

BEFORE THE  
POSTAL REGULATORY COMMISSION  
WASHINGTON, DC 20268-0001

Service Performance Measurement  
Systems for Market Dominant Products

Docket No. PI2015-1

PUBLIC REPRESENTATIVE COMMENTS  
IN RESPONSE TO PROCEDURAL ORDER

(April 30, 2017)

I. INTRODUCTION

The Public Representative hereby responds to the Commission's Procedural Order in this proceeding.<sup>1</sup> In that order, the Commission asked interested persons to comment on "the Postal Service's proposed service performance measurement [(SPM)] and reporting systems no later than April 30, 2018." Order No. 4562 at 3. The Commission specifically noted that "this opportunity for comment is necessary in light of the additional information now available that was not available during the initial comment periods." *Id.* at 2. Although the Commission has not specified the time frame for the "initial comment period," the Public Representative assumes that it lasted from January 29, 2015 (the date when the Commission issued its notice to request comments and schedule a technical conference) until May 18, 2015 (the final deadline for reply comments).<sup>2</sup> In the following comments, the Public Representative discusses

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<sup>1</sup> Procedural Order, April 2, 2018 (Order No. 4562).

<sup>2</sup> See Notice of Request for Comments and Scheduling of Technical Conference Concerning Service Performance Measurement Systems for Market Dominant Products, January 29, 2015 (Order No. 2336); Order Granting Postal Service Motion for Second Extension of Time to File Reply Comments, May 5, 2015 (Order No. 2469).

the documentation the Postal Service submitted after the initial comment period, and responds to questions the Commission raised in the Procedural Order. Order No. 4562 at. 3.

## II. PROCEDURAL HISTORY SINCE THE END OF INITIAL COMMENT PERIOD

The Commission issued its first interim order in this proceeding on June 17, 2015.<sup>3</sup> In Order No. 2544, the Commission noted that the Postal Service's proposal was still in development. Order No. 2544 at 2. The Commission concluded that it was unable to make decisions "whether or not the proposed systems [would] be suitable for reporting service performance to the Commission" because at that time it lacked sufficient information. *Id.* The Commission therefore provided some direction to the Postal Service and interested persons including, first, "a thorough review of the [upcoming] detailed statistical, operational, and auditing plans," second, further exploration by the Commission "whether the measurement systems are consistent with statutory guidance," and, third, the additional verification that the proposed systems is operational and produces reliable results. *Id.* at 3-4.

Following Order No. 2544, the Postal Service submitted additional documentation concerning the statistical design plan of the proposed measurement systems and discussed it in more detail at the technical conference.<sup>4</sup> The Chairman issued and the Postal Service responded to three Chairman Information Requests (CHIRs).<sup>5</sup> Starting with Quarters 2 of FY 2016, the Postal Service began to file quarterly

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<sup>3</sup> Interim Order Concerning Service Performance Measurement Systems for Market Dominant Products, June 17, 2015 (Order No. 2544).

<sup>4</sup> See Notice of the United States Postal Service Concerning the Filing of the Statistical Design Plan for Internal Service Performance Measurement, August 25, 2015 (Statistical Design Plan); Order Scheduling Technical Conference Concerning the Statistical Design Plan, September 28, 2015 (Order No. 2733) and Library Reference USPS-LR-PI2015-1/1.

<sup>5</sup> Responses of the United States Postal Service to Questions 1-14 of Chairman's Information Request No. 4, December 3, 2015 (Responses to CHIR No.4); Responses of the United States Postal

data produced by the proposed internal SPM systems.<sup>6</sup> On August 26, 2016, at another technical conference, the Postal Service presented an updated internal SPM plan.<sup>7</sup> The third revised proposed internal SPM plan was filed with the Commission on February 23, 2017.<sup>8</sup>

On February 17, 2017, the Postal Service filed the first version of an audit plan for its internal SPM systems, and two months later discussed this plan at the technical conference.<sup>9</sup>

On May 12, 2017, the Commission Information Request (CIR) No. 1 was issued, and on June 12, 2017, the Postal Service responded to CIR No.1.<sup>10</sup> On July 14, 2017, the Commission issued its second interim order concerning the proposed internal systems.<sup>11</sup> In Order No. 4002, the Commission expressed concerns about the representativeness of the proposed systems as well as concerns about the actual audit of the data generated by the proposed measurement systems and provided to the Commission. Order No. 4002 at 2-4. In Order No. 4002, the Commission emphasized

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Service to Question 1 through 5 and 7 through 17 of Chairman's Information Request No. 5, December 7, 2015; Responses of the United States Postal Service to Question 6 of Chairman's Information Request No. 5, December 12, 2015; Responses of the United States Postal Service to Questions 2 through 6 of Chairman's Information Request No. 6, December 9, 2015 ; Responses of the United States Postal Service to Questions 2 through 6 of Chairman's Information Request No. 6, December 15, 2015; Responses of the United States Postal Service to Question 1 of Chairman's Information Request No. 6.

