



# *2010 Census: Quarterly Report to Congress, May 2010*

*Final Report No. OIG-19791-4*

**For Public Release**





**UNITED STATES DEPARTMENT OF COMMERCE**  
**The Inspector General**  
Washington, D.C. 20230

May 5, 2010

The Honorable Alan B. Mollohan  
Chairman  
Subcommittee on Commerce, Justice,  
Science, and Related Agencies  
Committee on Appropriations  
U.S. House of Representatives  
Washington, DC 20515

The Honorable Frank R. Wolf  
Ranking Member  
Subcommittee on Commerce, Justice,  
Science, and Related Agencies  
Committee on Appropriations  
U.S. House of Representatives  
Washington, DC 20515

Dear Mr. Chairman and Mr. Wolf:

This report responds to the explanatory statement accompanying the Supplemental Appropriations Act of 2008 requiring the Office of Inspector General to report on a quarterly basis the status of Census's 2010 operations. For the quarter ending March 2010, this report covers the status of PBOCS and its relationship to the success of several Census operations, especially NRFU; the status of the 2010 Census budget and spending of funds provided by the American Recovery and Reinvestment Act of 2009; and an update on program-level risks to the census, including the development of contingency plans and tests of physical security at key Census facilities. In addition, we report on our visits to observe early field operations.

We will issue formal recommendations in a separate report to the Census Bureau on actions that should be taken to address issues discussed in this report. We have sent identical letters to the Chairman and the Ranking Member of the Senate Subcommittee on Commerce, Justice, Science and Related Agencies.

If you have any questions, or if we can be of further assistance, please do not hesitate to contact me at (202) 482-4661.

Sincerely,

Todd J. Zinser

by:

A handwritten signature in blue ink, appearing to read "W. Green, Jr.", written over a horizontal line.

Wade Green, Jr.  
Deputy Inspector General (Acting)

Enclosure



cc: Representative Patrick J. Kennedy  
Representative Chaka Fattah  
Representative Adam Schiff  
Representative Michael Honda  
Representative C.A. "Dutch" Ruppertsberger  
Representative Peter J. Visclosky  
Representative Jose E. Serrano  
Representative David R. Obey, *Ex Officio*  
Representative John Abney Culberson  
Representative Robert B. Aderholt  
Representative Jo Bonner  
Representative Jerry Lewis, *Ex Officio*



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The Honorable Barbara A. Mikulski  
Chairwoman  
Subcommittee on Commerce, Justice,  
Science and Related Agencies  
Committee on Appropriations  
United States Senate  
Washington, D.C. 20510

The Honorable Richard C. Shelby  
Ranking Member  
Subcommittee on Commerce, Justice,  
Science and Related Agencies  
Committee on Appropriations  
United States Senate  
Washington, D.C. 20510

Dear Madam Chairwoman and Senator Shelby:

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Deputy Inspector General (Acting)

Enclosure



cc: Senator Daniel Inouye  
Senator Patrick Leahy  
Senator Herb Kohl  
Senator Byron Dorgan  
Senator Dianne Feinstein  
Senator Jack Reed  
Senator Frank Lautenberg  
Senator Ben Nelson  
Senator Mark Pryor  
Senator Judd Gregg  
Senator Mitch McConnell  
Senator Kay Bailey Hutchison  
Senator Lamar Alexander  
Senator George Voinovich  
Senator Lisa Murkowski



# Report In Brief

U.S. Department of Commerce Office of Inspector General



## Why We Did This Review

The Supplemental Appropriations Act of 2008 gave the Census Bureau an additional \$210 million to help cover spiraling 2010 decennial costs stemming from the bureau's problematic efforts to automate major field operations, major flaws in its cost-estimating methods, and other issues. The Act's explanatory statement required the bureau to submit to Congress a detailed plan and timeline of decennial milestones and expenditures, as well as a quantitative assessment of associated program risks, within 30 days.

OIG must provide quarterly reports on the bureau's progress against this plan. This report's objective was to provide an update of activities and operations, identify budget and spending issues, and examine risks to the 2010 Census program.

## Background

Since first conducted in 1790, the constitutionally mandated decennial census's field activities have largely been paper based. The 2010 Census plan included significant expansion of automation, using handheld computers to verify addresses (address canvassing), conduct in-person surveys with households that did not return their questionnaires (nonresponse follow-up), and collect data from a nationwide sample to evaluate the accuracy of the decennial count (coverage measurement).

Nonresponse Follow-up (NRFU) is the most expensive and labor-intensive operation of the decennial census. Increasing costs and automation problems prompted the bureau's decisions to abandon the handheld computers for NRFU and coverage measurement operations in favor of paper.

## 2010 Census: Quarterly Report to Congress

May 2010 (OIG-19791-4)

## What We Found

About 9,400 key operations and activities make up Census 2010. Such a complex, time-sensitive undertaking requires that the Census Bureau operate efficiently and within budget.

During the current reporting period, which covers 2010 Census activities from January through March 2010, we evaluated the bureau's information systems, including its paper-based operations control system (PBOCS); observed several early field operations; and reviewed the bureau's risk management procedures and physical security at several Census locations. We found the following:

- **Information Technology Systems.** PBOCS poses the greatest risk to the success of NRFU, which is Census's largest field operation. The system's performance is still unstable, and its ability to support NRFU's volume is questionable. Census staff report frequent outages and reliability problems with PBOCS, and the increased need for monitoring workarounds to compensate for the system's inadequacies will be a substantial challenge for Census. While the Decennial Applicant, Personnel, and Payroll System's performance appears to have improved with the addition of a hardware upgrade, the system has experienced increased performance problems during early NRFU operations.
- **Enumeration Difficulties.** Many Census enumerators have had difficulties with their assignments due to inaccurate, incomplete, or otherwise unusable maps. Overstaffing, inefficient coordination, inconsistent adherence to procedures, and problems with information provided by partnership specialists have hindered several field operations.

Also, the bureau's current "verbatim" training method, wherein recently trained crew leaders read to new employees word for word from a training manual on how to conduct a census operation, does not provide employees with the necessary information to accomplish the job.

Finally, the public may not have been clearly informed about Census's different collection methods. For example, based on their address type, some members of the public did not receive their census forms when others did, causing concern.

- **Budget and Costs.** Census spending during this quarter has been under budget; however, with NRFU commencing, costs can be expected to rise. The bureau expects to meet its requirement to spend all Recovery Act funding by the end of FY 2010. While Census releases a financial management report monthly, some of the report's information is not transparent.
- **Risk Management and Security.** Census's Risk Review Board has identified and is tracking 24 program-level risks. The Board continues to meet monthly to review each risk, and is working to finalize and implement contingency plans for the risks that need them.

In March, OIG staff tested the physical security at the three national data-capture centers through which completed census forms are processed. Our tests disclosed minor issues and we suggested improvements at some locations, but we also discovered some significant vulnerabilities at other sites. We presented our findings to the Department's Office of Security and Census, who informed us that they have improved security at these facilities.

This report does not provide recommendations. We will forward the Census Bureau a separate document that includes the following recommendations:

- Census should ensure clerical workarounds are being performed properly by having Census office managers, regional Census centers, and Census headquarters increase manual and automated checks of workaround procedures as well as questionnaire control and tracking. Census should also take larger samples in already established quality-control procedures.
- Census 2020 planning should include a thorough review of the decennial training process.
- For Census 2020, the bureau should better communicate the processes of its various enumeration activities to the public.
- The Census Bureau needs to improve the transparency of its budget process, especially the presentation of surplus (or elimination of the surplus) as shown in its financial management reports.

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## Introduction

The Supplemental Appropriations Act of 2008, enacted June 30, 2008, gave the U.S. Census Bureau an additional \$210 million to help cover spiraling 2010 Census costs. The Act's explanatory statement required Census to formulate a detailed plan encompassing a timeline of decennial activities, cost estimates, and risk management activities. This information and subsequent updates of Census's progress are the measures that the Office of Inspector General (OIG) reviews in these quarterly reports.

This report covers 2010 Census activities from January through March 2010, and includes more current information when available. Our third quarterly report<sup>1</sup> covered 2010 Census activities from October through December 2009, including the development and testing of the bureau's paper-based operations control system (PBOCS), an update of our field observations, analyses of cost overruns with the address canvassing operation, an update on nonresponse follow-up (NRFU) budgeting, and planned spending of funds for the 2010 Census from the American Recovery and Reinvestment Act of 2009.

This report covers the status of PBOCS and its relationship to the success of several Census operations, especially NRFU; the status of the 2010 Census budget and spending of Recovery Act funds; and an update on program-level risks to the census, including the development of contingency plans and tests of physical security at key Census facilities. In addition, we report the findings of field visits by OIG personnel. Appendix A contains a complete discussion of our objectives, scope, and methodology.

As a follow-up to our previous quarterly reports, we note that Census continues to implement some of our recommendations. Specifically, we recommended a number of improvements for the 2010 and the 2020 Census. For the 2010 Census, we called on the bureau to improve its reporting on the status of major activities. Based on our review of monthly status reports, we concluded that the information contained in the reports is responsive to our recommendation. However, in chapter 3 of this report, we discuss an additional issue regarding the transparency of reporting in the financial management reports.

For the 2020 Census, we recommended integration of schedule and cost activities, earlier development of the 2020 lifecycle, a transparent decision documentation strategy, and completion of risk management activities prior to the start of 2020 operations. Census indicates that it is working to implement these changes over the medium to long term, given its priority to successfully complete the 2010 Census. We will continue to monitor these issues and receive updates on the bureau's actions in response to these recommendations.

Additional recommendations were made to Census following our last quarterly report. The bureau concurred with our recommendations and is working to resolve the issues we identified. We consider two of the recommendations closed. These recommendations called on Census to (1) ensure that senior executives with the authority to set priorities—such as reallocating resources to where they are most needed, resolving conflicting priorities, and making major

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<sup>1</sup>2010 Census: *Quarterly Report to Congress, February 2010* (OIG-19791-3, February 16, 2010).



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changes to the decennial schedule or plan—closely monitor PBOCS activities and act to expeditiously reduce operational risk, and (2) streamline development and testing by further reducing PBOCS’ capabilities to the essentials needed for the most important enumeration operations.

