

# **BLS FY 2012 Interagency Agreement Deliverable for the Social Security Administration**

## **September 28, 2012**

This document provides an aggregate plan that outlines the testing that the Bureau of Labor Statistics (BLS) will perform during FY 2013 under the joint interagency agreement. Section I of this document provides an overview of the testing that will be done in FY 2013 while Sections II, III, and IV provide more detailed information for each of the three planned phases of FY 2013 testing. Section V wraps up the document by describing some additional activities that BLS will be conducting in support of this pilot testing effort.

### **Section I – Testing Overview**

In FY 2013, the BLS will work in conjunction with the Social Security Administration (SSA) to design, develop, and carry out a series of tests to assess the feasibility of using the National Compensation Survey (NCS) platform as a means to accurately and reliably capture data that are relevant to the SSA's disability program purposes. To ensure that the data the BLS collects will serve the SSA's disability program purposes, these tests will include but are not limited to:

- 1) An indicator of "time to proficiency," defined as the amount of time required by the typical worker to learn the techniques, acquire the information, and develop the facility needed for average job performance, comparable to the Specific Vocational Preparation (SVP) used in the Dictionary of Occupational Titles (DOT).
- 2) Physical Demand (PD) characteristics/factors of occupations measured in such a way to support SSA disability determination needs, comparable to measures in Appendix C Physical Demands of the Selected Characteristics of Occupations (SCO).
- 3) Environmental conditions (e.g., high risk due to extreme temperatures) that replicate as closely as possible those that the SSA currently uses and as listed in Appendix D Environmental Conditions of the SCO, or specific revisions or additions to these factors.

In FY 2013, the BLS will collect data from a set of establishments and State and local government units that are within the scope of the NCS to meet SSA needs in terms of the type of data elements collected, the measures associated with these elements, and the range and level of detail of occupations identified and classified. The data collected during the tests will include SSA-specific data elements and selected NCS data elements. Depending on the results of the FY 2013 testing, the BLS and the SSA will determine whether additional testing is needed in the subsequent fiscal year.

In FY 2013, the BLS will perform work to meet the following objectives:

- 1) Evaluate survey design options and begin developing the protocols, aides, and final design to meet SSA data needs;
- 2) Collect data to test and refine the protocols and aides; and
- 3) Provide documentation to the SSA summarizing the work performed by the BLS, conclusions drawn, and recommendations for future data collection.

In order to accomplish these objectives, the BLS will conduct a series of field tests with general test goals as described below. Details of the approach to be used for each phase of testing appear in the next section of this document.

Phase 1- Initial Proof of Concept Testing: The primary goal of this phase of testing will be to ensure that the BLS field economists know how to describe the survey and ask for the new data elements. In addition, the BLS will create and test an initial set of data collection protocols and a preliminary set of data collection aides.

Phase 2- Collection Protocol Testing: The primary goal of this phase of testing will be to test collection of the new data elements while performing a selection of occupations from each respondent. In addition, the BLS will refine the collection protocols and aides based on an analysis of the test results.

Phase 3- Broad Scale Testing: The primary goal of this phase of testing will be to test the BLS ability to select a sample of occupations within each establishment, collect the new data elements needed by SSA, and collect other NCS data elements needed by the SSA such as wages and job leveling information. In addition, BLS will test the feasibility of collecting the data needed by SSA along with all the NCS data elements needed to produce the Employment Cost Index, Employer Costs for Employee Compensation, and various benefits products.

Upon completion of each phase of testing, the BLS will evaluate the test results and collected data to determine if the goals of that phase of testing have been met and identify what, if any, adjustments to the data elements, collection protocols, and/or test design and processes are needed.

Summary reports will be prepared at the conclusion of each phase of testing that will detail test findings and also identify any gaps that might require future testing. While no production estimates will be produced from the tests, should research estimates be produced, they will be shared with SSA. A tentative high level timeline for conducting the series of iterative tests is presented in Appendix A.

The BLS will perform environmental scanning in order to obtain industry information and become more familiar with the nature of PD/SVP/Environmental conditions. The BLS will communicate extensively with SSA designated staff to gain a better understanding of the PD/SVP/Environmental conditions. The BLS will employ NCS standard methods of scanning for information on the Internet, reading industry newsletters, and checking congressional news. The BLS also plans to determine stakeholders, research actively relevant organizations, and attend disability industry conferences. By attending conferences, BLS economists can hear firsthand what is happening in the field and have a dialog with stakeholders involved in the process.

