporate different information and evaluate various approaches to optimizing a network. To take advantage of this flexibility, it is important to first validate a optimization model against known baseline operating conditions. This is vital in order to evaluate the feasibility and advisability of multiple potential variations in a future network. The baseline model provides a benchmark from which the impact of reconfiguring the network can be measured. In addition, if the modeled baseline resembles the existing network, it provides reasonable assurance that the optimization model has captured the behavior of the network.

The Postal Service has not developed a baseline model or validated its model against known baseline operating conditions. The Postal Service's model also does not capture essential plant characteristics. The Commission recommends employing a baseline model which incorporates additional essential plant characteristics, along with model validation, in future Postal Service modeling efforts.

The Commission suggests that a network model that focuses on minimizing costs, rather than on minimizing the number of plants and equipment, would be more informative to Postal Service management. The objective of the Postal Service's model is to maximize the assignments per plant, so that the number of plants is minimized. USPS-T-4 at 13. The question that the Postal Service's network rationalization model should have asked is how greater plant volumes (not square footage) will affect unit costs.

C. Analysis of Data Inputs to the Postal Service LogicNet Model

Key assumptions determine the outcome of the Postal Service's model. First, levels of service were predetermined by instructing the model to provide windows of a specified duration for particular processing operations (7 hours for cancellation, 16 hours for DPS letter sorting).

Second, the configuration of the network (the number of processing plants and their location) was driven by an assumption that plant size determines unit processing costs. The discussion that follows describes the Postal Service's regression used to determine the relationship between costs and plant size. The Postal Service groups its plants into three unconventional groups for this purpose and makes other questionable assumptions as discussed in this Chapter. This approach does not produce robust results.

The Postal Service's model also does not account for plant-to-plant transportation costs. Including these costs should be considered in future modeling exercises.

1. The relationship between plant size and cost

The Postal Service model does not use plant-specific mail processing labor costs. Using a regression, the Postal Service estimates a theoretical relationship between plant size and processing (labor) cost. There is no theoretical support on this record or in the economic literature for the hypothesis that physical plant size determines unit labor costs. In the economic theory that underlies the modeling of production functions (such as sorting mail), output is a function of factor inputs (labor, capital, and raw materials). The understanding that changes in output (volume) determine the demand for factor inputs (such as labor) is well established in economic literature. Mankiw, Gregory. Principles of Microeconomics, at chapter 18 (2nd ed., 2001).

Using the data in USPS-LR-N2012-1/46 for plant square footage and total mail processing operating costs and Management Operating Data System (MODS) data for volume,[65] the workload by plant size can be compared to the cost per square foot by

[65] USPS-LR-N2012-1/20.

plant size. Table VI-1 details the total square footage, cost, and volume for each of the three plant groups described by the Postal Service.

Table VI-1

Plant Square Footage and Size by Postal Service Grouping

Plant Size	Number of Plants	Total Square Feet	Total Cost ($ millions)	Total Volume Processed ($ millions)
450,000 sq. ft. +	10	5,652,821	1,133	30,378
210,000-450,000 sq. ft.	68	19,156,051	4,588	139,091
0-210,000 sq. ft.	252	21,337,442	5,019	176,392

The largest 10 plants (3 percent of the total plants used in the regression) accounted for over 12 percent of the square footage of the plants in the USPS-LR-N2012-1/46 database and 11 percent of the operating cost, but only 9 percent of the volume processed on automation equipment.[66]

Table VI-2 shows the distribution of plants, square footage, cost, and volume by the 3 plant size ranges.

Table VI-2

Plant Square Footage,
Cost, and Volume Distribution by Postal Service Grouping

Plant Size	Number of Plants	Total Square Feet	Total Cost	Total Volume Processed
450,000 sq. ft. +	3%	12%	11%	9%
210,000-450,000 sq. ft.	21%	42%	43%	40%
0-210,000 sq. ft.	76%	46%	47%	51%

[66] Not all plants were used in the regression. Tr. 4/1425-26.

This table depicts the relationship between cost, square footage, and volume processed. Large plants account for a greater share of total square feet than of total cost, while the reverse is true of medium and small plants. However, small plants account for a greater share of the automation volume processed than of overall cost.

Table VI-3 shows the average actual cost per square foot, cost per piece processed on automation equipment, and pieces per square foot for each of the three groups of plants.

Table VI-3

Comparison of Modeled and Actual Average Cost per Square Foot

Plant Size	Postal Service Modeled Cost Per Square Foot	Average Actual Cost Per Square Foot of Mail Processed on Automation	Pieces Processed per Square Foot	Average Cost per Piece Calculated from Modeled Cost	Actual Average Cost per Piece
450,000 sq. ft. +	$130.25	$200.37	5,372	$0.0242	$0.0373
210,000-450,000 sq. ft.	$198.98	$239.51	7,261	$0.0274	$0.0330
0-210,000 sq. ft.	$238.13	$235.22	8,267	$0.0288	$0.0285

The plant group data show that the largest plants have a lower cost per square foot than the medium or small plants. However, the large plants process 35 percent fewer pieces per square foot of building capacity than the small plants.[67] As a result, the cost per piece is 31 percent higher for large plants than for small plants.[68] As seen in the table, the actual costs per piece follow a much different pattern than the cost per piece calculated using the Postal Service's modeled costs. The actual average cost per piece is lowest for small plants and highest for large plants, the opposite of the modeled costs. For small plants the costs are quite similar between the actual and the modeled.

[67] (5,374 ÷ 8,267) – 1 = -0.35 = -35%.

[68] (0.0373 ÷ 0.0285) – 1 = 0.31 = 31%.

For medium and large size plants the actual cost per piece are much higher than the per-piece cost calculated from the modeled costs.

An important factor that influences the cost effects of consolidations is the differences in productivities between plants. As noted earlier, the Postal Service's assumption that larger plants process mail at a lower unit cost is the result of a separate statistical model that regresses a plant's processing costs on a plant's square footage. This is the same analysis that the Postal Service used in its previous network optimization effort in Docket No. N2006-1 (its Evolutionary Network Development, or END model). *See* N2012-1 Tr. 4/1427 and Docket No. N2006-1, Tr. 2/201.

In Docket No. N2006-1, the Commission observed that there is no theoretical basis for assuming that the productivity of a postal processing plant will increase with plant size. This is because mail processing is labor intensive rather than capital intensive. The Commission pointed out that mail volume levels, rather than a building's square feet, drive mail processing labor costs. It further observed that when a theoretically relevant definition of productivity is used (pieces processed per workhour) the data shows that there is a long-standing, systematic correlation of larger plants with *higher* unit processing costs.

Postal managers often observe that added volume in a plant tends to fill the trays, bins, or other containers used in a plant closer to their capacity. This reduces the marginal cost of moving mail in such containers. Postal Managers often refer to this as an example of "economies of scale." In past dockets, however, the Postal Service's econometric modeling consultants have pointed out that these effects of adding volume to a plant do not reflect "economies of scale," but "economies of fill."

In Docket No. N2006-1, the Commission evaluated the Postal Service's first network optimization initiative called END. In its Opinion, the Commission summarized the views of the Postal Service's economic consultants on the question of whether mail

processing exhibits economies of scale or economies of fill. There the Commission noted:

> Rather than indicate economies of scale, the Postal Service analysts who developed these cost functions, believe that they indicate that there are 'economies of density' [in mail processing].
>
> 'Economies of scale' have been defined in the academic literature as reductions in average cost that occur when all inputs increase proportionally to produce greater output. This is usually regarded as a long-run phenomenon. 'Economies of density,' also called 'economies of fill,' are a more short-run phenomenon in which the variable inputs (in this case, mail processing labor) increase in order to increase output (sorted mail) while other inputs remain fixed (in this case, the labor time needed to prepare a machine to sort mail to a unique pattern or 'scheme'). As output rises, marginal cost falls and the cost of the fixed input is spread over more units of output. When the capacity of the fixed input is reached, a second unit of the fixed resource is obtained, or a less efficient substitute for it is used. *See* William W. Sharkey, *The Theory of Natural Monopoly*, Cambridge University Press (1982) at 198-200.
>
> The differences between 'economies of scale' and 'economies of fill' are significant in the context of network realignment because economies of fill do not depend on the size of the fixed input. As the Postal Service's cost analysts recognize, *smaller mail processing plants are as likely to exhibit economies of fill as larger plants*. [Footnote omitted, emphasis added].[69]

The available empirical evidence indicates that while mail processing may exhibit economies of fill, it does not exhibit economies of scale.

In Docket No. N2006-1, the Commission pointed out that the available productivity data (plant-level workhour and piece handling data from the MODS system) show a long-standing, systematic *inverse* relationship between plant size and

[69] Docket No. N2006-1, Advisory Opinion Concerning a Proposed Change in the Nature of Postal Services, at 51-52, December 19, 2006 (Docket No. N2006-1, Advisory Opinion).

productivity.[70] Simply put, these data show that small plants are more productive than mid-size plants, and mid-size plants are more productive than large plants. In addition, the results of regressing plant workhours on plant square feet with the Postal Service's simple polynomial are not robust or reliable.

The correlation between physically large plants and lower labor costs per square foot disappears when plants are grouped differently than the Postal Service groups them. The Postal Service evaluates its regression by dividing plants into the largest 3 percent, the middle 73 percent, and the smallest 23 percent. Doing so produces the cost per square foot relationship with plant size in Column A in Table VI-4. The Postal Service did not provide its rationale for grouping plants in this manner. When the Postal Service placed an equal number of plants in the large, mid-size, and small groups, however, the same regression produces the costs per square foot in Column B.[71]

Table VI-4

Lack of Correlation Between Physical Plant Size and Cost per Square Foot

Plant Size	Column A	Column B	Column C
Large	$130	$160	$188
Medium	$199	$246	$142
Small	$238	$188	$251

Using this plausible alternative grouping of plants by size, the regression estimates that the largest plants have the lowest cost per square foot, the smallest plants are next, and the mid-size plants have the highest cost per square foot. This conflicting result invalidates the Postal Service's regression.

[70] Docket No. N2006-1, Advisory Opinion at Appendix C.

[71] Tr. 7/2401-02.

The correlation between physically large plants and lower labor costs per square foot also disappears when the Postal Service's preferred grouping of plants (top 3 percent, middle 73 percent, and bottom 23 percent) is used, but its regression is run separately on each group. This produces the costs per square foot shown in Column C. This alternative approach to evaluating the Postal Service's regression estimates that the largest plants have intermediate costs per square foot, the mid-sized plants have lowest costs per square foot, and the smallest plants have the highest cost per square foot.[72]

When plausible alternative groupings of data, and plausible partitions of the regression find no correlation between a plant's physical size and its costs per square foot, the regression is not robust, and its estimates should not be relied on to guide a restructuring of the Postal Service's network.

2. The relationship between capital and labor cost

Labor demand models that use regression analysis to estimate the rate at which increases in volume cause an increase in the use of labor (workhours) have been thoroughly investigated and accepted as meaningful representations of a cause-and-effect relationship. The Postal Service's regression does not estimate how changes in volume cause changes in the amount of labor used to process mail, but rather how changes in the use of a factor input (capital) determine how much of another factor input (labor) it will use. The Postal Service asserts that a relationship between these factors exists, but has not offered any grounds for concluding that the amount of capital it consumes causes the amount of labor it consumes. *See* Tr. 4/1345.

The only way to establish a link between the amount of capital that a plant consumes and the amount of labor that it consumes is through the effect that capital

[72] Tr. 7/2403-05.

has on labor productivity. Implicitly, the Postal Service's model hypothesizes that a plant's raw square footage determines its productivity, which, in turn, determines its unit cost. Empirical evidence contradicts the hypothesis. Table VI-5 details the Postal Service's average capital cost per square foot.

Table VI-5

FY 2012 Rent and Utility Cost Used in Postal Service Network Model

Cost Category	(costs in $ millions)
Fixed Opening Cost	283
Fixed Operating Cost	221
Total Fixed Cost	505
Total Square Footage Capacity	50.982
Fixed Cost per Square Foot	$9.90 (dollars)

Rent and utilities cost less than $10 per square foot, with processing equipment costs adding about $5 per square foot. The average processing cost per physical square foot is over $200. The cost of processing mail at plants is over 20 times greater than the cost of rent and utilities on a square footage basis.

Given this circumstance, costs cannot effectively be brought into line with declining demand without reducing labor costs. Reducing labor costs to match the decline in volumes that the Postal Service is experiencing can be done most directly by reducing the size of its labor force. That approach may not be readily available due to factors outside management's control.

The Postal Service's presentation does not analyze the impact of labor reduction on costs, but instead focuses on its capital input. It makes minimizing the size of its capital stock (its buildings and its sorting machines) the overriding objective of its

network optimization model and its operating plan.[73] The Postal Service's capital stock represents less than 6 percent of its cost structure.[74] Therefore, from the standpoint of potential financial benefit, it would seem that the goal of minimizing its capital input should not predetermine the outcome of its search for an optimal network configuration.

The relationship of workhours to square feet that the Postal Service uses in its model likely will not accurately predict how changing plant volumes will affect plant unit costs because it does not reflect current productivities. The Postal Service did not use its model to determine the estimated costs savings from reconfiguring its network. However, choosing plants that exhibit higher actual processing costs to remain in the network while removing plants with lower actual processing costs could undermine efforts to lower overall costs and increase efficiency.

In this docket, witnesses Weed and Matz, both former processing plant managers, reaffirm the importance of taking plant-specific MODS productivity data into

[73] It does this by instructing its network optimization model to assume that the larger the plant (in terms of square feet) the lower its unit costs will be. The assumption that bigger plants are more efficient is generally true of capital intensive industries, such as telecommunications, power generation, or chemical manufacturing. Because capital costs make up the bulk of costs in such industries, and capital costs are fixed over the near term, higher output spreads the fixed cost of that capital over more units. In contrast, only a small portion of the Postal Service's costs are capital costs. *See* Frank, Robert H., Microeconomics and Behavior. 6th ed. McGraw-Hill Irwin, 2004, pp. 410-411.

[74] The relatively minor impact that fixed capital costs have on total mail processing costs can be illustrated by hypothesizing a simplified processing plant of average size. Its capital stock might consist of a 150,000 square foot building with an annual cost of $10 per square feet. It might be equipped with sixteen ten-year old Delivery Barcode Sorters each with a straight-line annual depreciation of over $21,000; three Advanced Face Cancellers and two Automated Flat Sorting Machines which each depreciate by $22,000 and $195,000 per year. Such a processing plant would have had annual capital costs of $2,688,000. It might have a labor force of 256 Full Time Equivalent employees, each costing the Postal Service $83,000 per year, yielding an annual labor cost of $21.3 million. If one-third of the building is empty, and the machines are not used for one-third of the processing day, the annual cost of this excess capital stock would be slightly more than $886,000. However, if the staff is not busy for one-third of the processing day, the cost of this excess labor capacity would be $7.1 million. The ratio of fixed capital expense to labor expense would be approximately 1 to 8. *See* PRC-LR-N2012-1/NP2.

account in reconfiguring the postal network.[75] The Postal Service should identify sound reasons for not taking into account the empirical data on how changes in volume (rather than changes in square feet) affect productivity at the plant level.

3. The absence of plant-to-plant transportation costs

The model structure chosen by the Postal Service focuses on the assignment of destinating workload to 3-digit customers. It does not include any plant-to-plant transportation links.

Public Representative witness Raghavan criticizes the fact that witness Rosenberg's model ignores transportation costs between mail processing plants. Tr. 10/3114. He believes that including plant-to-plant transportation costs in the model is important since Postal Service witnesses Martin and Bradley identify plant-to-plant transportation costs as a significant cost of the postal network.[76]

By excluding plant-to-plant links in the model, the Postal Service does not fully capture the tradeoff between transportation cost and mail processing costs. The Postal Service stated that it was unable to include plant-to-plant links in the model.

> At some point, we tried to create a plant-to-plant and absolutely we could not get it to run when trying to build in that level of detail in the version that we wanted. And again, the key to what we were looking at was the ZIP assignments. That was all we wanted to get out of LogicNet. So it was an initiative outside of this, but again, maybe if we had better computing power or something else, there would be other alternatives. In an ideal world, we would be able to use a lot more complexities in the model. But we were constrained by the equipment and run time.

---

[75] Witnesses Weed and Matz explain that mail processing operations can exhibit diseconomies of scale because in larger mail processing plants, the distance that mail must travel between entry points, processing machines, and exit points is greater, resulting in a higher proportion of overhead ("allied") costs to total costs. They also observe that it is more difficult to closely manage processing personnel in large, complex plants. Tr. 11/4183.

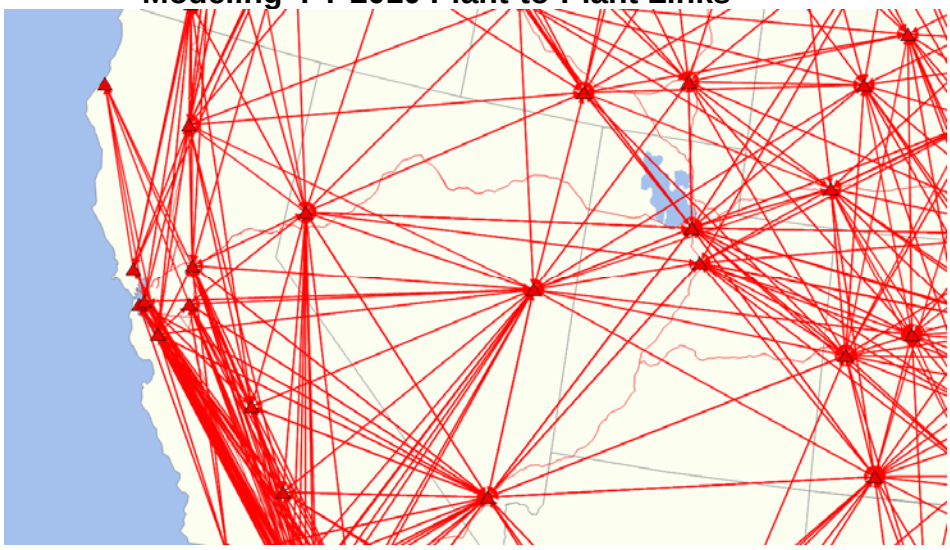
[76] Tr. 10/3115. Witness Bradley indicates that the FY 2010 plant-to-plant transportation costs are $865 million while plant-to-post office transportation costs are $1,047 million.

Tr. 4/1514.

Developing a model with plant-to-plant transportation and mail processing links is feasible, as shown in the LogicNet output graphic in Figure VI-1. However, the transportation input data developed by the Postal Service does not support this level of detail. The Postal Service's workload calculations focus primarily on destination volumes. Volumes for the plant-to-plant links were not provided. The Commission analysis of the baseline network used the input data developed by the Postal Service and participants and therefore does not include plant-to-plant transportation. As noted above, the Postal Service states that its limited computing power precludes it from including transportation links it its model. The Commission recommends that when computing power increases it should develop more detailed network models that balance plant-to-plant transportation with mail processing costs.

Figure VI-1

LogicNet Output for Plant-to-Plant Transportation Modeling–FY 2010 Plant-to-Plant Links[77]



[77] This graphic is a LogicNet map for a selected area of California, Nevada, Utah and sections of other states. It highlights that LogicNet is capable of processing models with plant-to-plant transportation connections.

D. Use of Baseline Model to Evaluate Phase 1

The Commission independently developed and validated a baseline LNP network rationalization model incorporating the suggestions identified above. The model was employed to explore the following scenarios:

- Phase 1A Network: Starting in July of 2012, the Postal Service has started the process of consolidating 48 plants, ending inter-SCF overnight delivery, and slightly expanded operating windows, as described in the *Federal Register* notice. *See* USPS-LR-N2012-1/99. This scenario will be evaluated using both FY 2010 productivities and the Postal Service's projected productivities.
- Phase 1B Network: Starting in January of 2013, the Postal Service plans to consolidate 92 plants. The customer demand will be evaluated using the slightly expanded operating windows, as described in the *Federal Register* notice. *See* USPS-LR-N2012-1/99. This scenario will be evaluated using both actual FY 2010 productivities and the Postal Service's projected productivities.

By analyzing the potential impacts of these scenarios, the Commission provides the Postal Service with guideposts with which to evaluate the success of the realignment at each stage of an ongoing process. Table VI-6 compares the Phase 1A and Phase 1B network costs with the current network cost, using actual FY 2010 plant costs and productivities. *See* PRC-LR-N2012-1/NP2.

Table VI-6

Network Configuration for Phase 1A and 1B with FY 2010 Productivities

	FY 2010 (costs in $ millions)	Phase 1A (costs in $ millions)	Phase 1B (costs in $ millions)
Number of Plants	441	404	297
Mail Processing Cost	$7,308	$7,365	$7,552
Fixed Cost	$493	$465	$422
Total	$7,801	$7,829	$7,974

The Phase 1A consolidations transfer workload from more productive to less productive plants. By transferring workload from more cost efficient plants to less cost

efficient plants, the Postal Service may be making it more difficult to achieve the savings it estimates will accrue from rationalizing the network. The Phase 1A consolidations will lead to an increase in mail processing costs of over $29 million with no improvements in productivity. To break even at the FY 2010 cost of processing mail, plants that have additional Phase 1A workload assignments will have to improve their FY 2010 productivity by 3.7 percent.

The Phase 1B consolidations, on the whole, also move processing assignments from more productive plants to less productive plants. Based on the FY 2010 productivities, moving the assignments from the losing plants to the gaining plants will lead to an increase in mail processing costs of over $189 million if there are no improvements in productivity. To break even at the FY 2012 cost of processing mail, plants that have additional Phase 1B workload assignments will have to improve their FY 2010 productivity by 6.3 percent.

The Postal Service targets cost savings of $337 million as a result of productivity improvement for all of Phase 1. Table VI-7 evaluates the productivity improvements and cost responses necessary to achieve the Postal Service's Phase 1 cost savings goal.

Table VI-7

Productivity Calculations for Phase 1 Network

			Phase	
			1A	1B
Row		Source	(millions)	(millions)
1	FY 2010 mail processing cost at losing plants	PRC-LR-N2012-1/NP2	$413.8	$511.7
2	Cost to process workload at gaining plants	PRC-LR-N2012-1/NP2	$470.7	$699.1
3	Percent cost increase	(Row 1/Row 2) - 1	13.8%	36.6%
4	Cost of existing workload at gaining plants	PRC-LR-N2012-1/NP2	$1,133.1	$2,479.6
5	Cost to process combined workload at gaining plants	Row 1 + Row 4	$1,546.9	$2,991.3
6	Network costs with FY 2010 productivities	Table IV-12	$7,364.5	$7,551.9
7	FY 2010 Baseline cost	Table IV-12	$7,307.6	$7,307.6
8	USPS estimated network cost with operating window savings	Developed from PRC-LR-N2012-1/NP2	$6,970.1	$6,970.1
9	Productivity improvement across all plants needed to realize total Phase 1 estimated savings	(Row 6/Row 8)-1	5.7%	8.3%

The plants that are being consolidated in Phase 1A were assigned less than 1.4 million square feet of workload in FY 2010, and processed this workload for a cost of over $414 million. The Postal Service has not identified what portion of anticipated savings is due to the expanded operating windows versus what portion is due to productivity improvements associated with additional volume at fewer plants. To reduce the cost of processing this workload by $147 million the gaining plants will have to

improve productivity by 14.63 percent.[78] If the Phase 1A consolidation leads to productivity improvements due to the expansion of the operating windows, all plants, not just the gaining plants, will have to increase productivity, on average, by 5.7 percent.

The plants that are being consolidated in Phase 1B were assigned over 2.1 million square feet of workload in FY 2010, and processed this workload for a cost of over $512 million. In order for the gaining plants to reduce the cost of processing this workload by $189 million, gaining plants will have to improve productivity by 13.46 percent.[79] If the Phase 1B consolidation leads to productivity improvements due to the expansion of the operating windows, all plants will have to increase productivity, on average, by 8.2 percent.

[78] Using FY 2010 costs per square foot, the Phase 1A gaining plants incurred a total mail processing labor cost of $1.604 billion (row 2 +row 4) to process 4.6 million square feet of earned workload. These plants had an average cost per square foot of $343. In order to realize $0.147 billion in mail processing savings, the Phase 1A gaining plants will need to have a cost per square foot of $299.3, a productivity improvement of 14.63 percent from $343. *See* PRC-LR-N2012-1/NP2.

[79] Using FY 2010 costs per square foot, the Phase 1B gaining plants incurred a total mail processing labor cost of $3.179 billion (row 2 +row 4) to process 10 million square feet of earned workload. These plants had an average cost per square foot of $317.3. In order to realize $0.189 billion in mail processing savings, the Phase 1B gaining plants will need to have a cost per square foot of $279.7, a productivity improvement of 13.46 percent from $317.3. *See* PRC-LR-N2012-1/NP2.

VII. ANALYSIS OF COST SAVINGS ESTIMATES

A. Overview

The Postal Service estimates cost savings in three areas: Mail Processing, Maintenance and Facilities, and Transportation. Table VII-1 presents the cost savings estimates for network rationalization. It contains the Postal Service's estimates; both as initially filed in this docket and as revised based on information provided in the AMP studies announced on February 23, 2012. The AMPs are discussed in Appendix G. It also contains the Commission's estimates of cost savings. The Commission's analysis relies on the revised savings estimates, unless otherwise noted. Further descriptions of the Postal Service's and participants' positions are provided in Appendix H.

Table VII-1

MPNR Cost Savings Estimates

	Initial Cost Savings ($ millions)	Revised Cost Savings ($ millions)	Commission Savings ($ millions)
Mail Processing and Workload Reduction Savings	1,466	1,417	(503) to 1,417
Maintenance and Facility Savings	910	585	585
Transportation Savings	270	58	(36)
Total Cost Savings	2,648	2,061	45 to 1,966

Source: USPS-T-10, USPS-ST-4; PRC-LR-N2012-1/3.

1. Mail processing and workload reduction

The Postal Service expects network rationalization to lead to mail processing labor savings resulting from increases in productivity. This improvement is expected to result from expansion of mail processing operating windows and shifting workload into fewer plants. The Commission's review reveals that to obtain these expected savings, the Postal Service would have to improve productivity by over 20 percent at all plants

and by over 25 percent at plants that increase workload through consolidations. These productivity improvements are highly optimistic and may not be achievable.[80] Thus, the Commission concludes that the Postal Service's estimate of $1.4 billion represents the high end of mail processing cost savings expectations.

Commission sponsored witnesses Matz and Weed state that they believe a 5 percent productivity improvement is the most likely result of the Postal Service's proposal. This would result in $248 million in mail processing cost savings. Alternatively, if the Postal Service is unable to realize productivity gains at plants with increased workload, mail processing costs could increase by $503 million. The Commission views this as a worst-case scenario.

2. Maintenance and facility

The Commission finds that the cost savings estimates associated with maintenance and facilities provided by the Postal Service are reasonable. However, several assumptions regarding non-personnel cost savings are unsupported on the record and should be more closely examined by the Postal Service to determine their veracity. The Postal Service is encouraged to collect additional data during Phase 1 to support a future determination to move forward with Phase 2.

[80] To put the Postal Service's productivity improvement estimates in perspective, it is instructive to analyze recent changes in letter sorting productivity. The Postal Service estimates a 22 percent improvement in Delivery Barcode Sorter (DBCS) productivity from network rationalization. Letter sorting productivity declined by 3.3 percent between FY 2007 and FY 2011. The DBCS Incoming Secondary operation accounts for over 60 percent of DBCS piece handlings. This operation's share of DBCS piece handlings increased by more than 5 percent during this time period, while its productivity declined by more than 7 percent. *See* USPS-FY07-23; USPS-FY11-23.

3. Transportation

The Postal Service estimates cost savings for Highway Contract Route (HCR) plant-to-plant transportation, plant-to-post office transportation, PVS to HCR conversion, and air transportation.

The Commission concludes that the Postal Service has overestimated the potential for transportation cost savings. Additionally, the Commission's analysis indicates that the cost savings from replacing PVS with HCR transportation could be achieved regardless of MPNR.

The Postal Service estimates total transportation cost savings of $58.6 million due to MPNR. The Commission estimates the transportation cost savings to be only $23.8 million. Excluding savings that may arise from replacing PVS with HCR transportation, the Postal Service estimates that it will incur an additional $1.7 million in transportation costs. The Commission estimates the additional transportation cost to be $36.5 million.

When analyzing potential transportation costs, the Commission finds the Postal Service's calculation of cost increases for air transportation reasonable. It also accepts the Postal Service's savings estimate for PVS to HCR conversion. For HCR plant-to-plant transportation and plant-to-post office transportation, the Commission does not find the Postal Service's estimates adequately supported on the record. The Commission develops improved estimates of cost changes for HCR plant-to-plant transportation and plant-to-post office transportation.

There is insufficient evidence on the record to determine the full impact of the proposal on transportation costs. Several considerations are missing from the Postal Service's analysis, including cost estimates for: (1) transportation between plants and consolidation centers (such as a NDC), (2) the part of the PVS network that will continue to operate in the rationalized network, and (3) changes to hub operations. The record is not sufficiently developed for the Commission to offer advice on these parts of

the network. In particular, the Postal Service has not yet put forth a comprehensive plan for hubs. The Postal Service needs to address the concerns of mailers presented in this docket and make known its intentions for the hub network.

B. Analysis of Mail Processing Cost Savings

1. Overview of mail processing cost savings analysis

To achieve the nearly $1.4 billion in mail processing cost savings expected from MPNR, the Postal Service must significantly improve mail processing productivity.[81] While there is a substantial opportunity for savings, the realization of these savings depends on how successful the Postal Service is at improving productivity rates.

The Commission's analysis of mail processing cost savings focuses on the productivity gain cost change, where the Postal Service expects to achieve $968.2 million in savings. As shown in Table VII-2 there is a wide range of estimates for cost savings due to the MPNR proposal. The Commission analyzes three possibilities. The first two, the Postal Service's estimate and witness Weed's most likely scenario, are presented in testimony. The third estimate was developed by the Commission.

[81] Postal Service witnesses Bradley and Smith estimate the cost savings due to the MPNR proposal based on productivity assumptions provided by witness Neri. The Commission finds that the methodologies proposed by witnesses Bradley and Smith are reasonable for usage in this docket.

