

FAA AND Y2K: WILL AIR TRAVEL BE STOPPED OR  
SIGNIFICANTLY DELAYED ON JANUARY 1ST AND BEYOND?

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JOINT HEARING  
BEFORE THE  
SUBCOMMITTEE ON GOVERNMENT MANAGEMENT,  
INFORMATION, AND TECHNOLOGY  
OF THE  
COMMITTEE ON GOVERNMENT REFORM  
AND THE  
SUBCOMMITTEE ON TECHNOLOGY  
OF THE  
COMMITTEE ON SCIENCE  
HOUSE OF REPRESENTATIVES

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## **FAA AND Y2K: WILL AIR TRAVEL BE STOPPED OR SIGNIFICANTLY DELAYED ON JANUARY 1ST AND BEYOND?**

**THURSDAY, SEPTEMBER 9, 1999**

HOUSE OF REPRESENTATIVES, COMMITTEE ON GOVERNMENT REFORM, SUBCOMMITTEE ON GOVERNMENT MANAGEMENT, INFORMATION, AND TECHNOLOGY, JOINT WITH THE COMMITTEE ON SCIENCE, SUBCOMMITTEE ON TECHNOLOGY,

*Washington, DC.*

The subcommittees met, pursuant to notice, at 10 a.m. in room 2318, Rayburn House Office Building, Hon. Stephen Horn (chairman of the Subcommittee on Government Management, Information and Technology) presiding.

Present from the Subcommittee on Government Management, Information, and Technology: Representatives Horn, Biggert, Walden, Ose, and Turner.

Present from the Subcommittee on Technology: Representatives Morella, Weldon, Gutknecht, Miller, Barcia, Rivers, Wu, Weiner, Gordon, and Baird.

Staff present from the Subcommittee on Government Management, Information, and Technology: J. Russell George, staff director and chief counsel; Matt Ryan, professional staff member; Bonnie Heald, communications director and professional staff member; Chip Ahlswede, clerk; P.J. Caceres, intern; Trey Henderson, minority counsel; and Jean Gosa, minority staff assistant.

Staff present from the Subcommittee on Technology: Jeff Grove, staff director; Ben Wu and Michael Quear, professional staff members; Joe Sullivan, staff assistant; and Marty Ralston, staff assistant.

Mr. HORN. This joint hearing of the House Subcommittee on Government Management, Information, and Technology and the Subcommittee on Technology will come to order.

Over the past several years, these subcommittees have been prodding departments and agencies in the executive branch of the Federal Government to prepare their computer systems for the year 2000. In only 113 days, these systems must be ready for action.

The leadership of most agencies, including the Federal Aviation Administration, claim that their essential computer systems are ready and are now being tested. Time is running very short. Millions of American citizens and businesses are counting on the Federal Aviation Administration to keep the Nation's vital air trans-

portation system functioning, whether the date is December 1999, or January 2000. The job is unquestionably difficult.

The FAA must ensure that its own systems, many of which are antiquated and stretched to capacity, continue working after the clocks tick past midnight on December 31st. Yet, if U.S. air travel is to maintain its high standard of safety, the agency and the public must also be assured that our airlines and airports are equally prepared for the impact of the date change.

You may have noticed that our panel consists of only three witnesses. We invited other members of the national and international aviation industry to participate in this hearing, including representatives from the airlines and airports. They declined.

Although the FAA does not have direct control over these privately and publicly operated businesses, the FAA's safety mission demands that it carefully assess the year 2000 readiness of our aviation infrastructure and the degree to which public safety might be affected.

This morning we will also examine the air traffic inter-connections between the North American continent and Europe, Africa, Asia, and Latin America. We will discuss these and other challenges the FAA must meet in order to guarantee to all passengers that air travel remains safe in the year 2000.

I welcome our witnesses and look forward to their testimony.

[The prepared statement of Hon. Stephen Horn follows:]

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**Opening Statement**  
**Chairman Stephen Horn (R-CA)**  
**Subcommittee on Government Management,**  
**Information, and Technology**  
**September, 9, 1999**

This joint hearing of the House Subcommittee on Government Management, Information, and Technology, and the Subcommittee on Technology will come to order.

Over the past several years, these subcommittees have been prodding departments and agencies in the executive branch of the Federal Government to prepare their computer systems for the Year 2000. In only 113 days, these systems must be ready for action. The leadership of most agencies – including the Federal Aviation Administration – claim that their essential computer systems are ready and are now being tested. Time is running short.

Millions of American citizens and businesses are counting on the Federal Aviation Administration to keep the nation's vital air transportation system functioning – whether the date is December 1999, or January 2000. The job is unquestionably difficult.

The FAA must ensure that its own systems, many of which are antiquated and stretched to capacity, continue working after the clocks tick past midnight on December 31<sup>st</sup>. Yet, if U.S. air travel is to maintain its high standard of safety, the agency – and the public – must also be assured that our airlines and airports are equally prepared for the impact of the date change.

You may have noticed that our panel consists of only three witnesses. We invited other members of the national and international aviation industry to participate in this hearing, including representatives from the airlines and airports. They declined. Although the FAA does not have direct control over these privately and publicly operated businesses, the FAA's safety mission demands that it carefully assess the Year 2000 readiness of our aviation infrastructure and the degree to which public safety might be affected.

This morning, we will also examine the air traffic inter-connections between the North American continent and Europe, Africa, Asia, and Latin America. We will discuss these and other challenges the FAA must meet in order to guarantee that air travel remains safe in the Year 2000. I welcome our witnesses, and look forward to their testimony.

Mr. HORN. I am now delighted to yield to the gentlewoman of the House Science Committee on Technology for her opening statement.

Mrs. MORELLA. Thank you, Chairman Horn.

My timing was, I think, pretty precise.

I want to welcome everybody to this morning's hearing. It's the latest in a series of ongoing hearings of our House Y2K working group, made up of the Science Committee's Technology Subcommittee and the Government Reform Committee's Government Management, Information, and Technology Subcommittee.

As the chairwoman of the Technology Subcommittee, I'm pleased to collaborate again with my colleague, Steve Horn, who chairs the Government Management, Information, and Technology Subcommittee, as well as our distinguished ranking members, Mr. Barcia and Mr. Turner and members of both subcommittees.

Since we began the congressional review on the year 2000 computer problem 3½ years ago, we have focused with particular attention and concern on the Federal Aviation Administration. In fact, this is the fifth hearing that we've held in the past year-and-a-half on the FAA and the potential for Y2K aviation disruptions. That underscores the vital nature of the safe and efficient air transport of people and goods to our Nation.

In this globally interconnected age, grounding flights is synonymous with grounding our economy, and yet, it became painfully clear from the beginning that the FAA was woefully behind other Federal agencies in recognizing and repairing a Y2K problem in their mission-critical systems.

It was also clear that, to be Y2K compliant, FAA was required to undertake a major coordination effort throughout the agency, and that the myriad number of computer systems, languages, and platforms used in the national airspace system were all mission critical.

