



## UNITED STATES OFFICE OF PERSONNEL MANAGEMENT

Washington, DC 20415

Strategic Human  
Resources Policy  
Division

JAN 8 2007

### *Caraballo* Class Member Signatories to Petition Regarding 2002 Puerto Rico COLA Survey:

This responds to the petition you signed concerning the settlement of *Caraballo, et al. v. United States*, No. 1997-0027 (D.V.I.), August 17, 2000. The petition raises several issues concerning the 2002 survey that the Strategic Human Resources Policy Division, Office of Personnel Management (OPM), conducted. In particular, the petition claims the final rule implementing the lower cost-of-living allowance (COLA) rate is inconsistent with Safe Harbor Principles (SHPs) 5, 18, and 22A, as shown in Exhibit A of the *Caraballo* settlement. To correct this, the petition says OPM should rescind the September 3, 2006, Puerto Rico COLA rate reduction.

As explained in enclosure 1, OPM fully complied with the SHPs and the Conforming Methodology. Therefore, we do not believe OPM should rescind the Puerto Rico COLA rate reduction. Section 10.4 of the settlement requires that OPM provide class members a written response explaining its determination. In the case of the petition, OPM does not have sufficient information to respond to the individual signatories. Therefore, OPM is posting this written response on its Web site.

To the extent you can demonstrate you are one of the petitioners, that you are a class member, and that your complaint relates to the 2002 survey, OPM accepts your petition as meeting the requirements under section 10.4 of the *Caraballo* settlement. Please be advised that if you disagree with our response you may notify the Employee Involvement Structure (EIS) of your disagreement and seek the EIS's views. For the purposes of dispute resolution, the EIS is the Survey Implementation Committee (SIC), which was established pursuant to section 6 of the *Caraballo* settlement. It is composed of seven plaintiffs' representatives and two OPM representatives. If you want the SIC to review your concerns, you may send a letter to any of the SIC members within the next 30 calendar days. Enclosure 2 provides the names and addresses of the SIC members. In that letter you must (1) certify you are a class member, (2) explain why you disagree with OPM's response, and (3) ask the SIC to review the contested issues. Class members can write to any member on the SIC. That SIC member will distribute the letter among the other SIC members. The SIC will take your comments into consideration and respond to you in writing.

If you have any questions concerning this response, please contact Mark Allen, COLA Team Leader (acting), at (202) 606-2838, via facsimile at (202) 606-4264, or via email at [cola@opm.gov](mailto:cola@opm.gov).

Sincerely,



Charles D. Grimes III  
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Enclosures

**Enclosure 1**  
**OPM's Responses to Issues Raised in the Petition**  
**Regarding the 2002 Puerto Rico COLA Rental Survey and COLA Rate Reduction**

1. The petition is divided into three sections. The first section states that the Office of Personnel Management (OPM) violated three Safe Harbor Principles (SHPs): SHP-5, 18, and 22A. The SHPs are found in Exhibit A of the stipulation for settlement of *Caraballo, et al. v. United States*, No. 1997-0027 (D.V.I.), August 17, 2000. The second section, "Discussion," expands on these issues and raises others. In our response, we address "Discussion" issues in the context of the relevant SHPs. The last section is "Conclusion," which we address separately.

**Issue 1—SHP-5: Quantity and Quality Comparisons.**

2. The petition says OPM failed to comply with SHP-5, Quantity and Quality Comparisons, in that OPM (1) under-sampled the Puerto Rico survey area, (2) failed to review the rental data, (3) did not compare units of closely similar quality and quantity, and (4) collected 258 more DC area observations than required.

**Response to Issue 1.**

3. OPM Under-Sampled: The petition says OPM under-sampled in the Puerto Rico area. This is incorrect. Evidence shows that OPM obtained close to the maximum number of observations that could be obtained in that area in 2002.

4. In the 2002 survey, OPM contracted for the collection of rental data in Puerto Rico, the U.S. Virgin Islands, and in the Washington, DC, area. The quantity OPM requested was based on what we determined a contractor could collect within the survey timeframe. In the Request for Quotations (RFQ) that OPM issued for the 2002 survey, we requested a sample size of 400 for Puerto Rico. We subsequently contracted with Delta-21 Resources Inc, which collected 404 samples, of which we used 403. This sample size was close to the maximum number of samples a contractor could be expected to obtain in Puerto Rico within the 2002 survey timeframe. In the 2005 survey, we specified a sample size of 480, and Delta-21 was able to collect 445 observations. This suggests that the 2002 sample size (400) was very close to the maximum number of observations a contractor could collect. Therefore, we did not under-sample in Puerto Rico. We are in compliance with SHP-5.

