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YEAR 2000 COMPUTING CHALLENGE

Labor Has Progressed But Selected Systems Remain at Risk

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Mr. Chairman and Members of the Subcommittee:

We appreciate the opportunity to share with you today the significant information technology challenges that the upcoming century change poses to the Department of Labor in general, and two of its entities in particular. The Year 2000 (Y2K) computer crisis has rightly received much attention in recent months; virtually every organization, public and private, that uses computers is at risk. [1] The change of century is a sweeping and urgent challenge; for this reason, we have designated the Year 2000 computing problem a high-risk area for the federal government, [2] and have published guidance to help organizations successfully address the issue. [3]

We reported to this Subcommittee both in July and September of last year on the department's progress in making its systems Y2K compliant. Specifically, in July 1998 we reported on the Year 2000 efforts of the Office of Workers' Compensation Programs and the four mission-critical systems that support it. [4] Our September 1998 testimony identified several areas of risk that remained for the department: benefits payments to laid-off workers, collecting labor statistics, and ensuring accurate accounting for pension benefits. [5]

Today, in addition to updating you on the status of Labor's Y2K program and the progress the department has made in making its 61 mission-critical systems compliant, I will also, as requested, focus on specific Y2K issues facing two of Labor's major component organizations. Specifically, I will

[1] For the past several decades, computer systems have typically used two digits to represent the year, such as "98" for 1998, in order to conserve electronic data storage and reduce operating costs. In this format, however, 2000 is indistinguishable from 1900 because both are represented as "00." As a result, if not modified, systems or applications that use dates or perform date- or time-sensitive calculations may generate incorrect results beyond 1999.

[2] High-Risk Series: Information Management and Technology (GAO/HR-97-9, February 1997).

[3] Year 2000 Computing Crisis: An Assessment Guide (GAO/AIMD-10.1.14, September 1997), which addresses the key tasks needed to complete each phase of a Year 2000 program (awareness, assessment, renovation, validation, and implementation); Year 2000 Computing Crisis: Business Continuity and Contingency Planning (GAO/AIMD-10.1.19, August 1998), which describes the tasks needed to ensure the continuity of agency operations; and Year 2000 Computing Crisis: A Testing Guide (GAO/AIMD-10.1.21, Exposure Draft, June 1998), which discusses the need to plan and conduct Year 2000 tests in a structured and disciplined fashion.

[4] A component of Labor's Employment Standards Administration.

[5] Year 2000 Computing Crisis: Progress Made at Department of Labor, But Key Systems at Risk (GAO/T-AIMD-98-303, September 17, 1998).

discuss the systems operated by states to administer unemployment benefits payments for Labor's Unemployment Insurance Service (UIS),[6] and provide an assessment of the risks faced by the Bureau of Labor Statistics (BLS)—the federal government's principal fact-finding agency in the broad field of labor economics and statistics. We performed our work between March and May 1999, in accordance with generally accepted government auditing standards.

In brief, the Department of Labor has taken action to prepare its 61 mission-critical systems for the change of century. However, with a little more than 7 months left, Labor remains at risk of systems disruptions in two of the areas we highlighted last fall: making benefits payments to laid-off workers and producing labor and economic statistics.

The risk in making benefits payment systems compliant emanates from Labor's reliance on largely unverified progress reports from states and on states' capabilities to get the job done. Several State Employment Security Agencies (SESA) report that they are not yet compliant. Further, the department acknowledges that 4 of the 23 mission-critical systems used by BLS contain a non-Y2K-compliant vendor product. Given these risks, it is important that appropriate contingency plans be developed to ensure business continuity in the event of system failures.

Background

The Department of Labor has primary responsibility for overseeing the nation's job training programs and for enforcing a variety of federal labor laws. Labor's mission is defined as helping job-seekers find jobs and helping employers find workers; protecting the retirement and health care benefits of workers and improving their working conditions; strengthening free collective bargaining; and tracking changes in employment, prices, and other national economic measurements. Labor's diverse functions are carried out through a decentralized organizational structure made up of 22 component agencies and more than 1,000 offices nationwide.

The Congress provided Labor with a budget of about $37 billion for fiscal year 1999 and funded nearly 17,000 staff. About three quarters of Labor's budget consists of mandatory spending on income maintenance programs such as the Unemployment Insurance and Black Lung programs.

[6] A component of Labor's Employment and Training Administration.