Since those first hearings, the FAA has responded to our congressional criticism with determination and diligence, despite its dangerously late start, in order to assure the American people that the highest levels of air traffic safety would be maintained and that any potential business disruptions would be limited.

When Administrator Jane Garvey, who was appointed after our first set of FAA Y2K hearings, initially appeared before us, she assured us that she would pilot FAA through the Y2K turbulence, and everyone at FAA would fasten their seat belt to get the job done.

As a result, the FAA recognized the agency's mistakes of the past and moved forward, making the Y2K issue a top priority and enlisting the full support of the executive management.

Administrator Garvey and her staff, I think, should receive well-deserved accolades for FAA's remarkable Y2K progress and for the growing consumer confidence within the aviation industry. I applaud the FAA's recent announcement that all of its systems are now fully Y2K compliant and all of its agency's computers requiring Y2K repairs have been successfully implemented or installed across the United States.

Now, while all of this is pretty encouraging, I must remind the FAA, however, that the job is not finished and there is still much left to be done.

As we know, the FAA relies on hundreds of computer systems to carry out its mission. As components of the systems break down, they need to be fixed or replaced, and as changes are made, systems need to be revalidated to ensure Y2K compliance. This process is ongoing and it must continue through January 1, 2000, through that deadline and even beyond.

In addition to making sure that their own internal systems maintain their Y2K compliance over the coming months, several issues still need to be addressed as a result of the hundreds of interdependent data exchange interfaces that support aviation operations. Every component that supports aviation, from navigation to ground-based maintenance and fueling operations, must demonstrate its ability to work together flawlessly with other aviation components. As a result, the FAA must coordinate its efforts with all of its external interfaces, including airports, airlines, and other foreign air traffic control systems.

Today, with just 113 days remaining before the immovable deadline of January 1, 2000, significant concerns still remain regarding the status of airports, airlines, and international cooperation. For example, the FAA recently conducted a survey for the International Civil Aviation Organization, and that found that only 20 percent of our Nation's airports have complied with their Y2K preparations, and only one-third of our airline systems are Y2K compliant. Additionally, almost 30 percent, which is 53 out of the 185 countries that are members of the ICAO, have not yet responded to the survey, and that provides us with no assurance of those countries' ability to handle air traffic on or after January 1, 2000.

Until these remaining issues are resolved, the potential still exists for possible Y2K disruptions to delay or cancel flights around the country and throughout the world, and for this reason the FAA needs to continue working with all of its domestic and international partners in the development of contingency plans that ensure that certain flights will continue and that the transportation of people, goods, and services are not significantly impaired.

Finally, I just want to say to the American people who may be watching this hearing today on C-SPAN or on the Internet broadcast, that I fully trust Administrator Garvey when she stresses that safety is the single-most important concern of the FAA.

It cannot be emphasized enough that every single person that boards an aircraft in the United States will not be placed in any peril by the FAA because of Y2K. Administrator Garvey has assured us that any flight that presents a possible safety issue arising from Y2K complications will simply not be allowed to take off.

My concern is not with the safety of our Nation's airline passengers, but rather with the potential economic and personal disruptions that may be caused by flight delays and cancellations.

Thank you, Chairman Horn. I'm pleased to co-chair this hearing with you and look forward to the testimony of our distinguished panelists.

Mr. HORN. We now yield for the purpose of an opening statement to the distinguished colleague from Texas, Mr. Turner.

Mr. TURNER. Thank you, Mr. Chairman.

I'm glad to join with you and Chairwoman Morella to discuss the FAA's progress in meeting the challenges of the Y2K computer problem.

I want to welcome Ms. Garvey, Administrator of the FAA; Transportation Department's Inspector General's Office; and the General Accounting Office. We appreciate the hard work that each of you have put in on this problem.

I often am asked, having served on the Government Management, Information, and Technology Subcommittee, how I am going to personally respond to Y2K, and my answer has always been that I think we're going to be fine, I just will not fly on January 1st. So I'm here today, as many Americans to be convinced that it would be and will be safe to fly on January 1st.

When these committees last had a meeting on this issue back in March, we learned that the FAA was behind on its Y2K conversion efforts. However, I understand that, due to diligence and hard work at the highest levels, the agency has been able to meet its self-imposed deadline, and on July 21st of this year the Department of Transportation announced that all of the FAA's computer systems were Y2K compliant.

According to the FAA, after more than 3 years of effort involving 1,100 technical experts, all of the FAA's Y2K computer repairs have been successfully completed. During its Y2K effort, the FAA conducted extensive end-to-end testing above and beyond individual system testings. Four system integrity tests, which link more than 30 mission-critical air traffic control systems have been successfully completed. And in April of this year the FAA also successfully conducted a major air traffic control test using Y2K-compliant systems with live traffic flying between Denver, Colorado Springs, Grand Junction, and Longmont.

The air traffic control systems handle the rollover to the simulated new year safely and without incident.

The agency will continue testing its systems and contingency plans up to December 31st, 1999 and through leap day on February 29th, 2000.

The FAA and those who have worked to turn the Y2K program around from where it was last March deserve great credit; however, there are still significant challenges to coordinate efforts with other countries to ensure seamless transition for international flights.

In this area, the FAA is coordinating its Y2K efforts primarily with six countries that represent 60 percent of flights to and from the United States. The FAA continues to meet with representatives from airlines, cargo carriers, general aviation airports, fuel suppliers, telecommunication, and other aviation stakeholders to coordinate the Y2K efforts and to work on contingency plans for all scenarios.

Aviation is a segment of the transportation industry critical to Y2K. It is very important that we are here today to assess the

progress that has been made in Y2K compliance and to discuss matters which may remain surrounding this issue, and I hope, at the conclusion of the hearing, Mr. Chairman, I can say that I will fly on January 1st, 2000.

Thank you, Mr. Chairman.

[The prepared statement of Hon. Jim Turner follows:]

STATEMENT OF THE HONORABLE JIM TURNER  
JOINT HEARING "FAA AND Y2K: COULD AIR TRAVEL STOP OR BE  
SIGNIFICANTLY DELAYED ON JANUARY 1<sup>ST</sup> AND BEYOND"

September 9, 1999

Thank you. I am glad to join Chairman Horn and Chairwoman Morella to discuss the FAA's progress in meeting the challenges of the Y2K computer problem. I would like to welcome the Administrator of the FAA, Ms. Garvey; the Transportation Department's Inspector General's office; and the General Accounting Office, and thank everyone here today for their hard work and effort.

When these committees last had a hearing on this issue back in March of this year, we learned that the FAA was behind in their Y2K conversion efforts. However, due to the diligence and hard work at the highest levels of the FAA, this agency was able to meet a self imposed deadline, and on July 21 of this year, the Department of Transportation announced that all of the FAA's computer systems were Y2K compliant.