5. OPM Did Not Review Data: The petition says OPM failed to review the data. This is incorrect. OPM reviewed all of the data that Delta-21 provided, including all of the Puerto Rico data. We focused on the data elements that reported the housing unit's characteristics. We did not focus on or ask the contractor to correct spelling errors in street addresses or in point-of-contact information. Spelling errors did not affect the data. Likewise, the fact that some respondents refused to provide self-identifying information did not affect the survey's validity. The survey was voluntary, so we could not require respondents to provide self-identifying information. However, Delta-21 visited each property to verify information provided by sources and took pictures and prepared sketches of the property.

6. OPM Did Not Compare Units of Closely Similar Quality and Quantity: The petition says OPM did not compare housing of closely similar quality and quantity. OPM used hedonic regressions as required by SHP-18. To do that, OPM collected a wide range of information about each rental unit and used hedonic regressions to compare the nonforeign area cost-of-living allowance (COLA) area rents with DC area rents while holding quality and quantity constant. Therefore, by complying with SHP-18, OPM complied with SHP-5.

7. The hedonic regressions required by SHP-18 are a type of multiple linear regression. Multiple linear regression is a statistical process that shows mathematically how the *dependent* variable (e.g., rent) is influenced by the *independent* variables (e.g., the various characteristics of the rental unit). Section 4.2.5 of the 2002 Caribbean Survey Report, published at 69 FR 6023, briefly describes multiple linear regression, so we will not repeat that discussion here.

8. It is important to remember, however, three key points about this process. First, each independent variable has a parameter estimate—a mathematical estimate of how the variable influences the dependent variable (rent). Second, each parameter estimate has an error term—a mathematical estimate of the statistical precision of the parameter estimate. Third, the variable of greatest interest in the COLA regressions is the COLA survey area because the exponents of the COLA survey area parameter estimates become the rent indexes. Therefore, OPM reduces the error term of the survey area parameter estimates to maximize the precision of the rent indexes.

9. In the 2002 rental survey, Delta-21 collected information on over 80 variables on each rental unit. Some of the Delta-21 housing variables were quantitative (e.g., age, square footage, number of bedrooms, and number of bathrooms), and some were qualitative (e.g., type of rental unit, external condition, whether there is a garage, and the COLA area in which the unit is located). Since not all 80+ variables were statistically significant, deciding which variables to use in the hedonic regression was a critically important process. To determine this, OPM used the Variable Selection Protocol (VSP).

10. The Survey Implementation Committee (SIC) directed the Technical Advisory Committee (TAC) to work with OPM to develop the VSP.<sup>1</sup> The SIC was concerned that the selection of variables for the regression models could be a subjective process and could be manipulated. The SIC asked the TAC to develop what essentially is an “expert system” that synthesizes the decisions an expert econometrician would make to develop hedonic regressions for use in the COLA program. That expert system is the VSP. It is an objective, seven-step process that OPM uses to merge certain variables, to eliminate variables that have little explanatory value in terms of rent, and to keep variables that increase the precision of the survey area parameter estimates—i.e., the rent indexes.

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<sup>1</sup> The SIC and TAC were established pursuant to sections 6 and 7 of the *Caraballo* settlement. The SIC is composed of seven plaintiffs’ representatives and two OPM representatives and advises OPM as the agency develops and implements new regulations pursuant to the *Caraballo* settlement. The TAC is composed of three economists with expertise in living-cost analyses. The TAC advises the SIC on technical, economic issues.

11. The petition notes that OPM “continued making adjustments . . . in the 2002 rental data regressions up to the moment they published the final regulations.” Working with the TAC, OPM continued to research and refine the VSP. The petition also notes that the revised VSP resulted in a lower 2002 housing index in Puerto Rico than the index OPM originally published. In a few areas (e.g., Juneau, Alaska) application of the revised VSP resulted in higher indexes. OPM continues to refine the VSP as it does many other aspects of the COLA program.

12. The petition suggests that OPM must take unspecified steps to make the Puerto Rico data more similar to the DC area data. The petition states that before applying hedonic regressions, OPM had to ensure that “. . . the housing samples obtained by Delta-21 in Puerto Rico and the DC area were in fact of similar quality in just the same way that OPM must ensure that gallons of milk priced in Puerto Rico are of the same or comparable quality as gallons of milk priced in the DC area.” That is not correct. As Joel Popkin and Company (JPC) said in its Task 3 report, using the hedonic approach means that it is not necessary to find prices for the same models of homes across areas.<sup>2</sup> The process required under the *Caraballo* settlement to price rents and rental equivalence is quite different from the process used to price milk.

13. In both its Task 3 report and in its final report, JPC discusses the use of a matched model approach in which the data are segregated among various models according to certain characteristics. For example, all four bedroom, two bath, single family dwellings with a garage might be classified as a particular model home. Then rents in the COLA area and the DC area could be compared model by model in the same manner that OPM compares the price of milk. OPM notes that JPC rejected the matched-model approach in favor of hedonic regressions because hedonic models are more powerful and flexible.<sup>3</sup>

14. The petition states that many of the Puerto Rico rental units did not have basic kitchen appliances such as refrigerators, ovens, and freezers, “which are a given in the DC area.” The 2002 survey results show Puerto Rico rental units generally had fewer kitchen appliances than DC area rental units. The hedonic regression, however, holds constant such qualitative differences while comparing rents. Nevertheless, we want to make it clear that with the exception of microwave ovens, kitchen appliances were not statistically significant in the hedonic regressions. That means that in explaining rent, range, ovens, freezers, dishwashers, clothes dryers, and clothes washers had less influence than the variables used in the final model. The VSP removed these appliances from the model because they were not statistically significant.