Table VII-2

Range of Mail Processing Cost Savings Discussed in the N2012-1 Record

Category	Postal Service Cost Change ($ millions)	Weed Most Likely ($ millions)	Plant Specific Worst Case ($ millions)
Workload Transfer Cost Change	58.4	58.4	58.4
Productivity Gain Cost Change	968.2	248.7	(660.1)
Supervisor Cost Change	65.1	19.7	(38.6)
Plant Management Cost Change	15.1	15.1	15.1
In Plant Support Cost Change	35.3	35.3	35.3
Indirect Cost Change	136.3	45.0	(70.4)
Premium Pay Reduction	72.0	79.8	90.2
Workload Reduction	66.9	66.9	66.9
Total Cost Change	1,417.4	569.0	(503.2)

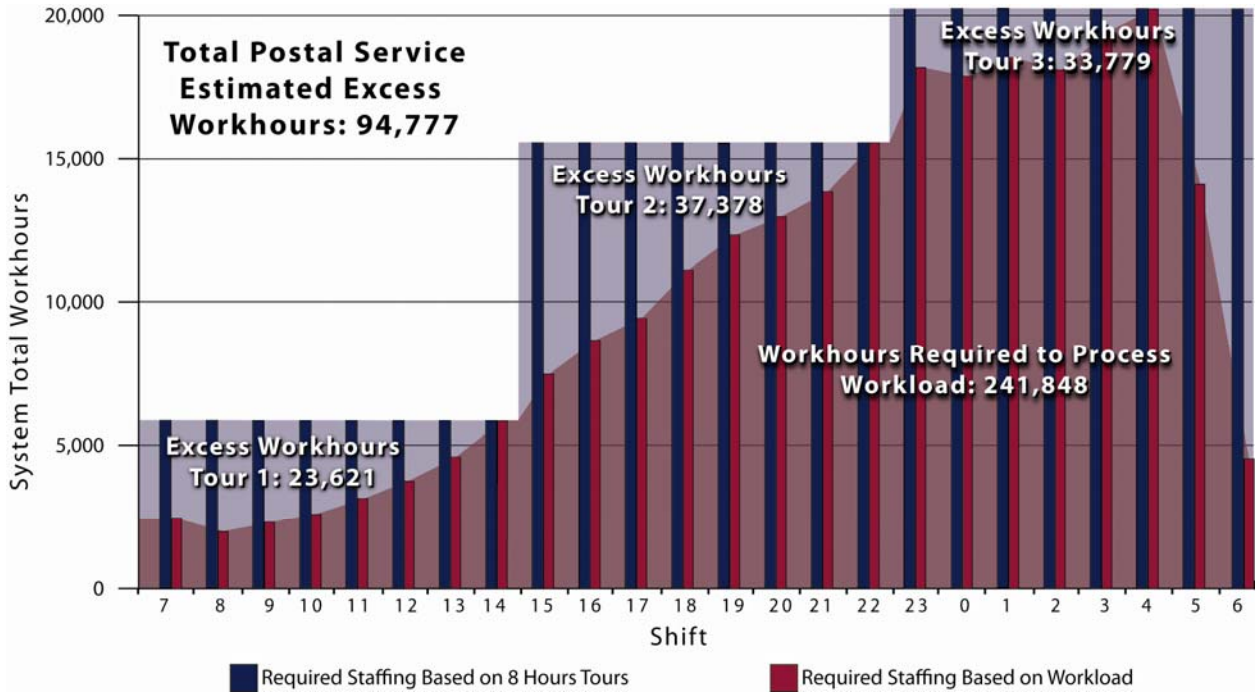
2. Analysis of Postal Service estimate of productivity changes

The Postal Service's savings estimate is the result of a workhour analysis presented by witness Neri. He estimates that 27 percent of mail processing workhours are idle time necessitated by staffing to meet peak related workload. According to witness Neri peak load staffing in order to meet service standards results in excess labor capacity.

He asserts that although workload is uneven, the Postal Service currently staffs full 8-hour shifts so that labor to process the peak volume on each shift is available at all times. This amounts to 336,625 total workhours. Lengthening the processing window will reduce costs by allowing mail to accumulate and smoothing workload throughout the day. The Postal Service will no longer need to staff to the peak and management will be able to match employee workhours with workload. This, in turn, will reduce the time employees spend waiting for the mail. Waiting for mail is idle time.

Figure VII-1 depicts witness Neri's claim. The blue bars show the workhours required for each tour, based on peak volume. The red bars show the workhours required to process the hourly volume. The shaded areas represent the excess capacity of each tour.

Figure VII-1
Witness Neri's Calculation of Idle Time with Workhours by Tour



In Docket No. N2010-1, the Commission found that only 1 to 4 percent of workhours within automated, mechanized, and manual processing are spent waiting for the mail.[82] This is much lower than the 27 percent estimated by the Postal Service. Witness Weed, points out that In-Office Cost System (IOCS) data do not support the Postal Service's argument related to the amount of idle time. Several witnesses for

[82] Docket No. N2010-1, Advisory Opinion on Elimination of Saturday Delivery at 83 (March 24, 2011).

NPMHU also testify that the amount of idle time suggested by Neri is overstated. *See* NPMHU-T-1 at 3-4, NPMHU-T-3 at 7, NPMHU-T-5 at 4, NPMHU-T-6 at 3.

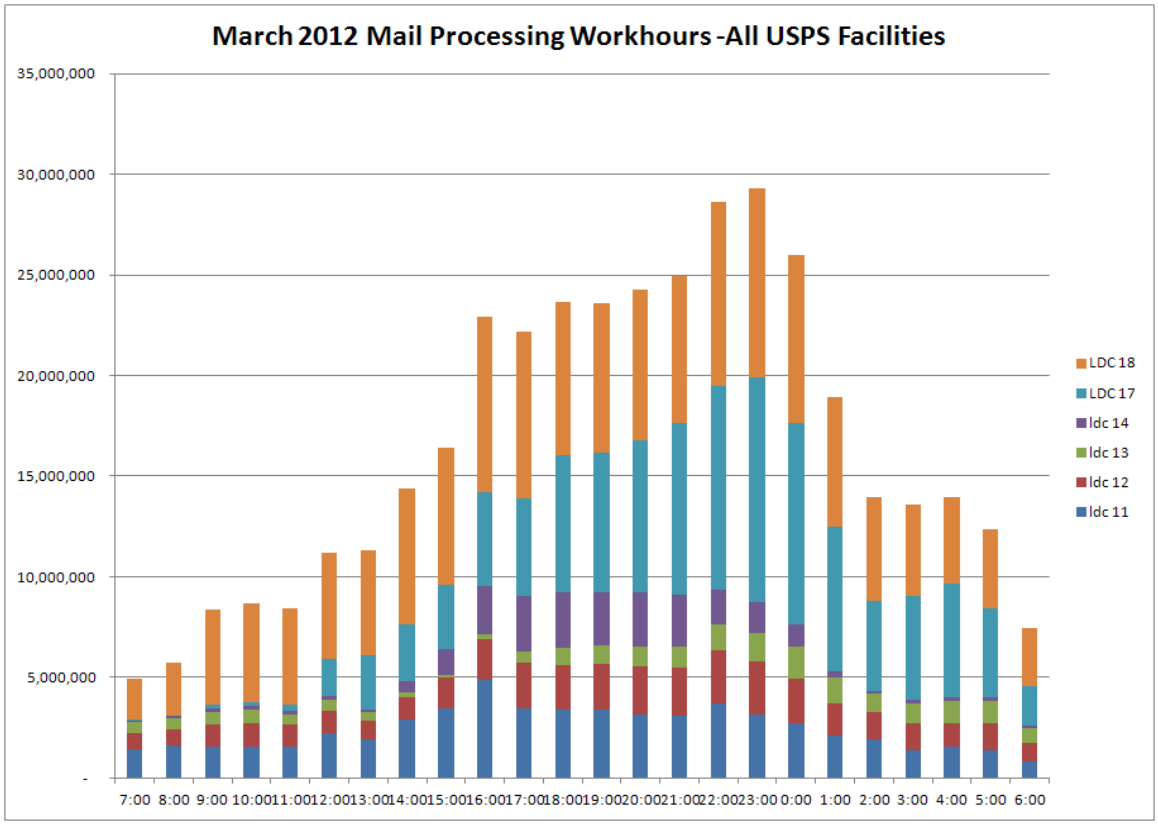
In this case, the Postal Service did not perform a peak load analysis to support its position. Furthermore, witness Neri constructed aggregate workhour data by combining volume data with network-wide average productivities rather than relying directly on employee workhour data.

The Commission reviewed workhour data for all mail processing operations, rather than just the five automated mail processing operations with machine piece counts considered by witness Neri.[83] Comprehensive, plant specific information does not support the Postal Service's fundamental assumption of the existence of rigid staffing. There is variation in the total number of labor hours used throughout the day, and three distinct tours of labor do not appear. Figure VII-2 shows that current staffing is not done in three rigid 8-hour work tours.

[83] The Commission requested the operational data analyzed by witness Neri, as well as additional facilities and operations not included in his analysis. Data for the same facilities and time period used by witness Neri were not available, so the Commission asked about the effects of these differences on the suitability of the data for analyzing the relationship between labor needs and scheduling constraints. In his response witness Neri identifies a variety of factors that influence this relationship, such as volume arrival patterns and labor contractual provisions, and concludes that the data are not suitable for this analysis. In light of this, the Commission does not have the data needed to draw firm conclusions regarding the savings opportunity due to excess labor capacity. For illustrative purposes, in PRC-LR-N2012-1/NP2, the Commission develops a more detailed analysis of excess capacity by analyzing the workhour data shown in Figure VII-2 in combination with the volume data used by the Postal Service in witness Neri's analysis.

Figure VII-2

Mail Processing Workhours



The Commission concludes that the evidence on the record does not support the Postal Service's idle time analysis which formed the basis of its mail processing labor cost savings estimate.

3. Witness Weed's estimates of cost savings

As discussed in Appendix H, witness Weed evaluates two possible productivity outcomes of the MPNR proposal. Witness Weed believes that the "Most Likely" outcome of the MPNR proposal on mail processing productivity will be a 3 to 5 percent improvement. This estimate is based on his management experience. A 5 percent improvement in productivity at the plants that remain in the network leads to a productivity gain of just over 3 percent, after accounting for the network wide decline

associated with removing higher-than-average productivity plants from the network. This increase in productivity leads to an overall mail processing cost savings estimate of $569 million.

In his "Worst Case" scenario, he evaluates the possibility that the plants that remain in the network after realignment will continue to process mail at the FY 2010 productivities.[84] Because the plants that the Postal Service plans to consolidate have a higher productivity than the network average, processing the workload from the losing plants at the remaining plant productivity leads to a decrease in overall network productivity, and an increase in network cost. The decrease in overall mail processing productivity leads to a cost increase of $169.4 million, which reduces the overall mail processing cost savings estimate to $75.7 million.

Both of the estimates provided by witness Weed have strengths and weaknesses. The "Most Likely" savings estimate is calculated using management expertise in a fashion similar to that used by Postal Service witness Neri, albeit with a more conservative improvement number. While this number is an instructive hypothetical, it cannot be relied on with certainty. Witness Weed's "Worst Case" scenario was developed using the preliminary December 5, 2011 plant list, and assumes that the cost of losing plant workload will be processed by the plants that remain in the network.[85]

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[84] *See* Appendix H at 14.

[85] Witness Weed categorizes plants that are inactive in the future network as "losing", and those that are active in the future network as "gaining", even if the plant will not receive additional workload. This differs from the way the Postal Service categorizes plants subject to AMP. When developing a "business case" for consolidations in AMP proposals, the Postal Service estimates productivity effects of consolidation only on facilities with additional workload, in other words the site that "gains" the consolidated facility's workload.

4. Development of AMP based plant-specific worst case estimate of mail processing savings

The Commission's estimate begins with witness Weed's general "Worst Case" hypothesis—the possibility that workload shifts will occur without productivity improvements—and applies plant specific workload shifts and productivities to develop a "Plant-Specific Worst Case" scenario. The Commission uses the April 30, 2012, updated list of plants that will be retained in the future network. To account for the updated data, the Commission made two modifications to the analysis performed by witness Weed. First, the Commission includes those plants that will be open in the February 23, 2012 network. The second modification involves the categorization of plants.

With the additional data provided by the AMP studies, the Commission is able to separate the active plants into two groups: those with additional workload due to consolidation and those that will not gain additional workload due to consolidation. For consistency with Postal Service nomenclature, the Commission will identify the former as "gaining." The distinction between these two groups of active plants is important when considering the impact of consolidation activities on productivity. Table VII-3 shows the results of the Commission's modified analysis.

Table VII-3
Summary of Plant Volumes and Workhours
(Volume and hours in millions)

	Losing			Gaining			Difference in Productivity
	Volume	Hours	Prod	Volume	Hours	Prod	
Auto Letter	99,503	13	7,956	161,005	22	7,309	-8.1%
Auto Flat	6,130	5	1,198	11,307	9	1,206	0.7%
Auto Parcels	749	3	276	1,545	5	309	12.0%
	Non-volume Operations		% of Total Wkhrs	Non-volume Operations		% of Total Wkhrs	
Manual	N/A	6	12.91%	N/A	11	12.36%	
Prep	N/A	5	10.70%	N/A	13	14.01%	
Dock	N/A	16	33.82%	N/A	29	32.82%	
Total Hours		48			89		

The information shown above is used to develop the "Plant Specific Worst Case" previously shown in Table VII-2. The FY 2010 workload at each losing plant is assigned to the specific gaining plant as identified in USPS-LR-N2012-1/82. As shown in Table VII-3, the gaining plants have lower productivities for automation operations. The cost of the workload shifted from the losing plants is calculated using the FY 2010 productivity of the gaining plant. As detailed in PRC-LR-N2012-1/NP2, if the workload of the losing plants is processed at the cost per square foot of the gaining plants, mail processing labor costs will increase by over $660 million.

5. Productivity gains necessary to achieve Postal Service's estimated savings

The Commission considers analysis of historical losing and gaining plant data, similar to that presented by witness Weed, to determine the magnitude of improvements that would be required for automation and mechanized operations. The Commission then compares the required productivity improvements to historical productivities.

The Postal Service projects a reduction of over 26 million workhours as a result of MPNR. The change in workhours is a function of the expected productivity improvements. Witness Bradley applies the FY 2010 network costs to witness Neri's estimated change in workhours to develop the Postal Service's estimate of cost savings. Table VII-4 details the needed productivity improvement in automation operations at gaining plants for this cost savings to be achieved by shifting workload from losing plants.

Table VII-4

Increasing Productivity Needed to Achieve Projected Reduction in Workhours

	Projected Productivity (pieces per hour)	FY 2012 Productivity (pieces per hour)	Percent Improvement
Auto Letter	9,396	7,309	28.5%
Auto Flat	1,489	1,206	23.5%
Auto Parcel	368	309	19.1%

The Commission finds the significant difference between the productivities of the plants the Postal Service plans to close and the plants the Postal Service plans to keep open in MPNR makes achieving the projected savings more difficult. As table VII-3 shows, the FY 2010 productivity gap between the losing plants and the gaining plants for DBCS operations (auto letters) is close to 9 percent. On average, productivity for DPS operations at losing plants is 3 percent above average and productivity at the gaining plants is 6 percent below average. Productivity at gaining plants will have to improve by 6 percent to reach the average system-wide productivity, and an additional 22 percent to achieve the Postal Service's cost savings goal.

The Postal Service expects to gain productivity improvements from both expanding operating windows and consolidating plants. However, it does not separately identify these productivity improvements. *See* Tr. 5/1731-32; 1840-42. Separately identifying the source of productivity improvements is important in

quantifying the additional estimated savings that would result from eliminating overnight service in conjunction with the consolidations proposed by MPNR. To evaluate the historical impact of consolidations, the Commission reviews data from previous consolidations.

Analysis of Past Consolidations. Post Implementation Review (PIR) reports are used by the Postal Service to assess previous AMP consolidations. The Postal Service provided 19 PIRs for the period 2008-2011.[86] Witness Weed analyzes the historical AMP packages that include the original AMP, a six month PIR, and a final PIR. The Commission validates that analysis. The results are shown in Table VII-5.

Table VII-5
Productivity and Hours Comparison of 19 Pre-AMP to Final PIR

		Annual TPH Productivity		
		Pre AMP	Final PIR	Difference
Volume Measured Operations	Auto Letters	7,530	7,428	-1.35%
	Mech Flats+Prep	1,197	1,180	-1.42%
	Mech Parcel	330	303	-8.18%
		Annual Workhours (Millions)		
		Pre AMP	Final PIR	Difference
Volume Operations	Manual	4.3	3.1	-28.74%
Non-Volume Operations	Prep/Tray/Exp/Reg/Equip	6.0	5.4	-10.52%
	Dock/Open/Indirect	12.2	7.8	-36.10%
	Sub-Total Non-Distribution	22.5	16.3	-27.86%

Source: USPS-LR-N2012-1/NP12, USPS AMP Studies (2008-2011).

[86] Wilkes-Barre_OD_Scranton & Lehigh Valley_FinalPIR_12-02-11, Staten Island_O_Brooklyn_FinalPIR_01-21-11, St Petersburg_O_Tampa_FinalPIR_1-21-11, South Florida_O_Ft Lauderdale & Miami_FinalPIR_04-29-11, and Mojave_D_Bakersfield_FinalPIR_10-28-11 were unreadable, not complete, or in a format that did not permit data extraction. *See* USPS-LR-N2012-1/NP12, USPS AMP Studies (2008-2011).

Three of the nineteen consolidations for which PIRs have been completed were total plant consolidations of Originating and Destination (O&D) volumes in which the losing plant was discontinued and the volume and distribution responsibilities were transferred to the gaining plant.[87] These consolidations most closely resemble the type of consolidation to be undertaken by MPNR. Because there were only three PIRs, the Commission does not rely on the analysis to estimate cost savings. However, the information garnered from the analysis is instructive in that it highlights productivity changes that were actually achieved after complete consolidations.

The PIRs report a general decrease in the productivity of automation processing operations following a consolidation. For example, the PIR reports reveal that productivity in Auto Letters decreased by 1.4 percent in plants with additional workload due to a consolidation. This stands in contrast to the 28.5 percent improvement in Auto Letters productivity in gaining plants the Postal Service needs to achieve the cost savings it projects. *See* Table VII-4.

Impact of consolidations on manual and allied operations. Mail processing activities include both piece sorting and operations that are not performed at the piece level. For most piece-related activities, volume and workhours are available to measure volume per hour productivity. The Postal Service end of run reports for automation sorting operations contain piece counts and machine run times. These reports provide accurate information regarding the number of pieces processed, and thus productivities. Although manual sorting is done on a piece basis, the Postal Service does not provide volume estimates that can be used to accurately estimate productivity.

There is no comparable end of run report for allied operations, such as platform, that compare pieces processed with hours worked. The Commission therefore does not

[87] The 3 O&D PIRs generally match the results of the 16 other PIRs. However, the decrease in automation letter productivity was more pronounced. The Auto Letter Pieces Per Hour (PPH) declined from 8,255 to 7,238, a 12.32 percent decline.

evaluate FY 2010 productivities of allied operations, or manual sorting. However, the PIR reports allow the Commission to examine the change in workhours that occurred from the pre-AMP period to the Final PIR. These reports reveal an overall decline in the number of hours spent in allied and manual operations, which led to a reduction in overall hours at the consolidated plants. The average time elapsed between the pre-AMP studies and the Final PIRs was 36.5 months. The length of this review period warrants consideration of any underlying trends in allied hours.

Witness Weed reviews the change in productivity on a national level from FY 2008 to FY 2011. The reduction in hours at AMP plants for manual letters and flats were nearly identical to the national average during the same period.[88] *Id.* at 4232-42. Therefore, it does not appear that the reduction is due to the consolidations, but may instead be driven by systemwide changes. Consequently, the Commission does not expect productivity improvements in manual operations similar to those seen in the AMP studies will be realized under the proposed consolidations unless there is a systemwide improvement.

Witness Weed performs a similar analysis of the 27.7 percent reduction in allied workhours seen from the pre-AMP to the Final PIR. He finds that reductions in allied workhours at the 19 AMP studies with PIRs are 15 percent greater than the national average for reductions in non-measured operations during the same period of time.[89] *Id.* at 4243-46.

According to the PIRs, past consolidations have led to a reduction in the workhours spent on allied operations. Figure VII-3 shows the percentage of mail

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[88] Witness Weed notes that these productivity increases were driven by a few outlier AMP studies, namely Detroit, Lakeland, Long Beach, and Manasota, which show a significant decrease in Box Section Hours. Tr. 11/4239.

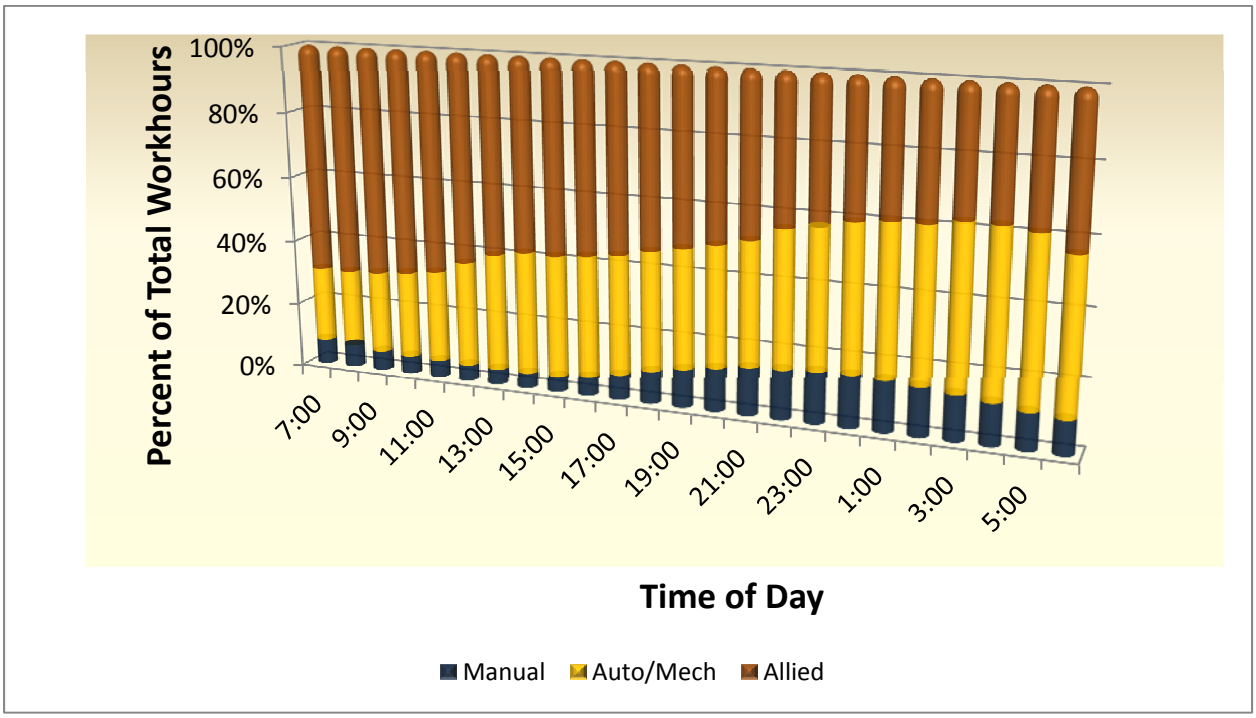
[89] Witness Weed notes that this may be related to the "lack of consistency in MODS clock ring procedures," so witness Weed does not make any category-level conclusions regarding this variation. *Id*. at 4246.

processing workhours for each hour of the processing day, grouped by allied, automation, and manual cost pools. The percent of total workhours devoted to manual operations shows a slight increase between 7:00 p.m. and 3:00 a.m. The percent of total workhours for automated and mechanized operations gradually increases until it peaks at 5:00 a.m.

In contrast, the percent of total hours spent on allied operations exhibits less hourly variation, remaining above 50 percent for much of the workday. Because these operations are not piece handling operations, consolidations may provide opportunities to take advantage of economies of fill by increasing the amount of mail handled by these operations. This finding contrasts with automation processing operations, for which it appears that the Postal Service may have a harder time realizing cost savings from consolidations.

Figure VII-3

Percent of Total Workhours Used by Automation/Mechanized, Allied, and Manual Operations



There are no data available to examine the direct relationship between the length of the mail processing window and mail processing costs. For this reason, the impact of lengthening the operating window on the plant-level productivity cannot be determined.

C. Analysis of Maintenance and Facilities Savings

1. Overview

Postal Service witnesses Bratta and Smith quantify the impact of the proposed network consolidations on maintenance and facilities. Witness Bratta estimates the number of employees needed in the current network and the number that will be needed in the proposed future network. He also estimates the impact of network consolidation on the amount of spare parts needed. Witness Smith estimates the cost savings associated with reducing both maintenance and facility personnel, and non-personnel items identified by witness Bratta.

The Postal Service initially estimated total maintenance and facility cost savings of $910.0 million. The Postal Service revised its initial cost savings estimates to $585.4 million after consideration of the AMP studies released on February 23, 2012. USPS-ST-2. The initial and revised cost savings estimates are presented in Table VII-6.

Table VII-6

Postal Service Original and Revised Maintenance and Facility Cost Savings Estimates

Maintenance and Facility Savings	Initial Cost Savings ($ millions)	Revised Cost Savings ($ millions)
Maintenance Labor	379.9	281.4
Parts and Supplies	82.0	53.4
Building Maintenance and Custodial Labor	231.5	153.7
Utilities and Heating Fuel	74.4	48.5
Supplies and Contractor Costs	19.4	12.7
Potential Annual Earnings from Facility Sales Proceeds	32.7	27.6
Potential Rent Savings	16.8	8.1
Total Maintenance and Facility Savings	910.9	585.4

Sources: USPS-T-; USPS-ST-3.

The Commission finds that the Postal Service's revised cost savings estimates are reasonable. During Phase 1, the Commission recommends that the Postal Service collect data in order to better support its estimates of non-personnel maintenance and facility cost savings going forward.

2. Personnel cost savings

Approximately 75 percent of the cost savings associated with maintenance and facilities is labor related. The methodology proposed by the Postal Service to calculate labor savings is undisputed in the record. The Commission finds the Postal Service's methodology reasonable. Witness Matz and the Public Representative discuss plausible concerns that may impact the actual maintenance and facility savings the Postal Service will achieve as a result of the proposal. The Commission encourages the Postal Service to be mindful of the issues raised by witness Matz and the Public Representative and to monitor actual changes in maintenance and facility costs during

Phase 1 of implementation to verify that its estimates are reliable before proceeding with Phase 2.

3. Non-personnel cost savings

The Postal Service makes several assumptions when calculating non-personnel maintenance and facility cost savings. These assumptions include the number of plants the Postal Service will be able to close, the revenue the Postal Service will receive as a result of selling these plants, the ability to make capital investments with revenues from the sale of plants that would result in a 10 percent annual return, and the savings resulting from needing fewer spare parts. Although participants and the Commission have asked many questions in an attempt to understand the basis of these assumptions, the Postal Service has provided little support.

Witness Smith initially estimates that the Postal Service would be able to fully vacate 93 buildings, which would result in net revenue of $327 million. USPS-T-9 at 20. He revises these figures to 80 facilities and $276 million in net revenue after consideration of the AMP studies released on February 23, 2012. USPS-ST-3 at 7-8. However, witness Smith indicated that the Postal Service has yet to make a final decision about whether to fully vacate any buildings, therefore, some of the plants included in his estimate may not actually close. Tr. 5/1685.

Witness Smith explains that the net revenue estimate does not include the funds necessary to reconcile hub and BMEU conflicts. USPS-ST-3 at 7. Witness Mehra states that many plants will remain open to serve as BMEUs for commercial customers. USPS-T-7 at 4. Witness Williams indicates that many plants will remain open to serve as transportation hubs. Tr. 2/257-58.

This raises questions about the validity of the Postal Service's assumption that it will fully vacate 80 plants.

The Postal Service has provided minimal support for its estimate that it will receive $276 million in net revenue from selling fully vacated plants. Witness Smith explains that the Postal Service obtained a Broker Opinion of Value to sell the plants as is, and asserts that the quoted value is the current market value of the plants. Tr. 5/1606. The Commission is unable to determine the reliability of witness Smith's estimate.

Witness Smith states that selling fully vacated plants is expected to generate "at least a 10 percent annual return" from making capital investments "for postal plants, equipment or vehicles." USPS-T-9 at 20-21. The Postal Service expects to receive $27.6 million in savings each year after full implementation. While witness Smith believes this is a conservative estimate, it is unclear from the record whether this savings is achievable.

There is no basis on the record for the Commission to adjust the Postal Service's estimates of vacating 80 plants, the revenue it may obtain from selling these plants, and the expected return on investment. There are indications on the record that the estimates likely overstate the savings that will be achieved.[90]

The Postal Service also assumes that it will be able to save 25 percent of spare parts costs as a result of MPNR. Witness Bratta initially estimated that 40 percent of spare parts costs could be saved. *See* USPS-LR-N2012-1/33. He updated his assumption to 25 percent after consideration of the AMP studies released on February 23, 2012. *See* USPS-LR-N2012-1/81. The Postal Service states that this is a conservative estimate based on the current and projected equipment sets. Tr. 4/932. The Postal Service has not provided any data or calculations used to arrive at the estimate. No intervener has proposed an alternate estimate.

[90] While the Postal Service has sold several closed facilities in the past few years, others have been on the market for between one and three years without selling. *See* USPS-LR-N2012-1/NP19.

The Postal Service's savings estimate of 25 percent of spare parts costs is not supported on the record. However, the Commission has no basis for adjusting the Postal Service's estimate. During Phase 1, the Commission suggests that the Postal Service collect data on the actual cost savings associated with spare parts. This data will be helpful to the Postal Service in the Postal Service's decision on whether or not to proceed with Phase 2.

4. Comparison to AMP related facility and maintenance cost savings

The maintenance savings reported in the AMP studies is approximately $300 million, which is less than the savings estimated by witnesses Bratta and Smith. It is possible the AMP savings are lower than the savings calculated by witness Smith at least in part because the AMP savings include additional costs for keeping facilities open to serve as BMEUs and hubs. As the Postal Service implements Phase 1, it will be able to better assess whether the AMP results or the savings calculated by witnesses Bratta and Smith better reflect the actual maintenance and facility cost savings it receives from closing mail processing facilities.

D. Analysis of Transportation Network Costs Savings

1. Overview

Postal Service witnesses Martin and Bradley analyze the impact of MPNR on the Postal Service's transportation network. Witness Martin analyzes how MPNR will facilitate realignment of the transportation network and improve transportation efficiency. Witness Bradley calculates the transportation costs resulting from changes in transportation activities attributed to MPNR based on witness Martin's analysis.