<sup>6</sup> See Library References USPS-LR-PI2015-1/2, USPS-LR-PI2015-1/3, USPS-LR-PI2015-1/5, USPS-LR-PI2015-1/6; USPS-LR-PI2015-1/10 through USPS-LR-PI2015-1/12.

<sup>7</sup> See Library Reference USPS-LR-PI2015-1/4.

<sup>8</sup> See Library Reference USPS-LR-PI2015-1/8.

<sup>9</sup> See Library References USPS-LR-PI2015-1/7 and USPS-LR-PI2015-1/9.

<sup>10</sup> See Responses of the United States Postal Service to Questions 1-16 of Commission Information Request No. 1, June 12, 2017 (Responses to CIR No. 1).

<sup>11</sup> Second Interim Order Concerning Service Performance Measurement Systems for Market Dominant Products, July 14, 2017 (Order No. 4002).

the goal “to obtain four consecutive quarters of data free of all major issues.”<sup>12</sup> Since Order No. 4002 was issued, the Postal Service has provided a number of audit reports, its responses to audit reports, as well as the revisions to the original audit plan.<sup>13</sup> Also, during the process of developing the internal SPM systems, the Postal Service periodically filed the documentation where it compared the current (legacy) and the proposed (internal) SPM systems.<sup>14</sup>

### III. ACCURACY, RELIABILITY AND REPRESENTATIVENESS OF THE INTERNAL SERVICE PERFORMANCE MEASUREMENT SYSTEMS

#### A. General Definitions and Auditing Approach

In its audit plan, the Postal Service adopted definitions of accuracy, reliability and representativeness of data presented in the Public Representative’s comments in Docket No. PI2016-1.<sup>15</sup> These definitions are as follows:

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<sup>12</sup> *Id.* at 4. The Postal Service filed a motion for partial reconsideration of Order No. 4002, which was denied by the Commission. See United States Postal Service Motion for Partial Reconsideration and Partial Clarification of Order No. 4002, August 11, 2017; Response to Postal Service Motion for Partial Reconsideration of Order No. 4002, August 22, 2017 (Order No. 4058).

<sup>13</sup> See Second Updated Response of the United States Postal Service to Question 1 of Commission Information Request No. 1, October 27, 2017 (Second Updated Response to CIR No. 1); Notice of Filing of FY 2017 Quarter 4 Audit Report, USPS Response to Audit Report and Updated Audit Plan, January 26, 2018 (Q4 FY 2017 Audit Report, USPS Response and Updated Audit Plan); Notice of Filing of FY 2018 Quarter 1 Audit Report and USPS Response to Audit Report, March 16, 2018 (Q1 FY 2018 Audit Report and USPS Response).

<sup>14</sup> See USPS-LR-PI2015-1/10, file FY17 ISPS LegacyComp.pdf (Q1 and Q2 Internal vs Legacy Report); USPS-LR-PI2015-1/11, file FY17Q3 Internal vs Legacy SPM v21.pdf (Q3 FY17 Internal vs Legacy Report); USPS-LR-PI2015-1/12, file FY17Q4 Internal vs Legacy SPM v6.pdf (Q4 FY17 Internal vs Legacy Report); USPS-LR-PI2015-1/13, file FY18Q1 Internal vs Legacy SPM v9.pdf (Q1 FY18 Internal vs Legacy Report).

<sup>15</sup> See Q4 FY 2017 Audit Report, USPS Response and Updated Audit Plan, file UpdatedAuditPlan12318.pdf at 3 (Audit Plan). See also Docket No. PI2016-1, Comments of the Public Representative, December 14, 2015 at 7-11 (Docket No. PI2016-1, PR Comments); Order Enhancing Service Performance Reporting Requirements and Closing Docket, August 26, 2016 at 9-10.

*Accuracy* “denotes the closeness of computations of estimates to the ‘unknown’ exact or true values;”<sup>16</sup>

*Reliability* reflects “reproducibility and stability (consistency) of the obtained measurement estimates and/or scores;”<sup>17</sup>

*Representativeness* “indicates how well the sampled data reflects the overall population [mail volume].” *Id.* at 10.

The Public Representative supports the provided definitions, and will refer to them in the analysis of accuracy, reliability and representativeness of data generated by the proposed internal SPM systems.

Discussing its audit plan, the Postal Service indicates that it addresses issues related to accuracy, reliability and representativeness by “framing the [relevant] audit metrics” and developing the set of relevant audit measures (with audit criteria and required audit information). See Audit Plan at 3-8. While performing updates to the audit plan, the Postal Service also updated audit measures. Thus, the original audit plan included 32 audit measures, and the final audit plan had 26 audit measures.<sup>18</sup> Table 1 summarizes the audit plan measures as they are provided in the most recent audit plan.