15. OPM Accepted the Wrong Numbers of Observations: The petition states that Delta-21 provided 133 house observations in Puerto Rico but that OPM asked Delta-21 to collect 224. The petition also states that Delta-21 provided 258 more observations in the DC area than was required. The petition appears to refer to information OPM sent Ana Angelet, President of American Federation of Government Employees (AFGE) Council 267, in an email dated January

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<sup>2</sup> Joel Popkin and Company (JPC), *Research Task 3, Housing, Part A: Methodological Review and Results from the Employee Survey, Draft Final Report*, Joel Popkin and Company, November 8, 1999, page 20.

<sup>3</sup> JPC, Appendix A, page 24, *Research Summary*, at [www.opm.gov/oca/cola/App-a.pdf](http://www.opm.gov/oca/cola/App-a.pdf).

27, 2006. Ms. Angelet asked for information that showed the locations Delta-21 was to survey in Puerto Rico in 2002 and 2005 and the number of observations OPM requested Delta-21 to collect in each of these locations. OPM sent her two attachments (“Attachments A”)—one from the 2002 Request for Quotes (RFQ) and another for the 2005 contract option year.

16. OPM asked Delta-21 to collect *if feasible* 224 observations in Puerto Rico for housing Classes A through C. It was *not* a contract requirement. OPM did not have the detailed knowledge of the local rental market necessary to specify a required amount. Instead, OPM set a target of 224 observations, and we were not surprised that Delta-21 collected a different number. All of the values in Attachment A were target amounts. They were not required amounts. Delta-21 did not violate the contract when it was unable to collect the target amounts. The contractor was dependent on what was available for rent at the time of the survey.

17. Delta-21 collected additional observations in 2002 in the Washington, DC area. The additional quantity was 60, not 258. As explained above, OPM provided Ms. Angelet Attachment A from the 2002 RFQ. That attachment does not show the final number of observations for which OPM contracted. In the contract negotiation process, OPM increased the target number of samples requested for the U.S. Virgin Islands and DC area because we found we could do this and stay within our budget. OPM increased the amounts for St. Croix and St. Thomas/St. John by 20 in each area because we estimated a contractor would be able to collect these higher amounts. We did not increase the target in Puerto Rico because we believed it was very close to the maximum number a contractor could collect in that area. We increased the DC target from 700 to 900 because we believed a contractor could collect that amount and we wanted a substantial sample in the DC area because it is the base or reference area for living-cost comparisons.

18. In the 2002 survey, Delta-21 delivered a total of 960 DC area observations—60 additional DC area observations. Of the 960 observations, OPM used 951.<sup>4</sup> OPM used the additional observations because we believed they were representative of housing in the DC area and their use increased the precision of the survey.

## **Issue 2—SHP-18: Hedonic Housing Model and Rental Equivalence.**

19. The petition claims OPM failed to comply with SHP-18 because OPM (1) used data where source information was withheld or misspelled, (2) compared inferior Puerto Rico samples with high quality housing samples from the DC area, and (3) relied on a sample with numerous problems. These problems were (a) the Puerto Rico sample was too small, (b) OPM did not clean or verify the data, (c) Delta-21 substituted observations without limitation, (d) the sample was biased because there were too many inferior in-home apartments, (e) the sample was biased because OPM classified many apartments as duplexes or triplexes, (f) OPM did not direct Delta-21 precisely where to collect data, (g) OPM experimented by removing 188 observations rather than addressing problems, and (h) OPM’s results using these data are lower than the results JPC predicted for Puerto Rico.

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<sup>4</sup> OPM dropped six DC area observations because they were from a zip code not to be surveyed and dropped three other observations because each had an error in the age of the rental unit.

## Response to Issue 2.

20. Source Information Misspelled and Withheld: The petition states that 54 of the 2002 observations did not have self-identifying information and that an additional 58 observations did not have addresses. The petition says, "In essence, OPM permitted Delta-21 to obtain information from any person off the street. . . ." We disagree. COLA rental surveys are voluntary. Therefore, OPM cannot require the source to provide self-identifying information. In reviewing the 2002 and subsequent rental data, OPM found no indication that Delta-21 made up data or collected the information in an inappropriate manner.