The Postal Service provides two sets of transportation network estimates, initial and revised. Revised estimates are provided that take into consideration the additional information contained in the AMP studies filed on February 23, 2012.[91]

The Commission concludes that the Postal Service has overestimated the potential for transportation cost savings. A comparison of the Postal Service's revised estimate with the Commission's estimate is shown in Table VII-7.

Table VII-7

Transportation Cost Savings Estimates

	Postal Service Estimates ($ millions)	Commission Estimates ($ millions)	Difference ($ millions)
HCR plant-to-plant transportation	100.2	56.1	(44.1)
Plant-to-post office transportation[1]	23	32.3	9.3
PVS to HCR conversion	60.3	60.3	0
Air transportation	(124.9)	(124.9)	0
Total excluding PVS to HCR conversion	(1.7)	(36.5)	(34.8)
Total including PVS to HCR conversion	58.6	23.8	(34.8)

[1] Plant-to-post office transportation estimate includes intra-SCF HCR transportation, and replacement HCR service for 32 PVS sites.

2. Analysis of plant-to-plant transportation cost savings

With plant-to-plant transportation, mail is transported from an origin to a destination plant either through a direct connection, or through an indirect connection from an origin plant to a hub or consolidation center such as a NDC, and then to a destination plant. The Postal Service uses both surface and air modes to move mail between processing plants. The consolidation of mail processing plants attributed to the network rationalization will impact both types of transportation.

[91] In addition, the Postal Service evaluated all inter-SCF routes in the revised estimates as opposed to just a subset of routes used in obtaining the initial estimates.

For HCR plant-to-plant transportation, the Postal Service calculates percent reductions in trips by dividing the number of trips that will be eliminated by the total number of trips. Volume variability factors for inter-SCF HCR contracts are applied to the percent reduction in trips and the results are multiplied by the corresponding baseline costs to obtain cost savings. A single average percent reduction value is used for the three inter-SCF HCR contracts. The volume variability factors were established using the relationship between cost and cubic-foot-miles.

There are a number of issues with the Postal Service's methodology. First, the Postal Service implicitly assumes that percent reduction in trips is proportional to the percent reduction in cubic-foot-miles. The Postal Service's approach treats all plant-to-plant trips as equal when it calculates the percent reduction value that is used to generate the savings estimate. Witness Bradley explains:

> [c]ubic-foot-miles is made up of trucks times frequency, which is trips, times miles. And so we've seen historically that there's a proportional relationship between the number of trips that the Postal Service has within say inter-area or inter-cluster and the cubic-foot-miles. So I don't think it's a big stretch to go from Witness Martin's thinking about this in terms of reducing her network in terms of trips to reducing in terms of cubic-foot-miles.

Tr. 5/1825.

However, the Commission concludes that plant-to-plant trips and associated costs vary by trip length, trip frequency, and vehicle capacity. *See* NPMHU Initial Brief at 10, PR-T-2 at 27-28, and PR Initial Brief at 31. Therefore, the percent reduction in trips may not be proportional to the percent reduction in cubic-foot-mile.

Second, the Postal Service applies a single average percent reduction value across the three types of inter-SCF highway contracts to obtain cost savings estimate. The inter-SCF HCR contracts vary in terms of average trip frequency, mileage and cost per mile. *See* Table VII-8. Specific percent reduction values need to be used for each

category of inter-SCF contracts in order to obtain more reasonable cost savings estimate.

Table VII-8

Average Annual Trip Frequency, Length and Cost per Mile by Contract Type

Contract Type	Average Trip Frequency (numbers)	Average Trip Length (miles)	Cost per Mile ($)
Inter-Area	257.6	257.6	2.90
Inter-Cluster	241.6	241.6	3.10
Inter-P&DC	234.7	234.7	2.40

Source: USPS-LR-N2012-1/77.

Third, the Commission notes the failure to include any additional trips that may be required under a rationalized network. *See* PR-T-2 at 27. Not including any additional or new plant-to-plant trips in the analysis assumes that the trips remaining after rationalization can accommodate the volume of the eliminated trips.

The Postal Service acknowledges that it would need to increase the number of trips between the remaining plants, but claims that the elimination of separate transportation links between consolidated plants would still lead to a net decrease in transportation activity. USPS-T-6 at 8. It also explains that expansion of mail processing windows that result from the proposed change in service standards will provide more time to accumulate mail at an origin plant. This will improve the capacity utilization of trucks and decrease the number of trips needed between the remaining plants. *Id.* at 9.

Finally, potential impacts of the proposal in this docket on transportation between plants and consolidation centers, such as NDCs, are not incorporated in witness Martin's analysis or in witness Bradley's cost savings estimates. In defense of this approach, witness Martin states that the transportation links between consolidation centers, such as LDCs and NDCs, will be impacted since the plants that will be

potentially deactivated will no longer have a trading relationship with the consolidation centers. Tr. 4/1239-40. However, she has not included that part of the transportation network in her analysis. The Commission concludes that the consolidation of plants will impact the transportation connections between plants and consolidation centers.

As explained below, the Commission estimates a cost savings of $56.1 million from plant-to-plant transportation attributed to network restructuring and service standard changes.

The Commission calculates the percent changes in costs separately for each inter-SCF contracts: inter-Area, inter-Cluster, and inter-P&DC. The cost changes for each contract type are derived by deducting the annual cost of trips that the Postal Service identified to be eliminated from the total annual cost of trips for each contract. Adding the annual costs of the trips identified to be eliminated, as suggested by NPMHU, would provide cost savings estimates, but the values would be for FY 2011.[92]

The Commission calculates savings using FY 2010 data to make the estimates comparable to those of the Postal Service. The Commission then multiplies the percent change in costs for each HCR category by the corresponding FY 2010 accrued costs to obtain cost savings.[93] Summing up the cost savings for the HCR categories yields the total plant-to-plant cost savings. The necessary data for this calculation are obtained from USPS-LR-N2012-1/77.[94] The Commission's calculation of plant-to-plant transportation cost savings is shown in Table VII-9.

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[92] The annual cost reported in USPS-LR-N2012-1/77 is for 2011. Tr. 8/2581.

[93] This approach assumes that the cost structure of inter-SCF contracts in FY 2010 is similar to that in FY 2011.

[94] In this library reference, the Postal Service provides a list of all HCR plant-to-plant trips, trip frequency, trip miles, annual cost and cost per mile, average capacity utilization, HCR category, accrued cost, and whether or not a given trip is a candidate for elimination.

Table VII-9

Calculation of Plant-to-Plant Cost Savings

Contract Type	Baseline Cost ($ millions)	Reduction in Cost (percent)	Cost Savings ($ millions)
Inter-Area	574.5	6.0	34.6
Inter-Cluster	187.2	6.9	12.9
Inter-P&DC	103.5	8.3	8.6
Total	865.2		56.1

Source: PRC-LR-N2012-1/NP2.

By using percent changes in trip costs, the Commission recognizes current differences in trip frequency and mileage, and capacity of vehicles used. It also considers differences in the characteristics of the three inter-SCF contracts by applying individual percent reduction figures for each contract.

The frequency of trips between the remaining plants may increase or decrease in a rationalized mail processing environment. New trips may also be required. If the Postal Service successfully utilizes the existing excess capacity, the Commission assumes that there is sufficient excess transportation capacity to accommodate the volume of the eliminated trips.[95] Therefore, the Commission assumes no changes in trip frequency in a rationalized network. The remaining trips are assumed to accommodate the volume of the eliminated trips. The change in trip frequency and the need for new trips, and associated cost impacts will depend upon the success of the Postal Service in utilizing existing excess capacity.

Because the necessary data was not provided on the record, the Commission's estimate does not incorporate transportation changes between plants and consolidation centers.

[95] Docket No. N2010-1, Advisory Opinion on Elimination of Saturday Delivery at 125 (March 29, 2011).

Participants criticize the Postal Service for not including the potential increase in trip length in a consolidated network. The Commission finds that the increase in trip length is, to a large extent, accounted for by the shift in First-Class Mail volume from highway to air transportation.[96] To move the mail over longer distances, and achieve the proposed service standard commitments, the Postal Service anticipates increasing the use of air mode in place of highway mode. Thus, the cost implication of increase in trip length is largely reflected in the Postal Service estimate of air transportation cost increases.

3. Analysis of plant-to-post office transportation savings

The Commission analysis of plant-to-post office transportation consists of two components: intra-SCF HCR transportation, and PVS transportation.

Intra-SCF HCR Transportation. The Commission identifies several issues with the Postal Service's calculation of HCR plant-to-post office cost savings. First, out of the total AMP studies announced on February 23, 2012, 103 studies provide information only for those routes that are impacted by the network consolidation and exclude the routes that have no change to their operating miles. The Postal Service's calculation of the percent reduction in plant-to-post office operating miles includes those 103 AMP studies with incomplete routes. *See* NPMHU Initial Brief at 12; PR Initial Brief at 30. Including the AMP studies with incomplete routes may present an inaccurate picture of the impact of network rationalization on plant-to-post office transportation.

Second, the calculation of changes in operating miles incorporates non-plant-to-post office routes, such as inter-Area, inter-P&DC, inter-Cluster, inter-NDC, and intra-NDC routes. The plant-to-post office transportation network is primarily provided by

[96] The Commission calculated the current average distance, and the proposed average distance for surface mode using the information provided in USPS-LR-N2012-1\NP7, and found that the former is greater than the latter.

intra-P&DC and PVS transportation. The Commission concludes that the inclusion of all types of transportation in the analysis may result in a biased percent reduction in operating miles and cost savings estimates.

Third, witness Bradley uses the established relationship between cost and volume variability factor to calculate cost savings. The volume variability factor reflects the relationship between cost and cubic-foot-miles. Witness Bradley calculates cost savings by multiplying three variables: percent reduction in operating miles, volume variability factor for intra-SCF contract, and baseline cost. This approach is inconsistent in that it applies percent reduction in operating miles to the capacity variability parameter that was established based on cubic-foot-miles. Operating miles do not incorporate the vehicle capacity variations in plant-to-post office routes that are reflected in cubic-foot-miles. Witness Bradley's methodology assumes that all intra-SCF HCR routes use trucks with the same capacity. The Commission performed an analysis to examine the variation in capacity of trucks used in intra-SCF transportation using the FY 2010 Transportation Cost System (TRACS) database. The result of the analysis reveals that there were 70 types of trucks that differ in terms of capacity in intra-SCF transportation.[97]

The Commission estimates cost savings of $32.3 million from HCR plant-to-post office transportation restructuring. *See* Table VII-10. The Commission's methodology involves calculating percent reduction in costs, and then applying this percent reduction to the total FY 2010 plant-to-post office costs. The percent reduction in costs is determined based on data from AMP studies available from USPS-LR-N2012-1/NP16. The Commission's analysis includes only those AMP studies with complete route information, and uses only intra-P&DC HCR routes. The FY 2010 cost of intra-P&DC contracts and HCR replacement cost of the 32 PVS sites is used as the baseline cost.

[97] Intra-SCF truck capacity ranges from a minimum of 80 cubic-feet to a maximum of 3,300 cubic-feet in FY 2010.

Table VII-10

Calculation of Intra-P&DC Cost Savings

Contract Type	Baseline Cost ($ millions)	Reduction in Cost (percent)	Savings ($ millions)
Intra-P&DC	1,029.5	3.14	32.3

Source: PRC-LR-N2012-1/2.

The Commission's approach considers differences in the frequency, length and capacity of plant-to-post office routes. The percent decrease in costs is established using those AMP studies with complete route information, excluding the 103 AMP studies that list only the routes that are affected by the consolidation.[98] Although, the analysis relies on fewer AMP studies, these AMP studies are sufficient to provide a reasonable estimate.[99] As opposed to the Postal Service approach that relies on all types of routes, the Commission uses only the routes that will be impacted by the proposed changes (*i.e.,* intra-P&DC routes) in its analysis. To the extent that the AMP studies incorporate changes in route mileage, frequency, vehicle capacity and additional or new trip requirements in a consolidated mail processing environment, the Commission savings estimate also reflects those changes.

Postal Vehicle Service (PVS) Transportation. The Postal Service plans to close 32 PVS sites when their associated plants are closed. The Commission finds the Postal Service's estimate of cost savings of $60.3 million from converting PVS sites to HCR to

[98] *See* Excel file "Attach.Resp.POIR9.Q4" filed as part of the response to POIR No. 9, question 4 for the list of AMP studies that include only routes affected by the consolidation.

[99] NPMHU and the Public Representative take issue with the use of the AMP studies for calculating the percent reduction in operating miles and applying the result to generate plant-to-post office savings. NPMHU Initial Brief at 18; PR Initial Brief at 30. It is essential to recognize that a losing plant in an AMP study may have transportation relations not only with its gaining facility, but also with other facilities in the postal mail processing network. The gaining facility also may have transportation links with other facilities. Therefore, the consolidation of facilities impacts transportation between losing and gaining facilities, as well as between losing and gaining facilities, and other facilities in the postal network.

be reasonable.[100] However, the Commission has two questions regarding the impact of the Postal Service's proposal on PVS transportation: (a) whether the cost savings from such conversion should be attributed to network rationalization and service standard changes and (b) whether this would be the only impact on PVS transportation.

With regard to the rationale for attributing the cost savings from converting PVS to HCR to the network rationalization and service standard changes, witness Martin explains:

> [we] are going to go through an evaluation as we normally do to look at the impact of postal vehicle service as it results with the deactivation of these locations. If there is no presence or oversight or we shut the facilities down, then you would have to go through the process of looking at—like we normally do when we look at mode conversions to convert the work from PVS or postal employees.

Tr. 4/1163.

She confirms that the Postal Service will be applying the same process (*i.e.,* financial evaluation process to determine whether to use PVS or HCR) that it has used for many years to determine whether or not to contract out. *Id.* at 1166. She also acknowledges that the conversion of PVS to HCR "depends on if it's a business proposal that someone would like to initiate at a local level, but it's not a routine type of initiative." Tr. 8/2572. She agrees that the option is something that managers can initiate regardless of network consolidation. *Id.*

Witness Bradley argues that the conversion would be initiated by the structural change in the mail processing network caused by the service standard change. Tr. 5/1798. He claims that "the Postal Service continues to use PVS transportation, despite its higher cost, indicates that there are reasons other than just cost for its

[100] A small portion of the cost savings from LDC 30 and LDC 31 may not be attributed to PVS transportation since employees working under these categories of work may involve other duties, such as ensuring efficient transportation of mail by HCR. Tr. 5/1750.

continued use." *Id.* at 1799. He suggests that those reasons may make it difficult for the Postal Service to simply substitute HCR for PVS transportation. *Id.*

The Postal Service can convert PVS sites to HCR to the extent the transfer is consistent with applicable collective bargaining obligations regardless of network rationalization and service standard changes. The collective bargaining requirements are in article 32, section 2 of the USPS/APWU contract. The Postal Service can contract out PVS routes to HCR transportation as long as it fulfills those requirements. Although the calculation of cost savings from converting PVS to HCR is acceptable, the Commission concurs with NPMHU, APWU, and the Public Representative that such savings should not be attributed to the proposed changes in this proceeding since such transfer can be done regardless of network rationalization.

The Postal Service did not adequately evaluate the impact of the proposal on the entire PVS network. The proposed changes will affect the entire PVS network including those sites that will remain open, as well as those PVS sites that the Postal Service plans to close. The Postal Service analysis focuses only on the 32 sites that will be closed, instead of the entire PVS network. Witness Martin does not include the impacts of the proposal on those PVS sites that will remain open. Witness Bradley explains the rationale for excluding those sites from the analysis:

> Although the Postal Service believes that there will be an opportunity to reduce the amount of transportation needed at the PVS sites that will remain open, it does not have a cost-effective way of accurately measuring how much that reduction will be. Thus, it chose to not include any value for this potential cost savings in its overall estimate of savings.

Tr. 13/4506. The record is not sufficiently developed for the Commission to determine whether consideration of the entire PVS network will indicate an increase or decrease of overall PVS costs.

4. Analysis of air transportation costs

The Commission concurs with the Postal Service's estimate of a $124.9 million increase in air transportation costs. The Commission notes that a small portion of Priority and Express Mail may be switched from surface to air transportation due to increases in distances among processing facilities and the need to meet the current service standard commitments. The cost for this additional transportation is not included in any estimates.[101]

5. Hub network

A hub is a facility or a terminal where mail or mail in containers is cross-docked or consolidated before being transported to destination facilities. A hub is also referred to by the Postal Service as a cross-dock facility, a transfer facility, a surface transfer center (STC) or a container transfer operation. Hubs play a crucial role in Postal Service transportation to efficiently utilize vehicle capacity and reduce transportation costs. The Postal Service did not include analysis of the hub network in this docket. Several participants have criticized the Postal Service for excluding hubs in its analysis.

APWU witness Kathryn Kobe, NPMHU, NNA, and the Public Representative criticize the Postal Service for lack of a hub plan in this docket. *See* NPMHU Initial Brief at 31, APWU Initial Brief at 28, NNA Initial Brief at 16-17, PR Reply Brief at 8, and APWU-RT-1 at 29-33.

Witness Kobe claims the lack of such information makes it impossible to evaluate the true transportation cost changes both in monetary and service terms. APWU-RT-1 at 33. She contends that consideration of hubs would tend to increase the transportation costs. Tr. 11/3731-32. NPMHU contends that the proposed postal

[101] The Postal Service has estimated that about 22 percent of Priority Mail is being processed at locations that have been approved as a consolidation opportunity. Tr. 4/1019. Witness Martin acknowledges that Priority Mail volume could be affected by increases in distances between the remaining processing plants, but did not include this potential change in her analysis. *Id.* at 1176-1177.

network will depend heavily on hubs to reduce the operating miles from plants to post offices. NPMHU Initial Brief at 31. APWU suggests that the Postal Service should provide the details, design, and costs of hubs in the rationalized network. It also suggests that the Postal Service should provide some mail entry and distribution capabilities at the hubs for quick delivery, especially for Periodicals and certain package products. APWU Initial Brief at 11.

NNA asserts that there is uncertainty as to whether the Postal Service's plan will maintain overnight delivery for Periodicals entering at delivery units. The uncertainty, according to NNA, is due to:

> the use of transportation hubs within former Sectional Center Facility plants where the development of hubs is yet unknown; whether changed container rules will permit efficient use of the hubs, and the establishment of critical acceptance and critical entry times in a network where transportation schedules from the remaining processing facilities are yet unknown.

NNA Initial Brief at 3.

NNA witnesses Heath and Bordewyk suggest that the Postal Service offer hub options in the areas where plants are being closed. NNA-T-1 at 13-14; NNA-T-2 at 5-6. Witness Heath asserts that the establishment of hub operations in the areas of closed plants would be beneficial in keeping mail from traveling longer distances to gaining plants, thereby avoiding costs and mail delays. NNA-T-1 at 14.

The Postal Service contends that hubs are not a new concept. Postal Service Reply Brief at 34. The Postal Service notes that hubs will be developed only where they create an opportunity for savings. *Id.*

Hub operation is an important component of the Postal Service's mail transportation strategy. Postal Service witness Williams acknowledges that hub operations are currently key functions of all facilities (P&DCs, LDCs, NDCs, STCs, and

post offices). Tr. 9/2696. With regard to the role of hubs in long-haul transportation, Postal Service witness Martin explains:

> Long-haul network transportation may entail "direct" trips between origin and destination facilities or "indirect" trips whereby a truck stops at a consolidation truck terminal or hub before continuing on to its destination. At a terminal or hub, a truck is filled with additional mail intended for transport to the destination facility. Generally, a truck run that is routinely less than sixty (60) percent full is directed to a consolidation facility so that the Postal Service can take full advantage of the truck's carrying capacity.

USPS-T-6 at 5.

Hubs also "create opportunities for a cluster of mail processing plants in relatively close proximity to each other in a sprawling metropolitan area (such as Washington, D.C. and its suburbs) to cross-dock and consolidate containers to more efficiently transport mail from plant to plant, and between plants and post offices." Tr. 9/2697.

Witness Williams explains that hubs will continue to play a subordinate role in the rationalized network. *Id.* at 2699. Hub operations that are currently available at consolidated plants may be left unchanged, discontinued, altered or relocated. *Id.* Witness Williams acknowledges that hub operations are not explicitly identified in all AMP proposals. *Id.* He notes that the determination to establish, change or close hub operations is dependent upon whether or not they would help reduce transportation costs, and achieve service standards. *Id.* at 2700. Such decisions are made by local, District, and Area managers in consultation with headquarters. *Id.* He argues that since hubs are established for the purpose of reducing transportation costs, the absence of a complete cost-benefit analysis of hubs in AMP studies should not be assumed to be a failure to account for significant AMP implementation costs. *Id.* at 2702.

The Commission concludes that the Postal Service has not provided a comprehensive hub operation plan or cost estimates associated with MPNR. Hubs are essential components of the postal transportation network that would enable it to fully utilize truck capacity, achieve service standard commitments, and reduce transportation

costs. The Commission recommends that the Postal Service conduct a comprehensive analysis of hub operations in the areas of consolidated plants and make its determinations known to mailers.

VIII. ATTEMPTS TO ESTIMATE VOLUME LOSS

A. Overview

The Postal Service correctly recognized the need to attempt to quantify the effect of the proposed changes in service standards on mail volume. The Postal Service initially estimated a 1.7 percent loss in volume and a $499 million loss in contribution due to the changes in service standards. Many parties assert that the Postal Service has underestimated this loss and the Postal Service acknowledges the uncertainty surrounding these estimates [102]

The Commission recognizes the inherent difficulty of forecasting future mailing behavior and the effects of potential changes in service on future volumes and appreciates the Postal Service's efforts to answer these important questions. Unfortunately, these efforts did not result in reliable estimates of how mail volumes are likely to respond to the proposed service changes.

The phased implementation of First-Class Mail delivery standards under the modified MPNR plan presents the Postal Service with a unique opportunity to study the actual effects of reduced service on mailing behavior. In particular, the first phase eliminates approximately 20 percent of the overnight delivery of First-Class Mail. Tr. 9/2726. This should provide the Postal Service with the opportunity to study the impact of service reductions on mail volumes (Phase 1). The data gathered may provide insight into potential volume losses that may occur upon full implementation of MPNR (Phase 2). To this end, the Commission provides feedback on several aspects of the quantitative research including replication issues, concerns regarding the statistical significance of the Postal Service's findings, and the continued use of downward adjustments.

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[102] *See* USPS-SRT-4 at 36, NALC Brief at 3, APWU Brief at 34, NPMHU Brief at 18, NPPC & MMA Brief at 3, and PR Brief at 19.

This section will proceed by first reviewing the qualitative and quantitative market research and the associated volume and net contribution forecasts. Next, the Commission reviews the issues raised by interested parties. Finally, the Commission provides an analysis of the research.

B. Postal Service Qualitative and Quantitative Market Research

Postal Service witnesses Elmore-Yalch and Whiteman present quantitative and qualitative research supporting a forecast of the impact of First-Class Mail service standard changes on volume, revenue, and net contribution. Witness Elmore-Yalch, Senior Vice President of ORC International, oversaw the implementation of market research intended to help the Postal Service "understand and measure the impact of the proposed changes to first class mail service on volume." Tr. 3/615. She forecasts volume impacts by customer segment for several mail products. *See* USPS-T-11. Witness Whiteman, utilizes the volume forecasts in order to assess the impact of service standard changes on revenue and net contribution. He forecasts that mail volume will decline by 1.7 percent and net contribution will decrease by $500 million as a result of implementing MPNR. USPS-T-12 at 7.

Market research proceeded in two distinct rounds. In the first round, ORC International simultaneously conducted qualitative research and an initial round of quantitative research referred to as the "All Causes" research. First impressions of the results from the All Causes research motivated the Postal Service to commission a second round of quantitative research. In the second round, ORC International developed a follow up "Limited Causes" survey that sought to focus respondents by limiting the information presented to changes to service standards. Tr. 3/616. Witness Elmore-Yalch presents the results of the qualitative research and Limited Causes quantitative research in her testimony. Interpretations of these results are discussed by witness Whiteman. All revenue, volume, and contribution forecasts are based on FY 2010 data and forecast volume changes for the year 2012. USPS-T-12 at 21, 89.

1. Qualitative research

ORC International conducted focus groups and in-depth telephone interviews in order to assess participants' "attitudes, beliefs, feelings, and reactions" related to a wide variety of changes proposed by the Postal Service. USPS-T-11 at 6. Focus groups composed of consumers and small businesses were held between August 9, 2011 and August 23, 2011 in both urban and rural locations. Each focus group was led by a moderator, and participants answered a range of open-ended questions intended to elicit in-depth reactions. *Id.* at 7. During each session, participants were provided with a document that described the fiscal situation faced by the Postal Service and a variety of proposals under consideration. Participants also provided their personal understanding of First-Class Mail service standards in supplementary written exercises. *Id.* at 73-81.

The Postal Service contends that the focus group conversations revealed a customer base that is willing to adapt to the changes proposed by the Postal Service in order to assure continued viability. Responses to the written exercises suggest that many customers are unaware of the current First-Class Mail service standards, so any changes would have limited impact on their behavior. Based on the transcripts of the focus groups, witness Whiteman concludes that "most commercial organizations and consumers would not want a significant price increase in lieu of the service standards changes." USPS-T-12 at 4-5. While this specific question was not posed in either the quantitative or qualitative research, witness Whiteman infers this based on the underlying themes of conversations in the focus groups. Tr. 3/737. Finally, witness Whiteman notes the overall similarity between responses from Docket No. N2010-1 and the current case. *Id.* at 846. This particular observation gave the Postal Service a benchmark by which to compare any quantitative results. *Id.* at 867.

2. Quantitative research

ORC International developed a quantitative research strategy designed to estimate the percentage change in mail volumes for six segments of postal customers: three Large Businesses segments (National, Premier, and Preferred Accounts), Small Businesses, Home-based Businesses, and Consumers. All respondents were surveyed by telephone or internet. To qualify for the survey, a respondent must have sent mail in the past 12 months and must have been responsible for decisions as to how mail is sent. USPS-T-11 at 15.

Both the All Causes and the Limited Causes surveys contained the same key components. First, respondents were asked about their estimated mailing behavior. Next, respondents were read a "concept statement" outlining the proposed changes and then were asked to provide new estimates of their mailing behavior. Finally, respondents were asked a series of questions intended to determine the likelihood that the proposed changes would affect their mailing behavior. *Id.* at 89-147.

As in Docket No. N2010-1, ORC International employed the Juster Probability Purchase Scale to adjust responses for the tendency of respondents to overestimate their reactions. USPS-T-12 at 8. Respondents were asked to estimate the likelihood that they would modify the number of mailpieces sent and the way in which mailpieces will be sent assuming the changes to First-Class Mail standards were in place in 2012.[103] Respondents answered based on an eleven-point scale where a response of 10 meant "extremely likely" and a response of 0 meant "extremely unlikely." If a consumer rated the likelihood that they would modify the number of individual pieces of

[103] The Postal Service includes two separate likelihood questions in the quantitative research. The first asks respondents to estimate the likelihood that they will modify the number of individual pieces of mail. Next, respondents are asked to estimate the likelihood that they will modify the way they will send mail. For each respondent, the maximum response of these two questions was used as the likelihood factor. USPS-T-11 at 44.

mail sent in 2012 at a 7, the Postal Service converted this to a 70 percent likelihood that this would occur. USPS-T-11 at 89-147.

In addition to the Juster Scale, in the Limited Causes research respondents were provided with an opportunity to indicate what percentage of their reported volume change was "solely attributable to changes in first-class mail standards." *Id.* at 49. A second adjustment was then applied to correct for the possibility that respondents might be reacting to broad media coverage of all proposed changes to the Postal Service's operations rather than to the proposed changes in service standards. Tr. 3/586-587. Both adjustments were downward, resulting in lower estimates of volume loss.

a. All causes survey

In August 2011, ORC International began its All Causes quantitative research concurrently with the qualitative research. *Id.* at 616. The All Causes survey asked respondents about their mailing behavior during the past 12 months, read a concept statement, and then asked how past mailing behavior would have changed in light of the information revealed in the concept statement.[104]

The concept statement in the All Causes survey was the same informational statement provided in the qualitative research. It included information on the current service standards of First-Class Mail and the fiscal problems of the Postal Service, including several proposed changes intended to address budget deficits: the closure of small post offices, the 5-day delivery concept, legislative issues concerning the pre-funding of health and pension benefits, and changes to revise the service standards for First-Class Mail. Following the introduction of this information, the survey asks

[104] USPS-LR-N2012-1/70.

respondents to identify how their mailing behavior would have changed assuming "the changes to First-Class Mail had been in place during the last 12 months."[105]

Based on the responses to this survey, witness Whiteman developed an initial estimate that total mail volume would decline 7.7 percent, total revenue would decrease by $5.26 billion, and total contribution towards institutional costs would decrease by $1.96 billion. Tr. 4/906. Witness Whiteman urges caution in the interpretation of these results. Given the breadth of information presented in the concept statement, respondents may have become "overwhelmed," making it difficult for respondents to correctly predict their reaction solely attributable to the changes in service standards. Tr. 3/885.

In that regard, witness Whiteman stated that the Postal Service was very concerned that the concept statement had created a context that produced unreliable information. The magnitude of the predicted impact from this survey was much larger than what was predicted in Docket No. N2010-1, and witness Whiteman questioned whether the survey correctly identified the impact on mail volume solely attributable to service standard changes. "Not that the numbers were not the numbers we wanted but that they were not the numbers that we could with credibility present to you as a fair estimate of what we think the impact of changing the standards would be in the marketplace. So it was a judgment that this produced research results that were not reliable and not credible that we would present." *Id.* at 867-868. As a result, the Postal Service decided against proceeding with the remaining data cleaning steps required to process the All Causes survey and instead opted to undertake a new survey designed to more accurately predict the impacts associated with changes to First-Class Mail service standards. *Id.* at 865-871.

[105] USPS-LR-N2012-1/70 "USPS Network Optimization and FCM Services Standards Final Questionnaire – Consumers" at 9.

b. Limited Causes survey

In mid-October 2012, ORC International began the Limited Causes quantitative research at the direction of the Postal Service. *Id.* at 598. This research differs from its predecessor in two distinct ways. First, the narrowly focused concept statement outlines only the proposed First-Class Mail service standards rather than alerting respondents to the broad-ranging proposals considered by the Postal Service and does not provide respondents with a reference to current First-Class Mail service standards. Second, the "solely attributable" downward adjustment was incorporated. *Id.* at 817.