Considering the audit plan measures (with the relevant questions, criteria and supporting information), the auditing organization, ICF, evaluates the compliance of sampling methodology and its execution.<sup>19</sup> In its quarterly audit reports, the auditing

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<sup>16</sup> Manfred Ehling and Thomas Körner, Handbook on Data Quality Assessment Methods and Tools, Eurostat Commission at 9.

<sup>17</sup> Docket No. PI2016-1, PR Comments at 9

<sup>18</sup> Compare USPS-LR-PI2015-1/7, file PI2015\_Audit Plan Measures v1.0.pdf with Audit Plan, Appendix A.

<sup>19</sup> See e.g. Q1 FY 2018 Audit Report and USPS Response, file FY18Q1AuditReportICF3818.pdf at 9 (Q1 F18 Audit Report).

organization provides its compliance review of the proposed internal SPM systems by referring to the audit compliance scheme.<sup>20</sup>

Table 1: Audit Plan Metrics - Summary

Objective	Phase of SPM	Measure(s)	Subject of Audit
Accuracy	First Mile	1-2	Carrier Sampling
		3	Collection Boxes Density Tests
	Last Mile	4-5	Carrier Sampling
	Reporting/ Processing Duration	6-7	Reporting Procedures
		8	Manual Exclusions and Special Exceptions
Reliability	First Mile	9-10	Use of Imputations/Proxy Data for Profile
	Last Mile	11-12	Use of Imputations/Proxy Data for Profile
	Reporting/ Processing Duration	13-14	Modifications to SPM systems
		15-17	Scoring Data by Product and Reporting Level
Representativeness	First Mile	19-20	Sampling Responses
		18, 21-22	Collection Points/ Retail Locations Included in Sampling/Profile
	Last Mile	25-26	Sampling Responses
	Reporting/ Processing Duration	23-24	Volume and ZIP Codes Covered by SPM

Source: Audit Plan, Appendix A.

The Public Representative appreciates the Postal Service's careful consideration of such important issues as accuracy, reliability and representativeness of SPM data and reporting. The approach underlying the audit plan and the very execution of the auditing process appear reasonable.<sup>21</sup> The following subsections address accuracy, reliability and representativeness issues in more detail.

<sup>20</sup> *Id.*, Appendix A; Audit Plan, Appendix B.

<sup>21</sup> Due to limitations of time and other resources, the Public Representative relies on the results of audit reports, and does not attempt to re-evaluate or replicate the compliance review analysis.

## **B. Accuracy of Data and Reporting**

As noted in the Postal Service's statistical design plan, to evaluate how accurate (or precise) service performance measurements are, the Postal Service estimates the variance "using standard statistical methods." Statistical Design Plan at 30. For estimated service performance scores, the Postal Service also calculates margins of error. *Id.* at 30-31, 37-38.

Such approach is reasonable since variance and margins of error are traditionally used to evaluate the accuracy of the provided statistical estimates.<sup>22</sup> To compute the overall variance of the performance estimates, the Postal Service adds together First Mile Variance and Last Mile Variance (variances associated with sampling at either the origin of mail delivery or its destination). Statistical Design Plan at 31-36. Using an estimated total variance, and assuming a 95 percent confidence level, the Postal Service then calculates the margin of error for the performance estimates. *Id.* at 37. Considering that reporting requirements include service performance scores at different geographic levels (such as postal district, postal area, and the nation), the Postal Service calculates First Mile and Last Mile variance components for each applicable geographic area. *Id.* at 37-47.

The Postal Service presented its first full quarterly report of data generated by the proposed internal SPM systems for Q2 of FY 2016.<sup>23</sup> The report included sub-reports (in excel format) with service performance scores and variances for service performance groupings within class of mail (26 sub-reports overall). *Id.* The Postal Service, however, excluded margins of error from the results stating that the underlying calculations "have not been validated against the complex statistical design," and

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<sup>22</sup> Another well accepted and widely used metric is the coefficient of variation (CV). For details, see e.g. Docket No. ACR 2017, Library Reference USPS-FY17-35, USPS-FY17-35\_RCCS\_Preface.pdf and Library Reference USPS-FY17-36, USPS\_Fy17\_36\_TRACS.pdf.

<sup>23</sup> USPS-LR-PI2015-1/2, folder "Q2 PRC Reports\_080816".

“[t]esting to analyze and validate the margins of error calculations [was] in progress” at that time.<sup>24</sup>

For Q1 of FY 2017, the Postal Service presented its first quarterly report where it estimated margins of error.<sup>25</sup> In response to the Commission’s request to explain “why margins of error for some products [were] greater in the proposed system than in the legacy system,” the Postal Service offered two primary reasons – small sampling volumes in some districts and differences in methodology. See Responses to CIR No. 1, question 6. The Postal Service still maintained that for both Q1 and Q2 of FY 2017, “a majority of the proposed Internal [SPM] system margins of error are less than, or equal to, the Legacy SPM system.” Responses to CIR No. 1, question 6.