According to the FAA, after more than three years of effort involving 1,100 FAA technical experts, all of the FAA's Y2K computer repairs have been successfully completed. During its Y2K effort, the FAA conducted extensive end-to-end testing above and beyond individual system testing. Four system integrity tests which linked more than 30 mission-critical air traffic control systems have successfully been completed. In April of this year, the FAA also successfully conducted a major air traffic control test

using Y2K compliant systems with live traffic flying between Denver, Colorado Springs, Grand Junction and Longmont. The air traffic control systems handled the rollover to the simulated new year safely and without incident. The agency will continue testing its systems and contingency plans up to Dec. 31, 1999, and through leap day on Feb. 29, 2000.

The FAA and those who have worked to turn the Y2K program around from where it was last March deserve great credit. However, the FAA still faces a significant challenge to coordinate efforts with other countries to ensure a seamless transition for international flights. In this area, the FAA is coordinating its Y2K efforts primarily with the six countries that represent 60% of flights to and from the U.S. The FAA continues to meet with representatives from airlines, cargo carriers, general aviation, airports, fuel suppliers, telecommunications and other aviation stakeholders to coordinate Y2K efforts and to work on contingency plans for all scenarios.

Aviation is a segment of the transportation sector at critical Y2K risk due to the variety of computer systems and information exchanges necessary to support aviation operations. We are here today to assess the progress the FAA has made toward becoming Y2K compliant and to discuss what matters surrounding this issue remain unresolved. We want to know where we stand and what Congress can do to ensure the continued safe and efficient operation of aviation in this country. I also want to commend the Chairman and our colleagues on the Science Committee for their focus on this important issue.

Mr. HORN. Well, we thank you for that succinct statement.

I now yield for the purpose of an opening statement to the gentleman from Michigan, Mr. Barcia, the ranking member on the House Subcommittee on Technology.

Mr. BARCIA. Thank you, Mr. Chairman.

I want to join all my colleagues in welcoming our distinguished panel to this morning's hearing.

When I became the ranking member of the Technology Subcommittee, the topic of my first hearing was the FAA's Y2K efforts. Administrator Garvey had only been at FAA for a few months, and FAA's Y2K efforts were far behind schedule. In fact, at that hearing GAO painted a bleak picture of FAA's ability to meet the challenge.

Administrator Garvey said that addressing Y2K issues was a priority for her and that she would take personal responsibility for FAA's efforts. I am convinced that, without her personal leadership, the FAA would not be so far along in completing its task.

Still, challenges remain. FAA needs to ensure that any vulnerabilities are minimized and that corrective actions can be quickly taken in event that there are problems. However, FAA, alone, is not responsible for the operation of the national airspace system. If there are to be no problems, the airports and air carriers must also be Y2K compliant.

I am concerned that we still lack a complete picture of the status of the Nation's airports and air carriers.

I understand that FAA has surveyed these entities, and I would be interested in FAA's objective assessment of their Y2K efforts.

I have not been a strong advocate that Y2K issues would pose a serious safety threat to air travel; however, I am concerned about the potential of Y2K issues to reduce or disrupt the capacity of our airspace. I have these same concerns about international air travel, and, again, I would encourage the Administrator to be blunt in her assessments about the potential for disruption in international air travel.

I also hope that Administrator Garvey will address FAA plans to fully inform the public about any concern they might have about international air travel.

I would also like to take this opportunity to commend GAO and the FAA's Inspector General for their efforts and assistance to FAA in working on their Y2K efforts. This has been an example of how GAO, the Inspector General, and FAA have worked effectively together to the benefit of FAA.

I want to thank our witnesses for appearing before our subcommittees and look forward to your remarks.

Thank you, Mr. Chairman.

Mr. HORN. I thank you, and I now recognize the vice chairman of the committee, Mrs. Biggert from Illinois, the gentlewoman from Illinois, for an opening statement.

Mrs. BIGGERT. Thank you very much, Mr. Chairman. Thank you for holding this timely hearing.

Let me start by commending you for your excellent work in putting together this series of hearings to highlight our Nation's readiness for the year 2000.

Little more than 3 months remain until January 1, 2000, and I think that the start of the new millennium really holds unlimited potential. At the same time, it presents an enormous challenge to those who are charged with ensuring that the Government's mission-critical systems are Y2K compliant. And, of course, this is why we are here today—to assess the progress being made by the Federal Aviation Administration to become Y2K compliant.

FAA's role in safeguarding our Nation's aviation industry is critical to secure transportation; yet, reports released earlier this year indicate that FAA's air traffic control system was not fully prepared for the Y2K date change. This is troubling.

Our Nation's commercial airlines, including an airline in my home State, have made Y2K compliance their top and highest priority. In fact, several of the officials have told me earlier this year that they expect all of their senior executives to fly on New Year's Day 2000, and I know that Ms. Garvey has also said that she will be in the air, and I've said several times this year that I doubt that I will be in the air that day. However, I am going to be in the air on January 2nd, so I'm hoping to hear some very positive remarks this morning from Ms. Garvey, and I also look forward to hearing from our other witnesses, and their expertise in the aviation field will be important and useful as we examine whether or not air travel in the United States on January 1, 2000, and beyond will be delayed or perhaps stopped.

I'm also interested in knowing the thoughts on progress being made in other parts of the world to ensure that airline passengers are not placed in harm's way by the Y2K bug.

So, again, Mr. Chairman, I thank you for holding this important hearing. I've enjoyed working this past year with you on the Y2K matters and trust we will continue to raise the public's awareness of this issue.

Mr. HORN. Well, we thank you very much for that statement and what you've done to be helpful on these various hearings.

I now yield to the gentleman from Tennessee, Mr. Gordon, for purpose of an opening statement.

Mr. GORDON. Thank you, Mr. Chairman. This is an important hearing and I'm anxious to hear the witnesses, so I will yield my time.

Mr. HORN. I thank the gentleman for his generosity of spirit.

I now yield to the gentleman from California, who is also on the House Subcommittee on Technology of House Science, Mr. Gary Miller.

Mr. MILLER. Thank you, Mr. Chairman.

I'd like to thank the witnesses for being here today, too.

We've had a series of these hearings on Y2K. One issue that has come to my attention that I'd like you to address today is basically a request from the U.S. airport operations urging the FAA to dismiss proposal on stringent Y2K testings on New Year's Day. That seems to be a major concern.

I'm going to limit my opening remarks because I'd like to hear a response on that.

I represent Ontario Airport, and that has been brought to my attention and that's a concern, so perhaps you can address that.

Thank you, again, Mr. Chairman.

Mr. HORN. I thank you and now yield to the gentlewoman from Michigan, Lynn Rivers of the House Subcommittee on Technology of House Science.

Ms. RIVERS. I also am interested in hearing from the speakers and will defer on an opening statement.

Mr. HORN. I yield to the gentleman from Minnesota, Mr. Gutknecht, who is a member also of House Subcommittee on Technology of House Science.

Mr. GUTKNECHT. Thank you, Mr. Chairman. I just want to thank you and Chairwoman Morella for holding these hearings. I remember when we had the first one about 4 years ago. There were just a handful of people in the audience and no television cameras, and all of the sudden I think America does realize this is a very serious matter.