The BLS has begun evaluating the hardware and software needed for the FY 2013 tests and the best vehicles to collect the data and conduct other business processes. In FY 2013, BLS will use Phases 1 and 2 of the pilot to prepare requirements for future systems and identify best tools to capture the respondents input. The BLS will also acquire software for developers to use in creating the data capture, review, and estimation systems to support the test.

The BLS will add storage capacity to NCS' Storage Network Area environment for the Phase 3 test data. The BLS will test various tablets to see if this technology lends itself to collect the data elements SSA needs.

## Section II – Phase 1 Testing: Initial Proof of Concept Testing

The primary goal of this phase of testing will be to ensure that the BLS field economists know how to describe the survey and ask respondents for information regarding the new data elements. In addition, the BLS will create and test an initial set of data collection protocols and a preliminary set of data collection aides for the data elements needed by SSA. During this phase of testing, BLS plans to begin learning about the methods for computing estimates, analyzing the collected data, and validating future estimates.

Establishment Identification: The BLS Quarterly Census of Employment and Wages (QCEW) serves as the sampling frame for the current NCS survey and will serve as the frame of establishments for this pilot test. The QCEW is created from State Unemployment Insurance (UI) files of establishments, which are obtained through the cooperation of the individual state agencies and is considered to be one of the most complete sources of business establishment data in the U.S. The specific establishments to be contacted will be identified from a list of frame establishments in the Washington, D.C. geographic region and will exclude all establishments currently active in any NCS sample but may include establishments who were good responders in samples that have recently been rotated out of NCS production. The specific establishments will be identified in a manner to ensure that BLS tests collection across a range of industries and occupations and maximize the chances of obtaining cooperation.

Test Size/Geographic Areas/Industry Coverage: The test size for this test will be 25 – 30 establishments in the Washington, D.C. geographic region. The BLS plans to include as broad mix of industries in the test establishments as possible, but will not be able to include all industries in this phase of testing due to the small test size.

Procedures Development: The BLS will develop the Phase 1 collection procedures using input from SSA, the Dictionary of Occupational Titles, data gathered through environmental scanning, and standard BLS collection approaches. The procedures will be documented in written materials that will be provided to the testers, SSA, and others as appropriate. Before use in testing, the procedures will be reviewed carefully by the BLS Cognitive Research Lab to ensure that the processes and terminology are appropriate for establishment data collection efforts based on generally accepted behavioral science practices. Feedback from field economists and test observers will be used to update the collection procedures before the next phase of testing.

Collection Tools: For Phase 1, the field economists will collect the data by taking unstructured notes using pen and paper. The collected data will be captured in an electronic format for preliminary review and analysis purposes after the interviews are conducted. The collection notes will be used to begin preparing requirements for structured collection aides and data capture systems to be used in future phases of testing.

Data Review: During this phase, the BLS will identify possible data review approaches and needs, begin developing expectations for these new data through internal and external environmental scanning, start framing initial edits around the collection elements, begin developing initial review parameters, and review the data collected for the test.

Training: Field economists and others assigned to the SSA testing will receive initial training using distance education methods (webinar, videoconference and teleconference along with self study

activities) and classroom training. At the beginning of this test phase, participants will receive in person classroom training covering test content and procedures.

Estimation Methods: Appendix B describes the types of estimates that BLS plans to compute if the pilot leads to full production. For this phase of testing, BLS will calculate some preliminary unweighted aggregates using the collected test data. These aggregate tabulations will be used for preliminary analysis purposes only. Additionally, the BLS will develop initial expectations for the test tabulations using environmental scanning, begin developing methods to validate initial results against expectations, start work to define estimation and validation tools and systems for subsequent phases of testing, and do limited analysis of the test findings.

In summary, the test activities for Phase 1 will be evaluated by debriefing the employees involved in conducting the test collection efforts periodically during the test period and at the end of the test period and by reviewing comments and notes about the test collection activities recorded during the interviews. The results of these debriefing sessions and reviews will be compiled to produce a list of recommended changes to the collection protocols and aides, review and validation processes, and collection procedures for the next phase of testing.

### **Section III – Phase 2 Testing: Collection Protocol Testing**

The primary goal of this phase of testing will be to test collection of the new data elements while performing a selection of occupations from each respondent. In addition, the BLS will refine the collection protocols and aides based on an analysis of the test results. During this phase of testing, BLS plans to continue learning about the methods for computing estimates, analyzing the collected data, and validating future estimates, and may generate a few test estimates for some broad occupational groups.