By the time the Postal Service provided the above responses, there have been only five quarterly reports with the data generated by the internal SPM systems. This time period appears relatively short and not sufficient for the proposed internal SPM systems to complete the “trial run” to be able to provide more accurate data for all products and regions than the legacy SPM systems. The Postal Service provided and the Commission referred to a list of “limitations, concerns, and unresolved issues associated with the data generated by the newly proposed systems.” Order No. 4002 at 4. See *also* Responses to CIR No. 1, question 3.

The Postal Service has previously acknowledged the importance of comparison between the performance scores generated by the internal and legacy SPM systems “at the national, area, and district levels for each product.” See Responses to CHIR No. 4, question 2. To “compare the results and identify whether the differences [between the proposed and current systems] are statistically significant, the Postal Service intended to implement statistical analytical tools, such as “two sided t-tests for individual score

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<sup>24</sup> See *e.g., id.*, file FC Flats 162 Variance Report.xls, worksheet “FC Flats Narrative”.

<sup>25</sup> USPS-LR-PI2015-1/6, folder “FY 2017 Q1 Internal SPM PRC Reports\_020917,” See *also* Notice of Errata of the United States Postal Service Concerning the Filing of Library Reference USPS-LR-PI2015-1/6, February 17, 2017.



metrics and multiple comparison tests across score metrics.” Responses to CHIR No. 4, question 2.

The Postal Service submitted its first report comparing the internal and legacy SPM estimates for Q1 and Q2 of FY 2017.<sup>26</sup> For all but two service performance product groupings, the difference in scores between the internal and legacy SPM systems was statistically significant. *Id.* at 3. In Response to CIR No. 1, the Postal Service provided some additional analysis by product grouping and geographic area, where it compared on-time performance scores generated by these two SPM systems. Response to CIR No. 1, question 2. For Q2 of FY 2017, the “comparison showed that...93 percent [of internal SPM scores] had statistically significant differences” from the scores generated by the legacy systems. *Id.*

The Postal Service provided a number of reasons for statistically significant differences between scores generated by the internal and legacy SPM systems. Among these reasons are “quite small” margins of error and “substantive measurement methodology differences” between these two systems. Responses to CIR No. 1, question 2. The Postal Service therefore concluded that “there is no expectation that the service scores can or will be identical for each product between the two systems.” *Id.*

The Public Representative does not fully agree with the Postal Service’s conclusion. According to the definition of accuracy adopted by the Postal Service and quoted above, SPM estimates will be accurate if they are *close to the exact or true values. (Emphasis Added)*. The SPM systems (either legacy or internal) provide a tool to be used to perform SPM estimates, and the difference in methodologies underlying these two systems would not affect exact or true values in any way. If a statistically significant difference between relevant estimates is observed, the estimates of either

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<sup>26</sup> See Q1 and Q2 FY17 Internal vs Legacy Report.

one or another SPM system might be inaccurate. While the definition of accuracy does not specify how close to true values the estimates should be, basic logic assumes that the closer – the better, and therefore more accurate. Since both legacy and internal SPM systems rely on statistical estimates, they are subject to sampling error. That is why small margins of error are generally a good thing and should not be used as an excuse for differences between the SPM estimates generated by internal and legacy systems.

In more recent reports that compare SPM scores generated by legacy and internal systems, the Postal Service has not indicated whether the differences between the scores generated by two systems were statistically significant. However, for percent-on-time estimates generated by both SPM systems, the Postal Service provided margins of error. The Public Representative compared three reports, and observed that margins of error for the scores generated by the internal systems have improved over time.<sup>27</sup> In the latest report, margins of error for percent-on-time scores generated by the internal SPM systems are either the same, or smaller, than relevant margins of error in the legacy systems. See Q1 FY18 Internal vs Legacy SPM Report at 3. This provides certain evidence that the internal SPM systems generate more accurate data than the legacy systems.

In Q1 of FY 2018, all but one audit measure related to accuracy were classified as “achieved.”<sup>28</sup> Measure 2, which was considered partially achieved, evaluates the First Mile sampling accuracy. *Id.* at 18-19. The audit criterion for Measure 2 requires that “[c]arrier sampling weekly compliance rates...constantly exceed 80 percent for most districts.” *Id.* at 11. The auditing organization found that 61 percent of all districts “had weekly compliance rates that were all at least 80%.” *Id.* at 19,

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<sup>27</sup> See Q3 FY17 Internal vs Legacy Report at 3; Q4 FY17 Internal vs Legacy Report at 3; Q1 FY18 Internal vs Legacy Report at 3.

<sup>28</sup> Q1 FY 2018 Audit Report and USPS Response, file FY18Q1AuditReportICF3818.pdf (Q1 FY 18 Audit Report) at 3-4.