For each of the customer segments (National Accounts, Premier Accounts, Preferred Accounts, Small Businesses, Home-Based Businesses, and Consumers) witness Elmore-Yalch estimates the percentage loss in mail volume due to implementing MPNR. USPS-T-11 at 50-52. Witness Elmore-Yalch calculated 95 percent confidence intervals for each segment-specific volume forecast and conducted additional statistical tests that revealed that more than half of resulting volume forecasts are not statistically different from zero. She contends that this result is reflective of the overall conclusion that the impact of the proposed changes is likely to be "negative but small." USPS-SRT-4 at 28-29.

Based on the results of the Limited Causes research, witness Whiteman concludes that total mail volume will decrease by 2.9 billion pieces, or 1.7 percent of total volume. These volume losses will lead to a loss in revenue of $1.3 billion and a loss in contribution of $499 million. Broken down by specific classes of mail, First-Class Mail volume is predicted to decrease by 1.9 percent, Standard Mail is predicted to decrease by 1.5 percent, and Priority and Express Mail volume is predicted to decrease by 5.1 percent. USPS-T-12 at 7.

C. Participant positions and Postal Service reply

Rebuttal testimony regarding qualitative and quantitative market research was submitted by witness Crew on behalf of the National Association of Letter Carriers, and witness Schiller on behalf of the American Postal Workers Union.

1. NALC position and Postal Service reply

National Association of Letter Carriers witness Crew asserts that the quantitative analysis presented by the Postal Service underestimates the mail volume loss that will result from the elimination of overnight service for First-Class Mail. He contends that the Postal Service's approach is methodologically flawed, discusses limitations in the Postal Service's analysis, and comments on the appropriateness of the application of downward adjustments. Tr. 11/3545-3547.

Witness Crew takes issue with witness Whiteman's assertion that the lowering of service performance will not be perceived by customers as a significant change by countering that the proposed changes constitute a reduction in quality and that "no one can know with certainty how much volume will be lost." He states that the MPNR "may herald a death knell for the Postal Service." *Id.* at 3547. He claims that the Postal Service has not taken into account the imposition of service performance changes on customers. *Id.* at 3560. In particular, he notes the Postal Service began its analysis by considering the impact of the proposed changes in isolation, without regard for the other changes currently under consideration. *Id.* at 3548. By implementing service performance changes, he suggests that the Postal Service risks driving away First-Class Mail customers, and undermining "USPS's chances of maintaining the value of its enterprise." *Id.* at 3564.

Witness Crew critiques the quantitative methodology implemented by ORC and the Postal Service. First, he reiterates his opinion, expressed in Docket. No. N2010-1, that the use of a "probability of change" factor is inappropriate and introduces a

downward bias in ORC's estimates.[106] Second, he contends that "the concept of probability is not well understood by most survey respondents," undercutting the reliability of the quantitative results, and that ORC inappropriately introduced a second downward adjustment, the "solely attributable factor." *Id.* at 3552.

Witness Crew suggests several flaws related to the way that ORC calculated 95 percent confidence intervals associated with volume forecasts. He asserts that it would be "nonsensical" for a small business to increase their First-Class Mail volumes in response to a proposed decrease in quality, citing the law of demand from microeconomic theory, which predicts that quantity demanded will decrease if price increases. Tr. 11/3555; *Id.* 3648. Because of this, he contends that the Postal Service should not have computed confidence intervals based on a normal distribution, which has a range greater than zero. Instead, he suggests the Postal Service should have assumed that the underlying statistical distribution of the volume forecasts was right censored at zero to prevent the confidence intervals from having upper bounds that are greater than zero. *Id.* at 3555.

Witness Crew contends that another flaw in the quantitative methodology relates to the Postal Service's point estimate of the predicted loss of total mail volume: 1.7 percent. He asserts that "a point estimate is not sufficient," and that the Postal Service should have provided a range or confidence interval because the single point-estimate is not useful without these intervals. *Id.* at 3553-54.

Finally, witness Crew suggests that the Postal Service should have considered alternatives to its survey approach, especially considering the Postal Service's "long history of using econometric analysis in various applications, including to measure elasticity of demand." He cites a recent article in academic literature combining survey

[106] Tr. 11/3550-53; *See also* Docket No. N2010-1, NALC-T-4 (Crew) at 6.

results and econometric studies as a suggestion of how the Postal Service might have approached the problem. *Id.* at 3555.

Postal Service reply. Postal Service witness Elmore-Yalch responds to most of witness Crew's criticisms. *See* USPS-SRT-4. She contends that speed of delivery is a less important characteristic of First-Class Mail than reliability. To support her position, she references several measures of service quality undertaken by FedEx, the Postal Service, and the USPS OIG, none of which take into consideration transit time in relation to quality. USPS-SRT-4 at 2, 6-9.

Witness Elmore-Yalch counters witness Crew's criticisms of the use of downward adjustments, and of respondents' understanding of probability. She provides several commonplace examples of the importance of using a weighting factor (the likelihood adjustment). In addition, witness Elmore-Yalch summarizes key findings related to the use of the Juster Scale from many peer-reviewed academic journal articles. *Id.* at 20-22. The cited literature references use of the Juster Scale in the context of weekly grocery purchases and the purchase of durable goods and suggests that the application of the Juster Scale leads to more accurate purchase forecasts. *Id.* at 17-29. She also provides findings from studies conducted by the National Science Foundation and those based on the Health and Retirement study that suggest not only do people understand the concept of probability but that this level of understanding increases with education. *Id.* at 11-13.

Witness Elmore-Yalch disagrees with witness Crew regarding the statistical distribution of volume forecasts. She contends that his opinion that it would be nonsensical for a consumer to increase mail volume when faced with a reduction in service counters evidence in the data wherein as many as 18 percent of respondents reported a volume increase in response to proposed changes. *Id.* at 4, 26-27.

Finally, witness Elmore-Yalch contends that the Postal Service and ORC incorporated many changes identified in the review of their research conducted in

Docket No. N2010-1. Alaska and Hawaii are included in this analysis, as are more "rural" communities. While she acknowledges witness Crew's suggestion of econometric analysis, she asserts that the Postal Service does not have the type of data that would enable such an estimation because there has been no comparable service change in the past. *Id.* at 32-34. She supports this assertion by referring to similar testimony of Dr. Peter Boatwright in Docket No. N2010-1.[107]

2. APWU position

Witness Schiller, with Shorter Cycles, LLC, addresses the adverse consequences of reducing service standards.[108] Tr. 11/3743. He performed qualitative market research by interviewing 17 parcel researchers. *Id.* at 3781. From the qualitative market research presented in conjunction with his testimony, witness Schiller finds that customers expect the Postal Service to continue to reduce service. *Id.* at 3750. He finds that MPNR will result in greater than projected volume diversion and will preclude the Postal Service from participating in market opportunities. *Id.* at 3783-3784. Witness Schiller contends that the Postal Service's proposal will have a negative impact on parcel volumes. *Id.* at 3654. He asserts that if the proposals are not adopted, there will be significant opportunities for the Postal Service to expand its share of the parcel market. *Id.* at 3778. Finally, witness Schiller's market research found that First-Class Mail parcel users were willing to adapt their processes to meet the service changes, but Standard Mail parcel shippers are more concerned about delivery days. *Id.* at 3784.

Postal Service reply. Postal Service witness Marc McCrery responds to witness Schiller by asserting that customers are more concerned with reliability than speed of

[107] Docket No. N2010-1, USPS-RT-1; USPS-SRT-4 at 34.

[108] Witness Schiller also criticizes witness Elmore-Yalch's testimony because it did not address the impact to parcels. Tr. 11/3751.

service, and contends that Priority Mail service will not be adversely affected by MPNR. USPS-SRT-3.

D. Commission Analysis

The Commission's analysis outlines difficulties experienced in attempting to replicate the Postal Service's quantitative market research results, and evaluates the statistical significance of the forecasts presented resulting from this research. Adjustments to quantitative market survey results applied by the Postal Service are considered. Finally, the Commission outlines ways in which the study of future variation in service standards can be used to further understanding of the relationship between the speed of service and mailing behavior.

1. Replication difficulties

Despite considerable effort, the Commission remains unable to replicate the results presented in the testimony of witness Elmore-Yalch. Through the course of three separate Presiding Officer's Information Requests, the Commission sought information related to the way in which the Postal Service handled missing responses in producing its volume statistics.[109] In particular, the Postal Service stated that "if a respondent provided complete responses (volume and distribution across products) for one or more applications across all three time periods, we used the data for those applications." Tr. 3/566. In spite of this response, the Commission continues to find inconsistencies between the volume forecasts presented in the testimony of witness Elmore-Yalch and the Postal Service's stated rule for handling missing responses. These inconsistencies are detailed in Appendix E.

[109] Tr. 3/557, 563; Tr. 12/4501.

The Commission could produce its own volume forecasts based on the rules indicated by the Postal Service and the data provided. However, the Commission concludes that this would not be productive for several reasons. To begin, the majority of the volume forecasts presented by witness Elmore-Yalch are not statistically different from zero and have wide confidence intervals, so estimates developed by the Commission would be unlikely to be statistically different from those presented by the Postal Service, as can be tested by a linear hypothesis test. More importantly, because the Postal Service has not provided confidence intervals associated with the bottom-line estimates of witness Whiteman, the Commission has no meaningful way of comparing differences between Commission estimates and Postal Service estimates. A discussion of these points follows. This underscores the importance of implementing a forecasting methodology that is capable of providing confidence intervals for all associated estimates.

2. Statistical significance of findings

This section addresses the statistical significance of the quantitative market research. The Commission outlines the definition of a statistically significant finding and reviews the statistical significance of the Postal Service's quantitative market research. Finally, the Commission discusses witness Whiteman's volume and net contribution forecasts based on the quantitative market research.

a. Statistical significance explained

Through its market research, the Postal Service seeks to identify a population parameter, the average reported change in volume due to the implementation of MPNR. The population parameter, β, is the actual average reported change in volume that could, in theory, be identified by the Postal Service if it were able to ask every mailer how their volume would change. Of course, the Postal Service cannot ask every mailer so it estimates the average reported change in volume by surveying a random sample

of mailers. This estimate is typically referred to as $\hat{\beta}$. The term "statistical significance" refers to the relationship between the population parameter, β, and the estimate, $\hat{\beta}$. There are two common concepts used to reflect this relationship: a 95 percent confidence interval, and a linear hypothesis test.

A confidence interval, constructed around the estimate $\hat{\beta}$ is an expectation related to repeated sampling and reflects the level of confidence a researcher can have regarding the true population parameter. If the Postal Service were to draw a different random sample than the sample drawn for the quantitative market research, then it would get a different estimate of $\hat{\beta}$. A 95 percent confidence interval indicates that if the Postal Service were to repeatedly redo the market research, the true population parameter would be contained in the confidence interval 95 percent of the time.[110] In this sense, a 95 percent confidence interval reflects the degree of confidence that a researcher can have that the true population parameter, β, is captured within the confidence interval around a particular estimate, $\hat{\beta}$.

For example, the Postal Service estimates that Preferred Accounts First-Class Mail volume will decrease by 4.61 percent, $\hat{\beta} = -4.61\%$, with a 95 percent confidence interval of (-14.15%, 4.94%). Tr. 3/522. In this case, the interpretation of the confidence interval is that the true population parameter, or the true percentage change in First-Class Mail volume from Preferred Accounts, is contained within the bounds of the confidence interval in 95 percent of repeated surveys. The Commission can be relatively confident that the true reported volume change is somewhere between -14.15 percent and 4.94 percent.

[110] A common incorrect interpretation of a confidence interval would be to conclude that the Postal Service would get a new estimate, $\hat{\beta}$, within the bounds of the confidence interval presented if it were to repeat the research again. Tr. 3/589.

A common econometric approach to survey research is to determine whether a particular estimate is statistically different from zero. This question is framed in the context of a linear hypothesis test with a null, or assumed, hypothesis vis-à-vis an alternative hypothesis. In this case, the null hypothesis would be that the true population parameter is zero, and the alternative would be that the true population parameter is not zero. One must have evidence "beyond reasonable doubt" against the null hypothesis in order to conclude that the null hypothesis is false, or that the true population parameter is different from zero. "Beyond reasonable doubt" is typically quantified by determining an appropriate probability of mistakenly rejecting the null hypothesis when the null hypothesis is actually true. Common practice is to accept this mistaken rejection 5 percent of the time, or to specify a significance level of 5 percent. Given a significance level, one then minimizes the probability of this mistaken rejection typically based on the assumption of a normally distributed population. [111]

The Postal Service's estimate of reported volume change for Preferred Accounts' First-Class Mail volume is $\hat{\beta} = -4.16\%$. A typical linear hypothesis test asks whether the true population parameter is statistically different from zero. In other words, can one reject the hypothesis that the true reported volume change for Preferred Accounts' First-Class Mail volume is zero? This question is addressed next.

b. Quantitative market research

As witness Elmore-Yalch contends, over half of the segment specific estimates of reported changes in mail volume in response to the implementation of MPNR are not statistically different from zero. USPS-SRT-4 at 29. Witness Elmore-Yalch goes further in describing this result as being consistent with the notion that the impact of the proposed changes is likely to be negative, but small. *Id.* In this section, the

[111] Wooldbridge, Jeffrey M., Introductory Econometrics, 3rd Edition (2006), at 788-801.

Commission considers how to interpret the results of the quantitative market research in light of this information.

As was previously outlined, in order to assess whether a volume forecast is statistically different from zero, one must assert the null hypothesis that the true population parameter is equal to zero and test this against the alternative hypotheses that the true population parameter does not equal zero. In this case, analysis reveals that over half of the estimates for reported changes in mail volume are not statistically different from zero. Technically, this means that the Commission is unable to reject the null hypothesis that the actual average change in mail volume is zero. This alone does not mean that the true population parameter equals zero.

If the Postal Service were to present evidence from a variety of sources, including repeated market surveys or econometric tests, that consistently resulted in statistically insignificant volume effects, this evidence would weigh in favor of concluding that there would likely be no volume effect from the implementation of MPNR. However, absent such evidence, the Commission can only concur that the majority of the estimated segment-level volume forecasts are not statistically different from zero. In light of this, the Commission concludes that the survey is unable to provide information regarding whether or not there will be an effect on mail volume if MPNR is implemented.

c. Volume, Revenue, and Net Contribution Forecasted Changes

Witness Whiteman relies upon witness Elmore-Yalch's estimates of the impact of MPNR on segment-specific volume as an input to his analysis. Witness Whiteman forecasts the estimated impact of MPNR on total mail volume, revenue, cost, and net contribution in 2012; however, witness Elmore-Yalch contends that it is not possible to compute confidence intervals around these forecasts. Tr. 3/524. In this section, the Commission considers how to interpret witness Whiteman's findings in light of the

statistical significance issues raised earlier, and in absence of the provision of a confidence interval for his forecasts.

Using data on mail volume in 2010, witness Whiteman crosswalks witness Elmore-Yalch's segment-specific percentage change estimates, each with its own variance, into a single point estimate of the effect on total mail. Witness Elmore-Yalch asserts that it is not possible to compute the maximum level of error around witness Whiteman's estimates because errors are not additive. USPS-T-12 at 21.

Although standard errors are not additive, this does not necessarily preclude the Postal Service from calculating the standard error and the associated 95 percent confidence interval when multiple random variables are combined. In statistics, there is a known property of the variance of the sum of random variables. [112] For two random variables, X and Y, and two constants, a and b, $\mathrm{Var}(\mathrm{aX} + \mathrm{bY}) = \mathrm{a}^2\mathrm{Var}(\mathrm{X}) + \mathrm{b}^2\mathrm{Var}(\mathrm{y}) + 2\mathrm{abCov}(\mathrm{X}, \mathrm{Y})$.[113]

For illustrative purposes, consider the following simplification of witness Whiteman's calculations. Suppose that witness Elmore-Yalch provided an estimate of expected percentage volume change for First-Class Mail for consumers and for businesses. Moreover, suppose that the Postal Service used data for First-Class Mail for consumers and businesses. Then, witness Whiteman's proposed analysis would multiply the known historical volume by the estimated percentage change for consumers and for businesses and add these together to forecast the total impact on volume of MPNR. The formula for the variance of sums of random variables allows the Postal Service to calculate the associated standard error of this calculation and therefore the associated 95 percent confidence interval. This example contradicts the

[112] By definition, the standard error is the square root of the variance.

[113] Wooldridge, Jeffrey M., Introductory Econometrics, 3rd Edition (2006), at 747.

Postal Service's claim that it is unable to provide a confidence interval for witness Whiteman's calculations because errors are not additive.

The Commission recognizes that this example is an oversimplification of the intricate calculation that witness Whiteman performs. In fact, witness Whiteman's calculations involve complex combinations of percentage changes, mean volume estimates, and historical mail volume. As such, this simple variance property does not provide a direct formulation for calculating the confidence interval, but it does suggest that witness Elmore-Yalch's cited reason for being unable to provide confidence intervals may not be correct. Given the statistical insignificance of the majority of the input percentage change estimations and the lack of confidence intervals, the Commission must question the statistical significance of the "bottom line result" presented by witness Whiteman: that volume will decrease by 1.7 percent and that contribution will decrease by $500 million.

The Postal Service's estimated $500 million loss in contribution is substantial. Potential losses of this magnitude justify the calculation of confidence intervals. Market research should be designed to provide "bottom-line results" that are accompanied by traditional statistical information, such as a 95 percent confidence interval. This will enable decision makers to assess the validity of these types of forecasts and to compare them to alternative estimates or hypotheses.

3. Survey design

a. Weights/adjustments in quantitative market research

The Postal Service uses the Juster Scale and the "solely attributable factor" in combination to estimate the probability that the respondent will not conform to the behavior reported in the survey. The Juster Scale asks respondents to estimate the probability that the changes in First-Class Mail standards will change the amount of mail that they send or the way in which they send mail. The second is the "solely attributable

factor," which asks respondents to estimate how much of their estimated change in mail volume is due solely to the revised service standards. The way that these two weights are used can be described mathematically as an expected value calculation. Tr. 3/599.

As an example of how the Postal Service uses these adjustments in an expected value calculation, suppose that a consumer responds that her estimated First-Class Mail volume sent would decrease from 100 pieces to 90 pieces if the revised service standards had been in place. The consumer's likelihood factor is 5, which is converted to a 50 percent chance that the consumer will behave as reported. In addition, the consumer reports that 80 percent of this decrease in volume is solely due to the revised service standards. Given this information, the Postal Service calculates that the chance that the consumer will actually decrease their volume is 50 percent multiplied by 80 percent, or a 40 percent chance. This implies that there is a 60 percent chance that the consumer will not adjust their behavior, or that they will mail zero fewer pieces.[114] The expected value of the decrease in mail volume for this consumer is 40%x(-10 pieces) + 60%x(0 pieces)=-4 pieces. In this example, the Postal Service's adjustments would have reduced the 10 piece loss in volume for this consumer to a 4 piece loss.

b. Appropriateness of the likelihood factor and the solely attributable factor to reduce participants' estimates

In Docket No. N2010-1, the Commission found that the use of the likelihood factor was inappropriate based on the information provided on the record.[115] In particular, the Commission found little support for use of the Juster Scale for existing products or in the case of service reductions. The Postal Service has provided in the instant docket additional support for its use of the Juster Scale adjustment. Without the

[114] If there is a 40 percent chance that a respondent will adjust their behavior, then there is a 1-0.40=0.60 percent chance that they will not adjust their behavior.

[115] Docket No. N2010-1 "Advisory Opinion on Elimination of Saturday Delivery" at 112.

ability to replicate the results of the quantitative market research, the Commission conducts a review of the literature related to the specific use of the Juster Scale in the instant docket to provide feedback to the Postal Service as it considers future implementation.

Witness Elmore-Yalch provided a citation to a bibliographic reference of the academic literature discussing the Juster Scale. USPS-T-11 at 44. She also provides academic citations outlining the use of the Juster Scale to forecast usage of existing products and services. USPS-SRT-4 at 20. Finally, in response to a question raised during oral cross-examination, witness Elmore-Yalch identifies an instance of an academic study where service has decreased. [116] Tr. 7/2317. While this article does not directly reference the Juster Scale, it does provide an example of a survey that considers the impact of a particular service reduction, fewer trout stocked in Pennsylvania lakes, on the sale of fishing licenses. Ready *et al.* demonstrate the tendency of respondents to overestimate their likely response in this context. Given that the Juster Scale is a tool employed by market researchers to correct for this overestimation tendency, Ready *et al.* provide indirect support for the use of the Juster scale in the context of MPNR. Witness Elmore-Yalch also testifies that the Juster Scale is used commonly in transportation, where researchers seek to estimate the impact of transportation service reductions on passengers, although she is unable to identify any specific citations to its use in this industry. Tr. 3/687.

According to the academic literature, the Postal Service has not applied the most standard form of the Juster Scale. The standard form of the Juster Scale that has been discussed in the academic literature consists of an eleven-point scale where each point

[116] Richard Ready, Donald Epp & Willard Delavan (2005): A Comparison of Revealed, Stated, and Actual Behavior in Response to a Change in Fishing Quality, Human Dimensions of Wildlife: An International Journal, 10:1, 39-52.

is associated with both a verbal and a numerical probability statement.[117] While the Postal Service provided a qualitative description of 10 as "extremely likely" and 0 as "extremely unlikely," it did not provide similar descriptions for the other points on the scale. A more typical application would, for example, describe 8 as "almost certain" or "80 chances in 100."

There is also some question as to the appropriateness of using an eleven point scale during telephone interviews. In the academic literature, Darbyshire and McDonald find that a seven point scale works best for telephone surveys, where as a nine or eleven point scale works well for postal or electronic surveying.[118] In the quantitative research, the Postal Service surveys almost exclusively over the telephone.

In the academic literature, there is evidence of considerable variation in the performance of the Juster Scale that may be related to the context in which the Juster Scale is presented to respondents. Parackal and Garland discuss three influential factors: question-order effects, item-order effects, and question wording.[119] Throughout the quantitative analysis, the Postal Service introduces likelihood measures immediately after the presentation of the concept statement and later compounds these with the "solely attributable factor." No support has been provided for the use of two, cumulative likelihood adjustments.

Finally, the Commission notes that the specific academic citations provided by witness Elmore-Yalch and witness Whiteman study the Juster Scale in the context of individual consumer behavior. However, all but one of the Postal Service's market

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[117] Mike Brennan and Don Esslemont (1994), Predicting Purchase Quantities: Further Investigation of the Juster Scale, at 5, 21-36.

[118] Darbyshire, Penny and McDonald, Heath (2004), Choosing response scale labels and length: guidance for researchers and clients, Australasian Journal of Market Research, vol. 12, no.2, pp. 17-26.

[119] Parackal, M. & Garland, R. (2006), Investigating the contextual requirements of the Juster Scale, Australasian Journal of Market and Social Research, 14(2), 27-38.

research customer segments focuses on individuals acting on behalf of an organization, rather than as individual consumers. Organizational actors may behave very differently than an individual consumer. For example, a business may be federally required to send mailings, so an individual acting on behalf of such an organization may not follow traditional decision making processes understood for individual consumers.[120] The literature offers little guidance related to how this distinction might affect, if at all, the performance of the Juster Scale.

The Commission appreciates the further record development provided by the Postal Service related to the appropriateness of the Juster Scale in the context of existing products and service reduction. The Commission reviewed the academic literature related to the specific use of the Juster Scale by the Postal Service. Based on this review, the Postal Service should consider reducing the Juster Scale to a seven-point scale in the context of phone surveys in addition to adding a full range of qualitative labels related to the Juster Scale. Question-order effects may affect results when the Postal Service uses two adjustment factors; the Commission suggests that the Postal Service address the impact, if any, in future research. Finally, the Postal Service should be aware that the academic literature is silent on the use of the Juster Scale in the context of individuals acting on behalf of an organization.

[120] *See, e.g.*, Expedited Funds Availability Act, 12 CFR 229.58; Truth in Savings Act, 12 CFR 230.1 *et seq*.

IX. OTHER STATUTORY CONSIDERATIONS

A. Factors and Objectives of the PAEA

The Postal Service in its Request and witness Williams in response to POIR No. 5, question 2, address the policies of title 39, including the statutory objectives and factors related to the establishment of modern service standards. Request at 7-11; Tr. 7/2436-44; *see also* USPS-LR-N2012-1/99 at 31193-4. Compliance with the applicable policies from the perspective of the Postal Service is described below.

Service standard objectives. The PAEA requires service standards to be designed to achieve the following objectives:

> (A) to enhance the value of postal services to both senders and recipients;
>
> (B) to preserve regular and effective access to postal services in all communities, including those in rural areas or where post offices are not self-sustaining;
>
> (C) to reasonably assure Postal Service customers delivery reliability, speed and frequency consistent with reasonable rates and best business practices; and
>
> (D) to provide a system of objective external performance measurements for each market dominant product as a basis for measurement of Postal Service performance.

39 U.S.C. § 3691(b)(1).

The Postal Service contends that slower delivery is enhancing the value of service by contributing to financial stability, reducing long-term costs and improving its ability to operate and reliably provide service (§ 3691(b)(1)(A)). Tr. 7/2444. It asserts the service standard changes are universally applied, and do not diminish access to postal services to any community (§ 3691(b)(1)(B)). *Id.* at 2443. The Postal Service states that delivery frequency or reliability is not affected. Mail time in transit will be affected, but will reflect reasonable levels of speed that balance customer preference with the need to control costs (§ 3691(b)(1)(C)). *Id.* It notes the previous development

of market dominant measurement systems, and asserts that those systems are not at issue in this docket (§ 3691(b)(1)(D)).[121] *Id.*

Service standard factors. The PAEA requires service standards to take the following factors into account:

(1) the actual level of service that Postal Service customers receive under previous and current service standards;

(2) the degree of customer satisfaction with Postal Service performance in the acceptance, processing and delivery of mail;

(3) the needs of Postal Service customers, including those with physical impairments;

(4) mail volume and revenues projected for future years;

(5) the projected growth in the number of addresses the Postal Service will be required to serve in future years;

(6) the current and projected future cost of serving Postal Service customers;

(7) the effect of changes in technology, demographics, and population distribution on the efficient and reliable operation of the postal delivery system; and

(8) the policies of title 39 generally and such other factors as the Postal Service determines appropriate.

39 U.S.C. § 3691(c).

The Postal Service states that it has Commission approved measurement systems in place for measuring both level of service and customer satisfaction. Tr. 7/2437-38. It has also considered the information gathered from market research when developing the proposed rules, citing to USPS-T-11, USPS-T-12, and USPS-T-13 at 4 (§ 3691(c)(1-3)). The Postal Service asserts it has considered future declining mail

[121] *Id.* Witness Williams confirms that service performance measurement systems are not expected to change under MPNR. Tr. 2/309. The Commission notes that service standard reporting requirements will have to be adjusted to correspond with the new levels of service proposed by the Postal Service in MPNR. The Postal Service may propose reporting requirement adjustments pursuant to 39 CFR 3055.5.

volumes which contribute to revenue declines that currently outpace cost reductions (§ 3691(c)(4,6)). *Id*. at 2438. It also comments on the growth in the number of delivery points that impact overall costs (§ 3691(c)(5)). *Id*. at 2439 The Postal Service states that the current processing network was established in response to many decades of mail growth, but because volumes have since declined, the Postal Service now has considerable excess capacity (§ 3691(c)(7)). *Id.* Finally, the Postal Service discusses specific policies of title 39 that will be addressed individually below (§ 3691(c)(8)).

Postal Policies 39 U.S.C. § 101. The Postal Service asserts that promptness, reliability and efficiency of service were considered in determining the nature of the proposed service standard changes. *Id*. at 2442. It contends that notwithstanding the proposed service changes, and the related changes in mail processing and transportation, the Postal Service will continue to be effective in binding the nation together through its correspondence (§ 101(a)). Request at 9. The Postal Service states that the "proposed changes do not distinguish among customers based on whether they reside in rural areas, communities and small towns, or whether their local Post Office is self-sustaining, thereby preserving effective and regular service to such areas" (§ 101(b)). Tr. 7/2442. The Postal Service asserts that Express Mail and Priority Mail, supplemented by overnight delivery of some presorted First-Class Mail, give consideration to the requirement for the most expeditious collection, transportation, and delivery of important letter mail (§ 101(e)). *Id*. at 2441; Request at 9. Finally, citing to USPS-T-6, the Postal Service explains it has considered prompt and economical delivery in determining the transportation modes that will be utilized to pursue achievement of proposed service standards (§ 101(f)). *Id*. at 2442.

Undue or unreasonable discrimination/preferences 39 U.S.C. § 403(c). The Postal Service explains that it proposes service standards which introduce a distinction between single-piece and presorted First-Class Mail. An overnight service standard will be retained for some intra-Sectional Center Facility presorted First-Class Mail but not for any single-piece First-Class Mail. *Id*. at 2441. The Postal Service contends that the

distinction is based on a compelling and reasonable operational basis (the DPS operating window constraint), consistent with the requirement that discrimination not be unreasonable or undue. *Id*. at 2440.

Most expeditious handling and transportation 39 U.S.C. § 404(c). GCA questions whether the proposed First-Class Mail service standard comports with the 39 U.S.C. § 404(c) requirement that, in part, specifies "[o]ne such class shall provide for the most expeditious handling and transportation afforded mail matter by the Postal Service." GCA Brief at 29-35. Specifically, GCA questions whether it is consistent with 39 U.S.C. § 404(c) for the Postal Service to subdivide First-Class Mail by providing overnight delivery for some presort First-Class Mail, but not for single-piece First-Class Mail. GCA contends that 39 U.S.C. § 404(c) should apply equally to all mailable matter within the class of First-Class Mail*, i.e.,* there should be only one service standard for First-Class Mail. GCA concludes that the proposal to apply different service standards to different portions of First-Class Mail may be inconsistent with 39 U.S.C. § 404(c).

The Postal Service argues that GCA's reliance on 39 U.S.C. § 404(c) is misplaced. The Postal Service contends that Express Mail, not First-Class Mail, is the most expeditious class of mail and satisfies the section 404(c) criterion. Postal Service Reply Brief at 7.

Commission analysis. Regarding the concerns about the distinction in service provided to single-piece First-Class Mail versus presorted First-Class Mail, the Commission observes that to some extent these products currently do not receive identical levels of service. For example, CETs for single-piece First-Class Mail have been vastly different from CETs for presorted First-Class Mail. The methods for entering each type of mail into the postal system are also vastly different.