21. On September 13, 2005, AFGE Council 267 wrote to OPM criticizing both the 2002 and 2005 Puerto Rico rental surveys. "Refusal" on the part of a data source to provide self-identifying information was one of the issues AFGE Council 267 raised. In response to that criticism, OPM analyzed whether refusals had a statistically significant influence on rental rates in Puerto Rico. We created a new variable "Refusal," which was coded "Yes" if the respondent refused to provide self-identifying information or coded "No" if the respondent provided self-identifying information. The hypothesis was that properties belonging to or managed by individuals who refused to provide self-identifying information would rent for less than equivalent properties where the source provided self-identifying information. "Refusals" was not a statistically significant variable using the 2002 data. This means that whether the source provided self-identifying information did not appear to have an influence on rental rates, and OPM sees no reason to exclude observations where self-identifying information is withheld.

22. Comparison of Inferior Puerto Rico Samples: The petition states that SHP-18 is based on the precept that only housing of similar quality will be compared, but that OPM " . . . inappropriately compared inferior housing samples in Puerto Rico with high quality housing samples from the DC area." OPM did not inappropriately compare inferior housing samples in Puerto Rico with high quality housing samples from the DC area. SHP-18 requires OPM to use hedonic regressions to compute rent indexes while holding quantity and quality constant. There is no requirement that the housing data be the same or similar. Indeed, if the Puerto Rico housing observations were identical in quality and quantity to the DC area housing observations, there would be no need for hedonic regressions. Comparing simple averages would suffice. However, research conducted prior to the *Caraballo* settlement indicated that COLA area housing was different from DC area housing. Therefore, the parties decided OPM would need to hold quality and quantity constant while comparing rents, which is why SHP-18 requires the use of hedonic regressions.

23. Prior to the *Caraballo* settlement, JPC conducted numerous studies. JPC noted in its Task 3 report that housing in the COLA areas tends to be smaller and has fewer amenities than housing in the Washington, DC, area.<sup>5</sup> Using the results of the 1998 Federal Employee and Living Patterns Survey (FEHLPS) that JPC conducted, JPC reported a simple rent index for Puerto Rico of 61.34. This index was computed by dividing the simple average rent from FEHLPS for Puerto Rico by the simple average rent for the DC area from the same survey. When JPC applied hedonic indexes, the indexes ranged from 71.61 to 74.33.<sup>6</sup> The higher index is because

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<sup>5</sup> JPC, *Research Summary*, loc. cit.

hedonic regressions hold quality and quantity constant while making the rent comparison. JPC concluded that the quality-adjusted shelter price indexes estimated from the hedonic model were uniformly higher than the raw shelter price ratios, suggesting that the quality of housing in COLA areas is inferior to the quality of housing in the Washington, DC area.<sup>7</sup>

24. On page 16, the petition says hedonic calculations are “inherently designed to underestimate costs.” As shown above that is not the case. Performing JPC’s analyses using the 2002 rental survey data, OPM found that the simple rent index was 56.28, but holding quality and quantity constant by using hedonic regression, the rent index goes up significantly to 63.49. Once again, it is important to stress that under the *Caraballo* settlement, there is no requirement that the housing observations be the same in terms of quality and quantity between the COLA area and the DC area. The expectation was that the COLA area surveys and the DC area survey would yield different results. What *Caraballo* requires is that OPM hold quality and quantity constant while comparing rents by using hedonic regressions.

25. Various Sample Problems: The petition states that OPM relied on a survey sample that had numerous problems that render it inadequate for regression analyses. OPM disagrees. The petition lists eight problems. We address each of these below.

26. Sample Problem (a), Sample Was Too Small: The petition asserts that the 2002 sample size was too small, but does not suggest what an adequate sample size might be. The 2002 Puerto Rico sample size was based on our estimate of what we believed a contractor could be reasonably expected to obtain during the survey timeframe. As noted earlier, a sample of 400 observations was very close to the maximum number of observations a contractor could be expected to obtain in Puerto Rico. If so, our sample comes very close to covering the entire survey universe.

27. The petition references an article from the *Monthly Labor Review* that described how the U.S. Bureau of Labor Statistics uses hedonic regressions relating to the Consumer Price Index. The petition describes the article as providing a “step by step analysis of standard protocol for hedonic regression models.” We reviewed the article but failed to find anything that supports the petition’s claim that OPM’s 2002 sample size was too small.

28. Sample Problem (b), OPM Did Not Clean or Verify the Data: The petition states that OPM did not clean or verify the data. The petition acknowledges that OPM has said it reviewed the photographs against the data on the forms, but then the petition says OPM did not do this. The petition does not elaborate. OPM reviewed all of the 2002 data. The review involved comparing the data on the forms with the photographs and sketches Delta-21 provided of each property. Based on this review, OPM asked questions of Delta-21, deleted some observations, and changed some data elements on other forms.

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<sup>6</sup> JPC, *Research Task 3, op. cit.*, Tables 7 and 9. JPC developed numerous regression models, none of which perfectly match the models OPM uses. The indexes quoted here are for the models most similar to that which OPM used in its final 2002 computation.