In its response to Q1 FY18 Audit Report, the Postal Service lists certain actions it is going to undertake “to assess whether First Mile sampling procedures are being correctly performed by carriers and identify opportunities for operational improvements.”<sup>29</sup>

The Public Representative concludes that by considering these actions, the Postal Service is on the right track. However, neither the Postal Service’s audit plan, nor the provided audit reports, include a definition for the carrier sampling compliance rate used as the audit criterion for Measure 2. The Public Representative assumes that this carrier sampling compliance rate is a part of carrier sampling targets discussed in the Postal Service’s statistical design plan. See Statistical Design Plan at 11-12. However, since the term “carrier sampling compliance rate” is not discussed in Statistical Design Plan either, the Public Representative suggests that an explanation about how the compliance rates are defined and estimated would be useful. This will improve transparency of the auditing process and the compliance review results.

### **C. Reliability of Data and Reporting**

As stated in the Commission’s rules, the Postal Service’s service performance reports must include “the statistical validity and reliability of the results for each measured product.” 39 C.F.R § 3055.2(f). The Postal Service files its quarterly service performance reports with the Commission by mail category (service performance product grouping), by geographic area, and by the applicable delivery standards. 39 C.F.R § 3055. To ensure reliability of the service performance results, it is important to compare service performance scores over the time period reported. The direct comparison between these scores becomes problematic when the Postal Service makes any changes to its delivery standards or mail classification. With the implementation of the new SPM systems, the reliability issue becomes especially

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<sup>29</sup> Q1 FY 2018 Audit Report and USPS Response, file FY18Q1USPSAuditResp31418.pdf at 3 (Q1 FY 18 Audit Response).

critical. As discussed in subsection III.B, above, the Postal Service does not expect on-time performance scores generated by legacy and internal systems to be identical.

The Public Representative has reviewed the reports that compare performance estimates computed by the two systems and concludes that relevant performance scores are almost consistently different. The magnitude of this difference varies by mail class and shape, service standard and phase (First Mile, Last Mile, and Processing Duration). In Q1 of FY 2018, for all Letters/Cards the difference between scores was just within 2 percent, but it was much higher for Single-Piece First Class (SPFC) Flats (up to 8 percent). See Q1 FY18 Internal vs Legacy Report at 4. Although in Q1 FY18 Audit Report, all measures related to reliability of data and reporting are marked as achieved,<sup>30</sup> the observed difference in scores for SPFC Flats precludes the Public Representative from a conclusion that at the current stage of development the internal SPM systems produces fully reliable data.<sup>31</sup>

The Postal Service has previously acknowledged the problem related to sampling SPFC Flats. Among “[l]imitations, concerns and unresolved issues,” the Postal Service specifically listed “[l]imited flats available in collection for SPFC measurement” by the internal SPM systems. Response to CIR No. 1, question 3. In Q2 of FY 2017, the Postal Service “began using retail data for SPFC flats to vastly increase the amount of flats in measurement in the first mile”. *Id.* Starting with Q3 of FY2017, the Postal Service intended to implement “a new imputation process” on the district level that would allow imputing flats data “from retail flats data when not enough collection flats exist.” *Id.* The Public Representative expresses hope that after a certain period of time such imputation will result in more reliable SPFC data.

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<sup>30</sup> Q1 FY 2018 Audit Report at 4-5 and 13-15.

<sup>31</sup> This conclusion is based on a reasonable assumption that the legacy systems, which were in effect for a significant period of time, produced reliable results.

#### **D. Representativeness of Data and Reporting**

Representativeness of service performance data has two aspects: representativeness of the measured data and representativeness of the overall data (including those excluded from measurement). These issues were previously broadly discussed. Up until recently, representativeness of service performance data was the Commission's major concern. See Order No. 4002 at 4

The Public Representative has already noted that the inability to scan the majority of SPFC mail pieces in residential areas raises a question about the representativeness of the sampled mail in First Mile.<sup>32</sup> In its reply comments, the Postal Service confirmed its intention "to employ a statistical model" that would allow for scanning "a representative sample of barcoded pieces to measure the First Mile and Last Mile."<sup>33</sup> The Postal Service claims that the internal SPM systems will be based on random sampling from virtually every 5-digit ZIP-Code, and will be more representative than the legacy systems. *Id.* In the reports that compare internal and legacy SPM systems, the Postal Service provides a comprehensive analysis illustrating that the internal SPM systems include more mailpieces in measurement than the legacy systems. See *e.g.*, Q1 FY18 Internal vs Legacy Report at 9-31. For SPFC Letters/Cards, margins of error for SPM estimates generated by the internal systems are either the same or smaller than for the estimates generated by the legacy systems. *Id.* at 3. These are good indicators.

Also, it appears that the Postal Service has carefully considered representativeness of the SPM data in First Mile. In its audit plan, the Postal Service devoted five audit measures to this issue. Audit Plan at 14-15. In Q1 FY18 Audit Report, two of these measures (Measures 19 and 20) remain classified as partially

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<sup>32</sup> See Public Representative Comments Concerning Service Performance Measurement Systems for Market Dominant Products, April 8, 2015 at 10; Public Representative Reply Comments, May 5, 2015 at 2.