Labor's program activities fall into two major categories: enhancing worker skills through job training and ensuring worker protection. A third category relates to developing economic statistics, such as the following Principal Economic Indices: the Consumer Price Index (CPI), [7] the Employment Cost Index (ECI), [8] and the Producer Price Index (PPI) [9], all used to inform and guide a host of decisions in the private and public sectors. Labor assists workers in finding jobs under federal-state partnerships, and also provides temporary income support for laid-off workers seeking new jobs.

Labor's Risks Require Continuous Management Attention

Labor makes extensive use of complex information technology to support programmatic requirements, departmentwide communications, administrative functions, and office automation. It has determined that without the 61 mission-critical systems for which it must ensure Year 2000 compliance, it could not effectively carry out numerous mission-critical functions, including (1) providing income security to millions of workers through a variety of benefits programs, (2) administering nationwide employment and training programs and services, (3) generating vital statistics on the U.S. economy (such as unemployment rates and the Consumer Price Index), and (4) providing essential information to the public on a variety of employment issues (such as the security of pension plans, occupational injuries and illnesses, and employment rights).

If Labor's systems are not Year 2000 compliant, the potential impact could be significant: Billions of dollars in benefits payments, including unemployment insurance and workers' compensation, would be at significant risk of disruption; accurate labor statistics used by both public and private organizations might not be produced promptly; and the ability

[7] The Consumer Price Index is the principal source of information concerning trends in consumer prices and inflation in the United States and is one of the nation's most important economic indicators. The CPI also has a significant impact on the finances of the federal government because it is used to adjust payments to Social Security recipients, to federal and military retirees, and for a number of entitlement programs such as Food Stamps and school lunches.

[8] The Employment Cost Index measures the rate of change in employee compensation, which includes wages, salaries, and the employer's cost of employee benefits. It is used by the Federal Reserve, economic analysts, and economists in the private sector and academia, as well as in setting and making pay adjustments for long-term contracts for the Department of Defense.

[9] The Producer Price Index is generated from monthly survey data to measure average changes in selling prices received by domestic producers for their output. Government, business, labor, universities, and other organizations use PPI outputs.

to manage the billions of dollars in assets for pension benefits guarantees for over 40 million workers could be hampered.

Year 2000 Compliance Is a Departmental Priority

Labor recognized several years ago that the upcoming change of century posed significant challenges, and in May 1996 reported to the Congress that it had initiated Year 2000 remediation activities. It reported to the Office of Management and Budget (OMB) that it completed the awareness phase of its Y2K program that December. During this time period, the Chief Information Officer (CIO) designated a Labor Year 2000 project manager, and together they held a series of briefings with executive staff, administrative officers, and information technology managers to ensure that Labor's executives and senior managers were fully aware of the importance of the Year 2000 problem.

In May 1997, Labor reported to OMB that its CIO had directed each Labor component to designate Year 2000 project managers. The CIO and departmental Y2K project manager instituted two levels of monthly meetings, one with Y2K project managers and another with the department's information technology managers, to track progress and share information on Year 2000 project activities.

To keep senior managers informed on an ongoing basis, Y2K status reports were provided to the Capital Planning Investment Board, chaired by the CIO and including the heads of major Labor program agencies and the department's Chief Financial Officer. In August 1997, the department reported to OMB that it had completed assessing its systems, using a three-tiered structure to evaluate and rank them in order to prioritize its Year 2000 compliance work. It assigned the highest priority to mission-critical systems that would have a direct impact on the public, enforcement activities, or financial systems such as its benefits payment systems.

In a memorandum dated December 31, 1997, the Secretary of Labor made Year 2000 compliance a top departmental priority and directed steps to accelerate progress in reaching the department's target goals. The Deputy Secretary has likewise made the agency's Year 2000 progress a priority item in monthly meetings with each component agency head. In February 1998, Labor established a monthly exception reporting system, requiring its component agencies to report any deviations from their Year 2000 plans. Labor used these reports as early warnings of potential issues needing attention.

Labor has estimated its Year 2000 costs at $55 million; the department now states that all 61 mission-critical systems met the OMB target Y2K compliance date of March 31, 1999, and have been implemented. Table 1 shows the reported status of Labor's mission-critical systems.

Table 1: Reported Year 2000 Readiness Status of Labor's Mission-Critical Systems as of March 31, 1999

Agency	Number of systems	Repaired	Replaced	Reported compliant 3/31/99
UIS	1	1	0	1
BLS	23	5	18	23
Other	37	22	15	37
Total	**61**	**28**	**33**	**61**

Note: The mission-critical systems of the Pension Benefit Guaranty Corporation are not included in Labor's totals.