The third and fourth recommendations required additional information from Census to be considered resolved. We recommended that Census (3) focus on developing standardized procedural workarounds for PBOCS’ capabilities that could not be implemented to support operations, and (4) augment technical support staff and procedures to expeditiously resolve problems in the field. From our field work, we found that the bureau has acted upon our third recommendation; Census has developed standard workarounds and contingences for PBOCS’ shortcomings. However, the bureau’s action plan did not describe the process followed to decide on and develop contingencies. Finally, the bureau did not address our last recommendation—the steps it is taking to strengthen PBOCS technical support, especially for NRFU.

**Chapter 1:**  
**Information Technology Systems Place Census Schedule at Risk**

The Census Bureau maintains a schedule of about 9,400 program- and project-level activities to manage the 44 operations that make up the 2010 Census. The bureau's operations during this quarter included remote Alaska, update/leave (U/L), update/enumerate (U/E), enumeration at transitory locations (ETL), and service-based enumeration (SBE). (See chapter 2 for explanations of the Census operations that we observed.) In addition, Census staff continues developing and testing PBOCS, which is being used to manage ongoing early enumeration operations, and was deployed for the start of door-to-door NRFU enumeration, which began on May 1. In NRFU, enumerators visit households that did not return census questionnaires. The Census Bureau is responsible for visiting every nonresponding address.

Both we and the bureau regard PBOCS as a major risk to decennial operations, given the lack of time available for its development and testing. During this period, in assessing the progress of PBOCS development and its use in operations, we found serious problems:

- local Census office staff are encountering frequent PBOCS outages and reliability problems that are interfering with their work, and
- system performance still does not meet NRFU operational requirements.

Unless PBOCS stability improves substantially, the cost of the NRFU operation, its timely completion, and the accuracy of its count are at risk.

***Serious Problems with PBOCS Require Increased Monitoring of Workaround Procedures for NRFU***

Although the 2008 decision to conduct NRFU without handheld computers reduced overall risk to the 2010 Census, the reformulated plan—including development of PBOCS—imposed an enormous workload on the bureau that had to be completed in a short period of time and created inherent risks of its own. In October 2009, the Census Bureau identified PBOCS as the system most at risk of not being completed in time for decennial field operations. PBOCS is used to manage data collection and quality control for 10 field enumeration operations, including the largest: door-to-door NRFU. For NRFU, PBOCS is needed to manage over 600,000 enumerators nationwide, who will visit an estimated 47 million housing units. PBOCS is used in every step of the NRFU operation: for printing assignment materials, checking materials out to the field and back into the office, managing individual cases, making quality control assignments, shipping materials to data-capture centers, and providing reports for managing the operation. While PBOCS is needed to support NRFU, it has not performed well in early enumeration operations. If performance problems persist, they will put the successful completion of NRFU at risk.

Along with continued monitoring of development and operations of PBOCS and the Decennial Applicant, Personnel, and Payroll Systems (DAPPS) during this quarter, we expanded our monitoring activities to several other decennial systems, including the Decennial Response and Integration System (DRIS) and the Matching Review and Coding System (MaRCS).

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**PBOCS Development and Deployment.** The development of PBOCS started late in the decennial cycle, partially due to a late change in plans from using handheld computers to the use of paper for collecting respondent data. With population counts for apportionment due to the President by December 31, 2010, the schedule for decennial operations is fixed, forcing Census to develop, test, and deploy increments of PBOCS’ functionality just before they are needed in the field operations. The inevitable result of this “just-in-time” approach is that PBOCS’ functionality is incomplete and a litany of errors is being encountered as the system is employed in actual operations. Census is working to repair the problems or develop workarounds for these situations in what can be best described as a crisis management environment.

As shown in table 1, PBOCS is being deployed in phases. So far, it has been deployed for 8 of 10 operations, including NRFU for assignment preparation. Additional NRFU functionality was deployed before May 1 to support the start of enumeration. Yet system development and testing fell behind schedule, resulting in a 3-week delay in deploying PBOCS for NRFU. Census was also behind in developing functionality for the two operations that follow NRFU—vacant/delete check and field verification—but has simplified requirements and added contractor staff to the development team to stay on schedule. However, the team will still have to resolve PBOCS’ defects in real time during the NRFU operation. Census estimated that local Census office staff will encounter, and developers will have to resolve, defects at the same high rate in NRFU as in earlier operations.

**Table 1. PBOCS Deployment and Field Operations Schedule  
as of April 16, 2010**

<b>Operation</b>	<b>Operation Start</b>	<b>Operation End</b>	<b>Deployment</b>
<b>Remote Alaska Enumeration</b>	<b>January 25</b>	<b>April 30</b>	<b>January 19</b>
<b>Group Quarters Advance Visit</b>	<b>February 1</b>	<b>March 19</b>	
<b>Update/Leave</b>	<b>March 1</b>	<b>April 2</b>	
<b>Enumeration at Transitory Locations</b>	<b>March 19</b>	<b>April 12</b>	<b>February 22</b>
<b>Remote Update/Enumerate</b>	<b>March 22</b>	<b>June 9</b>	
<b>Update/Enumerate</b>	<b>March 22</b>	<b>June 9</b>	
<b>Group Quarters Enumeration</b>	<b>March 29</b>	<b>May 21</b>	<b>March 8</b>
<b>Nonresponse Follow-up</b>	<b>May 1<sup>a</sup></b>	<b>July 27</b>	<b>April 12<sup>b</sup></b>
Vacant/Delete Check	July 24	August 25	June 4
Field Verification	August 6	September 8	July 13

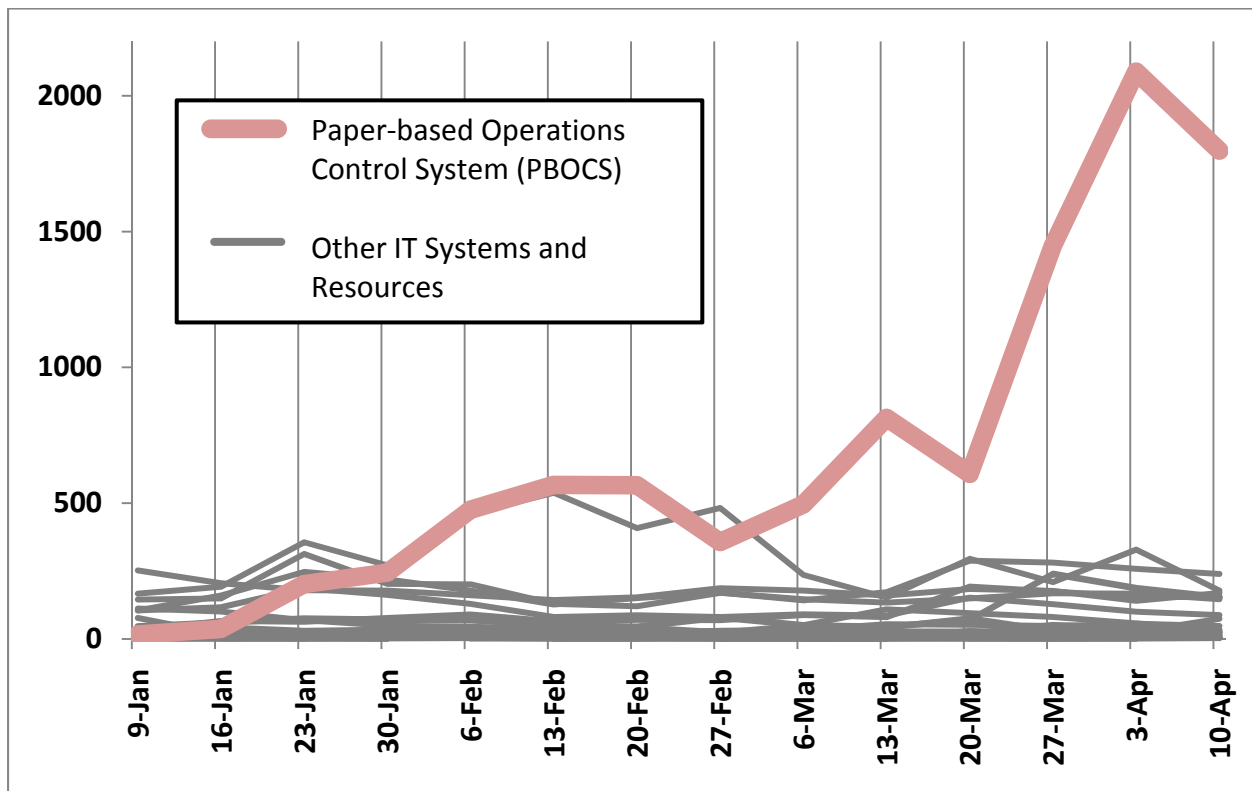
Source: U.S. Census Bureau

<sup>a</sup> Early NRFU operations started in mid-April to enumerate college students living off campus.

<sup>b</sup> Represents a 3-week delay from March 22. NRFU assignment preparation was deployed on April 12; remaining NRFU functionality was deployed before May 1.

**System Instability Is Already Affecting Operations.** Local Census office staff are encountering more reliability problems with PBOCS than any other system or information technology (IT) resource deployed during early enumeration operations (see figure 1). The biggest problem at present is that local Census office staff are often unable to use PBOCS because of frequent outages, lasting from several hours to entire days. In the first 2 weeks of April, backlogs of work grew as local offices lost almost 40 hours, the equivalent of one week of 8-hour shifts, to unexpected PBOCS outages during operational hours. These outages are in addition to planned nightly system maintenance.

**Figure 1. Count of IT Help Desk Requests (Per Week)**



Source: U.S. Census Bureau

These work backlogs must be processed once the system becomes available or defects are resolved. To reduce backlogs, 14 of the 32 local offices we visited resorted to overtime, 6 offices ran additional shifts, and 5 offices hired more staff. However, running additional shifts in the evening and on weekends has been problematic because Census has reserved those times for PBOCS maintenance to correct defects and deploy additional functionality and hardware. It is likely that Census will continue to use overtime and additional shifts to handle the heavy NRFU assignment workload. However, these plans will be disrupted by planned maintenance and likely unexpected outages. Typically, planned maintenance outages are scheduled every evening Tuesday through Saturday, and all day on Sundays.