I think the good news is we are making real progress, not only the FAA but both public and private agencies, but it is one that I think we have to continue to monitor, and I would hope we would have several hearings on this issue between now and the end of the year.

Mr. HORN. We thank you.

Now, these are three experienced witnesses before us, and you know the routine with the Subcommittee on Government Management, Information, and Technology and that is we swear in all witnesses. After being sworn in, we will go with the agenda, as prepared, and we will also limit the opening comments to 10 minutes. If you could summarize the statement—10 minutes for each of the three witnesses—this morning, we'll have more of a chance for dialog and question and answer and getting at some of the situation that many have talked about, including the Administrator.

So, if you will, stand and raise your right hands.

[Witnesses sworn.]

Mr. HORN. The clerk will note all three witnesses have affirmed the oath.

We now start with our lead witness at every hearing, and that's our colleague, Mr. Joel Willemsen, Director, Civil Agencies Information Systems, Accounting and Information Management Division, U.S. General Accounting Office.

I don't know how many States we've had Joel go to this year, but it must be at least 10 where you've been the lead witness to give the over-all picture on behalf of the General Accounting Office, which is part of the legislative branch of the Government. We thank you and your staff for the outstanding work they've done on this year 2000 problem.

Mr. Willemsen.

**STATEMENT OF JOEL WILLEMSSEN, DIRECTOR, CIVIL AGENCIES INFORMATION SYSTEMS, ACCOUNTING AND INFORMATION MANAGEMENT DIVISION, U.S. GENERAL ACCOUNTING OFFICE**

Mr. WILLEMSSEN. Thank you, Mr. Chairman, Chairwoman Morella, ranking members, Congressmen, Congresswomen. Thank you for inviting us to testify today on FAA's Y2K readiness.

As requested, I'll very briefly summarize our statement, probably in less than 10 minutes.

Overall, FAA continues to make excellent progress on Y2K. It reported earlier this summer that 100 percent of its systems were compliant. Our review of a sample of these systems found sufficient documentation to support implementation in all cases.

Despite this progress, FAA's work is not yet done. For example, key challenges remain for the agency's internal systems.

First, FAA must manage and control changes made to systems after those systems have been certified as compliant. As we testified before you in January, changes made to systems after they have been certified as compliant can introduce new Y2K problems. In recognition of this, FAA established a policy calling for system owners to assess whether modifications to compliant systems might affect the system's status, and to report this to the Y2K program office. However, in reviewing FAA's maintenance management system, we identified about 1,000 system changes entered after June 30th that should have been linked to Y2K change reports but were not. In response to this, FAA officials told us that they plan to followup on all of these to ensure that system Y2K compliance is maintained.

Second, regarding the contractor that FAA hired to provide independent verification and validation of systems, FAA should try to gain key documentation from this contractor detailing the issues and problems it identified with specific systems and how these problems were resolved. Such documentation can provide further assurance of systems' compliant status.

Third, in the time remaining, FAA should consider performing additional end-to-end testing of multiple systems. FAA has performed valuable end-to-end testing of selected systems; however, these tests have not been comprehensive in that not all critical systems and components of the national airspace system were involved.

In addition to these remaining risks, FAA faces the risk that external systems will fail—namely, those of airports, airlines, and international partners. FAA has been collecting information on U.S. airports, and the latest available information shows about 20 percent of the 113 airports surveyed were reporting that they had completed their Y2K preparations. Another 58 percent estimated they would finish by the end of this month, with the remaining 22 percent planning on a later date or not providing a date.

FAA is also collecting information on airlines. The latest available information shows that about 33 percent of the 146 airlines surveyed reported that their systems were Y2K compliant, with 35 percent planning to complete their efforts by September 30th, and the remainder planning on a later date or not providing a date.

On August 31st, FAA requested that we treat information on specific airports and airlines as for official use only, and therefore I am unable to provide site-specific information in this public forum.

Because of the risk of system failures, whether from internal systems or from external partners, FAA needs a comprehensive business continuity and contingency plan to ensure continuing operations through the turn of the century. FAA has such a plan. It identifies risks and mitigation strategies for core business areas.

In the time remaining, it is important that FAA continue testing this plan and train its air traffic controllers and system specialists in using the plan should it be necessary to do so.

In conclusion, it is clear that FAA's progress on Y2K has been impressive. Nevertheless, FAA's job is not yet done.

In the few remaining months, the agency must still tackle several key issues to ensure the Y2K readiness of air travel.

That concludes the summary of my statement, and at your convenience I'm here to answer any questions that you may have.

Thank you.

Mr. HORN. I thank the gentleman.

[The prepared statement of Mr. Willemsen follows:]

Ms. Chairwoman, Mr. Chairman, and Members of the Subcommittees:

We appreciate the opportunity to testify today on the Federal Aviation Administration's (FAA) efforts to address the Year 2000 (Y2K) problem. With a little over 100 days remaining until January 1, 2000, the Y2K computing problem is at the forefront of the world's information technology challenges, and is especially crucial to FAA.

Hundreds of critical computer systems make FAA's operations possible. FAA uses these systems to control air traffic, target airlines for inspection, and provide up-to-date weather conditions to pilots and air traffic controllers. However, many of these systems could fail to perform as needed when using dates after 1999 unless proper date-related calculations can be ensured. Should systems fail or malfunction, hundreds of thousands of people could be affected through customer inconvenience, increased airline costs, grounded or delayed flights, or degraded levels of safety.

My statement today will focus on four topics: (1) FAA's progress to date, (2) challenges FAA faces in ensuring that its internal systems will work, (3) risks associated with external organizations—focusing specifically on airports, airlines, and international entities, and (4) the critical need for business continuity and contingency plans that identify how aviation operations will continue should systems fail. Our review of FAA's Y2K program was performed in accordance with generally accepted government auditing standards between March and September 1999. We performed our work at FAA headquarters and facilities in Washington, DC, and at facilities in Atlanta, Georgia; Dallas, Texas; and Denver, Colorado. We obtained

comments on a draft of this testimony from FAA officials and incorporated these comments where appropriate.

In brief, FAA and its employees have made excellent progress in tackling the monumental Y2K problem. The agency is now reporting that all of its systems are ready for the year 2000. However, FAA's work is not yet done. The agency continues to face challenges in ensuring that its internal systems will work as intended through the Year 2000 date change. These challenges involve managing modifications to compliant systems, independent verification of systems' compliance, and systems testing. FAA must also mitigate risks posed by external organizations, including airports, airlines, and foreign air traffic control systems. These factors could impede FAA's ability to provide reliable aviation services, which could seriously affect the flow of air traffic across the nation and around the world. In the event that critical internal or external systems do not work as intended, FAA must have a comprehensive and tested business continuity and contingency plan ready to implement, and train its staff in how to do so.