Source: Department of Labor.

Labor's Unemployment Insurance Service Depends on Reliable Functioning of State Systems

One of Labor's programs to help unemployed workers is carried out by the Unemployment Insurance Service (UIS). Enacted over 60 years ago as part of the Social Security Act of 1935 as a federal-state partnership, the Unemployment Insurance Program has been a major source of temporary income support for laid-off workers seeking work. This program is for many the first economic line of defense against the effects of unemployment. State Employment Security Agencies (SESA) operate the program in accordance with their own state priorities and unemployment compensation laws; each state, therefore, has substantial control over services provided, eligibility requirements, and benefits levels. The 53 SESAs provide these services using varying degrees of automation; in some states, claims are filed either electronically or over the telephone, while other states rely on mailed claims or office visits.

The department and the states share responsibility for administration of the Unemployment Insurance Program. Labor's UIS is responsible for establishing broad guidelines (including some eligibility conditions), general oversight, and administrative funding. SESAs pay unemployment compensation benefits from the Unemployment Trust Fund to eligible workers and collect state unemployment taxes from employers.

Today, this program covers 97 percent of all wage earners. Unemployment insurance will pay an estimated $24 billion to approximately 8 million workers in compensation benefits and allowances from the Unemployment Trust Fund in fiscal year 1999. (In fiscal year 1998, SESAs collected $22 billion in state unemployment insurance taxes.) During this same period, SESA staff will handle over 6 million employer tax accounts, 20 million initial unemployment claims, almost 137 million "weeks claimed," and 1 million appeals.

While Labor's UIS system—which collects information from numerous state sources—is reported to be compliant, each of the 53 SESAs has its own "benefits" system to provide unemployment benefits to laid-off workers, its own "tax" system to collect unemployment taxes from employers, and its own "wage record" system to track employees' earnings. Labor's UIS system allows it to measure and monitor state unemployment insurance performance, workload, and budgeting activities. If, however, SESAs' benefits systems were to become inoperable, benefits payments could be jeopardized; if its tax systems failed, tax collections could suffer. Successful operation of the benefits and tax functions are heavily dependent upon complex information systems, a wide range of internal and external products and services, and the uninterrupted operation of the major information technology infrastructure. In recognition of its importance, OMB has recently identified the Unemployment Insurance program as one of 42 federal programs having a high impact on the public, and for which Y2K readiness is critical.

January 1999: Vulnerability Demonstrated

In September 1998, we reported that many SESAs were at risk of failure as early as January 1999 and urged Labor to initiate the development of realistic contingency plans to ensure continuity of core business processes in the event of Year 2000-induced failures. Indeed, four SESA systems were able to avert early Y2K date problems occurring in January 1999 only by instituting contingency measures for avoiding disruption of benefits.

All SESAs produce what is known as the benefit-year-end (BYE) date, used in projecting the end of a claimant's annual eligibility period. These BYE projections are relied upon throughout state benefits systems. For claims filed after January 1, 1999, claimants would have a BYE date beyond January 1, 2000. Systems not able to recognize the year 2000 as a valid date would assume that claimant benefit eligibility had ended in 1900. Because of this date vulnerability, Labor had strongly encouraged SESAs to address this problem first, and provided each with an initial grant of $1 million or

more in fiscal year 1998 to jump-start their efforts. Additional funding was also made available to SESAs upon submission of supplemental budget requests. Labor allocations for states through fiscal year 1999 totaled $245 million.

In spite of the funding and monitoring activities by Labor, four SESAs' systems—those of the District of Columbia, Puerto Rico, New Mexico, and the U.S. Virgin Islands—could have failed if those systems had not been programmed with an emergency software patch in December 1998. This patch worked because it provided all claimants, regardless of their date of application, with the same BYE date of December 25, 1999. If not for this emergency workaround, the systems could have been unable to provide a BYE date for applicants, thus delaying or preventing payment of benefits. When these SESAs eventually complete their systems' renovation or replacement, all claimants who received the erroneous date will have to be identified and their true date recalculated accurately. Thus far, of the four SESAs using the software patch, only the District of Columbia has reported that it has removed the patch and provided claimants with their true BYE dates.

While the other 49 state agency systems were able to solve the BYE problem before the December 1998 deadline, much work remains to make many of their benefits, taxes, and wage record systems totally compliant and reduce the risk of Year 2000-induced failures.