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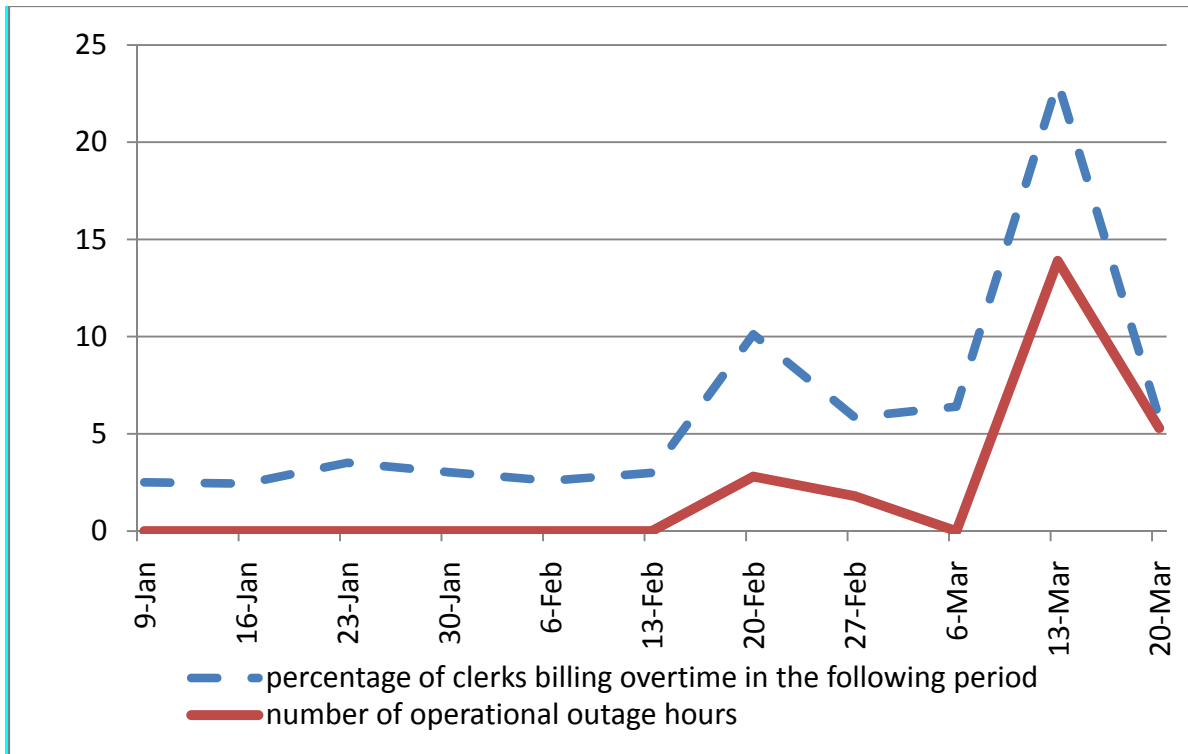
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We analyzed overtime data for all 494 local Census offices and found that office clerk overtime increases the week after outages occur, as clerks work to reduce backlogs from the previous week (See figure 2).

**Figure 2. Operational Outage Hours<sup>a</sup> Compared Against Clerk Overtime in the Following Pay Period**



Source: U.S. Census Bureau

<sup>a</sup> This chart shows that PBOCS outages in one week affect the amount of overtime billed in the following week. The dates in the chart correspond to the dates of outages as shown by the solid line. The increases in overtime billing as shown by the dashed lines do not correspond to dates in the chart, but occur in the week following the corresponding outages.

Clerical overtime costs incurred by local Census offices between January 3 and March 27 totaled \$1.6 million. However, clerk overtime alone does not capture the full potential labor cost of PBOCS outages and defects. Additional clerks were hired earlier than planned with the expectation that their tenure would not be extended. The cost of this action will be known later in NRFU. The scale of NRFU is much larger in comparison with early enumeration operations (four times as many cases as update/leave, the next largest operation). With this larger workload for NRFU, if backlogs and outages continue, overtime and additional staff costs could increase considerably. Finally, the stresses of operating in this type of an environment could diminish staff retention.

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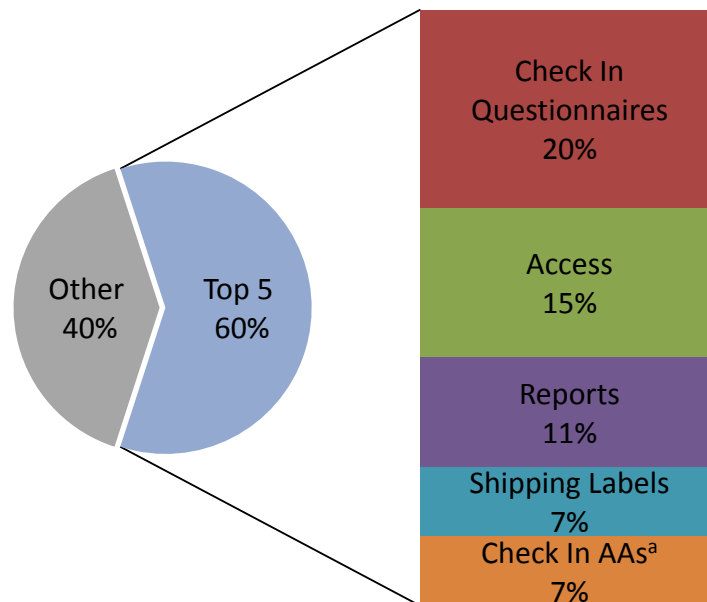
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Even when the system is available, local Census offices frequently encounter PBOCS defects such as inaccurate management reports and an inability to check in completed questionnaires, two of the top five reported problems in April (see figure 3). When, for example, performance and progress reports are inaccurate or unavailable, managers do not have the current data they need to promptly reassign resources to areas that are falling behind schedule, or identify enumerators who are not performing adequately.

When PBOCS does not allow office staff to check in completed work, paper questionnaires have to be stored until the problem is resolved. In this case, backlogs develop—and unless paper records are kept, managers will not have current information about operational progress. Even more of a concern is that questionnaires can be misplaced, for example, by storing them with questionnaires that have already been checked in and are waiting to be shipped to the data-capture centers. If questionnaires are not checked into PBOCS, the persons identified in the questionnaires may not be counted. A workaround was implemented that eliminated the check-in of some U/E forms due to PBOCS availability issues. In addition, early NRFU operations, which started in mid-April to enumerate college students living off-campus, will be exposed to this same risk because the NRFU check-in function was not yet available.

**Figure 3. Top Five PBOCS Help Desk Ticket Categories for April 1 – 14, 2010**



Source: U.S. Census Bureau

<sup>a</sup> AAs are assignment areas. They are the small geographic areas that are the basic units of work assigned to enumerators.

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**Census Is Creating Workarounds to Address PBOCS' Problems.** Census headquarters is responsible for notifying local Census offices of IT or procedural problems and specifying workarounds to overcome them. Typically, headquarters conveys this information by sending e-mail notifications to the 12 regional Census centers, which then inform the local Census offices in their respective regions.

Workarounds vary. For example, when PBOCS is unavailable, local office staff keep paper records of enumerator assignments and progress of operations. They then either send the written records to or call regional offices to inform them about their progress. Once the system is available, office staff record the data a second time as they transfer information from paper to PBOCS. Census has also instituted or planned workarounds to PBOCS' performance problems, such as staggering the use of the system according to priorities and using other decennial systems to print materials.

Census also had to devise workarounds for exchange of data between PBOCS and other systems. For instance, Census headquarters and regional offices have not been able to use the cost and progress system to monitor operations at the national, regional, and local office levels because the interface with PBOCS has not been completed. To compensate, simple files of progress data are periodically extracted from PBOCS and imported into the cost and progress system. Another interface problem arose between PBOCS and the National Processing Center in Jeffersonville, Indiana. PBOCS was unable to receive notification that material sent from local Census offices had been received by the processing center. As a workaround, the processing center sent long lists of assignment area identification numbers to local offices, where staff manually checked the lists for missing identification numbers.

**System Performance Is Still Not Meeting Operational Requirements.** Census has pursued solutions to PBOCS' performance and functional problems through the creation of the 2010 Census Application Readiness and Infrastructure Stability (ARIS) group, made up of operational managers and engineers supported by product vendors. The group meets daily and is working around the clock to monitor and guide efforts to reduce defects and improve the system. Yet while this group and the PBOCS team have been working, new problems continue to accumulate.

The ARIS group recently oversaw a measure to improve the performance of the system: the addition of about \$6 million worth of hardware to double the capacity of the operational, test, and backup environments. However, PBOCS is still not meeting NRFU operational requirements. Census estimated that for NRFU, the system will have to support 7,000 users system-wide, which is about 14 users per local Census office. PBOCS is having performance problems handling as few as 1,700 concurrent users, or 25 percent of the required peak load. The PBOCS team continues to repair and tune software to improve PBOCS' performance.

**NRFU Assignment Preparation Risks.** Due to PBOCS' instability, Census had to divert PBOCS staff and computing resources to develop a major contingency to avoid the disruption of the very challenging and important task of generating and printing material used to prepare assignments for NRFU enumerators.

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Quite simply, without assignment materials NRFU grinds to a halt. The process starts by PBOCS ingesting records for an estimated 47 million addresses that make up the initial NRFU workload. Originally, the next step was to have each local Census office use PBOCS to generate and print the assignment preparation material. However, to better control PBOCS computer resources, Census devised a contingency plan under which headquarters will generate and store the material in a printable format for all local offices, and then each office will only have to print the material.

The time frame needed for ingesting, generating, and then printing was short—18 days—with very little margin for error. The process started April 12 and needed to be completed by April 30 so that enumerators would have their assignments and questionnaires by the first day of NRFU on May 1. However, PBOCS ran into trouble at the start of the process. To make sure that the material was ready in time, Census reserved the use of PBOCS for 6 days (April 14 to 19) exclusively for ingest/generate, which forced local Census offices essentially to go to paper-only management of operations. Census sent out numerous workaround instructions for local offices to follow during these 6 days in support of their ongoing operations. Concerns about PBOCS' capabilities were so great that Census again diverted resources to develop an additional contingency plan that allowed local offices to print the assignment materials on another system. By employing these contingencies, Census was able to print the NRFU preparation material on time.