The Commission notes that if the Postal Service continues to offer overnight delivery for all intra-SCF First-Class Mail as described in Phase 1 of the modified plan, the discrimination/preference and expeditious handling of mail issues are less likely to

arise. The issues identified by GCA and the Postal Service cannot be resolved on this record or in the context of an advisory opinion.

B. Price versus Quality

Public Representative witness Kevin Neels discusses the relationship between service quality standards and prices in a price cap regime. *See* PR-T-1; Tr. 10/3226-57. He explains that under price cap regulation a ceiling on prices is established by formula in relation to an index such as the Consumer Price Index. Tr. 10/3237. He asserts that "[t]o make meaningful comparisons of price levels over time one must account for the differences over time in the quality of what is being sold." *Id*. at 3240. To make comparisons he introduces a "quality-adjusted price" terminology. *Id.* He concludes that "[a] reduction in quality is an increase in the quality-adjusted price." *Id.* Witness Neels contends that user welfare is reduced when quality declines, just as when prices rise. *Id.* at 3241.

Witness Neels asserts that price cap regulation is thought to provide powerful incentives for efficiency improvements by allowing the firm to retain financial benefits from reducing costs, or improving efficiency or capital utilization. *Id.* at 3237. However, the incentive for reducing costs can also incentivize the firm to reduce quality of service. *Id.* at 3240-41. He states that this adverse consequence of price cap regulation has been recognized in the [economic] literature for some time.[122]

Witness Neels explains that a reduction in quality of service provides a way to circumvent the intended effects of a price cap. *Id.* at 3241. He notes that the PAEA

[122] He also notes that the relationship between price and quality was recognized at the time PAEA was passed. *Id.* at 3298.

addresses this issue by implementing a set of minimum quality standards.[123] He explains that the price cap sets the ceiling on prices, whereas service standards set a floor on quality of service. *Id*. at 3241. He states "[t]he establishment of minimum service standards is a well-recognized tool reducing the incentives that a regulated firm might otherwise have under a price cap regime to reduce service quality." *Id.* at 3242.

Witness Neels was asked what information would be necessary to consider or calculate the relationship between a reduction in quality and an increase in price. Witness Neels explained that this would require an understanding of the monetary value that mailers place on the quality of service. *Id.* at 3317. He states that "quality has to be measured in terms of attributes that customers value, so if there is some attribute that they place no value on, it would not contribute to quality." *Id.* at 3295. He suggests the Postal Service believes customers will not care very much about the service standard changes. Thus, the changes will not have a big effect on mailer behavior. *Id.* at 3319. If the premise is correct, there may be a small reduction in quality-adjusted price. If it is incorrect, there could be a larger-than-expected volume response that may be of concern.

NALC witness Michael A. Crew is critical of the Postal Service's market research that estimates potential volume loses due to MPNR. NALC-T-1; Tr. 11/3542-3573. He asserts the Postal Service has overestimated potential cost savings, and has not considered the costs imposed on customers or the combined effects of other cost-cutting measures such as ending Saturday delivery.

Witness Crew expresses concerns about the regulatory price cap similar to those of witness Neels. Witness Crew asserts the "USPS is trying to end run this price cap by

[123] Witness Neels states that he is not aware of a specific Commission regulation creating a linkage or mechanism for changing the price cap when service quality changes. *Id*. at 3273, 3323. However, he contends that even if there is no linkage in the statutory sense, there remains a linkage in the economic sense. *Id.* at 3328.

imposing, *de facto,* a real price increase through a reduction in first-class mail service standards." *Id.* at 3564-5. He too notes the Postal Service believes that reducing service will not be perceived by customers as a significant change. *Id.* at 3546. However, witness Crew concludes that a reduction in First-Class Mail service standards will be detrimental to the Postal Service in the long run. *Id.* at 3566.

Commission analysis. Both witness Neels and witness Crew explain the economic relationship between price and quality and conclude that a decrease in quality can be equated to an increase in price. They warn that under price cap regulation, decreases in quality can be used as a way to defeat the effects of a price cap.[124]

The Postal Service is aware of customer concerns that reductions in quality are analogous to price increases. In its *Federal Register* notice announcing final rules for service standards, the Postal Service states: "Commenters also pointed out that increased costs to customers and decreased service levels are analogous to price increases." USPS-LR-N2012-1/99 at 31191. The Postal Service addresses the price/quality issue by contending that mailers place little value on speed of delivery. The Postal Service asserts that customers value reliability in terms of predictability and consistency of delivery, and other attributes such as ease of use, convenience, and affordability. USPS-SRT-3 at 4; USPS-SRT-4 at 7.

The key to the relationship between price and quality appears to be an assessment of the value that customers place on the service in question. The Postal Service's assertions that customers value reliability and consistency in service over speed of delivery are not documented by studies on this record. The quantitative market research undertaken by the Postal Service did not include the concept of reliability. Tr. 12/4415. NALC takes the position that speed of delivery is an important element of the quality of postal service. Tr. 11/3546 n.1; NALC Brief at 1. Comments

[124] The witnesses focus on the economic aspects of price and quality, and not specific price cap regulations now in effect. *See* Tr. 10/3321-25, 11/3682-87.

directly received by the Postal Service in its *Federal Register* notice and rulemaking process appear to contradict Postal Service assertions as a majority of commentators oppose MPNR, with some commenting on the burden created by lengthening service standards.[125]

NPPC and MMA urge the Commission to address the effect of reduction in service quality on the rate cap in this opinion*, i.e.,* should a service quality reduction be offset by a corresponding reduction in the applicable rate cap. NPPC/MMA Brief at 7.

Valpak contends that under the ratemaking system established by the PAEA, reductions in service performance to reduce costs should be viewed as a violation of the rate cap. It argues that the purpose of the elaborate performance measurement system is to assure that service is not reduced as an end run around the rate cap. Valpak Brief at 17 n.22.

The Commission is cognizant of the basic economic principles expressed by witnesses Neels and Crew concerning the relationship between price and quality.[126] This topic falls within the PAEA objective "to maintain high quality service standards established under section 3691" under the Commission's general authority to establish modern rate regulations for market dominant products. *See* 39 U.S.C. § 3622(b)(3). The price cap issue has not been sufficiently developed on this record to support any conclusions, and this issue will not be resolved within the context of an advisory opinion. However, the Commission provides transparency and accountability for the Postal Service's development of service standards and its maintenance of service quality. *See* 39 U.S.C. §§ 3652 and 3653.

The assertions made by the Postal Service that customers focus on reliability, and not speed of delivery, raise questions as to whether the current measurement

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[125] USPS-LR-N2012-1/99 at 31191.

[126] *See* FY 2009 ACD at 49; FY 2010 ACD at 57.

system focuses on the appropriate characteristic of the mail. When using the term reliability in this docket, the Postal Service frequently refers to consistency of delivery. For example, the percentage of the time will mail with a 3-day service standard be delivered on the third day. From the perspective of linking service performance with the price cap, Valpak notes that variance reports are an underdeveloped part of the measurement system and argues that if the Postal Service's assessment is correct, the linkage issue should focus on variance reporting. Valpak Reply Brief at 19-20 n.24.

The annual reporting requirements for service performance specify the information to be provided in the Postal Service's ACR. *See* 39 CFR 3055, subpart A. The Commission and the Postal Service developed a service performance measurement reporting system for market dominant products that focuses on important characteristics of individual products. For products that require a physical delivery, on-time service performance is reported in terms of the percentage of time that a product is delivered within a specified number of days (the service standard).

Existing reporting requirements in terms of mail service variance (tail-of-the-mail) partially address measuring consistent delivery.[127] This measure provides an indication of the percentage of mail that fails to meet the service standard by greater than 1, 2, or 3 days. However, an improved service variance measurement could also include measurement of mailpieces that are delivered in advance of the service standard. Adding this measurement to the existing reporting system would provide a measurement of consistent delivery and focus on what the Postal Service views as the important characteristic of deliverable mail.

[127] Service variance is part of the quarterly reporting requirements. *See* 39 CFR 3055, subpart B.

X. CERTIFICATION

It is the opinion of each of the undersigned Commissioners, pursuant to 39 U.S.C. 3661(c) that this opinion conforms to the policies established under title 39, United States Code.

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Ruth Y. Goldway, Chairman

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Nanci E. Langley, Vice Chairman

_____
Mark Acton, Commissioner

_____
Tony Hammond, Commissioner

_____
Robert G. Taub, Commissioner

Separate Views of Chairman Goldway

The Postal Accountability and Enhancement Act (PAEA) established a complex balance of responsibilities between the monopoly postal operator and the independent government regulator. This Advisory Opinion meets our obligations and recommends to the Postal Service how it should address its obligations.

Under the PAEA, the Commission and the Postal Service each must ensure an efficient and financially sound universal mail service. The Commission is required to ensure that the Postal Service's operations are transparent and accountable, but the Postal Service has flexibility with regard to modifying its operations. The law requires the Commission to publish the Postal Service's service performance results for Market Dominant products. In addition, the Commission consults with the Postal Service when it establishes service standards. The Commission determines that price increases meet legal price cap limits but the Postal Service has discretion in setting prices for products.

The Postal Service's monopoly power is balanced with regulatory oversight. The process must provide adequate due consideration for the needs of its customers. Both the Postal Service and the Commission are responsible for ensuring an expedited delivery system, one that protects rural America and one that is fair overall to the nation.

Some see the PAEA as focusing primarily on postal rates. However, the law recognizes service quality concerns. The law gives the Commission the responsibility to monitor the Postal Service's internal service measurement system, to consult with the Postal Service on service standards for Market Dominant products, to provide advisory opinions where there are significant changes in national service and to hear complaints.

The MPNR proposes a major change in service standards for First-Class Mail. Eighty percent of all First-Class Mail, for example, will be delayed by at least one day. Much of 2-day mail will become 3-day mail. Rural and remote communities that already receive slower delivery may be impacted even further when weekend and holiday delays are factored in. If the Postal Service eliminates Saturday delivery, actual days to delivery would increase even more.

I appreciate that the Commission has given careful consideration to preserving current service standards, something fully consistent with our obligations under law.

In this docket, certain other issues related to service standards were identified. First, reducing service quality may have price cap implications. Two expert witnesses (sponsored by NALC and the Commission's Public Representative) presented persuasive testimony that a relationship exists between price and quality, and that lowering quality is equivalent to raising the price. Second, the proposal has fairness implications. First-Class Mail contributes three times as much on a per-piece basis to the Postal Service's bottom line as does Standard Mail, yet in this proposal, First-Class Mail suffers service reductions while Standard Mail is largely unaffected. Finally, the disclosure of the results of the Postal Service's All Causes Survey suggests that multiple changes in service standards have a compounding impact that severely threatens mail volume.

The PAEA does not provide the Commission explicit guidance to link the price cap directly to service quality. We did not address the matter in this opinion. However, I do believe that we should continue to encourage the Postal Service to maintain service quality.

I am concerned that the complex issues addressed in this docket, including the several iterations of the Postal Service's proposal, took almost 10 months to resolve. The Commission is committed to adopting new rules that should facilitate advisory opinion procedures while protecting due process.

I strongly believe that the information the Commission has developed is so persuasive that once it is carefully studied by the Postal Service and the mailing community, the Postal Service will utilize it, implementing a rationalization plan that saves costs while preserving service.

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Ruth Y. Goldway, Chairman

Separate Views of Vice Chairman Langley

I concur with this Advisory Opinion, as well as the sentiments expressed by my colleagues in their separate views. I look forward to working with all my colleagues on Docket No. RM2012-4, established earlier this year, to consider developing regulations on new rules of procedure for evaluating requests for advisory opinions. To remain responsive to the needs of the mailing public and the Postal Service, it is important for the Commission to conduct its reviews and analysis of Nature of Service cases in the most efficient and timely manner, while providing appropriate due process. Moving forward with Docket No. RM2012-4 furthers this goal.

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Nanci E. Langley, Vice Chairman

Separate Views of Commissioners Hammond and Taub

While we joined in signing the certification that this Advisory Opinion conforms to the policies established under title 39, United States Code, we write separately to discuss the Commission's process used to consider the Postal Service's Request. The current advisory opinion process is conducted under rules first written by the former Postal Rate Commission in January 1971. Circumstances affecting the Postal Service have changed dramatically since then. It is imperative that the Commission's rules governing requests for an advisory opinion concerning changes in the nature of postal services be modernized to permit more prompt consideration of such requests.

With passage of the Postal Accountability and Enhancement Act of 2006, Congress did away with the old cost-of-service rate setting system – which was described as a "lengthy, litigious process" that "forces the Postal Service to wait up to 18 months to change rates."[128] It is time for the Commission to similarly modernize its own nearly 42 year old rules governing consideration of advisory opinion requests.

We take seriously the Commission's mandate to conduct these proceedings to review proposals by the Postal Service to make changes in the nature of postal services. In this process, we pay particular attention to our responsibility to protect the rights of all affected mail users. That should not change. However, we believe it is legitimate to question the relevancy of advice from such proceedings if the Postal Service does not receive the advisory opinion in a timely fashion.

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[128] *See* Report of the President's Commission on the U.S. Postal Service, *Embracing the Future: Making the Tough Choices to Preserve Universal Mail Service*, July 31, 2003, at 57; Report of the Committee on Governmental Affairs U.S. Senate to accompany S. 2468 to Reform the Postal Laws of the U.S., Report 108-318, August 25, 2004, at 3-4.

This proceeding has taken nearly 10 months to complete. In our view, that is intolerably long, roughly the same amount of time the former Postal Rate Commission would spend adjudicating and issuing a Recommended Decision on an Omnibus Rate Request from the Postal Service. Taking that amount of time in today's environment may leave a greatly detailed advisory opinion less relevant to the Postal Service, major mailers, and the general public.

We do not dispute, as the Advisory Opinion points out, that the case was "complex," involving 27 participants, ten full days of hearings, and 4,700 pages of transcripts. But this complexity comes with a high cost, not only in terms of the litigation expense but also in delayed consideration of the Postal Service's request. In today's environment, a better balance must be struck. Indeed, the extensive period for consideration itself made this case more complex and drawn out.

The length and complexity of this proceeding convinces us that the Commission needs to concentrate on Docket No. RM2012-4, established April 10, 2012, for the purpose of receiving comments in advance of developing regulations regarding new rules of procedure for evaluating requests for advisory opinions. As stated in Order No. 1309, the Commission's goal is to increase the efficiency and timely resolution of nature of service cases while protecting the rights of all participants, including affected mail users. The Commission received valuable formal comments from eight different parties.

Based on our experience with the advisory opinion process, we believe the Commission owes it to the American public, the Postal Service, all mail stakeholders, the President, and the Congress, to seriously work toward the goal of changes that would increase the efficiency and timely resolution of nature of service cases. After all, the future of a $65 billion a year government entity, which is a vital component of a mailing industry that supports millions of American jobs, requires that we seriously

consider constructive reform of this process, rather than simply defending what was established in 1971 as being adequate to today's challenges facing the Postal Service.

_____
Tony Hammond, Commissioner

_____
Robert G. Taub, Commissioner

Appendix A: Participants and Counsel

Participant and Counsel	Citation Short Form
Alliance of Nonprofit Mailers David M. Levy	**ANM**
American Postal Workers Union, AFL-CIO Darryl J. Anderson Jennifer L. Wood	**APWU**
Association for Postal Commerce Ian D. Volner Matthew D. Field	**PostCom**
Douglas F. Carlson* Douglas F. Carlson	**Carlson**
City of New Orleans Richard F. Cortizas	**CNO**
City of Pocatello, Idaho Kirk Bybee	**CP**
Mark W. Coyle Mark W. Coyle	**Coyle**
Direct Marketing Association Jerry Cerasale	**DMA**
The Financial Services Roundtable Brian Tate	**The Roundtable**
Greeting Card Association David F. Stover	**GCA**
Magazine Publishers of America, Inc. David M. Levy	**MPA**
National Association of Letter Carriers, AFL-CIO Peter D. DeChiara	**NALC**
National Association of Postal Supervisors Bruce L. Moyer	**NAPS**

* Limited Participant

Appendix A: Participants and Counsel (continued)

Participant and Counsel	Citation Short Form
National Association of Postmasters of the United States Robert M. Levi	**NAPUS**
National Association of Presort Mailers Robert Galaher	**NAPM**
National Newspaper Association Tonda F. Rush	**NNA**
National Postal Mail Handlers Union Bruce R. Lerner Andrew D. Roth Kathleen M. Keller Douglas E. Callahan	**NPMHU**
National Postal Policy Council William B. Baker	**NPPC**
Newspaper Association of America William B. Baker	**NAA**
Parcel Shippers Association James Pierce Myers Michael F. Scanlon	**PSA**
Pasadena NAACP and Interdenominational Ministerial Alliance Joe Brown	**Pasadena NAACP/IMA**
Pitney Bowes Inc. James Pierce Myers Michael F. Scanlon	**Pitney Bowes**
David B. Popkin* David B. Popkin	**Popkin**
Public Representative Chris Laver and Tracy Ferguson	**PR**
Time Inc. John M. Burzio Timothy L. Keegan	**Time**

* Limited Participant

Appendix A: Participants and Counsel (continued)

Participant and Counsel	Citation Short Form
United States Postal Service Kenneth N. Hollies Michael T. Tidwell	**Postal Service**
Valpak Dealers' Association, Inc. (VPDA) **Valpak Direct Marketing Systems, Inc. (VDMS)** William J. Olson John S. Miles Jeremiah L. Morgan	**Valpak**

* Limited Participant

Appendix B: Testimony Filed in Docket No. N2012-1

United States Postal Service (Postal Service)—Direct		
Testimony	**Filing Date**	**Short Cite**
Direct Testimony of David E. Williams on Behalf of the United States Postal Service (USPS-T-1)	December 5, 2011	USPS-T-1
Direct Testimony of Stephen Masse on Behalf of the United States Postal Service (USPS-T-2)	December 5, 2011	USPS-T-2
Direct Testimony of Emily R. Rosenberg on Behalf of the United States Postal Service (USPS-T-3)	December 5, 2011	USPS-T-3
Direct Testimony of Frank Neri on Behalf of the United States Postal Service (USPS-T-4)	December 5, 2011	USPS-T-4
United States Postal Service Notice of Errata	January 27, 2012	
United States Postal Service Notice of Errata	February 3, 2012	
United States Postal Service Notice of Filing Errata to Direct Testimony of Witness Neri (USPS-T-4)	March 5, 2012	
United States Postal Service Notice of Filing Errata to Direct Testimony of Witness Neri (USPS-T-4)	March 22, 2012	
Direct Testimony of Dominic L. Bratta on Behalf of the United States Postal Service (USPS-T-5)	December 5, 2011	USPS-T-5
Direct Testimony of Cheryl D. Martin on Behalf of the United States Postal Service (USPS-T-6)	December 5, 2011	USPS-T-6
Notice of United States Postal Service Concerning Errata to the Testimony of Witness Martin [Errata]	January 23, 2012	
Notice of United States Postal Service Concerning Errata to the Testimony of Witness Martin [Errata]	March 20, 2012	
Direct Testimony of Pritha N. Mehra on Behalf of the United States Postal Service (USPS-T-7)	December 5, 2011	USPS-T-7

Appendix B: Testimony Filed in Docket No. N2012-1 (continued)

United States Postal Service (Postal Service)—Direct (Continued)		
Testimony	**Filing Date**	**Short Cite**
Direct Testimony of Kevin Rachel on Behalf of the United States Postal Service (USPS-T-8) Notice of United States Postal Service Concerning Errata to the Testimony of Witness Rachel [Errata]	December 5, 2011 February 10, 2012	USPS-T-8
Direct Testimony of Marc A. Smith on Behalf of the United States Postal Service (USPS-T-9) Notice of the United States Postal Service of Filing of Revisions to Direct Testimony of Marc A. Smith on Behalf of the United States Postal Service (USPS-T-9) - Errata	December 5, 2011 March 15, 2012	USPS-T-9
Direct Testimony of Michael D. Bradley on Behalf of the United States Postal Service (USPS-T-10) United States Postal Service Notice of Filing Errata to Direct Testimony of Witness Bradley (USPS-T-10)	December 5, 2011 March 21, 2012	USPS-T-10
Direct Testimony of Rebecca Elmore-Yalch on Behalf of the United States Postal Service (USPS-T-11) United States Postal Service Notice of Filing Erratum to Testimony of Witness Elmore-Yalch, USPS-T-11 [Erratum]	December 5, 2011 March 9, 2012	USPS-T-11
Direct Testimony of Greg Whiteman on Behalf of the United States Postal Service (USPS-T-12) United States Postal Service Notice of Filing Errata to Testimony of Witness Whiteman, USPS-T-12, and Supporting Library Reference USPS-LR-N2012-1/NP1 [Errata]	December 5, 2011 March 6, 2012	USPS-T-12
Direct Testimony of Susan M. LaChance on Behalf of the United States Postal Service (USPS-T-13)	December 5, 2011	USPS-T-13

Appendix B: Testimony Filed in Docket No. N2012-1 (continued)

United States Postal Service (Postal Service)—Supplemental		
Testimony	**Filing Date**	**Short Cite**
Supplemental Testimony of Dominic L. Bratta on Behalf of the United States Postal Service (USPS-ST-1)	April 16, 2012	USPS-ST-1
Supplemental Testimony of Cheryl D. Martin on Behalf of the United States Postal Service (USPS-ST-2) Notice of United States Postal Service Concerning Errata to the Supplemental Testimony of Witness Martin [Errata]	April 16, 2012 April 30, 2012	USPS-ST-2
Supplemental Testimony of Marc A. Smith on Behalf of the United States Postal Service (USPS-ST-3)	April 30, 2012	USPS-ST-3
Supplemental Testimony of Michael D. Bradley on Behalf of the United States Postal Service (USPS-ST-4)	April 30, 2012	USPS-ST-4
Supplemental Testimony of Frank Neri on Behalf of the United States Postal Service (USPS-ST-5)	April 30, 2012	USPS-ST-5

United States Postal Service (Postal Service)—Surrebuttal		
Testimony	**Filing Date**	**Short Cite**
Surrebuttal Testimony of Frank Neri on Behalf of the United States Postal Service (USPS-SRT-1)	June 22, 2012	USPS-SRT-1
Surrebuttal Testimony of Marc A. Smith on Behalf of the United States Postal Service (USPS-SRT-2)	June 22, 2012	USPS-SRT-2
Surrebuttal Testimony of Marc McCrery on Behalf of the United States Postal Service (USPS-SRT-3) United States Postal Service Notice of Errata to Surrebuttal Testimony of Witness Marc McCrery—USPS-SRT-3	June 22, 2012 June 26, 2012	USPS-SRT-3
Surrebuttal Testimony of Rebecca Elmore-Yalch on Behalf of the United States Postal Service (USPS-SRT-4)	June 22, 2012	USPS-SRT-4

Appendix B: Testimony Filed in Docket No. N2012-1 (continued)

American Postal Workers Union, AFL-CIO (APWU)		
Testimony	**Filing Date**	**Short Cite**
Rebuttal Testimony of Kathryn Kobe on Behalf of American Postal Workers Union, AFL-CIO APWU-RT-1	April 23, 2012	APWU-RT-1 Tr. 11/3697-3717
American Postal Workers Union, AFL-CIO, Notice of Filing Errata to Rebuttal Testimony of Kathryn Kobe (APWU-RT-1) (Errata)	May 3, 2012	
American Postal Workers Union, AFL-CIO, Revised Notice of Filing Errata to Rebuttal Testimony of Kathryn Kobe (APWU-RT-1) [Errata]	May 4, 2012	
Rebuttal Testimony of Marc Schiller on Behalf of American Postal Workers Union, AFL-CIO APWU-RT-2	April 24, 2012	APWU-RT-2 Tr. 11/3739-3817
American Postal Workers Union, AFL-CIO, Notice of Filing Errata to Rebuttal Testimony of Marc Schiller (APWU-RT-2)[Errata]	May 1, 2012	
American Postal Workers Union, AFL-CIO, Notice of Filing Errata to Rebuttal Testimony of Marc Schiller (APWU-RT-2)[Errata]	May 22, 2012	
Rebuttal Testimony of Pierre Kacha of Decision/Analysis Partners on Behalf of American Postal Workers Union, AFL-CIO APWU-RT-3	April 23, 2012	APWU-RT-3 Tr. 11/3927-3996
Notice of American Postal Workers Union, AFL-CIO, Concerning Errata to Rebuttal Testimony of APWU Witness Pierre Kacha (APWU-RT-3)[Errata]	April 24, 2012	
American Postal Workers Union, AFL-CIO, Notice of Filing Errata to Rebuttal Testimony of Pierre Kacha (APWU-RT-3)[Errata]	May 7, 2012	

Appendix B: Testimony Filed in Docket No. N2012-1 (continued)

American Postal Workers Union, AFL-CIO (APWU) (continued)		
Testimony	**Filing Date**	**Short Cite**
Supplemental Testimony of Marc Schiller on Behalf of American Postal Workers Union, AFL-CIO APWU-ST-1	June 12, 2012	APWU-ST-1 Tr. 11/3821-3824
Supplemental Testimony of Pierre Kacha of Decision/Analysis Partners on Behalf of American Postal Workers Union, AFL-CIO APWU-ST-2	June 12, 2012	APWU-ST-2 Tr. 11/3999-4001

National Association of Letter Carriers, AFL-CIO (NALC)		
Testimony	**Filing Date**	**Short Cite**
Direct Testimony of Dr. Michael A. Crew on Behalf of the National Association of Letter Carriers, AFL-CIO	April 20, 2012	NALC-T-1 Tr. 11/3542-3573

National Newspaper Association (NNA)		
Testimony	**Filing Date**	**Short Cite**
Direct Testimony of Max Heath, NNA T-1 on Behalf of National Newspaper Association	April 24, 2012	NNA-T-1 Tr. 10/2834-2860
Direct Testimony of David Bordewyk, NNA T-2 on Behalf of National Newspaper Association	April 23, 2012	NNA-T-2 Tr. 10/3046-3056

Appendix B: Testimony Filed in Docket No. N2012-1 (continued)

National Postal Mail Handlers Union (NPMHU)		
Testimony	**Filing Date**	**Short Cite**
Direct Testimony of Michael Hora on Behalf of the National Postal Mail Handlers Union (NPMHU-T-1)	April 23, 2012	NPMHU-T-1 Tr. 10/3332-3339
Direct Testimony of Paul Hogrogian on Behalf of the National Postal Mail Handlers Union (NPMHU-T-2)	April 23, 2012	NPMHU-T-2 Tr. 10/3351-3431
Direct Testimony of Christopher Bentley on Behalf of the National Postal Mail Handlers Union (NPMHU-T-3)	April 23, 2012	NPMHU-T-3 Tr. 10/3442-3450
Direct Testimony of James Haggarty on Behalf of the National Postal Mail Handlers Union (NPMHU-T-4)	April 23, 2012	NPMHU-T-4 Tr. 10/3477-3480
Direct Testimony of David Wilkin on Behalf of the National Postal Mail Handlers Union (NPMHU-T-5)	April 23, 2012	NPMHU-T-5 Tr. 10/3487-3490
Direct Testimony of Kenny Hayes on Behalf of the National Postal Mail Handlers Union (NPMHU-T-6)	April 23, 2012	NPMHU-T-6 Tr. 10/3498-3501
Direct Testimony of Robert J. Broxton, Sr. on Behalf of the National Postal Mail Handlers Union (NPMHU-T-7)	April 24, 2012	NPMHU-T-7 Tr. 10/3511-3519

Postal Regulatory Commission (Commission)		
Testimony	**Filing Date**	**Short Cite**
Testimony of William Weed on Behalf of the Postal Regulatory Commission (PRCWIT-T-1)	April 23, 2012	PRCWIT-T-1 Tr. 11/4163-4226
Notice of Corrections to Testimony of Witness Weed Errata	April 25, 2012	
Notice of Corrections to Testimony of Commission-Sponsored Witness Weed (Errata)	June 11, 2012	
Testimony of Harold J. Matz on Behalf of the Postal Regulatory Commission (PRCWIT-T-2)	April 23, 2012	PRCWIT-T-2 Tr. 11/4061-4106

Appendix B: Testimony Filed in Docket No. N2012-1 (continued)

Public Representative (PR)		
Testimony	**Filing Date**	**Short Cite**
Direct Testimony of Kevin Neels on Behalf of the Public Representative Direct Testimony of Kevin Neels on Behalf of the Public Representative [Errata]	April 23, 2012 April 30, 2012	PR-T-1 Tr. 10/3226-3257
Direct Testimony of Subramanian Raghavan on Behalf of the Public Representative	April 23, 2012	PR-T-2 Tr. 10/3100-3148

Appendix C: Briefs/Reply Briefs Filed in Docket No. N2012-1

	Filing Date	Short Cite
American Postal Workers Union, AFL-CIO (APWU)		
Initial Brief of the American Postal Workers Union, AFL-CIO	July 10, 2012	APWU Brief
Reply Brief of the American Postal Workers Union, AFL-CIO	July 20, 2012	APWU Reply Brief
Greeting Card Association (GCA)		
Initial Brief of the Greeting Card Association	July 10, 2012	GCA Brief
National Association of Letter Carriers, AFL-CIO (NALC)		
Brief of Intervenor National Association of Letter Carriers, AFL-CIO	July 10, 2012	NALC Brief
Reply Brief of Intervenor National Association of Letter Carriers, AFL-CIO	July 20, 2012	NALC Reply Brief
National Newspaper Association (NNA)		
Initial Brief of the National Newspaper Association National Newspaper Association Notice of Filing of Revision for Initial Brief of NNA	July 10, 2012 July 11, 2012	NNA Brief
National Postal Mail Handlers Union (NPMHU)		
Brief of the National Postal Mail Handlers Union	July 11, 2012	NPMHU Brief
Reply Brief of the National Postal Mail Handlers Union	July 20, 2012	NPMHU Reply Brief
National Postal Policy Council and Major Mailers Association (NPPC/MMA)		
Comments of the National Postal Policy Council and the Major Mailers Association	July 10, 2012	NPPC/MMA Brief

Appendix C: Briefs/Reply Briefs Filed in Docket No. N2012-1 (continued)

	Filing Date	Short Cite
David B. Popkin (DBP)		
Initial Comments of David B. Popkin	July 10, 2012	DBP Brief
Public Representative (PR)		
Initial Brief of the Public Representative	July 10, 2012	PR Brief
Reply Brief of the Public Representative	July 20, 2012	PR Reply Brief
United States Postal Service (Postal Service)		
Initial Brief of United States Postal Service Notice of the United States Postal Service Regarding Errata to Initial Brief Filed Earlier Today [Errata]	July 10, 2012 July 10, 2012	Postal Service Brief
Reply Brief of United States Postal Service Notice of the United States Postal Service of Errata to Reply Brief	July 20, 2012 July 24, 2012	Postal Service Reply Brief
Valpak Direct Marketing Systems, Inc., and Valpak Dealers' Association, Inc. (Valpak)		
Initial Brief of Valpak Direct Marketing Systems, Inc., and Valpak Dealers' Association, Inc.	July 10, 2012	Valpak Brief
Reply Brief of Valpak Direct Marketing Systems, Inc., and Valpak Dealers' Association, Inc.	July 20, 2012	Valpak Reply Brief

Appendix D: APWU Model

APWU witness Pierre Kacha, presents a simulation model to compute service performance, and processing and distribution network costs, under alternative network configuration scenarios. APWU-RT-3; APWU-ST-2; Tr. 11/3927-96, 3999-4001. Witness Kacha's objective is to see how far the Postal Service's capital stock could be reduced, and how much money could be saved, without significantly changing First-Class Mail service.