#### **FAA Has Made Excellent Progress In Its Y2K Readiness**

Over the past year and a half, FAA has made substantial progress. In January 1998, the agency had no central Y2K program management; an incomplete inventory of mission-critical systems; no overall strategy for renovating, validating, and implementing mission-critical systems; and no milestone dates or schedules.<sup>1</sup> At that time, we recommended that FAA provide its Y2K program manager with the authority to enforce policies; outline FAA's overall strategy for

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<sup>1</sup> FAA Computer Systems: Limited Progress on Year 2000 Issue Increases Risk Dramatically (GAO/AIMD-98-45, January 30, 1998).

addressing the Y2K date change; complete inventories of all information systems and interfaces; set priorities; establish plans for renovating, validating, and testing all converted and replaced systems; and develop Y2K business continuity and contingency plans to ensure the continuity of critical operations.

FAA has addressed our recommendations. The agency established a strong Y2K program office, and tasked it with providing leadership—guidance and oversight—to FAA’s business lines and aviation industry partners. The program office established (1) an overall Y2K strategy, (2) detailed standards and guidance for renovating, validating, and implementing mission-critical systems, (3) a database of schedules and milestones for these activities, and (4) a Y2K business continuity and contingency plan. The agency has also worked to repair or replace systems with date-related problems, test these systems, and implement these repairs and replacements in air traffic control facilities throughout the nation.

Recently, the Department of Transportation (DOT) announced that—as of June 30—100 percent of FAA’s systems were fully Y2K compliant. Specifically, DOT stated that FAA had completed Y2K work on 424 mission-critical systems and 204 nonmission-critical systems. The department also reported that data verifying the compliance of all FAA systems had been examined and approved by Science Applications International Corporation (SAIC), an independent verification and validation (IV&V) contractor. DOT also noted that its inspector general had examined a sample of systems and approved FAA’s work.

Last month, FAA revised its Y2K project plan to identify key efforts for the remaining months before January 1, 2000. One key activity involves ensuring that systems that have been certified

Y2K compliant maintain this status through a change-control process. Other activities include testing contingency plans and training systems users in how to implement them, if necessary. According to FAA, the agency is also having two independent contractors analyze selected compliant systems' code for any date problems.

#### Evidence Supports Systems Implementation

To manage the deployment of hundreds of systems' Y2K-related changes in facilities across the nation, FAA's Y2K program office established implementation standards. These standards require system owners to complete a system's Y2K certification, and, as applicable, test the system at key sites and deploy it nationally. When the system is implemented at every facility, system owners are then required to prepare a Y2K implementation results report. Once this report has been approved within the relevant business line, FAA's IV&V contractor reviews it and other key implementation documents. Upon successful completion of this review, the system is considered implemented.

When we last testified on this topic in March 1999,<sup>2</sup> FAA estimated it had yet to complete roughly 4,500 implementation "events"—each one entailing the activation of a single system at a single site. FAA subsequently reported that it completed this task on June 30, 1999.

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<sup>2</sup> Year 2000 Computing Crisis: FAA Is Making Progress But Important Challenges Remain (GAO/T-AIMD/RCED-99-118, March 15, 1999)

To evaluate this effort, we reviewed implementation evidence for 18 mission-critical air traffic systems<sup>3</sup> that were installed at one or more of 8 different facilities—totaling 49 implementation events in all. In evaluating implementation evidence, we reviewed hard copy and automated maintenance records to determine if the Y2K modification had been completed, and sought to identify compliant version numbers on system consoles where possible. To the extent they were available, we also interviewed local technicians who implemented the modifications. We did not validate the effectiveness of the Y2K repairs.

We found sufficient documentation supporting the implementation of these systems in all cases where this evidence was required. Of the 49 events, 39 required an entry in the maintenance records and 10 did not. The 39 events that required an entry were all documented in the facilities' maintenance records. Additionally, we viewed compliant version numbers on backup console screens for 18 of the events. In some cases, we could not view the console screens because the system was on-line supporting air traffic control operations and would have had to be taken off-line for us to see version numbers.

Of the 10 events that did not require an entry in the maintenance records, 5 were associated with leased systems, 2 were associated with prototype systems, and 3 with systems that were not in operation at the facilities. FAA technicians explained that leased systems are maintained, monitored, and operated by a contractor—and thus are not tracked in FAA's maintenance

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<sup>3</sup>In choosing systems, we attempted to cover a range of air traffic control functions in different environments. We selected implemented systems from three different critical core functions (surveillance, weather information processing, and communications) that operate in one or more of the different air traffic control environments (en route, terminal, tower, and flight service station). Seven of these systems were also chosen because they were among the 26 systems identified by FAA as posing the greatest risk to the National Airspace System.

records. Similarly, the prototype systems we evaluated were maintained and managed by the National Aeronautics and Space Administration, and so were also not tracked in FAA's maintenance records. Of the three systems that were not in operation at the facilities we visited, two had been decommissioned and one was maintained and managed at a distant location.

#### **FAA's Year 2000 Efforts Face Important Challenges**

FAA faces several challenges that could affect its activities through the Y2K date change. These include addressing

- changes to compliant systems that could introduce new Y2K problems,
- independent verification efforts that were not documented, and
- end-to-end testing efforts that were not comprehensive.

#### Changes to Compliant Systems Increase

#### Risks of Y2K-Related Failures

As noted in our January 1999 testimony, changes made to systems after they have been certified as Y2K compliant can introduce new Y2K problems.<sup>4</sup> To address this risk, we suggested the federal government adopt a strong Y2K change management policy—one that limits new software and systems changes. As an example of such a policy, we noted that the Social Security

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<sup>4</sup> Year 2000 Computing Crisis: Readiness Improving, But Much Work Remains to Avoid Major Disruptions (GAO/T-AIMD-99-50, January 20, 1999).

Administration had issued a moratorium on new systems changes on commercial-off-the-shelf and mainframe products from July 1, 1999, until March 31, 2000, and on programmatic applications from September 1, 1999, through March 31, 2000. We, therefore, suggested that the Office of Management and Budget (OMB) consider directing agencies to implement such a policy.

In response to our suggestion, in May, OMB issued a memo to federal department heads stating the importance of considering the potential effect of changes to information technology systems on Y2K readiness, and urging agency heads to adopt a policy that only allows system changes where absolutely necessary. OMB also requested that agency heads summarize how they would implement such guidance in their quarterly Y2K progress reports.

In its August 1999 quarterly report to OMB, DOT responded that it had a formal policy in place that required critical software and hardware modifications to be supported by formal, documented change control procedures. DOT also stated that on July 23, 1999, its Deputy Chief Information Officer (CIO) issued a memorandum calling for all operating administrations to examine any decision to proceed with new requirements or modifications to Y2K-compliant systems and to defer such modifications until after the Y2K date change, if possible.

Prior to the Deputy CIO's memo, on May 28, FAA established a policy calling for system owners to assess whether any completed modification to a Y2K-compliant system might affect the system's compliance or its ability to process dates, and to disclose this information in a Y2K Certified System Change Report to their lines of business and the Y2K program office. According to the policy, if, as a result of this assessment, a modification were determined to have

an impact on date processing or Y2K compliance, the system would have to be revalidated, recertified Y2K compliant, and re-implemented.