<sup>33</sup> Reply Comments of the United States Postal Service, May 18, 2015 at 7.

achieved. Q1 FY18 Audit Report at 4-5. Measure 19 requires that sampling response rates for each district exceed 80 percent, but the audit report found that 14 out of 66 districts (or approximately 21 percent of postal districts) had a lower response rate.<sup>34</sup> In audit reports for Q3 and Q4 of FY 2017, 11 out of 67 districts fell below the compliance level.<sup>35</sup>

Measure 20 further analyses 14 districts that failed to comply with the requirement of Measure 19, but at the 3-digit ZIP-Code level. Q1 FY 18 Audit Report at 32-23. Q1 FY18 Audit Report found that at least 60 percent of the 3-digit ZIP-Codes in these districts had a response rates at or above 60 percent. *Id.* at 33. The same results were reported for Q3 and Q4 of FY 2017. See Q4 FY17 Audit Report at 32-33 and Q3 FY17 Audit Report at 34-35.

Discussing Measure 19 in its responses to the audit reports for Q4 of FY 2017 and Q1 of FY 2018, the Postal Service indicates that that it “will continue to measure and report on quarter-to-date First Mile compliance rates for each district” and 3-digit ZIP-Codes.<sup>36</sup> The Postal Service indicates that Measure 20 will be achieved “by implementing the mitigation plan for [M]easure 19.” *Id.* In regard to Measure 19, starting with Q3 of FY 2018, the Postal Service is planning “to implement a certification process to assess whether First Mile sampling procedures are being correctly performed by carriers and to identify opportunities for operational improvements.” Q1 FY18 Audit Response at 4. The Public Representative suggests that the Postal Service

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<sup>34</sup> Caribbean district was excluded from measurement in Q1 of FY 2018 due to the impacts of Hurricanes Irma and Maria. *Id.* at 32.

<sup>35</sup> Second Updated Response to CIR No. 1, file Q3AuditReport102417Final.pdf, at 34 (Q3 FY17 Audit Report); Q4 FY 2017 Audit Report, USPS Response and Updated Audit Plan, file F17Q4AuditReportICF12618.pdf at 32 (Q4 FY2017 Audit Report).

<sup>36</sup> Q4 FY 2017 Audit Report, Response and Updated Audit Plan, file FY17Q14USPSAuditResp12418.pdf at 4 (Q4 FY2017 Audit Response) and Q1 FY2018 Audit Response at 4.

provide more detailed information about potential operational improvements that could help to put Measures 19 and 20 into compliance.

Considering that during the last three quarters subject to audit (Q3 and Q4 of FY 2017 and Q1 of FY 2018), the number of districts that fail to comply with 80 percent response rate has increased, the problem might not be resolved soon. While addressing noncompliance of Measure 20, the audit reports state that “[r]easons for the low response rates are not provided.” See e.g. Q1 F18 Audit Report at 33. The Public Representative agrees with the improvement plan included in two recent audit reports requesting the Postal Service to “[a]djust sampling method to increase First Mile response rates or provide reasons for low response rates.” Q1 FY18 Audit Report at 43; Q4 FY17 Audit Report at 43. The Public Representative believes that districts found out of compliance in all three audit reports require special attention. These districts are listed in Table 2 below:

Table 2: Districts with Consistently Poor First Mile Coverage (Q3 FY17– Q1 FY18)

District	Percentage of 3-digit ZIP Codes Meeting	
	80% Threshold	60% Threshold
Bay-Valley	0-43%	100%
Capital	20-60%	100%
Chicago	0-67%	100%
Greater South Carolina	25-38%	88%
Long Island	0-25%	100%
Los Angeles	43%	100%
Mid-Carolinas	20-50%	100%
Philadelphia Metro	60-80%	100%
South Florida	0-20%	100%

Sources: Q1 FY18 Audit Report at 33; Q4 FY17 Audit Report at 33; Q3 FY17 Audit Report at 35

In Q1 FY18 Audit Report, both audit measures related to representativeness in Last Mile were classified as partially achieved. Q1 FY18 Audit Report at 6. These

measures, which are out of compliance are Measures 25 and 26, and they are similar to Measures 19 and 20 discussed above, but apply to Last Mile. In Q1 of FY 2018, 8 out of 66 districts (or approximately 12 percent) had a sampling response rate less than 80 percent. *Id.* at 37-38. In Q3/Q4 of FY 2017, 5/6 out of 67 districts were out of compliance, respectively. Q3 FY17 Audit Report at 40; Q4 FY17 Audit Report at 37-38. The Postal Service’s responses regarding Measures 25 and 26 are very similar to the responses related to Measures 19 and 20. The Public Representative observes that in Last Mile, more districts complied with the sampling response rate of 80 percent than in First Mile. However, since the number of districts with low coverage increased in Q1 of FY 2018 in comparison with Q3 and Q4 of FY 2017 in both First and Last Miles, a relevant explanation would be desirable. Table 3 lists districts with the poor Last Mile coverage throughout the three-quarters of auditing period. Districts that have also been out of compliance in First Mile for all three quarters are in red.