The simulation model that witness Kacha uses is of his own design and was developed for the Postal Service's Office of the Inspector General. It is considerably more detailed than the LNP model used by the Postal Service or witness Raghavan. As modified for use in this docket, however, its results are driven by the same assumption that underlies both the Postal Service model and the Raghavan model that larger plants process mail at lower unit costs.

When asked to compare his model to the LogicNet model, witness Kacha states his model "simulates flow of mail from origin to destination, from point of induction to destination, across a variety of product lines." Tr. 11/4048. Witness Kacha cautions that when interpreting his model's results, the model is directional as to give some insight to the direction of service performance with network configuration changes. *Id.* at 4039.

Witness Kacha explains that within his model, service performance and costs are calculated by aggregating the processing and distribution costs of each origin-destination pair for First-Class Mail and Standard Mail across all shapes and presort levels. Tr. 11/3932. The model uses data provided by the Postal Service to the greatest extent possible. Starting with a baseline of 477 plants, the model consolidates the network under seven different scenarios into smaller numbers of resulting processing plants.

The model computes the on-time service performance percentages under each scenario for overnight mail.[129] The baseline model computes an overall on-time service performance of 92.5 percent for 477 plants. Reducing the number of plants to 342 reduces the on-time service performance to 91.3 percent. Further reducing the number of plants to 250 reduces the on-time service performance to 86.0 percent. *Id*. at 3967.

The model computes letter and flats processing costs plus overhead costs. The baseline model computes total costs of $10.7 billion for 477 plants. Reducing the number of plants to 342 reduces the total costs to $10.4 billion. Further reducing the number of plants to 250 reduces the total costs to $9.4 billion. *Id.* at 3968.

The model also computes transportation results for the resulting networks under each scenario in terms of truck-miles. As would be expected, daily local truck-miles increase when the number of plants is reduced, at the same time daily long haul truck miles decrease. *Id.* at 3969.

Witness Kacha creates a new scenario encompassing the Postal Service's May 17, 2012 announcement that it will initially close 48 mail processing plants this summer. He concludes that the closure of these plants would have minimal impact on inter-SCF, (Sectional Center Facility) overnight delivery. Therefore, he concludes that the Postal Service could close these plants while maintaining current delivery profiles. *Id.* at 4000-01.

[129] The service standards in effect the date the Request was filed, December 15, 2011, are used.

Appendix E: Market Research Replication Issues

In response to POIR No. 2, question 10, witness Elmore-Yalch indicated that if a respondent provided complete responses (volume and distribution) for one or more applications across all three time periods, the respondent's data was included for those applications. Tr. 7/2299. After a thorough exploration of the data, the Commission continues to find examples of respondents with missing data who are included despite the fact that the previously outlined rule indicates they should not be included.

Example 1

qno	U1A	U1B_A	U1B_B	U1B_C	PMT_FCM_Base_Final
448001442	12				
	U1A_2012	**U1B_A_2012**	**U1B_B_2012**	**U1B_C_2012**	**PMT_FCM_Base_2012_Final**
	12				
	U6A	**U6B_A**	**U6B_B**	**U6B_C**	**PMT_FCM_Condl_Final**
	12	100	0	0	12

In this example, respondent 448001442 did not provide a response for the distribution of 2011 volume (U1B_A, U1B_B, U1B_C) or for the distribution of 2012 volume before the concept statement was read (U1B_A_2012, U1B_B_2012, U1B_C_2012). Applying the Postal Service's description of rules for inclusion, this respondent should not have been included in any of the volume calculations. However, this respondent's volume was included in the conditional volume calculation because they provided distribution information (U6B_A, U6B_B, U6B_C). This inclusion contradicts the rule provided in POIR No. 2, question 10.

Example 2

qno	U1A	U1B_A	U1B_B	U1B_C	PMT_PRI_Base_Final
439005374	36	0	100	0	36
	U1A_2012	**U1B_A_2012**	**U1B_B_2012**	**U1B_C_2012**	**PMT_PRI_Base_2012_Final**
	36	0	100	0	36
	U6A	**U6B_A**	**U6B_B**	**U6B_C**	**PMT_PRI_Condl_Final**
	36				

In this example, respondent 439005374 did not provide distribution information for 2012 volume after the concept statement was read (U6B_A, U6B_B, U6B_C). However, the respondent's volume was included in the base and 2012 volumes. This inclusion contradicts the rule provided in POIR No. 2, question 10.

Example 3 (Based on Information Not Included in the Record)

The following code is taken from the file "POIR9_Consumers" provided in response to POIR 9, question 1 on July 20, 2012, after the record had closed. This is an SPSS program file that the Postal Service provided to facilitate the Commission's efforts to replicate their data. An extract from this program file is provided below to demonstrate why the Commission believes that the inconsistencies outlined in the above two examples occur.

```
"DO IF (not (missing (U1A ) or missing (U1A_2012 ) or missing (U6A_ADJUSTED ) ) ).
        COMPUTE PMT_FCM_Base_Final = PMT_FCM_Base.
        COMPUTE PMT_PRI_Base_Final = PMT_PRI_Base.
        COMPUTE PMT_EXP_Base_Final = PMT_EXP_Base.

        COMPUTE PMT_FCM_Base_2012_Final = PMT_FCM_Base_2012.
        COMPUTE PMT_PRI_Base_2012_Final = PMT_PRI_Base_2012.
        COMPUTE PMT_EXP_Base_2012_Final = PMT_EXP_Base_2012.
```

```
        COMPUTE PMT_FCM_Condl_Final = PMT_FCM_Condl.
        COMPUTE PMT_PRI_Condl_Final = PMT_PRI_Condl.
        COMPUTE PMT_EXP_Condl_Final = PMT_EXP_Condl.
END IF."
```

This block of code calculates volumes for the payment application for all three mail products. Notice that the code is executed only if U1A, U1A_2012, and U6A_ADJUSTED are all non-missing. In other words, the computations are made if the respondent reported volumes for all three periods. The two examples shown above meet this criterion. However, to be consistent with the rule provided in POIR No. 2, question 10, the conditional statement in the code should have read:

"DO IF (not (missing (U1A) or missing (U1A_2012) or missing (U6A_ADJUSTED) *or missing(U1B_A) or missing(U1B_B) or missing(U1B_C) or missing (U1B_A_2012) or missing(U1B_B_2012) or missing(U1B_C_2012) or missing(U6B_A) or missing(U6B_B) or missing(U6B_C)*))."

If the code had been written in this way, it would only have included respondent's volumes by application if they had non-missing responses for both volume *and distribution*, as is indicated in the response to POIR 2, question 10.

This provides one example of the Commission's continuing difficulties in attempting to replicate the results presented by the Postal Service in the testimony of witness Elmore-Yalch.

Appendix F: Technical Aspects of Postal Service Model

I. POSTAL SERVICE USE OF LOGICNET PLUS

In support of the Postal Service's proposal to replace the overnight First-Class Mail service standard with a 2-day service standard, witness Rosenberg relies on a cost optimization software model.[130] The LNP model identifies the number of mail processing plants and the amount of postal equipment required to support the Postal Service's 2-day First-Class Mail service standard.[131]

The objective of the mail processing and transportation network model used by witness Rosenberg is to "maximize assignment of 3-digit ZIP Codes to a facility, so ultimately nodes are minimized in the feasible Network." USPS-T-3 at 13. The Postal Service model contains detailed information about the locations and processing capabilities of 476 facilities. The model also identifies the workload demand of the entire contiguous United States, which consists of over 900 3-digit areas. The model developed by the Postal Service can be used to assess the feasibility and desirability of a variety of broad network design concepts.

The starting point for the Postal Service's modeling effort is to determine the scale of what changes could occur, given a change in service standards. To achieve this goal, the Postal Service does not find it necessary to develop a baseline model and evaluate different network options. As stated by witness Rosenberg, the Postal Service views the model as "a decision support tool, not a decision making tool. It served as a starting point for discussion." Tr. 4/914. The model shows that the optimized network nodes assigned by the LNP model would operate as a feasible network, able to process

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[130] The model software is IBM ILOG LogicNet Plus 6.0 X (LPN).

[131] Witness Rosenberg also refers to a scoring tool to evaluate operating windows. Witness Raghavan persuasively criticizes the Postal Service's failure to effectively utilize this tool.

the mail entered in FY 2010. The Postal Service model can also be used to show that the AMP identified consolidations would lead to a feasible network.

The LNP model used by the Postal Service balances processing costs, fixed facility cost, facility capacity, transportation costs and service constraints while ensuring "customer" demand (volume) is met. "Customers" in the LogicNet model are 3-digit ZIP Codes that send and receive mail. Broadly speaking, the LNP model fulfills the customer demand by assigning the work to the "lowest cost facility" with available capacity. The lowest cost facility is determined through a separate regression analysis.

The LNP model is not used to determine how much cost savings the Postal Service can realize nor is it used to evaluate whether a change in service standards is necessary to achieve those cost savings. As the Postal Service has used it, the LNP model determines the plants that can be removed from the network given the change in service standards.

The LNP model's demand is based on 3-digit ZIP Code areas. Witness Rosenberg determines the 3-digit ZIP Code footprints by product shape (letter, flat and parcel/bundle). The sum of the 3-digit ZIP Code footprints is the demand used in her LNP model.[132] She develops the mail processing equipment requirements by relying on the square footage of existing postal mail processing equipment used in processing the 3-digit ZIP Code volume.[133] Her transportation costs represent the distance between collection/delivery to a processing plant, with a maximum travel constraint of 200 miles.[134] She adjusts her transportation cost algorithm to more closely reflect the ratio

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[132] USPS-T-3 at 14-15. The footprints are developed by using information from the Facilities Database and Postal Service surveys.

[133] *Id*. The same machine can perform multiple operations, thus demand is the maximum machine footprint required.

[134] Transportation costs are based on the Highway Contract Route costs of $1.82 per mile. *Id*. at 16. Western Area postal managers relaxed the 200-mile distance constraint in order to reduce the number of processing centers in remote locations. *Id*. at 20.

of transportation costs to mail processing costs.[135] Using fixed opening and operating costs witness Rosenberg states that the hypothetical cost parameters she relies on, in her LNP model, provide optimum solutions.[136]

The LNP model results in 177 of the original 476 plants remaining active in the rationalized network. After discussions with postal management and subject matter experts in mail processing operations and transportation requirements, witness Rosenberg revises the final LNP model results. Adding plants not identified in the LNP model and removing plants identified in the LNP model results in a rationalized network of 199 plants. *Id.* at 34.

Forty-five percent of ZIP Code assignments to letter processing plants are modified. Over 150 of the ZIP Code changes result from adding letter processing locations not identified by the LNP model. Approximately 280 3-digit ZIP Code changes result from deactivating 70 letter processing plants assigned by the LNP model. USPS-T-3 at 20.

Subsequent to the discussions with postal management and experts, neither the scoring tool nor the LNP model is used to evaluate the final selections. Tr. 4/1368.

After plant assignments are complete, the Postal Service identifies the applicable 2-day and 3-day service standard areas. Tr. 4/1456. Finally, witness Rosenberg identifies the equipment requirements as shown in Table F-1.

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[135] A transportation lane is the link between a plant and its 3-digit ZIP Code "customer," using assumed highway contract route transport costs. *Id.* at 16. *See also* Tr. 4/1276.

[136] Fixed opening costs are plant rents, or if the plant is owned, the opportunity cost of not selling the plant. Operating costs are the daily utilities (electricity, etc.) at the plant. Plant closing costs and line cost are also used. Closing costs are associated with moving equipment, and were not developed for every plant. Line costs are fixed scale costs associated with different plant sizes.

Table F-1

Equipment to Support 199 Postal Facilities

Equipment Type	Number of Machines Required
Advanced Facer Canceller Systems (AFCS)	617
DBCS (Includes DIOSS - Delivery Bar Code Sorter Input / Output SubSystem)[137]	2,995
Advanced Flat Sorter Machine 100	522
Flat Sequencing System	100
Small Parcel Bundle Sorters/ Automated Parcel Bundle Sorter (SPBS/APBS)	205
Automated Package Processing Sorter (12 at NDCs)	74
Total Machines	4,513

Source: Adapted from USPS-T-3 at 34.

While witness Rosenberg's LNP model determines how much of the existing capital equipment will remain operational, she says it does not identify site specific equipment deployment or disposal determinations. Tr. 4/1357.

II. INTERVENOR COMMENTS ON THE LOGICNET PLUS MODEL

Public Representative witness Raghavan is skeptical of several assumptions underlying witness Rosenberg's model. He criticizes the fact that she did not conduct an iterative analysis using the information she received from postal management and the proposed changes in cancelation windows. He asserts that had she rerun the model it would have shown that more than 177 mail processing plants are necessary. Tr. 10/3116. He claims that if witness Rosenberg incorporates management recommendations and changes in operating windows her LNP model results would be more robust. *Id.* at 3117.

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[137] *Id*. DBCS equipment may be used for outgoing primary, outgoing secondary, incoming primary and incoming secondary and DPS operations. Tr. 4/1496.

Witness Raghavan identifies three issues with witness Rosenberg's equipment requirement analysis. First, he claims that the proposed postal network will be unable to handle the workload if peak loads occur back to back. He says that if peak loads occur over several days, then there may be disruptions in handling and moving the mail through the postal network. Therefore, he recommends that the Postal Service assume peak load factors in the 98th or 99th percentile rather than the 95th percentile witness Rosenberg relies on.[138] Second, if the Postal Service eliminates the overnight First-Class Mail service standard, it will need more mail storage space because mail that originates on one day will not be processed until the next. Witness Raghavan claims the Postal Service has not addressed the additional space requirement. Tr. 10/3122-23. Finally, Raghavan asserts that the Postal Service should have conducted a simulation study, with the appropriate mail volumes, equipment and facility specific information. This would have provided a robust analysis and ensured adequate equipment and network capacity for handling peak load volumes. Tr. 10/3123.

To evaluate the Postal Service's design of the rationalized mail processing network, witness Raghavan develops an LNP model of a baseline network that includes current service standards. *Id.* at 3134. Witness Raghavan asserts his model is a more appropriate starting point for discussions with postal experts.[139]

Using witness Rosenberg's models, witness Raghavan optimizes the network by implementing her assumption that the larger the plant, the lower its unit cost will be, but he retains existing service standards. To determine the optimum number of plants assuming the current service standard, witness Raghavan replicates witness Rosenberg's analysis, but adjusts demand, capacity, and system constraints to reflect the current postal operating environment. Tr. 10/3135. He asserts that his analysis

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[138] Witness Raghavan, Table 3: Peak Factors for Fiscal 2010 at Tr. 10/3121.

[139] A traffic matrix indicates the mail flows between different originating and destinating 3-digit ZIP Codes. *Id.* at 3115.

provides a baseline estimate of possible savings under current service standards and provides a benchmark to measure the impact that adopting the Postal Service's reduced service standard would have on costs. *Id.* at 3136.

He concludes that a least-cost network configuration that maintains current service standards would consist of 239 to 277 plants. He suggests that although the savings from maintaining the existing service standard are moderately less than those from the Postal Service's Phase 2 proposal, it is, on balance, a less risky course of action because maintaining service standards protects the value of mail service, and thereby protects volumes and revenues that would otherwise be put at risk. *Id.* at 3146.

Witness Raghavan says that the Postal Service should conduct additional analysis of the impact of maintaining current service standards so that it could better evaluate whether a change in service standards is necessary. *Id.* at 3134.

The Postal Service concedes that, "a more robust modeling tool could potentially be developed." The Postal Service reiterates the limited role the model played in development of the rationalized network. It claims that the model is not relevant to whether the proposed service changes comport with title 39. Postal Service Reply Brief at 26.

The Commission agrees with witness Raghavan about what peaks in the historical workload data imply. Although the decline in First-Class Mail volume may reduce the stress on the future rationalized network, the Postal Service may encounter workloads that peak not just at the 95th percentile, but at the 98th and or even the 99th percentile. Occasionally, such peaks could occur on consecutive days. This means that there may be times throughout the year when the Postal Service will need to store mail that cannot be processed within 24 hours of the time that it arrives. The Postal Service adjusts its estimate of the square footage that it will need in its rationalized network to account for the need to stage mail during a normal processing day. It should further adjust its estimate of needed square footage to account for the potential need to

store mail from one processing day to the next. Considerations such as this illustrate why it is important for the Postal Service to simulate its mail processing operations under its rationalized network—to ensure that the network will have the capacity required to successfully stage and process mail in the new environment.

III. DATA INPUTS TO THE POSTAL SERVICE LOGICNET MAIL PROCESSING MODEL

A. The Role of Model Inputs

The Postal Service's LNP model uses detailed information for the following elements: Processing Facilities; Customer Details; Products; and Transportation. For some of these elements, the Postal Service has developed input data that can be used to design a network model that captures the tradeoffs associated with different network options. For other elements, participants have provided analysis that can be used directly to add to the predictive value of the model or an outline of how data can be used to add value to the modeling process.

The LNP model matches customer demand with facility supply for all products. The customer demand input defines how much square footage is needed for the network to produce each product, and the facility data define where production can occur at what cost. The facility data contain several key details: location, facility square footage, processing capacity by operation, fixed opening and operating costs, and processing cost per square foot.

The Postal Service developed data for each of these inputs. The facility location and size data are taken from the Facilities Database (FDB), which contains information on each Postal Service mail processing and retail facility. The network model focuses only on facilities with mail processing operations. To confirm the accuracy of the FDB data, facility surveys were also used. *See* USPS-T-3 at 14. Transportation costs are only included for legs between facilities and 3-digit ZIP Codes. The impact of network assignments on plant-to-plant transportation is not analyzed.

B. Capacity Requirements

Data from ODIS, MODS, and TIMES are used to disaggregate the FY 2010 volumes to the 3-digit level.[140] *See* Tr. 4/1294. The starting point for the calculation of square footage is FY 2010 average daily volume. Volumes by shape for each operation are calculated.

MODS data contain workhours by facility by activity, which can be translated into actual facility cost for FY 2010. The MODS database also contains volume processed at each facility for FY 2010. When each facility is assigned a set of customers, the volume and workhours of each facility is known.

The method for calculating customer demand relies on volume disaggregated to the 3-digit level using MODS and ODIS databases. The Postal Service has provided an index of facility assignments for each 3-digit area for FY 2010. This allows the method for determining customer demand to be used to calculate the actual work performed by the facilities that were assigned customers during FY 2010. Using the process outlined in table F-2, the "Actual Square Footage Used For Automation Processing" for each facility can be calculated.

The automation equipment required for each process is also isolated. Each piece of automated processing equipment has a standard throughput and square footage footprint, and an operational window for each processing function that it performs.[141] Using this information, the square footage of processing equipment demanded by each 3-digit "customer" area is calculated as a function of FY 2010 volume. Table F-2 outlines the process.

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[140] ODIS is the Origin-Destination Information System. MODS is the Management Operating Data System. TIMES is the Transportation Information Management Evaluation System.

[141] Automation equipment can be used to sort the mail to different degrees of separation. As an example, DBCS letter processing machines are used for several different schemes (outgoing, DPS, etc.) at different times of the day.

Table F-2

Calculation of Square Footage Demanded for a Customer

		A	B	C	D
1	Operation	Outgoing Primary	Incoming Primary	Incoming Secondary (pass 1)	Incoming Secondary (pass 2)
2	Volume	788,275	1,203,769	1,662,001	1,423,450
3	Length of Processing Window (hours)	7	4	8	8
4	Volume per Hour (Row 2/Row 3)	112,611	300,942	207,750	177,932
5	Machine Throughput (pieces per hour)	27,500	27,500	27,500	27,500
6	Machine Footprint (sq. ft. per machine)	2,931	2,931	2,931	2,931
7	Square Feet Demanded (Row 4/Row 5) x Row 6	12,002	32,075	22,142	18,964

Although multi-stepped, the calculation is straight forward. Row 2 presents the FY 2010 letter volume for each of four processing operations. For this customer, the first pass of the Incoming Secondary (Column C) had the most volume of any operation. However, the square footage required for an operation is also a function of the operating window (the time spent processing mail in this operation). Consequently, higher volume in an operation does not necessarily mean that the operation requires the most square feet of all operations in the plant. Row 3 contains the operating window for each operation. Dividing Volume (Row 2) by the operating window results in volume per hour per operation (Row 4). The equipment square footage required to meet the demand is calculated by dividing the volume per hour by the machine throughput (Row 5) and multiplying by the machine footprint (Row 6). As seen in the table, although incoming secondary (first pass) has the most volume, it does not demand the most square footage.

The sum of the square feet required for each shape of mail for each operation is the square footage “demanded” by each 3-digit customer. Based on this demand, the LNP model assigns 3-digit to 3-digit ZIP Code pairings to each facility. One nuance of the modeling is that before the model can assign work to a plant, the facility must be

made "available" in the LNP Model. The Postal Service developed input data for 476 facilities, based on the number of mail processing facilities in the network in FY 2008. *See* Tr. 4/1287, 1415. Of the 476 facilities, 441 were assigned 3-digit customers in FY 2010. *See* USPS-LR-N2012-1/17 tab 'Model Mods'. Of these 441 facilities, only 351 facilities are allowed to be assigned workload in the Postal Service's original model. *See* USPS-LR-N2012-1/15 tab 'PlantDetails' column F; Tr. 4/1415. Thus, 90 facilities with actual workload in 2010 were prevented from receiving workload in the Postal Service's model.

C. Facility Supply

1. Development of cost per square foot

The processing capacity by operation is calculated using a database of the current automation equipment located in each facility. In general, the capacity is the sum of the machine footprints for all equipment in the facility. Mail shapes can only be assigned to facilities that have the proper equipment for processing that shape. For example, if a facility currently has automation flat sorting equipment, then that facility's total square footage capacity can be allocated for flat processing.[142]

The final piece for determining the least cost allocation of workload by facility is the workload cost per square foot, for each facility. For the model production cost in the USPS-LR-N2012-1/17 model inputs, the Postal Service relies upon a cost per square foot regression provided in USPS-LR-N2012-1/46. The Postal Service evaluated this regression by dividing facilities by size (square feet) into three groups and estimating the slope of the function at the midpoint for each of the three groups.[143] This procedure

[142] If a facility has no automation flat processing equipment, then a limit of 12.5 percent of the facility square footage capacity is set as the maximum workload for flat processing. *See* USPS-T-3 at 17.

[143] Seventy-three percent of facilities made up the small-plant group, 23 percent of the sample made up the mid-size plant group, and 3 percent of the sample made up the large-plant group.

estimates that large facilities have the fewest workhours per square foot, mid-sized facilities are next, and small facilities have the most workhours per square foot. Based on this result, the Postal Service assumes that the larger the plant, the lower its unit labor costs will be.

The Postal Service groups facilities into 3 size ranges: under 210,000 square feet; between 210,000 and 450,000 square feet; and over 450,000 square feet.[144]

The Postal Service's model of workhours as a function of square feet takes the following form:

$$y = \alpha + \beta_1 x + \beta_2 x^2$$

$$m = \frac{dy}{dx} = \beta_1 + 2 \times \beta_2 \times x_2$$

The set of independent variables (X_i) represents the physical square footage of specific facilities. The set of dependent variables (Y_i) represents the workhours consumed by each plant.[145]

The slope of the regression equation is $256.4 per sq. ft.[146] To convert to daily workload cost per square foot, the slope at each of these points is divided by 365.[147] *See* Tr. 4/1426. The results are summarized in Table F-3.

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[144] The regression utilizes the square footage and total cost for FY 2010 for 321 facilities.

[145] Y_i actually represents monetized plant workhours, since it is workhours multiplied by an appropriate wage rate.

[146] Total Operation Cost = - 789116 + 256.4 Vetted sq. ft. - 0.000087 Vetted sq. ft.**2.

[147] The results are in annual cost per square foot and are divided by 365 to make them compatible with the LogicNet model, which the Postal Service designs as a daily operational model.

Table F-3

Postal Service Cost Per Square Foot Regression Results

Size	Model Input	Cost Per Square Foot
450,000 sq. ft. +	0.357	$130.25
210,000-450,000 sq. ft.	0.545	$198.98
0-210,000 sq. ft.	0.652	$238.13

2. Development of fixed facility costs

In addition to the daily workload cost per square foot, the Postal Service isolated over $500 million in fixed operating costs for the facilities in the LogicNet model. These fixed costs are segregated into the opening and operating cost of mail processing facilities in USPS-LR-N2012-1/52. The opening cost is the rental cost for each facility, or the opportunity cost of not selling the facility. The operating cost is the utility cost for each facility.

D. Participants Comments on Input Data

Witness Raghavan criticizes Rosenberg's use of average mail volumes in calculating the square footage required in her LNP model. Tr. 10/3117. Witness Raghavan states that mail volumes are variable and as such, it is important to provide adequate peak load capacity. He asserts that if witness Rosenberg incorporates peak load considerations into her LNP model, she could establish a more appropriate starting point for discussions. Tr. 10/3118.

The Postal Service replies that witness Ragahavan has no operational experience and thus does not understand how peak days are managed. Postal Service Reply Brief at 4. It asserts that the Postal Service will respond to future peak loads in the same manner as it currently handles them. Finally, the Postal Service claims that the declining First-Class Mail volumes put less stress on future networks. *Id.* at 5.

Witness Raghavan also criticizes the way in which witness Rosenberg's LNP model allocates workload to the 3-digit ZIP Code level to determine transportation costs. *Id.* Witness Raghavan states that if the originating and destinating workload are similar, relying on one of the two legs (post office-to-plant or plant-to-post office) is reasonable. However, if the originating and destinating workloads differ he asserts using more disaggregated data is appropriate. Tr. 10/3119.

The Postal Service replies that the LogicNet model was not used to determine the best network solution and was not designed to measure transportation costs. It also states that "overall plan-to-plant transportation network cost would not vary significantly from one proposed solution to the next." Postal Service Reply Brief at 22.

Appendix G: Area Mail Processing Reviews

I. DESCRIPTION OF THE AMP PROCESS

According to the Postal Service's Area Mail Processing (AMP) Handbook, PO-408, AMP is the consolidation of all originating and/or destinating distribution operations from one or more plants into other plants for the purpose of improving operational efficiency and/or service.[148] Plants that receive additional workload are referred to as "gaining" plants while plants that lose workload are referred to as "losing" plants. An AMP feasibility study determines whether there is a business case for the consolidation.

The objectives of an AMP feasibility study are identified as follows:

(1) Evaluate service standard impacts for all classes of mail.
(2) Consider issues important to local customers.
(3) Identify impacts to Postal Service staffing, both craft and management positions.
(4) Analyze savings and costs associated with moving mail processing operations.

The LogicNet Plus model identified potential mail processing plant consolidation opportunities, which were refined through consultations involving Headquarters and local managers. USPS-SRT-1 at 2. After a list of consolidation candidates was developed, the AMP feasibility studies were employed as one of the final steps in the selection of plants to consolidate and/or close. USPS-T-4 at 14.

The AMP feasibility studies were comprised of site-specific analyses of potential savings associated with the consolidation of identified plants. Tr. 2/130. The AMP studies determined whether or not there was a business case for relocating mail

[148] USPS-LR-N2012-1/3.

processing and distribution operations from one location to another in order to improve operational efficiencies. USPS-T-4 at 14.

For each proposed consolidation, the Postal Service focused on three questions:

(1) Based on the projected volume and mail arrival profile, how much equipment would be required at each mail processing plant that would remain when the network is consolidated as planned?

(2) Would all of the proposed mail processing equipment deemed necessary to support operations at each network node fit in each designated remaining plant?

(3) Does a business case support the consolidation?

USPS-SRT-1 at 2. Once completed, the AMP studies were reviewed at the District, Area, and Postal Service headquarters. The review entailed a consistent application of business rules applied to the calculations in the AMP studies, including a line-by-line review of the calculations to make certain the AMP study reflected an accurate representation of potential savings. Tr. 7/2454. After review of the answers to the above questions, a final decision was made for each plant. USPS-T-4 at 15. If an AMP study was approved, the Postal Service would implement the AMP consolidation and/or closure. *Id*.

Utilization of the AMP studies was not intended to capture network-wide cost savings that would result from the implementation of the consolidations. Tr. 2/129. Because the AMP studies were site-specific, they should not be considered “full-up operational impact assessments.” Tr. 2/131. Although witness Williams stated that the degree to which the service standards would actually change depended in large part on the outcome of each AMP study conducted, the AMP study process was not intended to measure the final aggregate savings attributable to changes from the MPNR. Tr. 2/313; Tr. 7/2363. Rather, the proposed changes would facilitate the Postal Service’s efforts to achieve the goals of increased efficiency and reduced capacity. USPS-T-1 at 33-34.

II. CRITICISMS OF THE AMP REVIEW PROCESS

NPMHU sponsors the testimony of seven witnesses, Michael Hora, Paul Hogrogian, Christopher Bently, James Haggerty, David Wilkin, Kenny Hayes, and Robert Broxton, Sr. These witnesses are all long time employees of the Postal Service familiar with operations in different geographic areas. Their testimonies present several common themes related to the effects of planned consolidations on the processing and delivery of mail, inflated or erroneous savings estimates with the Postal Service's proposals, and the lack of effective public input into the process.