Establishment Identification: The specific establishments to be contacted during Phase 2 testing will be identified from the same frame of establishments as used in Phase 1 testing although these establishments will be selected from different geographic areas. This list of establishments will exclude all establishments currently in any active NCS sample but may include some establishments that have recently been rotated out of NCS production. The specific establishments will be identified in a manner to ensure that we test collection across a range of industries and occupations.

Test Size/Geographic Areas/Industry Coverage: This phase of testing will be conducted in two separate geographic areas at two separate times. The specific geographic test areas will be chosen to maximize the distribution of establishments across the industries while controlling federal travel costs. By maximizing the industry mix of the establishments in this phase of testing, the BLS goal is to collect data for as broad a range of occupations as possible given the limited test size. This test will consist of 225 – 250 establishments with half of the units selected from each of the two geographic areas. BLS plans to include as broad mix of industries in the test establishments as possible, but will not be able to include all industries in this phase of testing due to the small test size and limited geographic coverage of this phase of testing.

Procedures Development: The BLS will develop the Phase 2 collection procedures by making the necessary changes identified as a result of Phase 1 testing and input from SSA while adding procedures for any new data elements to be collected. The procedures will be documented in

written materials that will be provided to the testers, SSA, and others as appropriate. Before use in testing, the procedures will be reviewed carefully by the BLS Cognitive Research Lab to ensure that the processes and terminology are appropriate for establishment data collection efforts based on generally accepted behavioral science practices. Feedback from field economists and test observers will be used to update the collection procedures before the next phase of testing.

Collection Tools: For this test, the economists will collect the data by taking structured notes using pen and paper. The collected data will be captured in an electronic format for preliminary review and analysis purposes after the interviews are conducted and may be captured using a prototype data capture system. The structured collection notes will be used to continue preparing requirements for data capture systems to be used in future phases of testing.

Data Review: During this phase, the BLS will test data review approaches, make recommendations on the review approaches for Phase 3 testing, and continue developing and implementing collection and review tools. The microdata from this test will continue to be reviewed.

Training: Field Economists assigned to this phase of testing who did not participate in Phase 1 testing will receive initial training using distance education methods (webinar, videoconference and teleconference along with self study activities). At the beginning of the test phase, all test participants will receive in person classroom training covering test content and procedures. Throughout the test period, test participants will also participate in calibration, training and exercises to help ensure consistent coding of similar situations regardless of who is doing the coding.

Estimation Methods: Appendix B describes the types of estimates that BLS plans to compute if the pilot leads to full production. For this Phase 2 of testing, BLS will calculate some preliminary unweighted aggregates using the collected test data. These aggregate tabulations will be used for preliminary analysis and initial estimate validation purposes only. During this phase, the BLS will test analysis and validation approaches, processes and tools, make recommendations on the validation approaches and tools for Phase 3 testing, and continue developing and implementing processes to support validation activities. The results of this phase of testing will be evaluated, analyzed, and validated against expectations and test objectives.

In summary, the test activities for Phase 2 will be evaluated by debriefing the employees involved in conducting the test collection efforts periodically during the test period and at the end of the test period and by reviewing comments and notes about the test collection activities recorded during the interviews. The results of these debriefing sessions and reviews will be compiled to produce a list of recommended changes to the collection protocols and aides, review and validation processes, and collection procedures for the next phase of testing.

#### **Section IV – Phase 3 Testing: Broad Scale Testing**

The primary goal of this phase of testing will be to test the BLS ability to select a sample of occupations within each establishment, collect the new data elements needed by SSA, and collect other NCS data elements needed by the SSA such as wages and job leveling information. In addition, the BLS will test the feasibility of collecting the data needed by SSA at the same time it is collecting all the NCS data elements needed to produce the Employment Cost Index, Employer Costs for Employee Compensation, and various benefits products. During this phase of testing, BLS plans to continue learning about the

methods for computing estimates, analyzing the collected data, and validating future estimates and may generate some estimates for broad occupational groups and a few specific occupations which appear frequently in the collected establishments.

Test Size/Geographic Areas/Industry Coverage: This phase of testing will be conducted concurrently in six separate geographic areas, one in each BLS region. The specific geographic test areas will be chosen to maximize the distribution of establishments across the industries, maximize the mix of city sizes, and control federal travel costs. By maximizing the industry mix of the establishments in this phase of testing, the BLS goal is to collect data for as broad a range of occupations as possible given the limited test size. By selecting a mix of metropolitan and non-metropolitan areas, the BLS goal is to ensure that the tests better reflect the full geography of the country. The test size for this test will be 700 - 800 establishments with approximately one-sixth of the units selected in each of the test areas for this phase of testing. The BLS plans to include as broad mix of industries in the test establishments as possible, but will not be able to include all industries in this phase of testing due to the relatively small test size and limited geographic coverage of this phase of testing.