As part of the ingest/generate process, PBOCS also removes from the initial NRFU workload the addresses of households whose census forms were received after a certain cut-off date (April 7). If functioning properly, PBOCS removes these “late mail returns” from assignment lists before they are printed and distributed to enumerators. Afterwards, starting on April 26, local Census office staff began using PBOCS to print a listing of newly received late mail returns; this staff will manually remove these addresses from the paper assignment lists. The bureau expected the automated removal of late mail returns to yield substantial costs savings to field operations. Manual execution of these operations increases the cost and potential for inaccurate changes to the assignment area address registers.

### *Status of Other Decennial Systems*

**The Decennial Applicant, Personnel, and Payroll System.** DAPPS supports the processing and tracking of job applications, recruiting reports, and payroll for the large number of temporary workers employed for decennial operations. In our last quarterly report, we noted that performance testing of DAPPS indicated that the system would not be able to handle the expected NRFU workloads. As operations progressed during February and early March, the DAPPS application experienced several outages and very slow performance. The system's processing resources were continually running at about 80-100 percent of total capacity, and users were often unable to log on. By March 22, the ARIS group supervised the successful deployment of about \$5 million worth of hardware to replace the previous system resources.

The DAPPS hardware upgrade significantly improved DAPPS performance. As an example, response times for the most complex reports requested by users improved by 90 percent; reduced from 20 minutes to 2 minutes. In early April, ARIS engineers also successfully conducted a



continuity of operations test to determine if the system could recover from catastrophic failure. They were able to completely restore the system within 2 hours. While DAPPS has shown improvement, help desk complaints indicate the system has experienced increased performance problems during early NRFU operations and it is uncertain how well it will function under peak load.

**The Decennial Response and Integration Systems.** DRIS has two functions: (1) DRIS call centers provide telephone questionnaire assistance to the public and support the coverage follow-up operation to improve the accuracy of data collected during enumeration, and (2) DRIS data-capture centers extract data entered by respondents on mailed-back census questionnaires. According to Census data, as of April 23, the 11 DRIS call centers across the United States had handled 4.1 million calls within specified performance requirements. Also according to Census, the three data-capture centers—located in Baltimore; Jeffersonville, Indiana; and Phoenix—met two key respondent questionnaire processing requirements for the NRFU operation: (1) on April 6, all questionnaires received except for the last 24 hours were checked in, and (2) on April 23, all priority questionnaires (those from multi-units) received by April 21 were scanned. As of April 23, 90 million forms had been checked in and 72 million had been scanned.

**The Matching Review and Coding System.** MaRCS is used to improve the overall quality of door-to-door enumerations. PBOCS selects a random set of households to re-interview after the original U/E or NRFU interview. MaRCS compares the original and re-interview responses and flags those with discrepancies for further investigation. MaRCS is in production and is supporting U/E.

Functional and load testing results indicate the system is ready for NRFU. The MaRCS interface with PBOCS was an early problem because the PBOCS functionality was incomplete. With problems with the interface resolved, the biggest risk to MaRCS continues to be PBOCS outages and bugs that prevent MaRCS from communicating with PBOCS.

### *Conclusion*

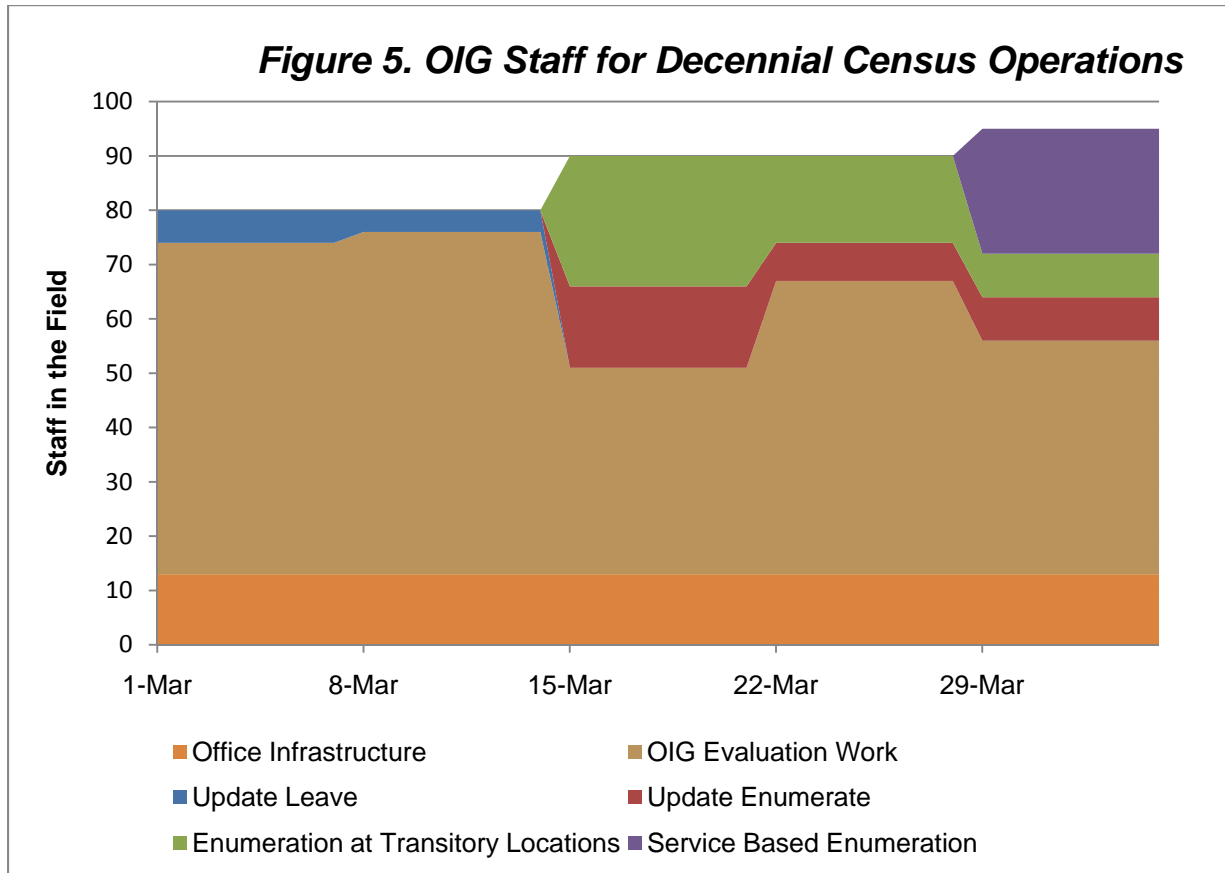
PBOCS presents a risk to the cost of the NRFU operation, its timely completion, and the accuracy of the population count. While PBOCS must support NRFU—the largest field operation—it has exhibited continual problems, and its ability to support NRFU’s volume is far from settled. The stress of the workload and workarounds is a substantial challenge for PBOCS and the Census field staff. These stresses could result in staff retention problems.

Accordingly, in a separate memorandum to the Census Bureau, we are recommending that the Director ensure that clerical workarounds are being performed properly by having Census office managers, regional Census centers, and Census headquarters (1) increase manual and automated checks of the quality of workaround procedures and of questionnaire control and tracking during the operation, and (2) take larger samples in already established quality-control procedures.

**Chapter 2:  
Inspector General Field Observations Confirm Enumeration Difficulties**

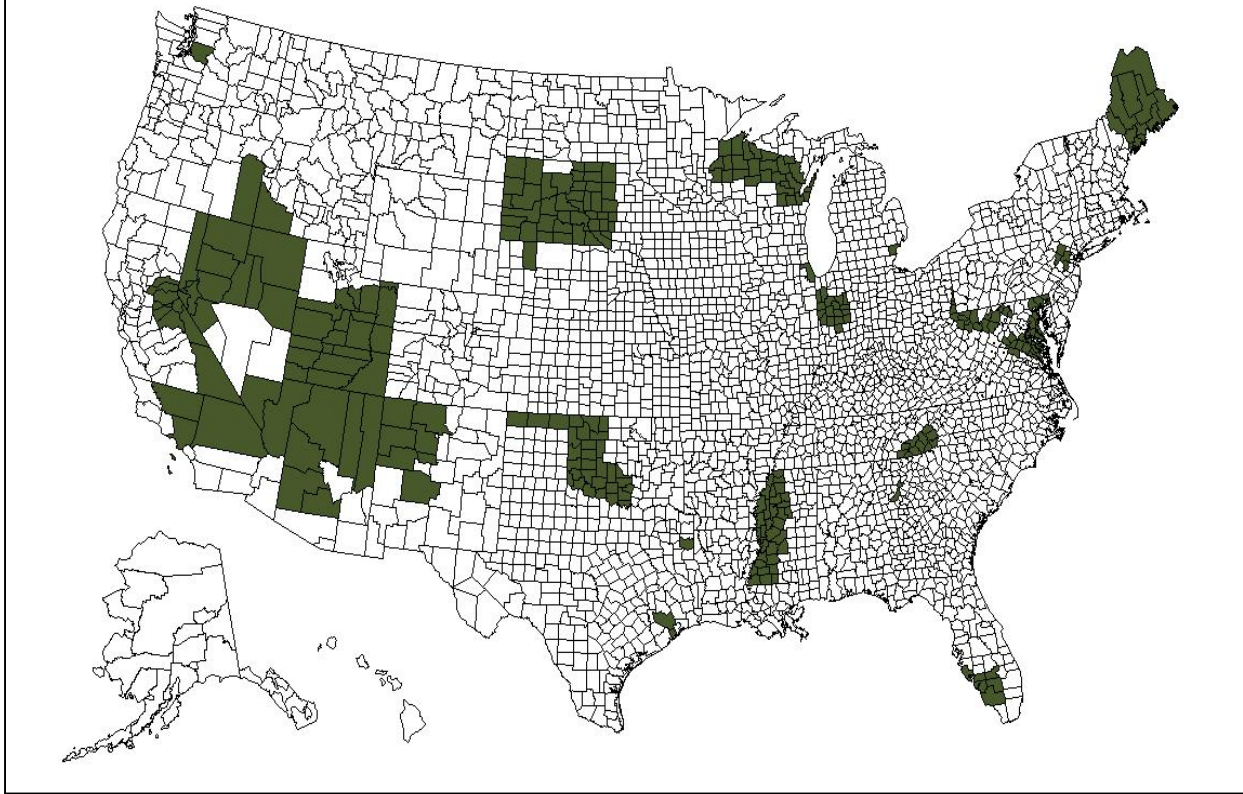
***Observations of Census Bureau Operations Uncover Recurring Problems***

The Census Bureau’s 44 decennial operations for 2010 span several years and entail providing support, establishing where to count, collecting and integrating respondent information, providing results, measuring coverage, and performing analysis and research for the 2020 Census. This year, we are reviewing firsthand aspects of many of these operations and have deployed substantial numbers of staff to observe Census work in the field. Figure 5 shows the extent of our oversight during selected early Census operations. The figure shows the number of OIG staff conducting specific field observations, providing office infrastructure (managerial, technical, and administrative support), and carrying out OIG evaluation work (contract evaluations, information technology capacity and capability assessments, physical and IT security assessments, and the continuation of work supporting field observations) from OIG headquarters and regions. Figure 6 shows the areas of the country where we conducted observations during this quarter.