NPMHU witnesses testify that the Postal Service has overestimated potential savings associated with its proposed consolidations, as well as underestimating additional effects the plan will have on efficient delivery of mail. They contend that the Postal Service has not adequately considered concerns of employees and mailers.

NPMHU witnesses point out that the Postal Service initially estimated it would save approximately $2 billion, but that completed AMP studies show that savings will only be approximately $0.9 billion. While the witnesses acknowledge the $0.9 billion savings do not reflect potential productivity changes, they testify that based on experience the Postal Service has overestimated its likely productivity improvements.

The witnesses also testify that the AMP savings are overstated because they assume no increase in utilities or custodial services at the gaining plants; they do not budget for increased maintenance or replacement costs for equipment, and they fail to budget for hubs. In addition, they do not include costs for upkeep of closed plants and do not adequately budget for relocation costs.

III. COMMISSION ANALYSIS

NPMHU witnesses raise some concerns about how the Postal Service calculated savings from the AMP studies. The majority of their testimony is opinion based on personal anecdotal experiences.[149]

The Postal Service argues that the NPMHU witnesses present only hypothetical errors regarding the AMP studies, and it criticizes their lack of knowledge and experience in technical fields. USPS Brief at 109. It also argues that the testimony is based on subjective assertions and anecdotal allegations that are not supported by evidence. *Id*. at 110. The Postal Service also addresses the issues raised by NPMHU in its reply brief, and cites testimony that addresses the concerns raised.[150]

The NPMHU witnesses challenge the cost savings the Postal Service claims it will get from the MPNR initiative. The witnesses focus on the AMP studies. The AMP studies are designed to test the feasibility of particular proposed plant consolidations or closures. The AMP studies adequately inform the Postal Service on whether closure or consolidation of specific target plants makes financial sense or not, depending on specific local attributes of the plants involved.

NPMHU witnesses mention a number of potential costs that the AMP studies do not measure—and they may be correct in pointing out this disparity. However, these anecdotal examples are not sufficient to discredit the AMP process or results. Moreover, AMP studies are not designed or put forth as a way to provide complete potential cost savings. The Postal Service utilizes AMP studies to determine the operational feasibility of the proposed consolidations, and they do a reasonable job. The Postal Service recognizes that AMP studies do not reflect all potential savings, and

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[149] *See generally* Tr. 10/3343-3526.

[150] *See generally* USPS Reply Brief at 28-35.

to the extent possible, adjusts cost savings estimates to reflect AMP study results after these studies were completed.

Appendix H: Description of Cost Savings Estimates

I. ANALYSIS OF MAIL PROCESSING OPERATIONS COST SAVINGS

A. Overview

Postal Service witnesses Neri, Smith, and Bradley quantify the impact of the proposed network consolidations on mail processing labor costs and workload reductions. Witness Neri estimates changes in night differential, productivity, and In-Plant Support staffing. The estimates developed by witness Neri are used by witnesses Smith and Bradley in developing cost savings estimates. Witness Smith estimates workload reduction cost savings. Witness Bradley estimates mail processing labor cost savings.

The Postal Service initially estimated a total mail processing cost savings of $1,467 million; $74 million from fixed costs related to workload reductions and $1,393 million from mail processing labor. After consideration of the information presented in the AMP studies released on February 23, 2012, the Postal Service revised the estimate to a total mail processing savings of $1,417 million; $67 million from workload reductions and $1,350 million from mail processing labor.

The Commission sponsored witnesses Weed and Matz to provide an independent analysis of the Postal Service's estimates. Their analysis concludes that depending on the productivity assumptions that are made, the Postal Service's estimates may represent an optimistic or high-end estimate of potential cost savings. Under certain realistic assumptions, their analysis also concludes that as a worst case MPNR may increase Postal Service costs.

B. Postal Service Estimates of Opportunities To Reduce Mail Processing Labor Costs

1. Night differential, productivity, and in-plant support staffing

Witness Neri estimates changes in night differential, productivity, and In-Plant Support staffing. He contends that due to the decline in First-Class Mail volume and increase in workshared mail, there is "considerable excess processing capacity at many mail processing facilities and within the postal network as a whole." USPS-T-4 at 2. He claims that significant declines in mail volumes, changes in the mail mix, unpredictable mail arrival times, inflexible operating windows, and overnight service performance standards result in inefficient mail processing operations and underutilization of mail processing equipment.

Witness Neri asserts that the expansion of mail processing windows, workload balancing and peak load planning will cause more effective operations. *Id*. at 27. He points out that the network rationalization process provides an additional day for processing and transporting mail and expands the remaining operations geographic reach. *Id.* at 33. He states that the Postal Service's proposal facilitates efficiency improvements and capacity reductions. *Id.* at 33-34.

Witness Neri contends that mail processing operations are currently designed to support service standards for First-Class Mail and Periodicals, particularly overnight service standards. *Id.* at 11. He describes the current operating plan and details how the change in service standards will allow for an expansion of the operating window and a reduction in network size. *Id*. at 13. Relaxing the overnight service standard and expanding mail processing operating windows will lead to an improvement in mail processing productivity by allowing: (1) alteration of mail processing operations; (2) redesign of the network to minimize peak load problems; and, (3) elimination of redundant processes. *Id*. at 27. He claims that with the service standard changes, mail

processing operations can be performed at less than 200 locations and that the amount of Delivery Point Sequencing equipment needed will decline by 40 percent.[151]

Idle-time productivity savings opportunities. Witness Neri reviews existing operating plans to identify peak load issues. He estimates that current operating windows lead to idle time of 27 percent, a savings opportunity that can be realized by eliminating the overnight service standards. *Id*. at 18. He asserts that instituting earlier mail entry and acceptance times will allow mail to reach the destinating processing facility earlier in the day. *Id*. at 18-19. Redesigning the operating windows will allow the Postal Service to focus on incoming processing operations (DPS sortation), the operation that can experience the "greatest operational benefit from this proposal." *Id*. at 19.

In support of his estimation of idle time in the FY 2010 network, witness Neri analyzes the hourly processing profile for automation volume. He contends that the percentage of automation letter volume processed by hour varies from less than 1 percent between 12:00 p.m. and 1:00 p.m. to nearly 12 percent between 4:00 a.m. and 5:00 a.m. daily. *Id.* at 28, figure 11; *see also* Tr. 5/1987-90 *citing* USPS-LR-N2012-1/49 and 50. Witness Neri uses hourly end-of-run data to calculate hourly volume. He then uses average productivity data to calculate, by hour, the workhours required to process the volume.

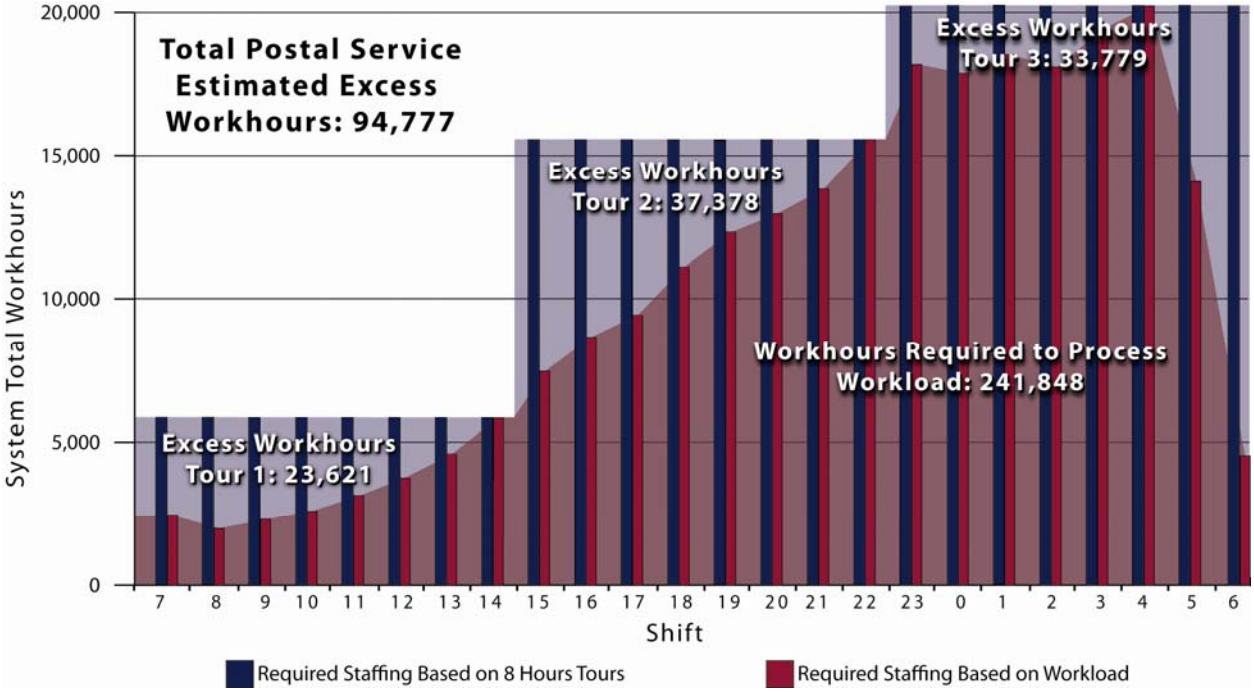
Witness Neri analyzes mail processing volumes for October 2011 using USPS-LR-N2012-1/49 and 50. The total workhours required to process the hourly volume for this period calculated using average productivity are 241,848. Assuming each tour is staffed to the peak volume, 336,625 workhours are required. In order to evaluate the

[151] *Id.* at 28. At the time of his testimony, 252 mail processing plants were being studied for consolidation and/or closure. The updated list of closed plants provided by the Postal Service on April 30, 2012, details the plants to consolidate facilities, as reflected in the Supplemental testimony of witness Bradley.

peak load savings opportunity, witness Neri calculates the difference between workhours assuming peak-work staffing and workhours based on volume to be 94,777 hours. Figure H-1 details witness Neri's idle time calculation. The blue bars show the workhours required for each tour, based on the peak percentage of volume. The red bars show the workhours required to process the hourly volume.

Figure H-1

Witness Neri's Calculation of Idle Time with Workhours by Tour



Witness Neri asserts that although workload is uneven, each tour is staffed evenly to the hour of peak volume under the current service standards. In other words, witness Neri states that the Postal Service currently staffs even 8 hour shifts so that the labor capacity to process the peak volume on each shift is on hand at all times, amounting to 336,625 total workhours. If the operational windows are changed to smooth workload throughout the day, the Postal Service will no longer need to staff to this peak. Thus, management will be able to match employee workhours with workload.

Witness Neri argues that the savings opportunity associated with this idle time is 28.2 percent.

However, witness Neri states “based on my expertise, I recognized not all operations will be perfectly spread, and there are many simplifications in the end-of run analysis, so I decided to utilize just a 15 percent overall productivity increase.” Tr. 5/1989. He further states that “the 15 percent productivity increase would be allocated across the various operations based on my knowledge of the operations and what I expected to occur based on the new processing profile.” *Id*. Witness Neri’s productivity improvement estimates are replicated in Table H-1. Witness Bradley uses these productivity improvements to estimate mail processing labor cost savings.

Table H-1

Postal Service Assumed Productivity Improvements

Category	Productivity Improvement (%)
BCS/DBCS	22
OCR	22
AFSM100	15
FSM 1000	15
Mechanized Parcels	8
SPBS Non Priority	8
SPBS Priority	8
Mechanical Sort - Sack Outside	15
Mechanical Tray - Sorter/Robotics	15
Manual Flats	3
Manual Letters	3
Manual Parcels	3
Manual Priority	3
Cancellation	15
Dispatch	20
Flats Preparation	0
Mail Prep - Metered	0
Opening Unit - BBM	15
Opening Unit - Preferred Mail	15
Opening - Manual Transport	15
Platform	20
Pouching Operations	25
Presort	25
Manual Sort - Sack / Outside	25
Air - Contract DCS and Incoming/SWYB	0
Business Reply / Postage Due	0
Registry	50
Damaged Parcel Rewrap	0
Empty Equipment	10
Miscellaneous	10
Mail Processing Support	25

USPS-T-3 at 29.

AMP overview. Witness Neri also explains how Area Mail Processing (AMP) studies aid the evaluation of mail processing facility consolidations. To improve operational efficiencies, he states that the AMP studies facilitate development of business cases for relocating mail processing and distribution operations, operational efficiencies and cost reduction opportunities. [152] He says District, Area, and Postal Service headquarters personnel review the AMP studies when they are completed.[153]

In-Plant Support savings opportunity. Witness Neri believes opportunities for staff reductions exist in facility management, tour managers, supervisors, and support personnel.[154] After implementing network changes, witness Neri states that "it is reasonable to project that staffing for In-Plant Support would be reduced by approximately 29.65 percent." USPS-T-4 at 30. His estimate of plant support staff reductions is used as an input by witness Bradley.

Night-differential savings opportunity. Witness Neri uses FY 2010 MODS data to determine that 58 percent of total workhours received night-differential premium pay. *Id.* at 24. If the Network Rationalization concept is implemented, he estimates a reduction in the night-differential ratio to approximately 39 percent of total workhours. *Id*.

2. Workload reduction cost savings

Witness Smith calculates cost savings associated with workload reductions in the following areas:

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[152] AMP studies may consider the consolidation of originating operations (cancelling and sorting locally generated mail), destinating operations (sorting and preparing mail received from more distant areas for local delivery), or both. *Id.* at 14.

[153] *Id*. Postal witness Rosenberg (USPS-T-3) discusses the development of the proposed mail processing network concept that has been designed around the service changes described in postal witness Williams' testimony (USPS-T-1).

[154] *Id*. at 30. *See also* USPS-T-10 at 23, table 9.

(1) Elimination or reduction of outgoing secondary sorting;

(2) Complete elimination of CSBCS and UFSM 1000 sortation; and

(3) Additional letter automated incoming secondary and DPS sorting.

USPS-T-9 at 21-5; USPS-ST-3 at 8-11. The initial and revised estimates are shown in Table H-2.

Table H-2

Estimates of Workload Reduction Cost Savings

	Initial Estimated Cost Savings ($ millions)	Revised Estimated Cost Savings ($ millions)
Outgoing Secondary	22.8	18.3
CSBCS and UFSM 1000 Sortation	15.4	12.6
Additional Letter Automated Sortation	36.0	36.0
Total Cost Savings	74.2	66.9

Witness Smith explains that with the rationalized network, letters will not require an outgoing secondary because fewer separations will be required. USPS-T-9 at 22. Flats will have a reduced need for outgoing secondary. In addition, plants will no longer need to focus on turnaround mail. Initially, Witness Smith indicated that 42 percent of flat outgoing secondary sorting could be eliminated as a result of MPNR, but in his supplemental testimony he indicated that was no longer the case based on the February 23, 2012 AMP studies. *Id.* His revised estimates assume that only letter outgoing secondary sorting will be eliminated resulting in $18.3 million in annual savings. USPS-ST-3 at 9-10.

Witness Smith contends that the Postal Service will be able to process additional workload on more efficient equipment, and therefore can eliminate much of the processing on CSBCSs and UFSM 1000s. USPS-ST-3 at 10. Mail formerly processed

on the CSBCS will now be processed on the DBCS and the majority of mail processed on the UFSM 1000 will now be processed on the AFSM 100. USPS-ST-3 at 10. The revised estimate is based, in part, on the February 23, 2012 AMP studies which indicate that 4 UFSM 1000 machines will remain in operation. USPS-ST-3 at 10. Witness Smith estimates that processing mail on the more efficient DBCS and AFSM 100 will result in $12.6 million in annual savings. USPS-ST-3 at 11.

Finally, Witness Smith asserts that MPNR will provide opportunities to shift mail from manual to automated sorting. USPS-T-9 at 24. There also are opportunities for productivity improvements by doing additional DPS for current mail that is automation-compatible but non-DPS.[155] *Id.* Witness Smith finds that these changes would result in annual savings of $36 million. *Id.* at 25.

3. Mail Processing Labor Cost Savings

Witness Bradley presents the Postal Service estimates of the mail processing savings resulting from the proposed reduction in service standards. He relies on the testimony of Postal Service witnesses Williams, Bratta, Martin, Neri, and Rosenberg for input data. Using FY 2010 Annual Compliance Determination (ACD) data, witness Bradley compares the existing mail processing labor costs with his estimate of mail processing labor costs in a 2-day First-Class Mail service standard environment. Initially, witness Bradley estimated mail processing savings of $1.39 billion. *See* USPS-T-10. Based on the results of the AMP studies released on February 23, 2012, he revised this estimate to $1.35 billion in mail processing savings. *See* USPS-ST-4. A discussion of each type of cost savings is provided below. Table H-3 presents a summary of witness Bradley's mail processing labor cost savings by type.

[155] Within the Postal Service's active list of 5-digit ZIP Codes for letters, there are 2,072 zones not being sorted to the finest depth of sort and placed in DPS. USPS-T-9 at 24.

Table H-3

Estimates of Mail Processing Cost Savings

	Initial Estimated Cost Savings ($ millions)	Revised Estimated Cost Savings ($ millions)
Workload Transfer	82.6	58.4
Productivity Gains	964.2	968.2
Plant Manager	18.0	15.1
Supervisor	66.4	65.1
In Plant Support	48.7	35.3
Reduction in Premium Pay	71.8	72.0
Indirect Cost Reduction	140.8	136.3
Total Cost Savings	1,392.5	1,350.4

Assuming a two-day First-Class Mail service standard, witness Bradley identifies five areas where mail processing labor costs will be saved: (1) workload transfers; (2) productivity gains; (3) management, supervision and technical support restructuring; (4) reduction in premium pay; and (5) indirect cost reduction. USPS-T-10 at 5.

Workload Transfers. Witness Bradley states that the rationalized network will consolidate mail processing into fewer plants, which will lead to a reduction in fixed costs. The MODS data collection system identifies mail processing costs by cost pool, such as the costs of DBCS operations. As part of its ACR filing, the Postal Service calculates a fixed and variable cost for each cost pool. Using FY 2010 mail processing cost data from individual cost pool operations (*e.g.,* Delivery Barcode Sorter (DBCS), Automated Flat Sorting Machine (AFSM) 100, and pouching) witness Bradley analyzes the fixed and variable costs for individual cost pools. A reduction in the number of plants decreases total fixed costs for the associated cost pool because the fixed cost of each operation is eliminated when the operation is shifted to another plant. *Id.* at 6. He calculates the amount of fixed cost for each cost pool in the current network, and the

fixed cost reduction due to the realigned network. Witness Bradley provides a revised savings estimate of $58.4 million from workload transfers. USPS-ST-4 at 16.

Productivity Increases. Witness Bradley states that changing the overnight First-Class Mail service standard to 2-day allows the Postal Service to smooth the workflow and improve the utilization of mail processing labor. USPS-T-4 at 11. Using witness Neri's estimates of productivity gains, witness Bradley calculates the cost savings associated with improvement in productivity system wide. Witness Bradley provides a revised savings estimate of $968.2 million from productivity gains. USPS-ST-4 at 16.

Plant Managers. Witness Bradley assumes that each facility has one plant manager regardless of the number of employees per facility. Thus, a reduction in the number of plants results in the need for fewer plant managers. He calculates the plant manager cost savings by identifying the number of plant management hours (Labor Distribution Code, or LDC, 80) at the inactive sites and multiplying those hours by the applicable wage rate ($51.97). Witness Bradley provides a revised savings estimate of $15.1 million from a reduction in plant managers.

Supervisors. Witness Bradley states that the Postal Service generally maintains a constant ratio between mail processing supervisory hours (LDC 10) to the amount of direct labor being supervised (LDC 11 – 18). USPS-T-10*.* at 18. For both inactive and active sites in FY 2010, he calculates a constant ratio of 6.35 percent. *Id*. at 19. To determine the savings resulting from the shift from an overnight to a 2-day service standard, witness Bradley multiplies the constant ratio by the change in LDC 11 through 18 cost pool costs. Witness Bradley provides a revised savings estimate of $65.1 million from a reduction in supervisors. USPS-ST-4 at 8.

In Plant Support. Witness Bradley states that in-plant support labor costs are reduced when inactive sites are closed. He relies on witness Neri's estimate that in-plant support hours will be reduced 29.7 percent as a result of the service standard change. USPS-T-10 at 21. He multiplies the total LDC 01 through 09 in-plant support

hours for MODS facilities times the in-plant support hour reduction to determine the reduction in hours. He then multiples the reduction in hours by the appropriate labor rate ($48.48) to calculate cost savings. Witness Bradley provides a revised savings estimate of $35.3 million for In-Plant Support. USPS-ST-4 at 4.

Reduction in Premium Pay. Witness Neri states that the Postal Service pays clerks and mail handlers who work between the hours of 1800 through 2400 and 0000 to 0600 a night differential premium of approximately $1.60 per hour. Witness Neri determined that under the current operating plan 58.6 percent of mail processing hours receive the night differential premium. USPS-T-10 at 23-24. By relaxing the service standards and changing the operating windows, witness Bradley says the Postal Service can reduce the amount of night differential premium it pays. *Id*. at 23. For LDCs 10 through 14 and 17 through 18, witness Bradley determines the number of hours in FY 2010 that incurred the night differential premium pay. He then determines the number of hours that will incur the night differential premium pay using the proposed operating windows. He calculates the savings in night time differential premium pay by multiplying the reduced number of premium pay hours (by LDC) by the premium pay differential of $1.60 per hour. Witness Bradley provides a revised savings estimate of $72.0 million for reduction in premium pay. USPS-ST-4 at 9.

Reduction in Indirect Costs. Witness Bradley states that witness Smith identifies two mail processing labor cost changes that result from the change in service standards. Witness Bradley says changes in indirect mail processing labor costs occur in Service Wide Costs (ratio - 0.1115) and Miscellaneous Costs (ratio - 0.0078). Witness Bradley calculates the change in indirect costs by multiplying the combined ratio (0.1193) by the overall change in mail processing labor hours and costs. Witness Bradley provides a revised savings estimate of $136.3 million for reduction in indirect costs. *Id.*

4. Witnesses Weed and Matz analysis of MPNR

Productivity gain assumptions. Commission sponsored witness Weed evaluates the assumptions underlying the Postal Service's estimated productivity gains and the Postal Service's estimated savings for the proposed consolidation. He uses the MODS data provided by the Postal Service to isolate the Postal Service's proposed mail processing labor cost savings by operation. He then provides an alternative analysis of the savings that might be realized as a result of the proposed consolidations based on the current productivity at the plants that will remain in the network after the implementation of MPNR, termed the "gaining" plants. The plants that will be removed from the network are termed the "losing" plants. Witness Weed also reviews the Postal Service's final AMP Post Implementation Review (PIR) reports to further analyze any changes in productivity that might result from proposed workload transfers. Tr. 11/4169.

Witness Weed analyzes the change in productivity for the combined losing and gaining plants that would be required in order to realize the mail processing savings that are proposed by the Postal Service, seen in Table H-4. *Id.* at 4176-4179. When witness Bradley calculates the Postal Service's savings estimate, he applies witness Neri's productivity improvements to the cost of the FY 2010 network. Replicating the Postal Services calculation, witness Weed matches witness Bradley's calculation of the expected number of workhours that would be required by the FY 2010 network plants if the productivity gains projected by witness Neri were to be realized. He finds that the combined losing and gaining plants would need to achieve an overall 16.6 percent improvement in productivity to realize the savings estimated by the Postal Service.[156]

[156] In Table H-4, the productivity gains required for all plants in the FY 2010 network are referred to as "Combined Plants."

Table H-4

Productivity Change for Gaining Plants

	New Gaining Workload at N2010-1 Productivity			% Productivity Change	
Category Groups	Hours	Volume	PPH	Gaining Plants (MPNR Network)	Combined Plants (FY 2010 Network)
Auto Letters Outgoing	6,027,536	48,404,352	8,031	24.6%	22.2%
Auto Letters Incoming	8,661,840	63,038,192	7,278	23.7%	22.2%
Auto Letters Secondary	20,243,117	209,435,016	10,346	25.6%	22.3%
Auto Letters	34,932,492	320,877,560	9,186	26.0%	22.2%
Manual Letters	11,386,096	6,645,691	584	8.2%	3.5%
Total Letters	46,318,588	327,523,252	7,071	23.1%	17.6%
Mech Flats+Prep	16,446,460	22,232,177	1,352	13.8%	13.6%
Manual Flats	4,543,178	1,619,651	357	10.4%	3.4%
Total Flats	20,989,638	23,851,829	1,136	11.7%	11.4%
SPBS	12,102,466	3,898,504	322	3.2%	8.7%
Parcel/Priority	6,729,539	2,193,100	326	10.9%	4.7%
Total Other Dist	18,832,005	6,091,604	323	5.7%	7.3%
Prep	8,096,269	47,575,406	5,876	17.6%	16.5%
Open/Pouching	12,935,785	79,815,370	6,170	19.8%	17.9%
Tray Handling	7,254,487	779,540	107	9.7%	12.8%
Equip Operator	10,075,091				
Dock Operations	19,726,240	285,389	14	25.9%	23.0%
Express/Registry	3,868,798	177,035	46	36.6%	26.8%
Indirect/Support	8,259,527				
Sub-Total Dist	86,140,231	357,466,684	4,150	17.9%	13.8%
Sub-Total Non Dist	70,216,197				
Total LDC 11-18	156,356,429	357,466,684	2,286	20.9%	16.6%

Source: NWEC Savings Analysis 2012-1.xlsx, USPS Savings Summary Sheet.

However, only the gaining plants will remain in the network after the implementation of MPNR. Based on FY 2010 productivity, the remaining plants in the post MPNR network will need to achieve a 20.9 percent productivity improvement in order to realize the projected MPNR mail processing savings. Witness Weed asserts that such an achievement would "require a dramatic improvement on all processing operations, both in volume and non-volume measures." *Id*.

To put this expected improvement into perspective, witness Weed reviews the current productivities of the losing and gaining plants, based on FY 2010 data. Witness Weed's analysis demonstrates that losing plants exhibit a higher productivity rate in almost all category groups. For example, the average productivity for automation letter operations at losing plants is 9.2 percent greater than at gaining plants. The overall average productivity in the gaining plants is, for all analyzed mail processing labor categories, 10.2 percent lower than at the losing plants. *Id.* at 4181-83.

Weed considers several possibilities that result from moving mail volume from a losing to a gaining plant. The "Worst Case Outcome" analysis assumes that the volume from the losing plants is processed by the remaining plants at FY 2010 productivity rates; in other words, if productivity of the remaining plants is not changed compared to FY 2010 rates. *Id.* at 4184. In this case, witness Weed asserts that the Postal Service will experience an increase in total combined work-hours of 2.3 percent resulting in a cost increase of $169.4 million. *Id.* at 4208. The most likely outcome based on witness Weed's operational experience is a three to five percent increase in productivity, resulting in cost savings of $248.7 million. *Id.* at 4211-4214. Table H-5, derived from witness Weed's testimony, presents the range of mail processing savings that have been described in this docket. *See* PRCWIT-T-1 at 38, Table 19

Table H-5

Range of Possible Productivity Improvements

	Productivity Improvement (%)	Labor Cost Savings ($ millions)
Postal Service Expectations	20.9	1,046.7
Most Likely Outcome	5	248.7
Worst Case Scenario	0	-169.4

C. Additional Participant Positions

1. Existing employee contract flexibility

APWU witness Kathryn Kobe criticizes the Postal Service's estimated labor cost savings related to: (1) Postal Support Employees' (PSEs) impact on hourly compensation rates, (2) mail processing productivity assumptions accounting for current APWU contract flexibilities, and (3) PSEs will impact service-wide costs calculated by Witness Smith.[157]

Witness Kobe explains that under the 2010 APWU contract, PSEs can represent up to 30 percent of mail processing employees. She recalculates the average productive hourly compensation for mail processing activities assuming 30 percent are PSEs and 70 percent are full-time employees. APWU-RT-1 at 14. On this basis, she estimates that the average productive hourly compensation is $35.30, opposed to Witness Smith's estimate of $41.04. *Id.*

Witness Kobe also criticizes witness Neri's productivity assumptions because they do not take into account current flexibilities offered by the APWU National Agreement. *Id.* at 17. Witness Neri assumes that the Postal Service must staff to an

[157] APWU-RT-1 at 12-24. A PSE is a designation of a non-career employee with lower wages than career employees, no retirement benefits, and no fixed work schedule. Tr. 2/229.

eight-hour tour. However, witness Kobe asserts that PSEs can be called in to work as little as two hours. *Id.* at 18.

Finally, Witness Kobe contends that the FY 2010 service-wide costs do not provide an accurate assessment of future service-wide costs because of the inclusion of PSEs. *Id.* at 23-34. She states that as the number of Postal Service Civil Service Retirement System (CSRS) employees decreases so will the CSRS costs included in the service-wide benefits estimate. *Id.* at 23. As PSEs with no retiree benefits become more of the Postal Service's complement, it will reduce the service-wide cost estimate. She also contends that the PSRHBF service-wide costs fell between FY 2010 and FY 2011 as a result of a decline in employee complement. *Id.* at 24.

APWU also contends that witness Smith's calculations overweight the number of full-time career employees because he includes clerks other than mail processing clerks in his calculations. APWU Brief at 24-25.

Postal Service reply. Postal Service witness Smith notes that wage rates have been increasing since FY 2010. USPS-SRT-2 at 4. He explains that witness Kobe's analysis assumes that PSEs work 40 hour work weeks, like full-time employees, which is an incorrect assumption. *Id.* Witness Smith finds that if PSE hourly costs are weighted appropriately, there would be a 4.2 percent reduction in the hourly wage associated with PSEs representing 20 percent of mail processing employees, in contrast to witness Kobe's 6 percent reduction. *Id* at 4-5. Witness Smith also questions the likelihood that PSEs represent 30 percent of clerk positions in mail processing, because that would mean no use of PSEs in Function 4. *Id.*

Witness Smith argues that service-wide benefits have increased over the years even though the number of CSRS employees has declined, and the number of non-career employees has increased, rebutting witness Kobe's argument that service-wide benefits for FY 2010 are too high to reflect future years' costs, *Id.* at 5-6. He also

argues that the ratio of service-wide benefits is likely to remain stable because as service-wide benefits decrease (numerator) so will total salaries (denominator). *Id.* at 6.

Commission Analysis. While the Commission agrees that using the most recent data is the superior approach, using FY 2010 data does not prevent the development of reasonable expectations of savings, and avoids the practical problems associated with having a moving data target for analysis.