Most Recent Status Information Shows Many States Are Not Yet Ready

Table 2 indicates the reported Year 2000 readiness status of SESA systems as of the end of last year. None of these state systems are included in Labor's list of 61 mission-critical systems.

Table 2: Reported Y2K Readiness Status of SESA Unemployment Insurance Systems as of December 31, 1998

System	Number of systems ready[a]	Percentage ready
Benefits	39	74%
Tax	24	45%
Wage Record	33	62%

[a]There are 53 entities with such systems—each state plus the District of Columbia, Puerto Rico, and the U.S. Virgin Islands. According to Labor, ready means that the date fields within the program applications have been converted, either by date field expansion or by programming logic to correctly interpret dates.

Source: Department of Labor.

The data reflected in table 2—as of December 31, 1998—represent the latest quarter for which information is available. According to these data, completion schedules showed that several state systems were not scheduled to be Y2K ready until later in 1999.

- Of the 14 SESAs that had not implemented Y2K-ready benefits systems, 6 planned to do so in the first quarter of 1999, 5 during the second quarter, 2 during the third quarter, and 1 in the last quarter.
- Of the 29 SESAs that had not implemented Y2K-ready tax systems, 8 were planning to do so in either the third or fourth quarters.
- Four of the 20 SESAs that had not implemented Y2K-ready wage record systems were planning to do so in either the third or fourth quarters.

The next official quarterly report—for the period ending March 31, 1999—has yet to be issued. With such a relatively large gap in time between reports, it may be difficult for Labor to quickly identify and address key state issues. Accordingly, the department may wish to consider more frequent reporting of state systems' compliance status.

In addition, Labor cannot be assured of the level of states' Year 2000 progress until independent verification and validation (IV&V) takes place. Labor requires all SESAs to conduct IV&V reviews of their unemployment insurance systems in order to provide third-party certification of Y2K compliance. Labor has set a target date of July 1, 1999, for completion of IV&V. However, states with systems scheduled to be Y2K ready in either the third or fourth quarters will not be able to provide IV&V certifications for their systems by this deadline.