Although FAA recognized the criticality of controlling systems changes and established a policy for doing so, the agency has not yet effectively implemented this policy. As of August 24, FAA Y2K program officials told us that they had received three Y2K Certified System Change Reports and that they were following up on another four system modifications identified by the inspector general that did not have supporting change reports. However, when we requested a list of all system modifications logged in FAA's Maintenance Management System (MMS)—the agency's national database of systems modifications, maintenance actions, and interruptions—between July 1, 1999 (the day after FAA's systems were deemed fully compliant) and August 23, 1999, the resulting printout was 535 pages long. Our preliminary review of this information identified 967 completed system modifications<sup>5</sup> that should have been linked to Certified Y2K Systems Change Reports.<sup>6</sup> For example, on August 15, one facility reported modifying its Digital Bright Radar Indicator Tower Equipment. In another instance, a facility made modifications to its Automated Radar Terminal System. Both of these systems help air traffic controllers maintain adequate separation between aircraft.

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<sup>5</sup> We focused on modifications that had been completed (and so would require a change report), and eliminated entries that stated that (1) the modification was not applicable to the subject facility, (2) this was a delayed entry and the modification had been made prior to June 30, or (3) the change only applied to systems documentation. We also eliminated duplicate entries.

<sup>6</sup> Multiple system modifications may be linked to a single System Change Report because the maintenance management system lists each facility's modifications separately, and several facilities could be implementing the same change.

Beyond the completed modifications, we identified an additional 239 modifications that had been initiated and were in process. These also should generate change reports when they are completed. For example, on August 3, one facility initiated--but has not yet completed--a software upgrade to its Terminal Doppler Weather Radar.

When asked about the large number of modifications that were not linked to the required change reports, FAA's acting Y2K program manager<sup>7</sup> stated that the program office recently realized that the change-control policy did not specify a deadline by which system owners must file their change reports. The Y2K manager explained that system owners might have delayed filing change reports because of this lack of a deadline. Yesterday, the Y2K program office modified the policy to require change reports no later than 2 weeks after the system owner assesses the Y2K impact of any system modification.

Additionally, officials in FAA's air traffic services line of business reviewed samples of the 535 pages of systems modifications and stated that they believed many of the modifications had been made prior to June 30, but that the technician did not reflect that in the entry. They stated that they will follow up on every entry in the MMS database to ensure that all modifications are tracked for Y2K compliance, and that in the future, they plan to use the MMS database to help them track all system modifications, including new modifications.

In addition to its change control policy, FAA's Y2K program office allowed each business line to determine if a policy implementing a moratorium on changes to Y2K compliant systems was appropriate for its organization. One organization, the office of the Associate Administrator for

Research and Acquisitions (ARA)—which is responsible for developing new air traffic control systems—issued a policy calling for a moratorium on new system changes to certified systems between November 17, 1999, and January 7, 2000, and between February 1, 2000, and March 8, 2000. This policy also establishes a waiver process for mission-critical, safety-related, or other essential modifications required during the moratorium period, and states that waivers will be granted wherever a contract schedule would be affected by the moratorium. The FAA office responsible for operating the National Airspace System (NAS)—the network of equipment, facilities, and information that supports U.S. aviation operations—has drafted a similar policy.

FAA's ARA organization plans to waive the moratorium for at least one system change scheduled to occur during that time frame. The new Standard Terminal Automation Replacement System (STARS), which is to replace aging radar data processing systems, is scheduled to begin operating at the first two facilities in December 1999 and January 2000. The ARA Y2K program manager stated that he plans to grant this system a waiver to allow it to meet its schedule.

Another major change affecting the NAS is scheduled to take place on December 30. This change, called the 56-day national database update, involves updating boundaries between facilities, navigational aids, weather locations, and airways structures throughout the national airspace. This change coincides with worldwide updating of aeronautical information by the International Civil Aviation Organization (ICAO), the international organization responsible for aviation standards. This updating process occurs regularly throughout the year, and according to an FAA official, has, on occasion, experienced problems. While this change is not expected to

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<sup>7</sup> In July 1999, FAA's Y2K program manager accepted a different position in the agency; the deputy program

affect the Y2K status of systems, any change so soon before the date rollover complicates the process of identifying and correcting problems. FAA officials stated that they explored the possibility of delaying the 56-day update, but decided not to do so because of the safety implications resulting from not updating critical aviation information.

Lack of Documentation Supporting IV&V Contractor's

Efforts Raises Questions About Compliant Systems

As we previously reported, when OMB and the President's Council on Year 2000 Conversion began collecting information on the Y2K progress of federal agencies, they had little assurance that they were receiving accurate information because progress was predominantly based on agency reports that had not been consistently reviewed or verified.<sup>8</sup> In fact, we had found cases in which agencies' reported compliance status was inaccurate. To address this issue, we recommended that the Council require agencies to develop an independent verification strategy. According to OMB, all agencies are now required to independently verify their validation process, and senior managers at all large agencies are now relying on independent verification to provide a double-check that their mission-critical systems will, in fact, be ready for the year 2000.

To respond to this requirement, many agencies hired IV&V contractors to assist in their Y2K work. Such contractors provide quality assurance services ranging from reviewing systems' documentation to independent testing of Y2K repairs. IV&V contractors often perform

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manager is serving as acting program manager.  
<sup>8</sup> GAO/T-AIMD-99-50.

verification and validation services and summarize their results, together with any qualifications they may have, in the form of interim and final reports.

FAA contracted with SAIC to perform an independent review of each system's documentation throughout key Y2K program phases (assessment, renovation, validation, and implementation) and to report its findings in monthly status reports. The task order stated that SAIC would not be asked to certify that FAA systems were actually Y2K compliant.

In reviewing FAA's systems, SAIC used standard checklists identifying required documents for each phase, and reported any concerns to the Y2K program office during daily meetings.<sup>9</sup> FAA's acting Y2K program manager stated that agency officials saw these checklists during the meetings, and that the checklists often contained handwritten notes about concerns and how they were resolved. However, when SAIC completed its work and turned its files over to FAA, these handwritten checklists had been removed. Instead, SAIC provided electronic files that lacked a complete history of the concerns and the reviewer's signature.

Without this history, it is difficult to determine if all of the system-specific concerns raised during SAIC's independent review had been addressed. For example, when we reviewed Y2K documentation for the Display System Replacement system,<sup>10</sup> we found that SAIC had reported that there were several unexplained problems that needed to be addressed and retested during the validation phase. Later, SAIC approved the system for implementation, but there is no explanation of how the validation problems were resolved. Similarly, SAIC identified missing

and incomplete information on FAA's mission-critical heating, ventilation, and air conditioning (HVAC) system<sup>11</sup> during renovation. SAIC later approved the system's validation and implementation, but we were unable to find any documentation supporting how their renovation concerns had been resolved.