<sup>7</sup> *Ibid.*



29. The petition states that OPM made no attempt to verify the data Delta-21 collected with the data sources. We had no reason to doubt the veracity of Delta-21's work. Delta-21 was highly recommended to us by the Department of the Interior, which conducts surveys similar to OPM's. Delta-21 had also conducted test surveys for OPM, the results of which met or exceeded OPM's expectations. There was nothing in the 2002 survey results that raised doubt about the quality of the data; in actual fact, our comparison of the data with the photographs supported the accuracy of the data. Therefore, OPM did not re-contact survey participants (i.e., data sources) because we were satisfied with the quality of the data.

30. In both this section and in the section related to SHP-22A, the petition states that Delta-21 did not visit all of the rental properties as reported. That is incorrect, and we address that incorrect assertion in our response to issues relating to SHP-22A. We note, however, the petition says "... Delta-21 never even set foot in the majority of the Puerto Rico survey units." The contract did not require Delta-21 to enter rental units to collect information relating to the quality and quantity of the interior layout of the rental unit. Entering the rental unit would have made it much more difficult and costly to conduct the survey. Therefore, OPM did not require or expect that Delta-21 would enter rental units. OPM relied on data that the survey respondents (i.e., property managers, agents, and owners) provided about the rental unit's interior features that were of interest in the COLA rental surveys.

31. Sample Problem (c), Unlimited Substitutions: The petition states, "... OPM allowed Delta-21 to 'substitute' items without any boundary or limitation." This is not correct. The contract prescribed the order in which Delta-21 would attempt to collect the data and specified the steps Delta-21 would take if it were unable to collect the requested number of observations within a class, within a location. The contract allowed the contractor to do this without OPM's direct supervision or involvement so that the rental survey could be conducted within a relatively short timeframe and because OPM did not have superior knowledge about what was available for rent in the local rental market. The following is a brief description of how the contract addressed substitutions.

32. As stated earlier, OPM determined the Puerto Rico sample size mainly based on the number of observations a contractor could reasonably be expected to collect within the survey time period. Essentially, this means OPM conducted a universe survey—we surveyed all there was to survey. Next, OPM used the results of the 1992/1993 Federal Employee Housing and Living Patterns Survey to distribute the samples in Puerto Rico by zip code among the locations where Federal employees reported that they lived. The petition asks why OPM did not use the results of JPC's 1998 FEHLPS. The reason is that FEHLPS only provided location information at the three-digit zip code level. This was too inaccurate to distribute the sample. The petition also says that OPM did not use the same sample distribution approach in the DC area. That is incorrect. OPM used the same approach in all of the rental 2002 survey locations—in the DC area as well as in Puerto Rico and the U.S. Virgin Islands.

33. Within each location, OPM asked Delta-21 to collect information on the following six classes of housing:

Class A - Four bedroom, single family unit not to exceed 3200 square feet.

- Class B - Three bedroom, single family unit not to exceed 2600 square feet.
- Class C - Two bedroom, single family unit not to exceed 2200 square feet.
- Class D - Three bedroom apartment unit not to exceed 2000 square feet.
- Class E - Two bedroom apartment unit not to exceed 1800 square feet.
- Class F - One bedroom apartment unit not to exceed 1400 square feet.

In most cases, OPM distributed the location target sample among the class on an equal basis, although sometimes OPM varied the class distribution based on what it believed was the likely distribution within the location. The 2002 Attachment A for Puerto Rico that we provided Ms. Angelet in response to her January 27, 2006, email reflects the distribution.

34. OPM recognized it was unlikely that Delta-21 would be able to find observations that exactly corresponded to the target distribution in Attachment A. Therefore, the contract allowed Delta-21 to adjust the numbers in Attachment A throughout the survey using a process that successively redistributes the “shortfall” according to a series of rules. The shortfall was the difference between the target amount and what was actually found. The contractor followed this process on its own. Delta-21 had to notify OPM of the changes, but it did not have to wait for OPM’s comment or approval.

35. At the lowest level, the Attachment A specified the target amount for a housing Class within a location within a survey area. If the contractor could not find that amount, the contractor allocated the shortfall to the next most similar housing Class within the location. For example, if OPM asked Delta-21 to collect six Class A observations in a location but Delta-21 could only find four, Delta-21 assigned the shortfall to the next most similar housing Class within that location, and repeated the process. By the time Delta-21 had completed surveying the location, if it still had a shortfall, the contract required Delta-21 to allocate that shortfall among the observations in the next location. For example, if the target amount for a particular location was 36 but Delta-21 could only collect 30, the contract required Delta-21 to distribute the shortfall among the housing Classes in the next location alphabetically. (The contract listed the locations from smallest to largest and labeled them alphabetically. In practice, Delta-21 surveyed the locations in the order specified, but it often returned to some locations later in the survey to collect additional information.)