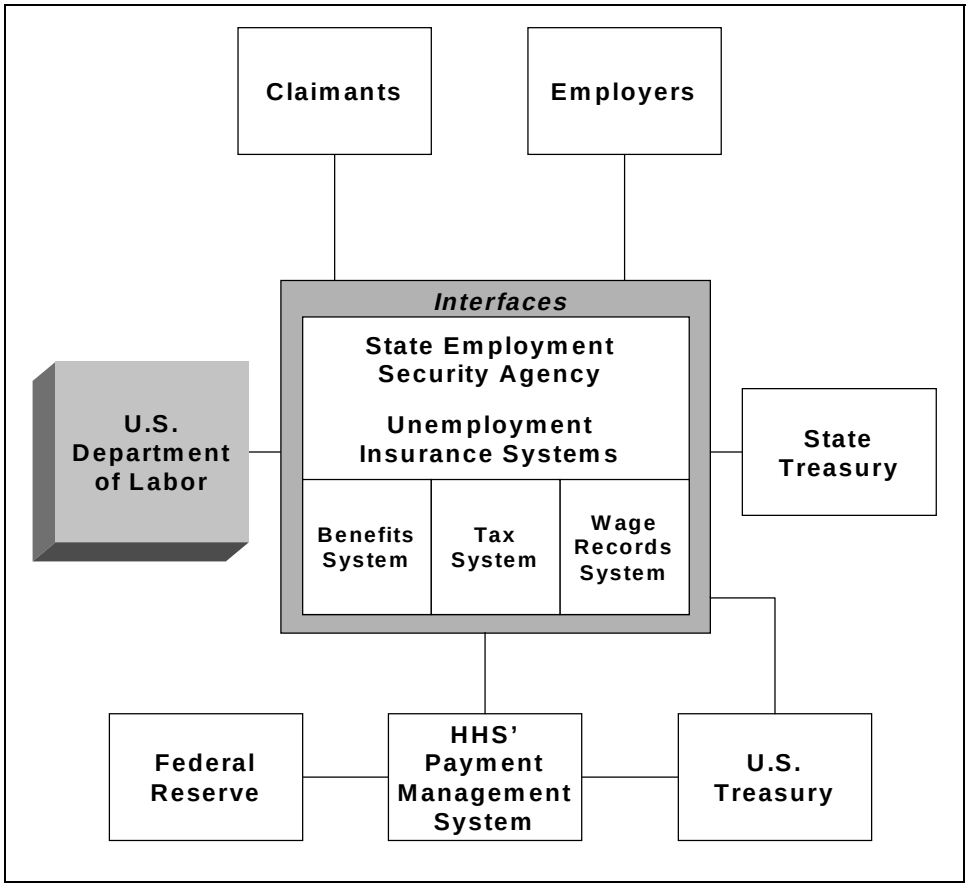
Additional Risks Remain to Be Addressed

In the short time remaining until the century change, Labor must oversee three additional critical dimensions of state systems: testing, data exchanges, and business continuity and contingency planning.

Complete and thorough Year 2000 testing is essential to providing reasonable assurance that systems process dates correctly and will not jeopardize an organization's ability to perform core business operations after the century change. Experience is showing that Year 2000 testing is consuming between 50 and 70 percent of a project's time and resources. With little more than 230 days left until 2000, any SESA that falls behind on renovation may find it difficult to schedule sufficient time for testing.

The need for testing is not limited to an organization's or a state's internal information systems. The extent of data exchanges in the unemployment insurance environment is significant, and will require additional time to coordinate with the many data exchange partners. As shown in figure 1, a simplified overview of this environment, many organizations are involved, including employers, claimants, states, and other federal agencies (e.g., the Department of the Treasury and the Department of Health and Human Services (HHS)).

Figure 1: SESA Unemployment Insurance Benefits Payment Data Exchange Environment



Source: Department of Labor.

One of the key systems used in the Unemployment Insurance Program is the Payment Management System, an administrative funding system (as opposed to benefits) operated by HHS. As we testified in February, this system was not Y2K compliant, [10] and is now not expected to become compliant until June or July. This system is responsible for some $165 billion annually in federal grants payments.

[10] See Year 2000 Computing Crisis: Readiness Status of the Department of Health and Human Services (GAO/T-AIMD-99-92, February 26, 1999).

Serving as a fiscal intermediary between awarding agencies and recipients of grants and contracts, the Payment Management System processes over half of all federal grants payments. It was originally created 30 years ago, and has been expanded and modified several times since. In 1995, a project to replace the existing system with a new, state-of-the-art automated system known as the "Reengineered Payment Management System" was undertaken. It was anticipated that this new system would be Y2K compliant and operational by October 1997.

Since its inception, however, the planned system replacement has encountered problems and, as a result, is still not operational. For example, when the original contractor failed to meet the October 1997 schedule, a new contractor was obtained; the completion date was revised to October 1998—also not met.

Because of the replacement system's continuing problems, HHS has now decided to focus on remediating and testing the existing Payment Management System. Subsequent to the Payment Management System's becoming compliant, Labor will need to ensure that the states and other relevant entities have rigorously tested their systems with the Payment Management System to make sure that the electronic transfer of administrative funds to the states will not be disrupted.

The final critical dimension that Labor will need to monitor concerns solid business continuity and contingency planning to ensure that states can still provide services in the event of Year 2000-induced failures. Specifically, every agency must ensure the continuity of its core business processes by identifying, assessing, managing, and mitigating its Year 2000 risks. Such planning should not be limited to internal information systems, but must rather include the potential Y2K failures of others, including business partners and infrastructure service providers. One weak link anywhere in this chain of critical dependencies and even the most successful Year 2000 program could find itself powerless against major disruption of business operations.

Last September, Labor advised all SESAs of the importance of having business continuity and contingency plans in place for operation of their unemployment insurance programs to prevent the interruption of benefits should Year 2000-induced problems inhibit SESAs' abilities to receive claims and issue payments. The department specifically required that SESAs prepare contingency plans for their tax and benefits systems. Labor also has required states to test their business continuity and contingency

plans and intends to receive monthly reports on these test activities beginning in August.

Bureau of Labor Statistics: Producer of Critical Trend Data

The Bureau of Labor Statistics is an independent national statistical agency that collects, processes, analyzes, and disseminates essential statistical data for the American public, the Congress, other federal agencies, state and local governments, business, and labor. BLS produces, among other indices, the Consumer Price Index (CPI), the principal source of information concerning trends in consumer prices and inflation in the United States, and one of the nation's most important economic indicators. BLS also produces other principal economic indicators, such as current employment statistics, which are generated monthly and include detailed data on employment, hours, and earnings, by industry and geographic area. These estimates serve as components of the index of leading economic indicators. BLS has eight regional offices throughout the country, each specializing in the economy of the region in which it is located. With 23 of Labor's 61 mission-critical systems, BLS' technology environment has more mission-critical systems than any other single Labor agency.