Source: OIG

**Figure 6: OIG Observation Areas, March 1—April 9, 2010**



Source: OIG

Our observations of Census operations during this quarter included U/L, U/E, ETL, and SBE, which is part of group quarters enumeration (GQE). Table 2 summarizes by operation some of the problems noted at the sites we visited. A more detailed discussion of each operation is also included in this section.

**Table 2: Problems Noted During OIG Field Observations**

Census Operation	Observation Dates	# of LCOs <sup>a</sup> Visited	Problem Areas (number of LCOs)				
			PBOCS	DAPPS	Maps	Training	Procedures
U/L	3/1-3/12	5	2	2	2	0	3
U/E	3/15-4/16	9	5	3	7	1	7
ETL	3/22-4/2	12	11	6	11	1	10
SBE	3/28-4/1	13	10	9	N/A	2	8

Source: OIG

<sup>a</sup> Local Census offices

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**Update/Leave.** U/L is the operation in which census questionnaires are delivered to those areas of the United States in which the intended housing units would not be reached through normal mail delivery. During U/L, enumerators travel around assigned areas and conduct interviews to update residential addresses—including making corrections, adding and deleting addresses, and updating Census maps as necessary. At each address, enumerators will leave a 2010 Census questionnaire for an occupant to complete and mail back to the Census Bureau. The operation began on March 1, and accounted for about 11 million of the more than 130 million addresses in the Census Master Address File. We deployed 10 staff members in five cities to observe this operation, covering four different Census regions: Southaven, Mississippi, and Galveston, Texas (Dallas region); Provo, Utah (Denver region); Chicago, Illinois (Chicago region); and Ft. Myers, Florida (Atlanta region). According to Census's weekly updates, as of April 5, U/L production was 100 percent complete, with \$105 million (79 percent) of its \$133.6 million budget spent. However, as a result of PBOCS' problems, we could not independently verify these figures.

OIG staff observed 15 different U/L enumerators cover more than 325 miles to count over 300 living quarters. Enumerators generally followed Census procedures while canvassing and were able to update and correct Census maps and lists. Enumerators in two assignment areas, however (Fort Myers and Galveston), experienced problems completing their assignments because the maps they were using to locate housing units had erroneous data that should have been corrected during the spring 2009 address canvassing. Specifically, maps were missing existing housing units and roads, as well as other incorrectly located map spots. In Galveston, a map showed several housing units on a street that had been destroyed during Hurricane Ike in 2005. Also, in Fort Myers, we observed one U/L enumerator repair Census map errors that had not been corrected after she herself had canvassed the same block during address canvassing; she had, at that time, made the necessary corrections.

During U/L, local Census office managers reported that PBOCS was easy to learn and use, and Census headquarters and regional Census centers often responded quickly to outages and other maintenance problems. According to Census field personnel, PBOCS outages affected efficiency in the local Census offices, but they generally did not have a correlated effect on field progress in these smaller operations. PBOCS inefficiencies do, however, affect the cost of operations. Specifically, local Census offices are concerned about usage restrictions and the lack of real-time updates for NRFU. While the offices reported that they understand the need for some workarounds, managers and clerks would like to see PBOCS work more quickly and efficiently, break down far less often, support more users, and provide more up-to-date data.

**Update/Enumerate.** The U/E operation entails a method of data collection conducted in communities in which many housing units lack house numbers and street names for mailing addresses. This method is used on American Indian reservations, in rural Spanish-speaking communities, and in resort areas with high concentrations of seasonally vacant living quarters. Similar to U/L, the U/E field staff canvass assignment areas to update residential addresses and maps. In addition, staff enumerate the population. U/E began on March 22, and is scheduled to continue through June 9. According to Census, as of April 12, the U/E operation had completed 42 percent of its assignment areas for production and 4 percent for quality control, and has expended \$33 million of its \$124 million budget (26 percent). Again, however, as a result of PBOCS' problems, we could not independently verify these figures.

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We sent 18 staff members to eight local Census offices in Arizona, Maine, South Dakota, Texas, and Wisconsin to observe the U/E operation. We observed 48 different enumerators complete 203 enumerations. We also observed 312 enumerations that could not be completed due to people not being at home during workday hours, staff encountering locked gates, or in a couple of instances, people not wanting to provide information.

Inaccurate Census maps were the main problem in six of the eight local Census offices. Map issues observed included the following:

- Map spots (housing units) were not correctly located on the maps.
- Maps did not contain all housing units in the block, resulting in many add-ins by the enumerators.
- Maps had map spots for housing units that were no longer there, resulting in many deletions.
- One of the maps was incorrectly oriented for direction and was deemed unusable.
- At one location, some Census maps were deemed to be unusable by the enumerators and local site maps were used instead.

We are planning to return to some local Census offices in early May to assess the progress of the operation and its conformity to the quality control procedures. During our initial visits, we found that the operation faced possible delays. Due to problems retaining enumerators, some crew leader districts continued to conduct enumerator replacement training in an extended effort to build the staff needed to meet the schedule. Along with map problems, enumeration efforts were hindered by necessary, but inherently difficult, travel—lengthy trips over rough and unpaved roads to remote housing units, only to find the residents absent or reluctant to respond. In addition, one local Census office was experiencing high turnover of key managers. As deadlines approach, Census needs to be sure, in the face of all these difficulties, that quality is not short changed.

**Enumeration at Transitory Locations.** ETL is designed to provide coverage for locations in which people live in nontraditional housing that is transient in nature. Most census questionnaires are mailed, or hand-delivered by Census employees, to known addresses. For this operation, Census staff interview people at the transitory locations and complete questionnaires for those persons who have no other usual residence most of the time. For numerous reasons, some people no longer maintain a traditional residence (e.g., house, apartment) and live in carnivals, motorized recreational vehicles, trailers that are pulled by a car or truck, boats in marinas, or any other type of movable housing, including tents. Also, this operation counts people who live in hotels or motels on a transitory basis because they have no other residence. ETL began on March 19, and was scheduled to continue through April 12.

We sent two OIG staff members to each of the 12 Census regions to observe ETL. We observed multiple enumerators driving long distances, often without carpooling, to enumerate few or no occupied sites. Many of the local Census offices had finished or almost finished this operation by the end of the first full week (March 26), almost 3 weeks early. The remaining local Census offices were mostly complete just one week later. This quick completion of ETL indicates that

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the local Census offices hired more people than necessary to conduct the operation in the scheduled 4-week period, resulting in excess salary payments to those additional people who attended the 3 days of paid classroom training. This may have occurred for two reasons: (1) the bureau continues the practice of “frontloading”—hiring and training more decennial field operations enumerators than needed to compensate for no-shows, dropouts, and expected turnover. As a result, field offices initially deploy all employees, without a sufficient workload; (2) the initial screening information collected for each transitory location was often incorrect or missing. Consequently, crew leaders could not adequately estimate the number of Census staff needed to enumerate a transitory location, which increased the cost of operations.

OIG observers noted that ETL enumerators were not using Census maps in accordance with the directions provided in the 2010 Census ETL enumerator manual, i.e., updating the Census block maps. In some instances, only the transitory location site maps were used as the primary tool, not the official Census maps. The site maps were then used to update the Census maps as an office procedure. As a result, map spots may not have been placed in correct locations. In addition, OIG observers noted that in several cold-climate areas (e.g., Augusta, Maine; Morgantown, West Virginia; and Asheville, North Carolina), many of the listed campgrounds or marinas could not be enumerated because they were not open for business during the dates of the operation.

Finally, the ETL operation appears to carry a high monetary cost, given the low number of questionnaires collected. Only 118,459 questionnaires were collected during the operation, according to the regional Census center progress report dated April 14. According to Census’s status report, as of April 12 it had enumerated 46,300 transitory locations (96 percent) and expended \$12.5 million (68 percent) of its \$18.4 million budget amount for this operation. As a result of PBOCS’ problems, we could not independently verify these figures. However, based on this data, Census spent approximately \$105 per questionnaire collected in the ETL operation. By comparison, Census estimated the cost per completed questionnaire for mailout/mailback forms to be \$0.42, and for NRFU to be \$57.08.

**Service-based Enumeration.** There are significant logistical challenges and unique enumeration procedures associated with SBE. This operation, which is part of GQE, provides homeless individuals with an opportunity to be counted. Census enumerators visited homeless shelters, mobile food vans, and targeted non-sheltered outdoor locations (TNSOL) from March 29 to March 31. Local Census offices communicated with homeless shelters and food kitchens in advance to determine how many enumerators would be needed at each site and when the enumerators should visit. In coordination with the Census Bureau’s partnership program, the local Census offices also had to decide which outdoor sites to visit on March 31. According to Census, as of April 12 it had spent \$45 million of the \$87 million (52 percent) budgeted for the GQE operation. Again, PBOCS’ problems prevented us from independently verifying these figures.

Preliminary analysis of our observations indicates mixed results regarding the Census Bureau’s ability to meet the logistical challenges and consistently follow the unique SBE procedures. Unique to this operation, enumerators were allowed to create an individual Census record based on their direct observation of the race, gender, and ethnicity of the respondent. Enumerators were not required to obtain names or dates of birth from such respondents. Additionally, the Census

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Bureau's GQE manual indicates that enumerators should recount any individual who asserts that he/she has already been counted.