Table 3: Districts with Consistently Poor Last Mile Coverage (Q3 FY17– Q1 FY18)

District	Percentage of 3-digit ZIP Codes	
	Meeting 80% Threshold	Meeting 60% Threshold
Capital	40%	100%
Chicago	0-33%	100%
New York	25-50%	100%
North Virginia	29%	86-100%

Sources: Q1 FY18 Audit Report at 36; Q4 FY17 Audit Report at 38; Q3 FY17 Audit Report at 41.

One of two measures related to representativeness in Processing Duration was also classified as partially achieved. The audit criterion for Measure 23 requires that at “least 70 percent of volume is measured for each product.” Q1 FY18 Audit Report at 41. Audit reports provide data illustrating how much of the “volume is included in measurement for each measured” mail category (subject of service performance measurement). Q1 F18 Audit Report at 35-36. For each mail category, the audit report compares the reported volumes (mail pieces from a quarterly RPW-ODIS report) with



volumes actually measured by the internal SPM systems. *Id.* In Q1 of FY 2018, 70 percent coverage (on average) was achieved for all mail classes except Package Services. *Id.* at 36.

Table 4 compares shares of measured volume from three audit reports for mail categories that still has not complied with the 70 percent threshold. Shares below 70 percent are shown in red. The major problem is with Bound Printed Matter (BPM) Flats that had 38.2 percent of volume in measurement in Q1 of FY 2018, and its share of measured volumes has been decreasing since Q3 of FY2017. *Id.* The Postal Service acknowledges the issue by confirming that it is difficult to achieve Measure 23 threshold of 70 percent for BPM flats. Q1 FY18 Audit Response at 5. The Postal Service claims that it is working “to identify [an] opportunity to gain more visibility on BPM [Flats].” *Id.* The Public Representative, however, concludes that in the meantime it is not clear how and when it could be done. The Pubic Representative suggests that the Postal Service provide a detailed plan how it is going to increase the representativeness of BPM Flats

Table 4 shows that some mail categories that were in compliance in Q3 or Q4 of FY 2017 fell out of compliance in Q1 of FY 2018.

Table 4: Processing Duration Measured Volume Shares for Products Out of Compliance

Mail Category	Q3 FY17	Q4 FY17	Q1 FY18
<b>First Class</b>			
Presort Flats	70.4%	72.3%	67.7%↓
<b>USPS Marketing Mail</b>			
High Density and Saturation Flats/Parcels	74.9%	64.0%	69.0%↓
High Density and Saturation Flats/Parcels Destination Entry Two-Day	54.0%	54.1%	52.6%↓
Every Door Direct Mail	64.4%	64.3%	62.7%↓
<b>Package Services</b>			
Bound Printed Matter Flats	42.1%	40.9%	38.2%↓

Sources: Q1 FY18 Audit Report at 35-36; Q4 FY17 Audit Report at 35-36; Q3 FY17 Audit Report at 38.

As arrows in the right column indicate, some volume shares were decreasing every quarter (arrow ↓) or they were both decreasing and increasing in the time period starting with Q3 of FY 2017 (arrow ↕). The Public Representative suggests that the Postal Service should carefully analyze the observed non-compliance for the affected products.

In Order No. 3490 (Docket No. PI2016-1) the Commission requested the Postal Service to file a quarterly report labelled “Total Measured and Un-Measured Volumes.” Order No. 3490 at 41. Following the Commission’s request, the Postal Service has been filing these reports since Q4 of FY2016, and the latest report is available for Q1 of FY 2018.<sup>37</sup> This report provides information related to the current legacy SPM systems. The analysis of the provided data shows that the share of mail being measured is less than 70 percent for the majority of mail categories, and is generally less than the relevant shares in the internal systems. For example, only 14.8% of BPM Flats and 54.8% of FC Presort Flats are being measured by the legacy systems.<sup>38</sup> There are still some exceptions where legacy systems measure slightly more mail pieces than the internal SPM systems. For example, in Q1 of FY 2018, 63.4 percent/62.7 percent of Every Door Direct Mail volumes are measured by Legacy/Internal systems, respectively. *Id.* and Q1 FY18 Audit Report at 35-36.

The Public Representative concludes that in spite of the remaining issues with the representativeness of the internal SPM systems, they tend to generate more representative data than the legacy systems. The Postal Service carefully considers representativeness of SPM data and reporting, and has made visible progress addressing the issues. The mail volume being measured has been steadily increasing over time: from 71.73 percent in FY 2016 to 74.88 percent in FY 2017, and to 78.50

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<sup>37</sup> Docket No. PI2016-1, Total Measured and Unmeasured Volumes Report for Quarter 1 of FY 2018, file FY18 Q1 Meas Unmeas Vol.xlsx, March 1, 2018 (Q1 FY18 Measured Volume Report).