Further, because FAA did not require it, SAIC did not originally provide written interim or final reports summarizing the outcome of its activities, including any issues or cross-cutting concerns. Without interim or final IV&V reports, FAA did not have summary evidence that IV&V concerns and issues were raised and satisfactorily addressed. In response to our concern about the lack of an IV&V summary report, FAA's acting Y2K program manager stated that while she was comfortable that all of SAIC's concerns had been addressed, she recognized the value of having a summary statement. FAA obtained such a summary statement from SAIC on September 7, 1999.

End-To-End Testing Valuable.

But Not Comprehensive

Integrated, end-to-end testing of multiple systems that have been individually deemed Y2K compliant ensures that the systems that collectively support a core business function will operate as intended. Without such testing, systems individually deemed compliant may not work as expected when linked with other systems in an operational environment. This testing should

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<sup>9</sup> FAA's acting Y2K program manager stated that the agency's daily and weekly meetings with SAIC and the data sheets that were discussed during the meetings satisfied the requirement for monthly status reports.

<sup>10</sup> The Display System Replacement displays radar data to controllers in the en route environment.

<sup>11</sup> HVAC systems are needed to maintain critical air traffic control equipment in normal operating condition.

include not only those owned and managed by an organization, but also any external systems with which they interface.

FAA's end-to-end testing strategy related to the National Airspace System focused on systems that directly support navigation, surveillance, weather, maintenance, and air traffic control functions.<sup>12</sup> FAA conducted three types of Y2K end-to-end testing: system integrity testing, operational demonstration, and field-site testing.

FAA's system integrity tests involved testing groups of systems supporting weather processing, communications, flight- and radar-data processing, and remote maintenance monitoring, to ensure that data were processed correctly across interfaces. To date, FAA has completed five system integrity tests and reported that there were no Y2K-related problems in any of the tests.<sup>13</sup> One of these tests was performed in response to our concern, raised in March 1999, that FAA did not validate the radar tracking functions of its Automated Radar Terminal System (ARTS)-IIIA—a critical data processing system used in about 55 terminal radar approach control facilities.<sup>14</sup> In this system integrity test, FAA compared ARTS-IIIA radar tracking information with two independent tracking systems and found no Y2K-related problems. The information from the three sources was consistent.

FAA's end-to-end operational demonstration simulated having aircraft pass through all phases of flight using recorded data, and tested the activities associated with these phases—such as weather briefings, clearances, aircraft tracking, rerouting, handoffs, and transfers. This test focused on

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<sup>12</sup> FAA also performed system-specific testing prior to certifying each systems' Y2K compliance.

<sup>13</sup> FAA officials stated that they performed a sixth system integrity test, but that the test results report has not yet been completed.

FAA's ability to continue intersystem and inter-facility data communications through the Y2K date change. FAA officials reported that they completed this test in February, with no Y2K-related problems.

FAA's field-site testing involved a demonstration of core NAS functions using equipment at operational air traffic control facilities in order to demonstrate that functional components at selected sites were reliable under Y2K conditions. FAA ran this demonstration in a "split environment." That is, the agency used redundant equipment for this demonstration while still controlling live air traffic with its primary air traffic control systems. FAA completed this testing in April, and reported it a success.

While these three types of tests are important in demonstrating FAA's Y2K progress in successively increasing increments, the tests were not comprehensive. Specifically, of 21 mission-critical systems<sup>15</sup> that FAA identified as posing the greatest risk to the national airspace system if not operational on January 1, 2000. 13 were not included in any end-to-end testing. These include four weather systems, four communications systems, and five facilities systems. For example, neither the Graphical Weather Display System (GWDS) nor the Terminal Doppler Weather Radar (TDWR) was included in any of the end-to-end tests. Both of these systems are critical to obtaining aviation weather information; GWDS provides graphical weather information to flight service stations while TDWR detects windshear events and reports these events to air traffic controllers.

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<sup>14</sup> GAO/T-AIMD/RCED-99-118.

<sup>15</sup> FAA originally identified 26 systems as posing the greatest risk to the national airspace system, but five have since been decommissioned.

Additionally, the agency's broadest end-to-end test, the field-site test, was limited in that it took place during low traffic conditions. Further, FAA did not exercise every system or interface in this test. For example, FAA was unable to use the critical Voice Switching and Control System—used for communications between air traffic controllers and pilots—because it could not be set up to operate in both a primary and redundant environment. Also, FAA did not test critical backup systems, such as the Direct Access Radar Channel, which is essential should the Host Computer System—the primary information processing system in an en route center—fail. Finally, because FAA's demonstration focused on air traffic control systems, it did not constitute an end-to-end test of all of the key components of the NAS—including mission-critical systems operated by airlines and airports.

FAA officials agreed that their end-to-end tests were not comprehensive, but stated that they had tested many of their most important systems and functions, and, therefore, do not plan to conduct additional end-to-end testing. Given the significance of the systems and functions that have not yet been tested end-to-end, FAA should consider performing additional testing in the time remaining before the Year 2000 date change.

#### **Risks Associated with External Partners Could Affect Aviation Operations**

In addition to the challenges FAA faces in ensuring its internal systems will work through the Y2K date change, the agency is at risk that critical external systems will fail, thereby affecting its operations. Three prime areas of risk are airports, airlines, and international partners.

Many Airports Expected to CompleteY2K Activities Late This Year

The successful operation of the NAS depends, in part, on the equipment that airports use to carry out their operations. This equipment helps provide safe, secure, and efficient aircraft operations and other services to the public; it includes controls for functions such as runway lighting, monitoring access to secured areas, handling baggage, providing emergency communications, and fueling aircraft. Because much of this equipment is automated, it is at risk of Y2K-induced failures and malfunctioning. While airport officials expressed confidence that they could resort to manual operations if automated systems fail, they noted that manual operations could decrease an airport's efficiency—its ability to handle its normal number of scheduled flights per day—thereby causing flight delays. Delays at one airport could have a ripple effect, causing delays at other airports and eventually reducing the efficiency of the system nationwide.

We raised concerns about the Y2K status of our nation's airports in January 1999, when we reported that nearly two-thirds of 334 airports responding to our survey did not plan to complete their Y2K efforts by FAA's recommended June 30 deadline.<sup>16</sup> We also noted that while most of these were small airports, 26 of them were among the nation's 50 largest airports.

More recently, the International Civil Aviation Organization (ICAO) required member countries to report on the Y2K status of their civil aviation systems—including air traffic control systems, airports, and airlines—by July 1, 1999. FAA collected Y2K information on 113 U.S. airports,

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<sup>16</sup> Year 2000 Computing Crisis: Status of Airports' Efforts to Deal with Date Change Problem (GAO/RCED/AIMD-99-57, January 29, 1999).

submitted it to ICAO on June 29, and is continuing to update this information.<sup>17</sup> According to FAA's latest information, about 20 percent of the 113 airports reported that they had completed their Y2K preparations. Another 58 percent estimated that they would complete Y2K efforts by September 30, and the remaining 22 percent of airports either planned on a later date or did not provide an estimated completion date. Among the group planning to complete their Y2K efforts after September 30, but by November 30, are five of the nation's largest international airports.