We identified concerns with inefficient staffing, coordination with partnership and service sites, selection of TNSOL sites, and inconsistent handling of individuals who either (1) stated that they had already been counted, or (2) stated that they had an address. We observed 83 enumerations—at shelters, soup kitchens, food vans, and TNSOL sites—carried out by 13 local offices. In over half of our observations, enumerators were inconsistent in deciding whether or not to recount individuals who stated that they had already been counted. We also identified inconsistent practices when respondents indicated that they had an actual residential address. In particular, some of these individuals were counted during SBE, while other individuals were told that they could not be counted because they were not homeless. The enumerators' natural inclination to avoid duplication often contradicted the procedures in the Census GQE manual.

Lack of coordination was also an issue in some of our observations. Specifically, enumerators were sent to shelters, soup kitchens, and mobile food vans at inopportune times for enumerating the populations served by those organizations. In such cases, teams needed to wait up to several hours before enumeration could begin. Additionally, a majority of local Census offices expressed frustration to us about the partnership program's selection of specific outdoor locations for enumeration. They commented that the partnership staff missed deadlines and provided poor-quality site lists. To deal with this challenge, these local Census offices used their own staff members and incurred additional labor costs to identify TNSOL sites for enumeration. We also found many enumerator teams to be unnecessarily large—an average ratio of one enumerator for just seven homeless respondents for non-TNSOL operations. As a result, we observed significant periods of inactivity at these locations, which unnecessarily increased the cost of the SBE operation.

In most cases, we observed competent, adequately trained, professional, and respectful SBE enumerators and crew leaders, but this did not reduce the potential risk of duplicate records or negate poor site selection, scheduling, and coordination issues. When deviating from established procedures, enumerators appeared to follow a more common-sense approach to reducing the risk of duplicate records. However, this risk remains great for individual records created during SBE. We have not reviewed the process Census will use to remove duplicate records for enumerations that were simply based on direct observation of race, gender, age, or ethnicity, and in which no birth date or name was provided. Given the inherent challenges in the SBE operation, in the 2020 Census the bureau should devote more time to advance coordination with SBE sites, establish procedures to mitigate the risk of duplicate records, and institute a more effective process for selecting and confirming TNSOL sites. Such measures would aid efficiency, decrease cost, and—most importantly—increase the accuracy of the census process.

**Training Methods for Census Operations.** As in the past four decennial censuses, the bureau uses a “verbatim” training methodology whereby recently trained crew leaders read to trainees word for word from a manual how to conduct a census operation. Class size ranges from 6 to 20 enumerators, and the trainer is typically the leader who will manage the “crew” of enumerators. Our observations of the U/L, ETL, and U/E training have shown that the quality of the training varies, depending on the crew leader's reading and speaking ability, and suffers because of the

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numerous errors contained in the manuals and the one-size-fits-all approach, which does not provide employees with the necessary information to accomplish the job.

These observations parallel similar findings in OIG reports on Census's 2004<sup>2</sup> and 2006<sup>3</sup> mid-decade tests. We urged the bureau to incorporate a mix of DVD, VCR, and Internet media for homework assignments and other portions of the class; use visual aids to supplement the verbatim training; and incorporate role playing, such as practice interviews to simulate hands-on experience performing their duties. Census told us that it lacked resources, both financial and staff, to modify the 2010 training, although it appears additional role playing has been added. However, even that role playing tends to be verbatim script reading and does not cover the often difficult situations encountered during census operations or the challenges unique to a specific geography or location. Census 2020 planning should undertake a thorough review of the decennial training process.

**Questionnaire Assistance Centers (QACs) and Be Counted (BC) Sites.** While conducting field observations and office interviews, OIG staff also visited a small number of QACs and BC sites. One common question Census staffers receive from the community and the media is, "Where is my census form?" Similarly, one individual who contacted the OIG Office of Investigations hotline<sup>4</sup> expressed concern because his/her community of 88 homes had not received its census forms, while other neighborhoods had received three forms. This person stated that the Census advertisements explain the importance of promptly completing and returning the census questionnaire; the caller wondered whether the situation might point to inefficiency, waste, and incompetence. This complaint indicated that some of the public may not have been clearly informed about Census's varying canvassing methods. For example, based on address type, some members of the public would receive their census forms during the U/L, U/E, or ETL operations instead of during the mail-out/mail-back operation.

Another sign of missed opportunities for Census to communicate its mission is that it did not make available *Be Counted* forms at various public-awareness events. *Be Counted* forms provided the opportunity for households who did not receive a questionnaire in the mail to participate in the census process. The forms were available for pick-up at *Be Counted* sites such as public libraries. Census Bureau management argued against making these forms available at public-awareness events because doing so increased the possibility of duplicate enumerations and the potential for extra/unnecessary work during NRFU or field verification. Nevertheless, this approach resulted in the public being unaware of Census's alternate methods for information collection. Furthermore, when individuals sought Census information elsewhere, such as the National Census Assistance hotline, callers before April 12 received automated, largely

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<sup>2</sup> *Improving Our Measure of America: What the 2004 Census Test Can Teach Us in Planning for the 2010 Decennial Census*, Office of Inspector General (OIG-16949-1, March 2004).

<sup>3</sup> *Enumerating Group Quarters Continues to Pose Challenges*, Office of Inspector General (IPE-18046-09-06, September 2006).

<sup>4</sup> The OIG Office of Investigations receives Department of Commerce-related allegations of waste, fraud, and abuse, as well as other complaints, from U.S. residents and government employees, through a confidential e-mail/telephone "hotline." For each complaint received, OIG decides whether to forward to the relevant Commerce agency and require a timely response, forward without requiring a response, or retain within OIG for further investigative or audit inquiry.



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unhelpful menu options that did not clarify why callers had not received forms and did not provide details on alternate methods for participation in the enumeration process. On April 7, the Census Bureau's Director posted a blog entry explaining why certain populations had not yet received forms and encouraging readers to call the telephone questionnaire assistance line starting April 12. While this helped users of [2010.census.gov](http://2010.census.gov) identify where to find census forms, those who did not access Census online were less likely to receive the message that Census headquarters, QACs, and BC sites worked hard to deliver. Census should address this issue to improve its communications with the public for the 2020 Census.

**Chapter 3:  
2010 Census Costs Can Be Expected to Rise**

The 2010 Census is currently estimated to cost approximately \$14.7 billion, reflecting an increase of \$3.2 billion over the last 2 years. For this fiscal year, spending on the 2010 Census is projected to total \$7.4 billion. From January through March 2010, the bureau spent less money than it had budgeted due to salary costs that were not incurred and obligations that were delayed. Also, Census has spent more than half of the Recovery Act funds available for this fiscal year. Census will experience an increase in cost over the coming months as obligations for the NRFU operation are realized.

***Census Spending During This Quarter Has Been Under Budget, but Future Operations Will Be More Costly***

The Census Bureau monitors the status of budget and accounting for the 2010 decennial census on a monthly basis. The results are contained in several documents, including the monthly status reports sent to the Office of Management and Budget, internal financial management reports (FMRs), and internal cost variance analyses. Cumulative planned spending and actual expenditures are presented monthly. Individual categories may be over or under budget for the month, which when combined show the overall budget variance for the 2010 Census. These major areas, in turn, contain nearly 300 individual projects, each with a project manager and numerous cost categories.

According to Census FMRs, it spent approximately 7 percent less than planned for the 6-month period ending March 31, 2010 (see table 3). Table 3 also shows a variance ranging from 7 percent over budget to 48 percent under budget when comparing the monthly actual spending to the monthly operating budget. Monthly status reports for January through March show that expenditures were lower in nearly all budget frameworks as a result of salaries that were not incurred, obligations that were delayed, and delays in hiring local Census office staff, among other reasons. We will continue to monitor spending to assess whether delayed obligations have any impact on program activities during subsequent months.

***Details of Census's Revised NRFU Cost Estimate Remain Unchanged***

The budget for the operation was projected at almost \$3 billion with an additional \$411 million in contingency funds to cover any cost overruns. In our last quarterly report we stated that Census budget staff, with the help of a consultant, analyzed the NRFU budget estimate to determine whether the original estimate was sufficient. By developing over 1,000 likely cost estimates using a number of factors, the bureau reached what it considers a reasonable NRFU cost estimate of \$2.33 billion. This figure is within the analysis's distribution of costs, which ranges from \$1.94 billion to \$2.83 billion. The range was necessary because of uncertainty about two major cost drivers—mail response and worker productivity. To these drivers we would also add the unknown impact on operations of a PBOCS with reduced functionality and performance. However, the bureau's budget for NRFU remains unchanged at \$2.83 billion.

**Table 3. Comparison of 2010 Annual Plan and Cumulative Planned to Actual Costs for FY 2010**  
 (\$ in millions)

Month	Monthly Plan <sup>a</sup>	Monthly Actual Spending	Monthly Variance	Monthly Variance: % Under (Over) Budget	Cumulative Planned Spending <sup>b</sup>	Cumulative Actual Spending	Cumulative Variance	% Under Budget
October	\$465	\$460	\$5	1%	\$465	\$460	\$5	1%
November	534	366	168	31%	924	825	99	11%
December	315	164	151	48%	1164	989	175	15%
January	358	293	65	18%	1469	1282	187	13%
February	322	258	64	20%	1681	1540	141	8%
March	540	579	(39)	-7%	2285	2119	166	7%

Source: U.S. Census Bureau Financial Management Reports

<sup>a</sup> Annual operating budget as presented in the October 2009 Financial Management Report

<sup>b</sup> As revised between November 2009 and March 2010 and reported in the Monthly Status Report