36. In the last step, if Delta-21 was unable to collect the number of samples requested for the survey area, Delta-21 was required to distribute the shortfall to the next survey area listed in Attachment A. In the case of the 2002 survey, Delta-21 did not have an overall shortfall in any COLA survey area, so it never had to apply this last step. Although OPM was not involved in the substitution process, OPM received the required reports that showed how Delta-21 allocated the shortfalls. Therefore, Delta-21 did not make substitutions without boundary or limitation.

37. Sample Problem (d), Biased Sample Because of Too Many Inferior Apartments: The petition states that OPM collected a disproportionate number of “inferior apartments within homes in Puerto Rico” and that this biased the Puerto Rico sample. The petition also states that many of these observations were misclassified as walk-up/garden apartments. In the 2002 rental survey, OPM required the contractor to assign one of the following unit types to each observation:

- Type A – Detached single family home.
- Type B – Duplex.
- Type C – Triplex, quadplex.
- Type D – Townhouse or row house.
- Type E – Apartment, but not garden or high rise.
- Type F – High rise apartment.
- Type G – Walk-up/garden apartment.
- Type H – Other type of unit.

38. The “apartments within homes” to which the petition refers are the Type E apartments. This type of structure is usually one to three stories tall and has generally four or five units within the structure. Sometimes the original structure was a large, older home that was converted to apartments. In other cases, the original structure may have been a triplex or quadplex. The petition claims that OPM obtained a disproportionate number of Type E samples, which biased the survey. Type E units were found only in Puerto Rico and the U.S. Virgin Islands areas—none were found in the DC area.

39. If the Type E units represented a disproportionate number of the Puerto Rico observations in the Puerto Rico sample, a simple solution might have been to delete most or all of the Type E observations before running the regressions. In preparing this response, OPM tested the effect of dropping all 69 Type E rental units in Puerto Rico and rerunning the final hedonic regression.<sup>8</sup> The net effect was a slight increase in the Puerto Rico rent index—it went from 63.49 to 63.95. This would have increased the overall Puerto Rico living-cost index by about 0.16 points, making it about 103.20 instead of 103.04. This still shows that a COLA decrease was warranted for Puerto Rico.

40. The petition also noted that some of the Type E apartments appear to be incorrectly reported as Type G (garden/walk-up units). When we reviewed the 2002 rental data, we did not change any Type G units to Type E. To test the effect this would have had, OPM changed 41 Type G observations to Type E in Puerto Rico. We then reran the final hedonic regression. The test showed that the rent index went from 63.49 to 64.90, about a 1.4 point increase. That would have increased the overall Puerto Rico living-cost index by about a half a point, making the overall living-cost index 103.54 instead of 103.04. This also still shows that a COLA decrease was warranted.

41. Sample Problem (e), Biased Sample Because OPM Classified Many Apartments as “Plexed” Units: The petition criticizes OPM for not having consistent definitions for “plexed” and apartment type units. The petition also says that OPM incorrectly classified certain apartments as duplexes and triplexes, and that this biased the sample. In another section, the petition claims that OPM compared four bedroom houses with one bedroom apartments in Puerto Rico. All of these statements are incorrect.

42. As noted in the previous section of this response, OPM defined eight unit types, but it was also noted that OPM did not find all eight unit types in each area. In particular, OPM did not find Type E apartment type units in the Washington, DC, area. As a result, OPM merged

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<sup>8</sup> 71 FR 43878, August 2, 2006.

Apartment Types E (non-walk-up/garden) and Type H (other) with Unit Type B (Duplexes) and Unit Type C (triplexes and quadplexes). The differences between Type E apartments and plexed units were very slight. Duplexes, triplexes, and quadplexes are defined as single family dwellings (SFDs) and as such must have two or more ground level or essentially ground level exits. Apartments are multiple family dwellings (MFDs), which need have only one ground level exit. Structurally, the units may be nearly identical, but a second floor apartment will often have as a second exit a door onto a balcony, whereas a second floor plexed unit's second door will often open onto a deck with a staircase to the ground level. Given the slight difference, the merger was appropriate.

43. The petition says that if OPM called low-quality, two-story structures in Puerto Rico “duplexes” and compared these with high quality duplexes found in the DC area, and if as a result OPM found the average Puerto Rico duplex was less expensive than the average DC area duplex, then OPM’s conclusion would be fundamentally flawed. OPM did not do this because it would have been inconsistent with the methodology the parties agreed to in SHP-18. The process the petition describes is a flawed application of the matched-model approach in which inconsistent definitions are used to categorize observations. However, the parties agreed to use hedonic regressions instead of a matched-model approach because hedonic models are more powerful and flexible.<sup>9</sup> In collecting data for hedonic regressions, OPM must define the characteristics to be surveyed and assign the characteristics to each rental unit in a fair and consistent manner. OPM did this.