<sup>38</sup> Calculated by the Public Representative using data from Q1 FY18 Measured Volume Report, sheet “Total Meas. & Unmeas. Vol”, columns B and C.

percent by December FY 2018. Q1 FY18 Audit Response at 5. These are all good signs indicating the advantages of the internal SPM systems in comparison with the legacy systems.

#### IV. COMPLIANCE WITH STATUTORY REQUIREMENTS

##### A. Requirements of 39 U.S.C. § 3652 and 3653.

Title 39 of the U.S. Code requires that the Postal Service's annual compliance reports (ACR) to the Commission for each market dominant product contain "measures of the quality of service offered by the Postal Service in connection with such product, including... the level of service (described in terms of speed of delivery and reliability) provided." 39 U.S.C § 3652(a)(2)(B)(i). Using the information provided, the Commission should be able to determine "whether any service standards in effect during such year were not met." 39 U.S.C § 3653(b)(2).

In the current proceeding, the Postal Service has submitted a number of quarterly reports with the data produced by the proposed internal SPM systems. As discussed above, these reports include multiple sub-reports with service performance scores and service variance estimates grouped by product, postal districts and service standard. While the first submitted report did not include margins of error for the estimates, the most recent reports provide both margins of error and service performance scores within a 95 percent confidence interval.<sup>39</sup> The Public Representative concludes that the information provided in the referenced quarterly reports should allow the Postal Service preparing annual reports on service performance measurement for market dominant products filed annually as an ACR library reference.<sup>40</sup> The methodological documentation describing the internal SPM systems and available in the current proceeding (*i.e.* SPM plan, statistical design plan)

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<sup>39</sup> See *e.g.*, USPS-LR-PI2015-1/13, folder "FY18 Q1 Internal SPM PRC Reports," file FC Flats 181 Scores Report.xlsx, worksheet "FCF Quarter."

<sup>40</sup> See, *e.g.* Docket No. ACR 2017, Library Reference USPS-FY17-29.

would provide sufficient information for the methodological sub-report to be included within the referenced library reference.<sup>41</sup>

The Public Representative concludes that the proposed internal SPM systems are capable of reporting the SPM data consistent with the requirements of 39 U.S.C. § 3652(a)(2)(B)(i) and § 3653(b)(2).

### **B. Requirements of 39 U.S.C. § 3691**

One of the objectives of the Postal Service's service standards for its market dominant products is "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)(D). If approved by the Commission, the Postal Service may implement an internal measurement system instead of an external measurement system. 39 U.S.C. § 3691(b)(2). Currently, to measure performance for its market dominant products, the Postal Service uses a variety of external, internal and hybrid systems which were established as a result of Docket No. PI2008-1.<sup>42</sup> In the current proceeding, the Postal Service intends to convert some components of the hybrid systems from external to internal systems. *Id.*

It has been more than three years since the Postal Service introduced its internal SPM systems. In this time frame, the Postal Service has submitted a number of comprehensive reports and transparent presentations to the Commission. By responding to the concerns raised by the Commission's staff and general public, the Postal Service developed its statistical design plan and has modified its SPM plan and the audit plan. The Public Representative concludes that after a significant number of steady improvements, the proposed internal SPM systems show a capability to

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<sup>41</sup> *Id.*, file FY17 – 29 Methodologies Report.pdf.

<sup>42</sup> See USPS LR-PI2015-1/8, file Internal SPM Plan blackline.pdf at 10.

generate objective service performance measurements and report them to the Commission, as required by 39 U.S.C. § 3691

## V. CONCLUSION

The Commission identified its goal “to obtain four consecutive quarters of data free of all major issues.” Order No. 4002 at 4. The Commission further expressed its expectation “to either have resolution to all limitations provided by the Postal Service or a demonstration that any identified limitation is not significant to the provision of accurate, reliable and representative data.”<sup>43</sup> Although the proposed internal SPM systems still have some limitations which were discussed in these comments, the new systems have shown significant improvements since their introduction in January, 2015.

The Public Representative is confident that in the analysis of limitations of the proposed internal systems, the Commission should also carefully consider limitations of the legacy systems. Based on the analysis of audit reports, reports comparing the internal and legacy systems, as well as the other documentation provided by the Postal Service in the current docket and Docket No. PI2016-1, the Public Representative concludes that the proposed internal SPM systems generate at least as accurate, reliable and representative data as the legacy systems.

The Public Representative respectfully submits the foregoing comments for the Commission’s consideration.

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<sup>43</sup> Response to Postal Service Motion for Partial Reconsideration of Order No. 4002, August 22, 2017 at 3.