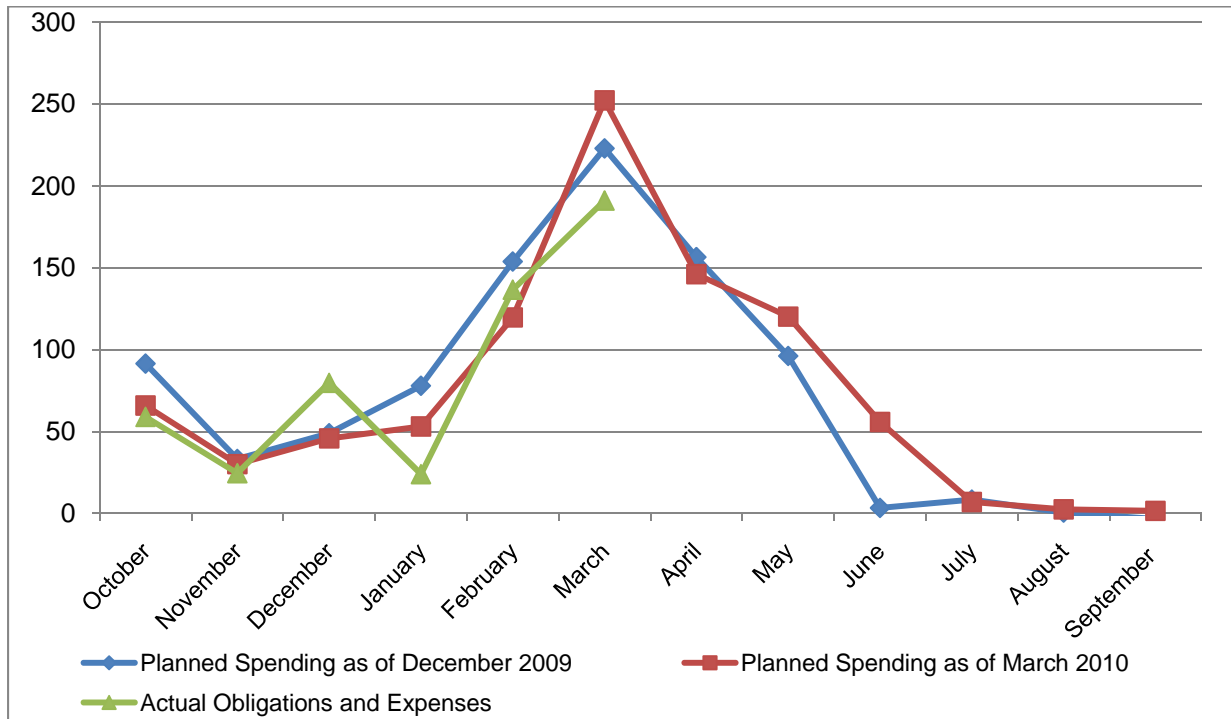
### ***Census Is on Track to Spend its Available Recovery Act Funding During the Remainder of this Fiscal Year***

The Recovery Act provided the Census Bureau with \$1 billion to improve communications and outreach (\$250 million) and to fund early operations (\$750 million) for the 2010 census. Figure 7 shows the level of monthly planned spending of Census's remaining Recovery Act funds for the rest of FY 2010 as revised by Census in December 2009 and March 2010, as well as obligations incurred January through March 2010.

According to its March 2010 financial management report, the bureau has obligated \$515 million of its Recovery Act funding through the first 6 months of this fiscal year, which is slightly less than half of the \$900 million that was available. During this quarter, Recovery Act funding was used to fund partnership staffing, the advertising contract, early Census operations, including U/L, U/E, GQE operations, and the coverage follow-up contract.<sup>5</sup> The bureau currently plans to spend an additional \$322 million over the next quarter and expects its Recovery Act funding to last through this fiscal year.

<sup>5</sup> Coverage follow-up aims to improve the coverage of the 2010 Census by using temporary employees to conduct telephone interviews with large households and housing where the reported household size was different than the number of persons for which data were provided on completed questionnaires.

**Figure 7. Recovery Act Funds—Planned vs. Actual Spending, FY 2010**  
(in millions of dollars)



Source: U.S. Census Bureau

### ***Census Needs to Improve the Transparency of Its Financial Management Reports***

The Census Bureau issues an FMR monthly. The FMRs are the basis for portions of the monthly status reports that are provided to the Office of Management and Budget. We expressed concerns with these reports in the August 2009 *First Quarterly Report to Congress*. In that report, we stated that from an oversight perspective, it is not clear why or when the bureau has determined that it must draw from its contingency reserve rather than realigning its operating plan to draw money from operations with budget under runs. We recommended that Census strengthen the process for preparing and reviewing monthly status reports for the remainder of the 2010 Census. We have a similar concern with the reporting of surpluses.

The FMR shows the amount Census plans to spend for all Census operations and activities, the amount actually expended, and the variance between the planned and actual spending by month for the current fiscal year. Our analysis of the October 2009–March 2010 FMRs found that Census adjusts the annual plan figures for previous months. According to bureau officials, only the month in which the FMR is issued shows that month’s performance. Surplus funds are often re-planned for another purpose in a later month and are no longer visible in subsequent reports. Census officials stated that the re-planned funds may still be in the same project in a later month

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or moved to a new project/division based on updated program plans, spending requirements, and expected operational needs. Table 4 shows the month of October 2009, moving from a surplus of \$5.7 million in the October 2009 FMR, to a deficit of \$151.6 million in March 2010 FMR. In subsequent FMRs it is impossible to identify the project/division to which the \$5.7 million surplus was assigned.

**Table 4. Analysis of Census FMRs for the Month of October 2009**  
(\$ in millions)

Data for October 2009 as reported in FMR	Oct-09 FMR	Nov-09 FMR	Dec-09 FMR	Jan-10 FMR	Feb-10 FMR	Mar-10 FMR
Annual Plan to Date	\$465.2	\$406.4	\$360.3	\$347.5	\$319.6	\$307.9
Expended Obligated	459.5	459.5	459.5	459.5	459.5	459.5
Variance to date	5.7	(53.1)	(99.2)	(112.0)	(139.9)	(151.6)

Source: U.S. Census Bureau

Therefore, the claim that some activities are within, above, or below budget cannot always be determined in the FMRs after the month of a specific FMR's release. In the subsequent month, surpluses may be moved (or re-planned), resulting in a deficit or elimination of the surplus.

In a separate memorandum to the Census Bureau, we are recommending that the Director ensure improvements are made in the transparency of its budget process, especially the presentation of surplus (or elimination of the surplus) as shown in the FMRs.

**Chapter 4:**  
**Update to Census's Risk Management Activities and Security**

As our previous quarterly reports have noted, the bureau's risk management program represents a significant improvement over the 2000 decennial, which lacked a formal risk management process. Census's Risk Review Board (RRB)—a subgroup of the Census Integration Group—continues to oversee risk management activities and update its risk register. As of April 8 the register contained 24 program-level risks, with each rated high (likely), medium (somewhat likely), or low (unlikely)—colored red, yellow, or green, respectively. As discussed in our third quarterly (for the period October–December 2009), Census reported 8 high-, 14 medium-, and 3 low-level risks. For the period January through March 2010, the RRB upgraded two medium risks to high risks, downgraded a medium risk to a low risk, and closed one risk. Also during this period, the board held monthly meetings to specifically review each risk rating on its register to comply with the requirements of its risk management plan. Finally, the RRB continued to finalize and implement contingency plans for program risks to guide the bureau in addressing problems that might arise should mitigation plans and activities fail. We reviewed four additional contingency plans that have been completed to date, and they appear to be adequate and informative.

***Risk Review Board Continues Monthly Reviews and Updates the Risk Register***

The RRB continued to hold monthly meetings in addition to its weekly meetings, to review the status of each program-level risk and to verify whether individual risk managers are appropriately monitoring and assessing their respective risks. The monthly meetings have been useful for the board as several risk status changes have been made at those times. Table 5 indicates the current risk-level ratings.

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**Table 5. Program-level Risk Ratings, as of March 24, 2010,  
Indicating Changes From Previous Quarter**

<b>Risk Grouping</b>	<b>Risk</b>	<b>December 2009</b>	<b>March 2010</b>
<b>Operations and Systems Risks</b>	Contract management issues	High	High
	Late design changes	High	High
	2010 operational and systems failures	High	High
	FDCA decentralization/reintegration	High	High
<b>Quality Risks</b>	Housing unit duplicates and misses	High	High
	Exception enumeration quality	Low	Low
	Inaccurate Puerto Rico address list <sup>a</sup>	Medium	High
	Data quality	Medium	Medium
	Within-household person over-coverage and under-coverage	Medium	Medium
<b>Public Cooperation Risks</b>	IT security breach	Medium	Medium
	Loss of confidential data affecting response	Medium	Medium
	Respondent cooperation	Medium	Medium
	Stakeholder support	Medium	Medium
	Immigration policy backlash <sup>a</sup>	Medium	High
<b>Major Disasters Affecting Population</b>	Major disaster's effect on population	High	High
	Continued operations of critical infrastructure during disasters	Medium	Medium
<b>Staffing Risks</b>	Permanent staff retention	Low	Low
	Inability to recruit sufficient temporary workforce	Low	Low
<b>Budget Risks</b>	Uncertainty of assumptions in cost model	Medium	Medium
	Continuing resolution <sup>b</sup>	Medium	Closed
	Insufficient funding	Medium	Medium
<b>Schedule</b>	Falling behind schedule on key milestones	High	High
<b>Not Yet Categorized</b>	H1N1 influenza affecting regional Census' centers and local Census offices activities	Medium	Medium
	H1N1 influenza and similar contagious illnesses affecting non-regional Census centers and non-local Census offices activities <sup>c</sup>	Medium	Low
	Litigation that threatens the delivery of apportionment and redistricting data	High	High

Source: U.S. Census Bureau data

<sup>a</sup> Risk increased from medium in December 2009 to high in January 2010.

<sup>b</sup> Risk has been closed.

<sup>c</sup> Risk decreased from medium in December 2009 to a low in March 2010.

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The RRB agreed to close the “Continuing Resolution” risk and remove it from the risk register. The significant cost of the 2010 Census is incurred during FY2010. Because the budget requests for FY2011 through FY2013 are each less than the previous fiscal year, there is no longer a concern that Census will have inadequate funds for operating under a continuing resolution<sup>6</sup>.

At the January monthly status meeting, the RRB increased the “Immigration Policy Backlash” risk from a medium- to a high-level risk due to the board’s concern for a potential boycott. Although boycotts had been threatened in the past, the board felt that the existing boycott had the potential to become national. At the same time, the board agreed to change “Inaccurate Puerto Rico Address List” from a medium- to a high-level risk. Puerto Rico has unique address fields that do not match Census’s address systems. The division responsible for delivering the final processing requirements to accommodate the Puerto Rico fields into the address file used for NRFU was approximately 2 months behind schedule; this delay could affect the NRFU operation in Puerto Rico. Recognizing this, the board took action by raising it to a high-level risk.

At the February monthly status meeting, the RRB decreased the “Influenza and Similar Contagious Illnesses Affecting Non-regional Census Centers and Non-local Census Offices’ Activities” risk from medium to low because the board felt comfortable with the status of Census’ mitigation strategies and actions, such as having hand sanitizer available to staff, and due to the approaching end of flu season. However, the RRB was hesitant to lower the “Influenza Affecting Regional Census Centers and Local Census Offices” risk because NRFU, the largest operation, had not yet begun.