2. Light trays

Commission witness Matz considers the impact on the Incoming Primary and Outgoing Secondary operations. *See* Tr. 11/4061. He contends that the Postal Service's proposal to eliminate the Outgoing Secondary operation would result in the creation of "light trays," or trays that are less than 50 percent full, and would increase network costs. Witness Matz contends that the reduction in processing costs would be exceeded by the additional transportation and allied costs needed to move more containers with less mail. Witness Matz performed an "Outgoing Light Tray Analysis" (OLTA) intended to determine the number of light trays that would be created if Outgoing Secondary were eliminated. *Id.* at 4085. This analysis showed that 10.8 percent of the total number of letter trays generated would be less than half full and these trays would only contain 2.8 percent of the total volume. *Id.* at 4088. Witness Matz argues that the totality of the problems associated with eliminating Outgoing Secondary make the strategy of the Postal Service to run Incoming Primary in a four-hour window "completely unfounded" and concludes that Outgoing Secondary operations should not be eliminated. *Id.* at 4097.

Commission Analysis. The record does not contain sufficient information to reliably estimate the cost effect of light trays that might result from the elimination of Outgoing Secondary operations. Nevertheless, the potential for these costs to partially offset the savings of fully eliminating overnight service reinforces the overall finding in

this case that it may be possible to find a better balance between the need to reduce costs and the desirability of preserving high levels of service.

3. Postal Service automated complement analysis tools

The Commission questioned the Postal Service about whether it used the Business Management Guide (BMG) in developing its MPNR proposal, an automated complement-planning tool previously used by the Postal Service. Tr. 6/2262.

The Postal Service indicated that plant managers do not routinely use standardized complement planning tools. Tr. 6/2263. Witness Neri states that the BMG could not have been used to alter staffing plans in response to a nation-wide operational change. In the past, Neri states that the BMG was used to perform sensitivity analysis related to workforce flexibility options and to determine the associated costs or savings. However, the introduction of NTFT employees under the new APWU contract rendered the BMG unusable. USPS-SRT-1 at 8.

Witness Matz suggests that the Postal Service might have used the Run Plan Generator (RPG), a tool designed to plan “next week’s operations.” Tr. 11/4100.

Postal Service witness Neri contends that the RPG program is being used in implementing MPNR. He states that the “volume forecasting feature on this tool can be routinely overridden by users to plan for different volumes other than those developed on the basis of local historical data.” USPS-SRT-1 at 4. The local Postal Service team used the RPG program to determine if the mail volume associated with individual AMP studies would fit on the proposed equipment set for that plant. Each AMP package contained the consensus determination of this process. USPS-SRT-1 at 8.

The Postal Service has not provided any RPG results or the RPG tool for the record in this docket. *See* Tr. 6/2263.

4. Historical processing rates

Witness Weed also considers the impact of the mail being processed by the gaining plant at the losing plants' historical processing rate. This assumption implies that there would be no change in total mail processing LDC 11-17 workhours, and therefore no associated cost savings. In order to achieve this, witness Weed calculates that the remaining network plants would need to increase processing rates by an average of 3.7 percent. *Id.* at 4185.

Finally, witness Weed reviews the Postal Service's method for the AMP studies supporting MPNR. Based on Postal Service witness William's productivity assumptions, witness Weed finds that the Postal Service expects to save 16.7 million workhours. *Id.* at 4207. Weed's savings estimates are summarized in Table H-6.

Table H-6
Range of Savings in LDC 11-18 for N2012-1

	Mail Processing LDC 11-18 Work-Hour Summary		Change
	Losing Plant	Gaining Plant	($ millions)
FY 2010 WorkHour Base	58,954,969	123,417,117	
N2012-1 Proposal	0	156,356,429	-$1,047
Worst Case Outcome	0	186,581,533	$169
Move Volume at Losing Plant PPH	0	182,372,087	$0
5% Increase in Current Plant PPH	0	176,191,238	-$249
N2012-1 AMP Process	0	166,720,808	-$670

See Tr. 11/4208.

Witness Weed also reviews historical data available from AMP packages with Final PIR reports provided by the Postal Service for evidence of the changes in processing rates that are likely to occur. *Id.* at 4187. He analyzes 19 AMP studies and provides the difference in labor hours from the pre-AMP period to the Final PIR period and the difference in Total Pieces Handled (TPH) productivity. *Id.* at 4225. He separately considers the three plant consolidations of both originating and destinating

volumes. *Id.* at 4226. Witness Weed provides additional analysis of the AMP results, which are presented in Chapter VII.

5. Idle time productivity

After having reviewed USPS-LR-N2012-1/49 and 50, the purpose of which is to calculate the "idle time" savings opportunity, witness Weed found that the data submitted by witness Neri did not identify the idle time that "may or may not exist" in the current processing environment. Witness Weed contends that a "Work Sampling" study would typically be used in this instance. While he does not believe this was conducted, he notes that IOCS sampling already done by the Postal Service should be able to identify idle time, and if this figure were close to 28 percent, it would have been previously reported.

Witness Weed analyzes automation workload to determine the reliability of witness Neri's estimate of "idle time." Witness Neri's analysis uses volume data to determine required workhours by time of day. Witness Weed's analysis uses workhours by hour, provided in USPS-LR-N2012-1/20, to determine how workhours vary by time of day. Witness Weed states that there is little difference between the two approaches. He compares the profile of actual workhours by time of day and the hourly profile of mail volume processed. By plotting both profile measures together in Figure 1 of his testimony, witness Weed determines that the distribution of volume processed throughout the day generally matches the distribution of workhours. Witness Weed asserts that witness Neri's analysis "has no factual support." Additionally, witness Weed contends that he cannot support witness Neri's productivity estimates because the Postal Service has not provided evidence that it has utilized any of the traditional scheduling and staffing tools. *Id.* at 4192-98.

In reply, the Postal Service asserts that witness Weed, who retired from the Postal Service in 2001 and has since provided consulting services to Canada Post Corporation, did not fully appreciate that the fiscal situation of the Postal Service is "not

business as usual," and that "yesterday's solution will not address tomorrow's challenges." *See* Initial Brief of United States Postal Service at 102.

II. ANALYSIS OF MAINTENANCE AND FACILITIES COSTS SAVINGS

A. Opportunities to reduce maintenance resources

1. Personnel maintenance and facility resources

The five areas that witness Bratta evaluates are:

(1) Mail Processing Equipment Maintenance—Performs preventative, corrective, and operational maintenance on mail processing equipment;

(2) Building Maintenance—Performs preventative and corrective maintenance and operational inspections in facilities, including plumbing, heating, and building structure;

(3) Building Services (Custodial Maintenance)—Maintains the cleanliness of the interior and exterior of the facility;

(4) Maintenance Operations Support—Performs the administrative duties that support the maintenance functions; and

(5) Field Maintenance Operations—Supports non-maintenance capable offices within designated areas of responsibility.

Witness Bratta explains that efficiencies could result from personnel changes related to MPNR. Mail processing maintenance costs are directly related to the inventory of equipment. As the amount of equipment decreases, so will mail processing maintenance labor costs. USPS-T-5 at 13. He also explains that scheduling of building maintenance support and building services staffing is a function of square feet. As square feet are removed from the network by closing plants, less personnel will be needed in these areas. USPS-T-5 at 14. Table H-7 shows the initial and revised personnel related maintenance and facility estimated cost savings that result from the proposed changes.

Table H-7
Maintenance and Facility Personnel Savings

	Initial Cost Savings Estimate ($ millions)	Revised Cost Savings Estimate ($ millions)
Maintenance Labor	379.9	281.4
Building Maintenance and Custodial Labor	231.5	153.7
Total	611.4	435.1

Sources: USPS-T-9 and USPS-ST-3.

To estimate the impact of the decreased number of plants, witness Bratta compares the number of maintenance and facility employees authorized in the current network to the number that will be authorized in the proposed network. In this analysis, he uses staffing estimation programs. *See* USPS-LR-N2012-1/32. The staffing estimation programs use inventory of equipment being maintained in determining labor costs. USPS-T-5 at 14. Based on the current network, there are 15,582 authorized Postal Operating Equipment Employees (LDC 36) employees. USPS-LR-N2012-1/80. Witness Bratta then uses the staffing software to estimate the number of LDC 36 employees that would be authorized under the future proposed network and estimates that the number would be 13,019 employees. *Id.* This represents a total reduction of 2,563 authorized positions. *Id.* Using a similar method, witness Bratta estimates that the number of authorized administrative non-supervisory positions (LDC 39) will decrease by 286.

Witness Smith multiplies the 2,849 reduction in LDC 36 and LDC 39 employees by 0.08, the ratio of supervisory to nonsupervisory employees, to determine the reduction in supervisor positions.[158] USPS-T-9 at 14. Witness Smith then multiplies the change in the number of each of the authorized position types by the applicable average annual rate of pay. *Id.* Finally, he applies a service-wide benefit adjustment of

[158] This is the FY 2010 ratio of supervisory to non-supervisory positions. *See* USPS-T-9, Attachment 2.

11.5 percent to account for benefits that are not included in the employees' annual rate, such as unemployment compensation and re-priced annual leave. USPS-T-9 at 11. The result is a total savings estimate of $281.4 million in mail processing equipment maintenance.[159] USPS-ST-3 at 3.

Witnesses Bratta and Smith conduct the same exercise for facility maintenance and custodial labor cost savings as described above. First, witness Bratta determines the number of authorized facility maintenance and custodial maintenance positions that can be eliminated as a result of the network changes. He estimates that building maintenance labor can be reduced by 376 positions and custodial maintenance labor can be reduced by 1,416 positions. USPS-ST-3 at 5. Then witness Smith applies the 0.08 supervisory ratio to estimate the reduction in supervisory staff, multiplies the change in authorized positions by the applicable average rate, and finally applies the service-wide benefits adjustment.[160] USPS-T-9 at 17-18. This analysis results in an estimate of $153.7 million in savings for building maintenance and custodial labor.[161] USPS-ST-3 at 5.

2. Non-personnel maintenance and facility cost savings

Witness Bratta indentifies the following non-personnel cost savings areas related to maintenance and facilities: (1) spare parts; (2) supplies; (3) service contracts; (4) building utilities; (5) permits; (6) environmental compliance; (7) training; and (8) building inspections and repairs. USPS-T-5 at 17-21. Witness Smith quantifies savings from facility lease and the sale of facilities. USPS-T-9 at 20.

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[159] $233.4 million from postal operating equipment labor (LDC 36), $23.2 million from LDC 39 and $24.8 million from supervision. USPS-ST-3 at 3.

[160] This is the same FY 2010 ratio of supervisory to non-supervisory positions that is applied to maintenance costs.

[161] $31.7 million from building maintenance labor, $106.4 million from custodial maintenance labor, and $15.6 million from supervisory positions. USPS-ST-3 at 5.

The estimate of spare parts and supplies savings is broken into three components. Witness Bratta estimates $42.5 million in spare parts cost savings based on an assumption that 25 percent of the mail processing equipment fleet is eliminated. *See* USPS-LR-N2012-1/81. He estimates $8.9 million in cost savings for Biohazard Detection System cartridges based on the reduced number of AFCS machines required in the future network. USPS-ST-3 at 4. He estimates that $1.1 million in miscellaneous postal supplies and services will be saved based on a 0.0078 percent adjustment (piggyback factor) applied to the labor costs.[162] The sum of the three spare parts and supplies components totals $53.4 million in cost savings. USPS-ST-3 at 4.

Witness Smith then calculates the facility-related utilities and supplies savings. USPS-T-9 at 19. He estimates savings of $48.5 million from utilities and heating fuel, $11.6 million from custodial supplies and service, and $1.1 million from miscellaneous postal supplies and services, for a total facility-related utilities and supplies cost savings of $61.2 million. USPS-ST-3 at 6.

Finally, witness Smith estimates $35.7 million in cost saving from facility lease and sale related savings. USPS-ST-3 at 8. This estimate is based on the Postal Service fully vacating 80 buildings. *Id.* at 7. To arrive at this figure he first estimates $8.18 million in annual rent savings. *Id.* Then he finds that the Postal Service could receive $276 million in one-time net revenue from the sale of facilities.[163] Witness Smith assumes the Postal Service would use the net revenue to make capital investments and earn at least a 10 percent annual return, or $27.6 million annually. *Id.*

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[162] The miscellaneous postal supplies and services is the ratio of "miscellaneous postal supplies and services" and "total current network labor costs (comp 527)". *See* USPS-T-9 at 12. Witness Smith then applies this adjustment to the mail processing maintenance labor savings.

[163] *Id.*; $326 million in revenue less $50 million in capital costs. USPS-ST-3 at 8.

B. Participant Positions

Commission sponsored witness Matz (PRCWIT-T-2) concludes that the Postal Service's method should "yield reasonable projections" of maintenance and facility cost savings. Tr. 11/4098. However, he outlines several issues that may arise from the consolidations. He questions whether reducing maintenance windows to four hours will leave mail processing maintenance employees with sufficient work to occupy the remaining four hours of their shift. Tr. 11/4099. He asserts that additional maintenance employees may be needed to maintain machines within a compressed four hour window. *Id.* Finally, he discusses the possibility of additional expenses associated with salvaging spare parts from excess machines. *Id.* He concludes that these issues are not addressed on the record, and assumes the Postal Service is relying on local managers to deal with these issues rather than headquarters. *Id.*

On brief, the Public Representative highlights witness Bratta's admission that costs associated with maintaining dormant plants are not included in maintenance and facility cost savings estimates. Public Representative Initial Brief at 26.

III. ANALYSIS OF TRANSPORTATION COST SAVINGS

A. Plant-To-Plant Network Rationalization

1. Postal Service proposal

Plant-to-plant transportation is used to move mail between processing facilities. The size of the plant-to-plant transportation network depends on the need for moving mail, and the size of the processing and distribution network. USPS-T-6 at 1. The Postal Service contends that a reduction in the number of processing facilities will enable it to reduce the number of individual plant-to-plant transportation links, and thereby reduce costs. *Id.* at 6.

Witness Martin contends that the elimination of individual transportation links between and within service areas would lead to a net decrease in transportation activity.

Id. In addition, the proposed expansion of mail processing windows will provide the Postal Service with more time to accumulate mail at origin processing plants, which will enable it to improve the capacity utilization of trucks, and reduce the number of trips. *Id.* at 9. At the same time, she claims that as the number of plants decrease, the number of trips may increase in order to move the same volume of mail between the remaining plants. *Id.* at 8. Trip length may also increase since the remaining plants will be located further apart.

Witness Martin initially estimates a reduction in plant-to-plant trips of 24.4 percent. The percent reduction is a simple average of the number of trips for inter-SCF (inter-Area, inter-Cluster, and inter-P&DC), inter-NDC, and intra-NDC HCR contracts. She reviews a subset of 322 routes (1,723 trips) out of a total of approximately 1,550 plant-to-plant routes to determine trips that will no longer be required in a rationalized mail processing environment.[164] Her analysis involves reviewing the purpose and utilization of each trip, and determining how the mail would flow in a rationalized mail processing network.[165]

After evaluating all inter-SCF routes from all completed AMP studies, witness Martin revises her estimate to a 12.8 percent reduction in plant-to-plant trips. USPS-ST-2 at 3. In developing this figure, she evaluates all inter-Area, inter-P&DC, and inter-Cluster routes in the network to determine the potential routes for elimination.[166] *Id.* Table H-8 provides witness Martin's initial and revised estimates of the percent reduction in trips by Area.

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[164] No attempt was made to obtain a statically valid representation of facilities. Tr. 4/1138, 1147.

[165] *Id.;* A 14-day study was conducted in October 2011 to understand the current average capacity utilization of trips. Tr. 4/1109.

[166] Inter-NDC and Intra-NDC HCR contracts are not included in this analysis.

Table H-8
Percent Reductions in Plant-to-Plant Transportation Trips

Area	Initial Estimates				Revised Estimates			
	Total Routes	Total Trips	Candidate Trips for Elimination	Percent Reduction	Total Routes	Total Trips	Candidate Trips for Elimination	Percent Reduction
Northeast	40	247	86	35%	109	2,450	506	21%
Eastern	102	434	143	33%	303	2,539	200	8%
Cap Metro	48	290	89	31%	117	1,073	57	5%
Great Lakes	51	262	67	26%	191	1,566	190	12%
Southwest	38	168	44	26%	215	2,285	519	23%
Western	38	210	34	16%	200	1,359	173	13%
Pacific	5	112	4	4%	102	2,194	83	4%
Total	322	1,723	480	24.4%	1,337	13,466	1,728	12.8%

Source: USPS-LR-N2012-1/11 and USPS-LR-N2012-1/77.

Witness Bradley initially estimates savings of $190.4 million from the plant-to-plant transportation network realignment. After incorporating witness Martin's changes due to additional AMP information, he revises his estimate to $100.2 million. Witness Bradley analyzes cost savings separately for inter-Area, inter-Cluster, and inter-P&DC HCR contracts. His methodology uses percent reduction in trips, capacity variability factors (cost elasticity with respect to cubic-foot-miles), and baseline costs. A multiplication of these three variables for each of the three inter-SCF contracts provides the plant-to-plant cost savings estimate.[167] The same average percent reduction value is used for the three HCR contracts. Table H-9 provides Postal Service calculation of initial and revised cost saving estimates by type of HCR contract.

[167] Capacity variability parameters for Inter-SCF contracts are obtained from Docket No. R2000-1, USPS-T-18. The baseline costs are obtained from the Cost and Revenue Analysis (CRA) report of ACD 2010.

Table H-9

Cost Savings in Plant-to-Plant Highway Contract Route (HCR) Transportation

Contract Type	FY 2010 Accrued Cost ($ millions)	Initial Capacity Reduction (percent)	Revised Capacity Reduction (percent)	Capacity Variability (percent)	Initial Cost Savings ($ millions)	Revised Cost Savings ($ millions)
Inter-Area	574.5	24.4	12.8	91.3	127.9	67.3
Inter-Cluster	187.2	24.4	12.8	90.4	41.3	21.7
Inter-P&DC	103.5	24.4	12.8	84.1	21.2	11.2
Total	865.2				190.4	100.2

Source: USPS-LR-N2012-1/22 and USPS-LR-N2012-1/93.

2. Participant positions and Postal Service reply

Public Representative. Public Representative witness Raghavan contends that witness Martin's analysis of reduction in the plant-to-plant links is exaggerated. PR-T-2 at 24. He claims that while the rationalized network may have fewer links, the decrease will not be as dramatic as presented by witness Martin. *Id.*

Witness Raghavan also identifies problems with the Postal Service's calculation of percent reduction in trips. *Id.* at 24. First, he states that the percent reduction is a simple average of seven areas, instead of a weighted average figure. Second, he claims that a reduction in the number of trips is determined with no indication regarding the length and frequency of the trips eliminated. *Id.* at 27-28. Third, he asserts that the determination of how mail would flow in a rationalized network was made without considering increases in trip frequency or requirements for any new transportation links. *Id.* at 28.

The Postal Service agrees with witness Raghavan in that the actual reduction in links may not be as extreme as the reduction depicted in witness Martin's testimony. Postal Service Initial Brief at 53. However, the Postal Service anticipates a significant

reduction in transportation links because of the potential closings of about 50 percent of the plants, and increases in capacity utilization of trucks. *Id.* at 52.

On brief, the Public Representative is critical of witness Bradley's approach of using the relationship between cost and cubic-foot-miles-based capacity. PR Initial Brief at 31. He states that using the trip-based percent reduction in witness Bradley's equation assumes that a percent change in trips is equivalent to a percent change in cubic-foot-miles. *Id.*

The Postal Service responds that assuming no change in truck size, the issue is the extent to which the percent reduction in trips matches the percent reduction in annual miles. Postal Service Initial Brief at 38-39, 41. The elimination of a trip is the same as the elimination of annual miles since a trip is defined by its route miles and frequency (annual miles). *Id.* Based on data in USPS-LR-N2012-1/77, the percent reduction in annual miles (13.2) is roughly equivalent to the percent reduction in trips (12.8), and thus witness Bradley appropriately used witness Martin's estimate to derive cost savings. *Id.*

NPMHU Comments. NPMHU asserts that the Postal Service has inflated transportation cost savings because of errors in its calculations. NPMHU Initial Brief at 10. NPMHU criticizes the fact that witness Martin estimates the reduction in the number of trips, rather than the number of operating miles, despite differences in trip length and trip cost. *Id.* NPMHU asserts that the plant-to-plant savings would be $66.9 million by summing up the annual costs of the trips that are identified for elimination. *Id.* at 11.

The Postal Service claims that witness Bradley's approach is preferable over NPMHU's approach of summing up the annual costs of eliminated trips because of anomalies in the annual costs in USPS-LR-77, and the tendency of managers to overstate transportation needs in AMP studies. Postal Service Initial Brief at 38.

B. Plant-To-Post Office Network Rationalization

1. Postal Service proposal

The movement of mail between processing facilitates and post offices are primarily provided by HCR and PVS transportation. The Postal Service asserts that the consolidation of processing facilities will enable the Postal Service to reduce the number of plant-to-post office transportation links. USPS-T-6 at 10.

The Postal Service contends that reducing the number of plant-to-post office links within a defined geographic area, and collapsing multiple service areas into one will enable it to reduce the operating miles within that area. *Id.* at 11. The number of plant-to-post office transportation trips for a particular area will also be reduced as a result of expanded mail processing windows, coupled with fewer plants. *Id.* An expanded mail processing window for Delivery Point Sequencing (DPS) will also create new opportunities for the Postal Service to transport mail to delivery units, and collection mail to processing plants in combined trips, thereby improving transportation efficiency. *Id.* at 12.

Using data from 14 Area Mail Processing (AMP) studies, witness Martin initially estimates a reduction of 13.7 percent in plant-to-post office operating miles. *Id.* at 12. She uses a simple average of percent reductions of a subset of the routes from 14 AMP sites to obtain a national average figure.[168] *See* USPS-LR-N2012-1/11. The subset of the routes covers 4 areas, and represents about 7 percent of the total routes. Tr. 4/1121. A utilization rate of less than 50 percent is the threshold for determining whether a trip or an entire route can be eliminated. Tr. 4/1119.

Witness Martin revises the percent reduction in operating miles to 3.2 percent based on information presented in the AMP studies released on February 12, 2012.

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[168] No attempt was made to include a statistically valid sample of sites. *Id.* at 4/1144.

USPS-ST-2 at 5. All of the routes identified in these AMP studies are included in the analysis. *Id.* at 4.

Witness Bradley initially estimates a cost savings of about $100.7 million using witness Martin's original 13.7 percent capacity reduction figure. Corresponding to the revised 3.2 percent reduction in operating miles, witness Bradley revises his cost savings to $23 million. To estimate the dollar savings, witness Bradley multiplies percent reduction in capacity by volume variability factor for intra-P&DC HCR contract, and then applies the result to the baseline cost of intra-P&DC HCR contract.[169]

Witness Martin also contends that the Postal Service will save costs by closing PVS sites at P&DC locations that will be deactivated, and replacing the service with HCR. USPS-T-6 at 13. She states that the Postal Service is planning to transfer "transportation responsibility from PVS to HCR to the extent such transfer is consistent with applicable collective bargaining obligations." *Id.* The Postal Service expects cost savings from this conversion because HCR is less expensive than PVS. Witness Martin identifies 40 PVS sites for closure when their associated P&DC is closed. *Id.* She later revises the number to 32 PVS sites. USPS-ST-2 at 5.

Witness Bradley estimates cost savings of $60.3 million from converting the 32 sites to HCR. He derived these savings by deducting the cost of replacement HCR service from the cost of the 32 PVS sites. The cost of the 32 PVS sites includes labor costs (LDC 34 vehicle drivers, LDC 30 supervisors, and LDC 31 administration) and vehicle costs. While all LDC 34 labor hours are exclusively related to PVS operations, LDC 30 and LDC 31 labor hours may include a small amount of labor hours handling HCR related activities. Tr. 5/1750. The cost of replacement is obtained by multiplying miles operated by the 32 PVS sites by the average cost per mile for intra-P&DC HCR contract. Replacement cost savings are presented in Table H-10.

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[169] The accrued cost and volume variable factor are, respectively, obtained from Cost and Revenue Analysis (CRA) report of ACD 2010, and Docket No. 2000-1, USPS-T-18.

Table H-10

Cost Savings from Converting PVS Sites to HCR Transportation

Cost Component	Initial Estimates ($ millions)	Revised Estimates ($ millions)
Postal Vehicle Service Labor Cost	138.3	85.2
Vehicle Cost	19.6	12.8
Highway Contract Route Cost	56.1	37.8
Net Cost Savings	101.8	60.3

Source: USPS-LR-N2012-1/22 and USPS-LR-N2012-1/93.

Combining the estimates of plant-to-post office and route conversion savings, witness Bradley initially calculates total cost savings of $202.5 million based on witness Martin's estimates. USPS-T-10 at 41. This cost saving estimate arises from two potential changes in the network: (1) a reduction in capacity required to transport mail between plants and post offices ($101.8 million); and (2) a conversion of PVS sites to HCR ($100.7 million). After taking into account the February 23, 2012, AMP studies, he revises his cost savings estimate to $83.3 million: reduction in plants and post offices transportation $23 million; and conversion of PVS sites to HCR $60.3 million.

2. Participant positions and Postal Service reply

Public Representative witness Raghavan suggests that plant-to-post office costs will increase slightly or stay the same because scheduling plant-to-post office trips throughout the day and into the evening may not be feasible, and the cost savings opportunities the Postal Service anticipates may not materialize. PR-T-2 at 27. He explains that the timing of availability of collection mail to be transported from post offices to plants may not coincide with the availability of delivery mail to be transported from plants to post offices. This would reduce the potential savings anticipated by witness Martin from utilizing vehicle capacity in both directions. *Id.* at 27-28.

The Postal Service contends that plant-to-post office transportation efficiency will improve because of the opportunity to transport mail to delivery units and collection mail to plants in combined trips. Postal Service Initial Brief at 56-57.

NPMHU argues that Postal Service's cost savings is counter-intuitive since locally processed mail could be shipped to a distant facility for processing in the rationalized network, and then back for delivery. NPMHU Initial Brief at 12. Moreover, the consolidation of 115 plants during 2009-2011 has resulted in increases in operating miles. *Id.*

The Postal Service explains that the consolidations during 2009-2011 were implemented to meet the service standards that existed during that time period. Postal Service Initial Brief at 35. During that period, service standards were a constraint on the Postal Service ability to realign the transportation network in the manner presented by witness Martin. *Id.*

The Public Representative argues that trips from post offices to plants are not included in obtaining the 3.2 percent reduction in trip miles. PR Initial Brief at 30. The analysis considers only trips from plants to post offices. Applying the percent reduction in trip miles calculated using only plant-to-post office trips to both post office-to-plant and plant-to-post office networks may not provide accurate results. *Id.*

The Postal Service maintains that witness Martin's analysis includes both trips that travel from plants to post offices and from post offices to plants. Postal Service Initial Brief at 36.

NPMHU and the Public Representative contend that the reduction in plant-to-post office trip miles is calculated using only those trips impacted by the consolidation. PR Initial Brief at 30; NPMHU Initial Brief at 12.

The Postal Service acknowledges that if all routes (both affected and unaffected routes) are included in the analysis, the reduction in operating miles might be lower. Postal Service Initial Brief at 57-58. It also argues that this potential effect is mitigated by the tendency of Area transportation managers to schedule excess transportation during the initial phase of implementation. *Id.* at 58. Thus, the reduction in transportation activity is reasonable. *Id.*

With regard to savings associated with PVS to HCR conversion, NPMHU and the Public Representative assert that such savings should not be attributed to the proposed consolidations and service standard changes, since such savings could be achieved regardless of the proposed changes. NPMHU Initial Brief at 13; PR Reply Brief at 8. APWU suggests that some transportation changes and savings might occur without the service standard changes. APWU Initial Brief at 10.

The Postal Service claims that it continued to use PVS despite its higher cost due to reasons other than cost that make it difficult to convert PVS to HCR. Postal Service Brief at 59. The Postal Service adds that the savings is included as a component of network rationalization because the conversion would be initiated by network rationalization. Postal Service Reply Brief at 42.

C. Air Transportation

1. Postal Service proposal

The Postal Service anticipates that the share of First-Class Mail volume transported by air will increase due to the proposed consolidation of plants, and changes in service standards. First-Class Mail with a 3-day service standard must arrive at the destination processing facility by 8:00 a.m. on the day prior to delivery, whereas the current critical entry time is 6:00 p.m. on the day prior to delivery. USPS-T-6 at 14. As a result, approximately 124 million pounds of additional First-Class Mail may be shipped by air. *Id.* at 15.

Witness Martin calculates the additional First-Class Mail volume that will require air transportation by deducting the mail volume that will be diverted from air to surface from the mail volume that will be diverted from surface to air. The calculation involves mapping of the following components: (1) 3-digit ZIP Code origin-destination matrix; (2) current service standard for First-Class Mail; (3) current origin-destination mode of transportation matrix; (4) FY 2010 First-Class Mail average daily volume between the

origin-destination pairs; (5) proposed processing facilities for origin-destination 3-digit ZIP Codes; (6) distance matrix between the proposed facilities; (7) drive time between the proposed facilities; and (8) time zone of the proposed facilities. Tr. 4/1130-36.

The mapping exercise produces a 3-digit ZIP Code origin-destination facility matrix containing current mode, driving time, and average daily volume. Based on this matrix, proposed service standard and mode of transportation for each origin-destination pair are determined using the following criteria:

- origin-destination pairs with driving time of 4 hours or less are assigned two-day surface mode;
- origin-destination pairs with driving time of greater than 4 hours, but less than 24 hours are assigned 3-day surface mode; and
- all remaining pairs are assigned 3-day air.

Id. at 1130-35. By comparing the current transportation mode with the proposed transportation mode for each origin-destination pair, the Postal Service determines changes in the mode of transportation and associated mail volume for each origin-destination pair.

Additionally, the tare weight of containers that will be holding the additional pounds of mail is included in the analysis because cost of air transportation includes both the costs for transportation of the mail and containers holding the mail. The tare weight of containers holding the additional mail is estimated to be 23.4 million pounds. USPS-LR-N2012-1/21.

Witness Bradley estimates that an additional cost of about $124.9 million will be incurred for transporting the additional pounds of mail by air. USPS-T-10 at 30. To derive the additional cost, the total additional weight is distributed to FedEx, UPS and Commercial Carriers proportional to their FY 2010 share in transporting First-Class Mail. Then, the FY 2010 cost per pound for each carrier is multiplied by the corresponding additional pounds to calculate the additional cost for each carrier.