44. Sample Problem (f), No Precise Direction: The petition states that OPM failed to state precisely where it directed Delta-21 to collect the data. As discussed earlier, OPM provided Delta-21 with Attachment A that showed the locations OPM required Delta-21 to survey and the target number of observations OPM wanted Delta-21 to attempt to collect in each location. The locations were identified with representative community names and zip codes. The contract required the contractor to review the table and attempt to collect data throughout each location rather than in just one or two geographic segments of the location. OPM did not specify precise locations (e.g., exact addresses) because it did not have the expertise to do so. Instead, OPM selected a contractor with expertise in conducting housing surveys in DC and in the COLA survey areas, including Puerto Rico.

45. The petition says many locations in Puerto Rico are very heterogeneous with good quality housing intermingled with subsidized housing. The petition says had OPM allowed rental data collection observers to accompany Delta-21, the observers could have told Delta-21 where to collect data. The problem was not identifying exactly which houses to survey. The problem was identifying specific criteria that could be applied objectively in all of the COLA areas and in the Washington, DC, area. We also note that “observers” who direct where the contractor can and cannot collect rental data would not be observing. Instead, they would have a much different and more powerful role. They would be designing the survey, albeit in potentially a very subjective manner. OPM cannot allow this type of “observation.”

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<sup>9</sup> JPC, *Company Research Summary*, *loc. cit.*

46. Sample Problem (g), Removed Observations Rather than Addressing the Problem: The petition states that since July of 2005, OPM has been on notice that the Puerto Rico rental data are flawed but OPM's only response was to propose, as an experiment, eliminating from the 2005 sample 188 rental observations that the class members found objectionable. The record shows that the TAC conducted the experiment at the direction of or with the consent of the SIC.<sup>10</sup> Since the experiment was conducted using 2005 survey data, not 2002 survey data, OPM sees no reason to address the experiment.

47. Sample Problem (h), OPM's Results Lower than JPC Results: The petition says JPC predicted a higher index using hedonic regressions than the results OPM obtained using the 2002 survey data. Prior to the *Caraballo* settlement, the parties worked together under a Memorandum of Understanding (MOU) to research and resolve longstanding issues in the COLA program.<sup>11</sup> As part of that research, JPC conducted FEHLPS. As part of its Task 3 Research, JPC used hedonic regressions and FEHLPS data to estimate the effect of using rent and rental equivalence in the COLA program. JPC conducted various tests, which provided rent/rental equivalence indexes. The tests that used methodologies most similar to that which OPM used in 2002 provided rent indexes that ranged from 71.61 to 74.33.<sup>12</sup>

48. There are numerous differences between the approaches JPC used and the analyses OPM conducted using the 2002 rental survey, not the least of which is that the surveys are of two different populations at two different points in time. FEHLPS covered Federal employees in 1998. The 2002 COLA rental survey was a survey of market rents several years later. We are not surprised that the 2002 COLA survey and 1998 FEHLPS results are different. We note, however, that if the 2002 COLA survey had produced results similar to the JPC's 1998 FEHLPS analyses, the living-cost index would have been roughly 106 to 107, and the Puerto Rico COLA rate still would have decreased.

### **Issue 3—SHP-22A: Survey Plans and Methodology.**

49. The petition says OPM failed to comply with SHP-22A, Survey Plans and Methodology, in that OPM misinformed the SIC and the CACs because (1) Delta-21 did not visit each property as OPM claimed and (2) OPM failed to verify the information Delta-21 collected.

<sup>10</sup>The petition says, "OPM charged the TAC with the task of eliminating from the 2005 rental survey sample all the observations we found extremely objectionable." That is incorrect. Both the SIC and TAC are independent of OPM. OPM does not direct or control the actions of the SIC or TAC. Funding for the operation of the committees comes from special accounts established pursuant to the *Caraballo* settlement.

<sup>11</sup> Between 1996 and 2000, the parties to litigation that eventually became the *Caraballo* settlement entered into a Memorandum of Understanding (MOU) to conduct research to help resolve long-contested issues in the COLA program. The MOU established the Safe Harbor Working Group (SHWG) and the Technical Advisory Group (TAG), which had generally the same composition and function as the SIC and TAC today. JPC was the primary research consultant that the MOU trustee hired at the recommendation of the SHWG and the TAC. JPC researched various topics and produced Task Reports on each. JPC also summarized the Task Reports in a final overall report. The petition states that JPC was an OPM contractor. That is incorrect, although OPM hired JPC in 2005 to do other COLA research.

<sup>12</sup>JPC, *Research Task 3, op. cit.*, Table 9.

**Response to Issue 3:**

50. Visiting Rental Properties: The petition states that at a meeting on October 26, 2005, OPM said for some “drive-by” properties, Delta-21 often takes the photograph of the rental unit and later calls from its headquarters the posted number on the “For Rent” sign to obtain information about the rental unit’s characteristics. The petition states that calling from headquarters is not a substitute for actual visual inspection.