At the April monthly status meeting, the RRB reported that the risk “Housing Unit Duplicates and Misses” encompassed changes to the environment that could potentially affect the risk. For instance, weather prohibited certain geographic areas in the U/L operation to be accessed and completed during the scheduled timeframe. As a result, Census is taking appropriate action by adding these inaccessible areas into the NRFU operation with designation for the enumerators to identify potential missed or new housing units not included in the address list. Secondly, not all binders containing work assignments from U/L have been accounted for; efforts are underway to locate the missing binders. If Census is unable to locate a binder, the assignment will be added to NRFU with designation for the enumerator to identify potential missed or new housing units not included in the address list. Lastly, Census is continuing to work with six American Indian reservations to convince them to participate in the 2010 Census. Despite these changes, the risk rating was not changed due to its already high-level rating.

**Update on Contingency Plans.** Census’s risk management plan calls for development of contingency plans to guide the bureau in addressing problems that might arise should mitigation plans and activities aimed at program risks fail. During this period, the RRB continued to review drafts of contingency plans for the 12 of 25 risks that it selected for such plans. Table 6 shows the status of the 12 risks selected for contingency planning.

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<sup>6</sup> A continuing resolution is legislation that provides temporary program funding at current levels or less in situations where the current fiscal year ends without a new program appropriation in place.



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As of March 24, 2010, the board had finalized eight contingency plans and given preliminary approval for four others. These plans will become effective upon final RRB review once the board's comments from a previous review have been addressed. In the last quarterly report, the status included two contingency plans in progress, seven conditionally approved, and four finalized. Since that report, the RRB has finalized four additional contingency plans and closed the "Continuing Resolution" risk, which had previously been selected for a contingency plan. However, with several decennial operations completed or underway, and NRFU—the largest decennial operation—beginning in May, it is a concern that a significant number of contingency plans have yet to be finalized. For example, as we have reported in each of our three prior quarterly reports, PBOCS has experienced major problems in the field, yet the contingency plan for the risk "2010 Operational and Systems Failures," which should guide Census staff in dealing with such problems, has not been finalized.

**Table 6. Status of Contingency Plans, as of March 24, 2010, Indicating Changes From Previous Quarter**

Risk	Risk Status, March 2010	Contingency Plan Status		
		In Progress	Conditionally Approved	Finalized
IT security breach	Medium			X
Loss of confidential data affecting response	Medium			X
Continued operations of critical infrastructure during disasters	Medium			X
H1N1 influenza affecting regional Census centers and local Census offices activities	Medium			X
Uncertainty of assumptions in cost model	Medium			X
Continuing resolution	Closed			
Insufficient funding	Medium		X	
Housing unit duplicates and misses	High			X
Falling behind schedule on key milestones	High		X	
2010 operational and systems failures	High		X	
Within-household person over-coverage and under-coverage	Medium		X	
Major disaster's effect on population	High			X
H1N1 influenza and similar contagious illnesses affecting non-regional Census centers and non-local Census offices activities	Low			X

Source: U.S. Census Bureau data

***Finalized Contingency Plans Appear to Address Program Risks***

The four contingency plans finalized since the last quarterly report are for the following risks: (1) “H1N1 Influenza and Similar Contagious Illnesses Affecting Non-regional Census Centers’ and Non-local Census Offices’ Activities,” (2) “Major Disaster’s Effect on Population,” (3) “Uncertainty of Assumptions in Cost Model,” and (4) “Housing Unit Duplicates and Misses.” A contingency plan will be triggered if its mitigation activities are no longer effective, prompting the risk to materialize. When a trigger—such as a date or an event—occurs, appropriate Census staff will assess impacts to the decennial schedule and resources, take necessary actions to resolve problems, and monitor their effects on operations. Overall, these finalized contingency plans appear to be reasonable for addressing the potential risks if they occur.

The combined mitigation and contingency plan for the risk entitled “H1N1 Influenza and Similar Contagious Illnesses Affecting Nonregional Census Centers’ and Nonlocal Census Offices’ Activities” was added in the event that an H1N1 influenza outbreak sickened large numbers of decennial staff or contract employees at major locations such as headquarters and data capture centers.

The contingency plan for the risk “Major Disaster’s Effect on Population” considers the planning and response needed should a natural or manmade disaster impair the completion of a field operation. The plan provides an assessment framework to evaluate the severity of the disaster and provides examples of post-analysis results, such as delayed or limited access to geography/population and displaced population. If a trigger occurs, the plan relies on a rapid response team to take appropriate action depending upon the nature of the disaster, the operation impacted, and the magnitude and timing of the impact. Although a rapid response team would be beneficial, the plan would have been more helpful if it identified general methods and actions for responding to various post-analysis results, such as displaced populations.

The contingency plan for the risk “Uncertainty of Assumptions in Cost Model” addresses the risk that inaccurate cost model assumptions will affect Census’s field operations. This plan details triggers that focus on identifying projected expenditures for operations that exceed a certain percentage of total planned expenditures. For example, one of the triggers occurs when expenditures after initial training for NRFU or vacant/delete check exceed 15 percent of their respective budgets. This development indicates possible over-hiring that could result in the bureau’s exceeding overall planned expenditures for those operations. When a trigger occurs, Census staff will quickly analyze whether the projected shortfalls can be mitigated by management action or covered by the budgeted contingency for that operation. If not, Census must prepare a justification to the Department and the Office of Management and Budget requesting additional funds from outside the bureau. By monitoring expenditures and projecting overruns early in an operation, Census can act to avoid exceeding the budgets for its operations and ensure that its overall contingency fund is adequate to cover cost overruns.

Finally, the contingency plan for the risk “Housing Unit Duplicates and Misses” has the intent of minimizing significant under- or over-coverage by reducing the number of housing-unit duplicates and misses. The plan includes three triggers, with two focusing on under-coverage and one on over-coverage. The first trigger for under-coverage, which has already been activated and

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monitored since October 2009, involved comparing post-address canvassing counts at a county level against independent county-level estimates from a Census division. When the criterion for the data threshold was met for a county, follow-up research was completed. Addresses added as a result of this research will be located and enumerated during the vacant/delete check component of NRFU.

The second trigger for under-coverage, which has already been activated and monitored since November 2009, involved investigating the 96,000 potential housing unit addresses identified during the quality control segment of address canvassing. Addresses that were not found in Census's address file will be added to the enumeration workload during vacant/delete check.

The trigger for over-coverage includes comparing the estimated field verification workload of 2 million housing-unit duplicate cases against the actual workload received. If the actual workload is substantially higher, a rapid response team will convene to discuss a course of action. This plan includes actions that should help diminish the number of housing unit duplicates and misses as a way to improve the quality of the census.

### ***OIG Tests Security at Key Census Facilities***

All 2010 Census questionnaires mailed to U.S. residents during the course of the census are returned by mail to one of three national data-capture centers located around the country. At these centers, the completed forms are converted to digital images and the results transmitted for further processing. In order to help ensure the safe, timely, and uninterrupted conduct of the 2010 Census, we performed physical security penetration testing at these facilities in March 2010. The testing was scheduled for a time frame that would allow the Department to take corrective action before mail responses were returned to the centers. We used a scenario-based testing program in which role players from OIG attempted to access each facility in ways that would identify gaps and deficiencies in physical security for appropriate remediation.

We coordinated with the Department's Office of Security and with Census Bureau officials, both in preparation for and during the testing, to ensure that the testing could be conducted in a safe manner for all participants. This liaison also ensured that testing was conducted with minimal disruption to the production operations of the facilities. Finally, it allowed Office of Security managers to be present to see firsthand the issues our testing disclosed, and thus facilitated the immediate correction of identified vulnerabilities where possible.

Our testing program disclosed minor issues and suggested refinements in training and procedures at some locations. At other locations, we discovered and brought to light significant vulnerabilities in need of prompt correction, which might not otherwise have been detected by Census or the Department. At all tested facilities, we conducted immediate debriefings with Census and Security management personnel, and made recommendations as to security needs highlighted by our testing. The Census Bureau and the Office of Security have informed us that they have implemented significant improvements in security at these facilities as a result of this program, and have expanded their own internal program of penetration testing, which will continue throughout the remainder of the 2010 Census.

### **Appendix A: Objectives, Scope, and Methodology**

To satisfy the requirement for our fourth quarterly report on the 2010 Census, we have provided an update on the status of 2010 Census activities with respect to schedule, cost, and risk management activities. This information covers activities that occurred January–March 2010.

To accomplish our objectives, we conducted a review of documentation, including monthly status reports, field operations logs, computer help desk logs, activity schedules, program management reviews for 2010 Census contracts, and updates to plans for Census-managed activities such as paper-based operations, financial management and status of funds reports, internal budget variance reports, risk registers, and mitigation and contingency plans for program-level risks. We attended weekly schedule and risk management meetings during this reporting period. We also met with system managers, spoke with subject-matter experts, and listened to daily meetings of technical oversight groups.

After intensive planning efforts, we prioritized our review of 2010 Census operations based on their highest perceived risk. We deployed almost 100 staff across the country to perform field observations during early 2010 Census operations including update/leave, update/enumerate, enumeration at transitory locations, and service-based enumeration. To ensure nationwide coverage, we initially selected at least one early local Census office per Census region. We prioritized our selection of local Census offices based on the bureau's demographic measures of enumeration difficulty, operational factors such as blocks with large populations, and significant socioeconomic changes such as high foreclosure rates or high growth rates. Next, we identified a smaller sample conveniently located near OIG offices. The remaining selections were included to ensure adequate representation of population density and specific hard-to-count populations. For example, we intentionally included the rural Mississippi Delta and the hurricane-affected Galveston, Texas, areas. We balanced the sample by including several areas that were not considered hard to count. Finally, we reviewed areas where reported or perceived problems were occurring. Our field operation reviews included observation of operation-specific 2010 Census enumerator training classes, field operations, and local Census office procedures, practices, and conditions.

We conducted this review from February through April 2010, under the authorities of the Inspector General Act of 1978, as amended; Departmental Organization Order 10-13, dated August 31, 2006, as amended; and in accordance with the *Quality Standards for Inspections* (revised January 2005) issued by the President's Council on Integrity and Efficiency.