All Mission-Critical Systems Reported Compliant

When we testified in September 1998, [11] BLS was reporting that 11 of its 23 mission-critical systems were already Year 2000 compliant, 8 were being replaced, and 4 were being repaired. We noted at that time that failures of these systems could result in the inability to accurately calculate important national statistical data promptly. For example, if the CPI system failed it could affect other federal government operations and programs, as it is used to determine the basis for adjustments to payments for Social Security recipients, federal and military retirees, and a number of entitlement programs.

As of March 31, BLS reported that all of its mission-critical systems were compliant. While progress has been made with its systems, Labor recognizes, however, that many more activities need to be completed before it can be sure that the systems will perform properly into the next century.

[11] GAO/T-AIMD-98-303, September 17, 1998.

External Review Identifies Use of Noncompliant Vendor Product

To provide additional quality assurance, the department reached an agreement with the Office of Inspector General (OIG) to have it help review Y2K progress and to notify the department as soon as possible if any Y2K issues arose. The OIG subsequently obtained an independent contractor to assist in its review of the completeness and adequacy of Labor's compliance testing.

In the course of its review, the OIG's contractor raised concerns regarding Labor's decision to use a noncompliant, non-vendor-supported product in some of BLS' systems. This product—known as the Customer Information Control System (CICS) version 2.1.2—is a transaction management software product that allows multiple users to perform transactions from remote terminals sharing the same database. This noncompliant product supports several mission-critical BLS systems: the Employment Cost Index, the Locality Pay System, the Producer Price Index, and the Survey of Occupational Injuries and Illnesses System. In 1997, the manufacturer discontinued support of this version. The manufacturer said that this version "is Not Year 2000 Ready" and strongly recommended that customers upgrade to a compliant version and not attempt to use the noncompliant product into the next century. If customers decided to use the product, they would do so at their own risk.

According to the BLS Associate Commissioner for Technology and Survey Processing, BLS staff conducted an assessment and concluded that its systems would not be affected by the date problems identified by the manufacturer due to the limited manner in which BLS used CICS. Labor's IV&V contractor also assessed BLS' use of this product in its Employment Cost Index system and evaluated it as low risk. Further, BLS stated that it has restricted any new system modifications to prevent the unintentional insertion of programming logic containing a requirement for a date. BLS also said it performed future-date testing on a parallel system using the noncompliant version of CICS, finding no problems associated with its use.

Based on these actions, BLS stated that it made a management decision to accept a lower level of risk associated with a known product, rather than take the chance of introducing additional unknown risks in upgrading the product or accelerating its planned migration to a new technology platform. However, much of the documentation supporting BLS' analysis of CICS has not yet been available for review. BLS has subsequently agreed to provide this documentation.

Independent Verification and Validation Efforts Are Ongoing

According to Labor's guidance, IV&V begins promptly after systems are deemed compliant. Labor has directed that IV&V be completed for all mission-critical systems by June 30. In an agreement with Labor's Chief Information Officer, BLS received permission to use its own "certification laboratory" to perform most of its IV&V testing. The department found the laboratory to be independent and qualified to perform IV&V services.

According to Labor's most recent Year 2000 quarterly report to OMB, IV&V was completed for 8 of BLS' mission-critical systems. As of May 10, the department told us that 6 additional systems had completed IV&V. As a result, BLS now has 9 systems remaining to complete IV&V before the June 30 deadline.

BLS Is Still Developing Business Continuity and Contingency Plans

The department required its components to complete business continuity and contingency plans this month. Testing of these plans is scheduled to be completed by September.

BLS has submitted draft continuity and contingency plans to the department. However, according to the department, the draft plans require substantial revision. Therefore, the department told BLS to revise the plans and resubmit them by the end of the month.

In summary, Labor has taken action to prepare its mission-critical systems for the change of century and to oversee states' efforts. However, the department remains at risk of disruptions in the areas of making benefits payments to laid-off workers and producing labor and economic statistics. Given these risks, it is important to focus carefully on remaining testing activities and developing appropriate contingency plans to ensure business continuity in the event of system failures.

This concludes my statement. I would be pleased to respond to any questions that you or other members of the Subcommittee may have at this time.

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