Establishment Identification: The specific establishments to be contacted during this phase of testing will be identified from the same frame of establishments as used in Phase 1 and 2 testing although these establishments will be selected from different geographic areas. This list of establishments may include a few establishments currently in an active NCS sample as well as some establishments that have recently been rotated out of NCS production. The specific establishments will be identified in a manner to ensure that we test collection across a broad range of industries and occupations.

Procedures Development: The BLS will develop the Phase 3 collection procedures by making the necessary changes identified as a result of Phase 2 testing and input from SSA while adding procedures for any new data elements to be collected. The procedures will be documented in written materials that will be provided to the testers, SSA, and others as appropriate. Before use in testing, the procedures will be reviewed carefully by the BLS Cognitive Research Lab to ensure that the processes and terminology are appropriate for establishment data collection efforts based on generally accepted behavioral science practices. Feedback from field economists and test observers will be used to update the collection procedures before any future use.

Collection Tools: During this phase of testing, the field economists will capture the collected data on structured interview forms during the data collection contacts. They will enter the collected data into a prototype data capture system for preliminary review and analysis purposes after the interviews are conducted. The structured collection notes will be used to continue preparing requirements for a more refined data capture system to be used in future efforts.

Data Review: During this phase, the BLS will implement review strategies for the collected data based on Phase 1 and 2 testing and will review all collected data using these strategies to get information on the consistency and accuracy of the collected microdata. Additionally, the BLS will review the microdata to see if the accuracy and tools have improved because of further refinements since Phase 2 testing.

Training: At the beginning of this test phase, participants will receive training covering test content and procedures, either in person or using distance education methods (webinar, videoconference and/or teleconference). During the testing period, test participants will participate in additional

training sessions using a combination of classroom and distance education methods as needed to clarify collection and coding issues. Throughout the test period, test participants will also participate in calibration, training and exercises to help ensure consistent coding of similar situations regardless of who is doing the coding.

Estimation Methods: Appendix B describes the types of estimates that BLS plans to compute if the pilot leads to full production. For this Phase 3 of testing, BLS will calculate some preliminary unweighted aggregates using the collected test data. These aggregate tabulations will be used for preliminary analysis and initial estimate validation purposes and some may be released as examples of potential future BLS estimates. During this phase, the BLS will implement validation approaches, processes, and tools determined to work most effectively during Phase 2 testing. The BLS will analyze and validate the preliminary unweighted tabulations using these validation processes and tools and assesses the reasonableness of the results against expectations and test objectives. Additionally, the BLS will review the test results to see if the analysis-validation results have improved because of further refinements of our validation processes during Phase 2 testing.

In summary, the test activities for Phase 3 will be evaluated in periodic debriefing sessions with employees involved in the collection efforts during and at the end of the test period and by reviewing comments and notes about the test collection activities recorded during the interviews. The results of these debriefing sessions and reviews will be compiled to produce a list of recommended changes to the collection protocols and aides, review and validation processes, and collection procedures for future work. Additionally, an analysis of the computed tabulations and the processes used to review data will be conducted to identify potential changes for future work.

At the conclusion of Phase 3 testing, BLS will prepare a summary report that documents the results of all FY 2013 testing with recommendations for the future. These recommendations will address the possible need for additional testing in FY 2014, and to the extent the test data allow, revisions to the survey data elements, including possible disaggregation of occupation classifications.

## **Section V – Other Planned BLS Activities**

This section describes other activities BLS will conduct in support of this project.

### **OMB Clearance Needs for FY 2013 Feasibility Tests**

The Office of Management and Budget (OMB) authorized BLS to use approved test hours found in the current National Compensation Survey clearance package and the BLS Cognitive Research Lab clearance package for these tests. The BLS will seek approval for the specific test plans in early FY2013. Under no circumstances will OMB allow any tabulations produced from these tests be used in disability determinations.

### **Use of the BLS Cognitive Research Laboratory**

The BLS Office of Survey Methods Research contains a Cognitive Research Lab which is conducts research related to questionnaire design, cognitive interviewing, Web surveys, usability testing, information architecture, computer assisted survey information collection applications, and interviewer training. This Lab is staffed by a group of professional behavioral science researchers and research psychologists who specialize in household and establishment data collection methods and processes.