51. It appears that OPM’s comments at the October 26 meeting were misinterpreted. Delta-21 often finds properties while driving through the neighborhoods. If Delta-21 decides to collect information about such properties (which we are informed it usually does), Delta-21 stops at the property, takes pictures, draws a rough sketch of the layout of the unit, and records other pertinent information, as well as the telephone number and other contact information provided on the “For-Rent” sign. The contact can be a private individual, but in the DC area, the “For-Rent” signs often provide the name of a property manager/company. Delta-21 then calls the point of contact and obtains the rest of the required information about the rental unit. Sometimes, the Delta-21 field data collection team collects this additional information. Sometimes personnel at Delta-21’s headquarters obtain the information. In all cases, a Delta-21 team has visited the property and obtained the pertinent information.

52. In a previous letter dated September 13, 2005, AFGE Council 267 raised issues concerning “drive-by” properties. A “drive-by” property was one that was advertised by a sign posted somewhere on the property. AFGE Council 267 claimed that Delta-21 reported more drive-by properties in Puerto Rico than in the DC area. OPM subsequently tested “drive-by” and other variables relating to how the rental unit was advertised in the 2002 survey. To do this OPM created a new variable, “List Source.” List Source was coded “A” through “E” for Newspaper, Internet, Agent, Drive-By, and Other. The hypothesis was certain types of listings cost more than others and probably affected rent. The result was that List Source was statistically significant, and it appeared that drive-by advertising had the greatest impact. Therefore, as noted in OPM’s response to AFGE Council 267’s September 13, 2005 letter, OPM discussed the issue with the TAC, and subsequently replaced the “List Source” variable with the “Drive-By” variable. That variable was coded “Yes” if the property was advertised via a sign posted on the property or code “No” if the property was advertised in some other way, the hypothesis being that drive-by advertising was the least expensive and the savings would be passed onto the consumer in terms of lower rent. Drive-by was also a statistically significant variable, although its inclusion decreased the precision of the survey area parameter estimates.<sup>13</sup> Therefore, as provided by step 6 of the VSP, OPM did not use “Drive By” in the final 2002 regressions.

53. No Verification: The petition states that OPM did not receive any documentation from Delta-21 regarding the calls made in reference to “drive-by” observations. OPM received the survey data itself and considers that adequate documentation. As stated in our response to

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<sup>13</sup> The key variables in the hedonic rental regressions are the survey areas, and one of the last steps of the VSP is a series of tests designed to eliminate non-core variables that decrease the precision of the survey area parameter estimates. “List Source” decreased the precision of the survey area parameter estimates, so VSP dropped it.

Sample Problem (b), OPM did not call survey participants to verify the data because we were satisfied with the quality of Delta-21's work.

54. Other CAC Issues: The petition asserts that CAC members were not given sufficient detail or afforded a meaningful opportunity to plan the rental survey. We disagree. Prior to the 2002 survey, OPM conducted a 3-day pre-survey CAC meeting in each of the COLA areas to plan the survey. This was a joint meeting of the SIC, TAC, and CAC. Many issues were discussed, including housing. We believe OPM afforded the CAC the opportunity to provide input concerning the housing survey both at the meeting and afterwards. After the survey was conducted, OPM staff returned to the COLA areas to meet with the CACs for a 1-day post survey meeting. Once again this was a joint SIC, TAC, and CAC meeting. We provided the CAC with hard copies of the rental data as well as CDROM copies. We also published the survey results for comment in the *Federal Register*. OPM received approximately 2,400 comments in response to the proposed rule. In addition, AFGE Council 267 provided comments on the 2002 and 2005 survey in its petition of September 13, 2005, to which we responded. These were all general comments. We did not receive specific comments asking us to edit the 2002 Puerto Rico housing data to remove inappropriate observations.

55. The petition also notes that CAC members were not allowed to participate as Rental Data Collection Observers during the 2002 survey. OPM does not recall receiving such a request but would not have been able to accommodate it had it received one. The pre-survey meetings are held shortly before the surveys begin, and there is not enough time to negotiate major contract modifications, such as providing for rental data collection observers, before the surveys begin. Major changes increase contractor costs, affect the survey schedule, and must be negotiated before the contractor makes survey arrangements. As noted in the preceding paragraph, however, OPM afforded the CAC the opportunity to provide input concerning the housing survey at the pre-survey meeting. Afterwards, we provided the CAC with hard copies and CDROM copies of the rental data for review.

#### CONCLUSION:

56. The petition concludes that the 2002 COLA rental survey and analyses lacked scientific rigor and must be corrected. Therefore, the petition requests that OPM restore the Puerto Rico COLA rate to 11.5 percent. OPM disagrees. We believe the 2002 COLA survey was properly conducted and analyzed and that the resulting rent index accurately reflects the relative price of rentals in Puerto Rico compared with the Washington, DC, area. Therefore, we find no reason to rescind the Puerto Rico COLA rate reduction.

**Enclosure 2**  
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