The BLS plans to include staff from this office during each phase of testing to help identify optimal data collection protocols and collection aides, to develop and test various options for describing the survey and data elements desired, and to develop the most appropriate methods for gathering and evaluating data from each phase of testing.

#### **Process to Develop and Evaluate a Sample Design and Estimation Methods**

The BLS will follow the OMB Standards and Guidelines for Statistical Surveys in developing and evaluating the sample design for this survey. As described in these guidelines, BLS will develop a written plan that identifies the target population, describes the sampling plan, specifies the data collection instruments and methods, describes the methods for selecting samples using generally accepted statistical methods, and documents the estimation methods and variance computation methods to be used for the proposed estimates. The BLS will identify alternative designs and estimation techniques, execute and evaluate simulations of the planned methods, revise the proposed methods, and test collection of at least one sample selected under the proposed methods before implementing any design to produce estimates for SSA and the public.

#### **FY 2013 System Design Efforts**

In FY 2013, the BLS will begin designing a data capture, review, and estimation system for this project. The goal is to prepare a software development plan that meets BLS security requirements while allowing us to take maximum advantage of the technology available. The BLS will develop a prototype data capture system to be used for at least one of the tests and prototype review and estimation systems to be used to help evaluate test results.

As the pilot tests progress, BLS will conduct other activities as necessary for the successful completion of the project.



### Appendix A – Tentative High Level Timeline for FY 2013 BLS Tasks

Note that all dates are subject to change and a more complete timeline will be developed for each phase of testing prior to the start of that phase of the project.

Task Name	Tentative Dates
Manage Pilot Project	Full Fiscal Year
Learn about SSA Data Requirements	Full Fiscal Year
Determine goals of survey collection and outputs including data elements needed	Early Fall 2012
Prepare for Phase 1 Testing	Early Fall 2012
Conduct Phase 1 Testing	November – December 2012
Prepare for Phase 2 Testing	January 2013
Conduct Phase 2 Testing - Location A	January-February 2013
Conduct Phase 2 Testing - Location B	February – March 2013
Identify Needed Changes to Methods/Procedures/Tools/Capture Process/etc.	Late March 2013
Prepare for Phase 3 Testing	April 2013
Conduct Phase 3 Testing	Late April – July 2013
Evaluate Results of FY 2013 Testing	July – August 2013
Document Test Results and Recommendations for FY 2014	August – September 2013
Disseminate Conclusions & Results to SSA and Public	September 2013
Conduct Research	Full Fiscal Year

## **Appendix B – Initial Summary of Planned Estimates**

To ensure that the data the BLS collects to serve the SSA's disability program purposes, the FY 2013 tests will include but are not limited to the data elements listed below. For each data element, this appendix describes the type of estimator(s) that BLS plans to compute.

- 1) An indicator of "time to proficiency," defined as the amount of time required by the typical worker to learn the techniques, acquire the information, and develop the facility needed for average job performance, comparable to the Specific Vocational Preparation (SVP) used in the Dictionary of Occupational Titles (DOT).
  - For a given detailed occupation, estimate the percentage of employees that need each specific level of vocational preparation, according to the SVP definition. A standard error would be attached to each estimate.
- 2) Physical Demand (PD) characteristics/factors of occupations measured in such a way to support SSA disability determination needs, comparable to measures in Appendix C Physical Demands of the Selected Characteristics of Occupations (SCO).
  - For each physical demand characteristic/factor in a given detailed occupation, estimate the percentage of employees that need each specific level of PD, according to the PD definitions. A standard error will also be calculated for each estimate.
- 3) Environmental conditions (e.g., high risk due to extreme temperatures) comparable to those listed in Appendix D Environmental Conditions of the SCO, or specific revisions or additions to these factors.
  - For each environmental condition in a given detailed occupation, estimate the percentage of employees that are exposed to each specific level of the environmental, according to the definitions provided by SSA. A standard error will also be calculated for each estimate.
- 4) Additional data elements required by SSA such as hours per day standing and walking, hours per day sitting, ability to alternate between standing and sitting, how much weight employees need to lift/carry, and how frequently does lifting/carrying take place
  - For each additional data element with discrete categorical responses, estimate the percentage of employees with each possible answer in a given detailed occupation. A standard error will also be calculated for each estimate.
  - For each additional data element with continuous numeric responses, estimate the mean, median, percentiles, and mode for the provided responses. A standard error will also be calculated for each estimate.

In addition, the BLS will explore the possibility of computing other estimates, such as averages, medians, percentiles, and modes for individual data elements for each detailed occupation and of computing the standard deviation for each estimate within the limitations of the data.