FAA is also collecting information on the Y2K status of 566 domestic airports' safety systems and 459 airports' security systems—systems that FAA certifies—but this information is not yet complete. FAA officials stated that the agency is requiring information on airports' safety systems by October 15, but had not set a deadline for information on security systems. The agency will continue this information-collection effort through the end of 1999.

To help ensure the safety of airports' systems, on July 1, 1999, FAA proposed a requirement that airports test critical safety equipment early on January 1, 2000. The purpose of this proposed requirement was to have airports test equipment—such as emergency communications systems and fire trucks—that may not be in use during the Y2K date change. Several airports provided comments to FAA on this proposed rule change, and the agency is now evaluating those comments before proceeding to issue the new requirement.

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<sup>17</sup> On August 31, FAA requested that we treat information on specific airports and airlines as "For Official Use Only" information, meaning that we are unable to report site-specific information in a public forum.

Many Airlines Expected to CompleteY2K Activities Late This Year

Airlines, another key element of the National Airspace System, also rely heavily on automated systems to provide safe and efficient air transportation. These systems support communications, navigation, flight management, aeronautical information processing, and weather information processing, as well as transponders and engine management.

Responding to ICAO's request for Y2K information on airlines, FAA collected Y2K information on 146 international airlines in April and May 1999, submitted it to ICAO on June 29, and is continuing to update this information. According to FAA's latest information, about 33 percent of the 146 airlines reported that their systems were Y2K compliant. Another 35 percent planned to complete their Y2K efforts by September 30, and the remaining 32 percent either planned on a later date or did not provide any date. Among the group planning to complete their Y2K efforts after September 30, but by December 31, 1999, are four of the nation's major airlines.

FAA is also collecting Y2K status information from over 14,000 FAA-certified air carriers and operators. The agency distributed a questionnaire to certificate-holders in April 1999, and is currently following up with nonrespondents. In addition, FAA inspectors are beginning to ask questions of certificate-holders about their Y2K status. FAA officials stated that they will continue with these efforts through the Y2K date change.

International Activity andCoordination Is Continuing

American international carriers operate in over 90 countries and at over 200 foreign airports; similarly, over 125 foreign carriers cross FAA-controlled airspace. FAA lacks the authority and resources to ensure compliance of any foreign air traffic control system, but it nevertheless retains responsibility for ensuring safe, reliable aviation services for American travelers into 2000 and beyond.

FAA's international Y2K management team has been active. FAA is sharing information with its foreign counterparts and assisting them in addressing Y2K issues, such as business continuity and contingency planning. FAA is also actively working with ICAO to obtain Y2K status information on its international counterparts, and is prioritizing countries based on perceived risk in order to determine the level of testing to be performed with these countries. FAA reports that it has completed international testing with several countries, and plans to continue these tests throughout 1999.

FAA's Y2K international manager stated that FAA will provide status information on individual countries to the State Department to help develop consular information sheets—previously called travel advisories—regarding ICAO member countries. Both the departments of Transportation and State intend to issue information on individual countries later this month.

**Comprehensive Business Continuity and Contingency Planning is Crucial**

Because of the risk of anticipated and unanticipated Y2K failures—whether from internal systems or due to reliance on external partners and suppliers—comprehensive business continuity and contingency plans are crucial to continuing core operations. We have issued guidance on this topic,<sup>18</sup> and OMB adopted this guidance as the standard that federal agencies are to use in developing their business continuity and contingency plans.

In accordance with this requirement, FAA drafted a Y2K business continuity and contingency plan in December 1998, and released iterations of this plan in April and July 1999. FAA's plan defined its approach to business continuity and contingency planning and focused on developing risk matrices for each of the agency's core business functions. These risk matrices, developed in conjunction with subject matter experts, identify risks, business impact, mitigation strategies, potential triggers, and contingency plans within each core business area.<sup>19</sup> The latest version of the plan also describes FAA's "Day One" strategy—plans and procedures for the time frame immediately before and after the date rollover, business resumption model, and plans for testing the contingency plan and training people in how to use it.

For the portion of the plan that affects the NAS, the "Day One" strategy is a plan for reducing risk between December 31, 1999, and January 1, 2000. This includes the establishment of

business resumption teams made up of experts who will be available to address problems, as well as a communications structure for coordinating responses to any problems that arise.

To test and improve the NAS portion of its business continuity and contingency plan, FAA has initiated rehearsal exercises. One such exercise took place last month, and another is scheduled for next month. During these exercises, experts in various facets of aviation operations work through different failure scenarios, determining how they would react and what further activities should be undertaken to better prepare the agency for such failures. These scenarios range from minor to major failures, and include failures of the national infrastructure. FAA officials stated that they will use suggestions generated during these exercises to improve their contingency plans. This is an extremely valuable exercise, but to be effective, FAA must follow through and act on key suggestions.

FAA is also planning to train key systems users on the NAS portion of the business continuity and contingency plan. The air traffic services line of business is developing a training curriculum and intends to train air traffic controllers and systems specialists in the months preceding the date rollover. Because FAA's business continuity and contingency plan provides a Y2K focus not included in the agency's existing contingency plans, such training is crucial.

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<sup>18</sup> Year 2000 Computing Crisis: Business Continuity and Contingency Planning (GAO/AIMD-10.1.19, August 1998). This product was available as an exposure draft in March 1998.

<sup>19</sup> The information in these risk matrices is considered "For Official Use Only," and therefore cannot be discussed in this testimony.

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

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**Contact and Acknowledgements**

If you have any questions regarding this testimony, please contact Joel Willemsen at (202) 512-6408 or by e-mail at [willemseni.ajmd@gao.gov](mailto:willemseni.ajmd@gao.gov). Individuals making key contributions to this testimony include Nabajyoti Barkakati, William Bumgarner, Cynthia Jackson, Colleen Phillips, and Glenda Wright.

(511742)

Mr. HORN. And we now move to the Inspector General of the U.S. Department of Transportation, Mr. Mead.

The Inspector General is a role in the Federal Government of 24 of the Cabinet departments and independent agencies. They are separate from the political appointees within each Department, and the Congress, which established them two decades ago. Look to them for objective analysis of the various functions within the Department, as a whole—in this case, the Department of Transportation.

So we are glad to have you here, Inspector General. You've been before the subcommittee on many times over the last 5 years.

Please proceed.

**STATEMENT OF KEN MEAD, INSPECTOR GENERAL, U.S.  
DEPARTMENT OF TRANSPORTATION**

Mr. MEAD. Thank you, Mr. Chairman, Madam Chairwoman, and members of the subcommittees.

Mrs. Morella said five hearings. I thought it was four, so I've just dropped that out of the statement. I'm sure it's five and you're right.

When we were here in February 1998, we were saying that the FAA was 7 months behind schedule and at that point just assessing its systems. There were real questions about whether the so-called "host computer"—that's the computer that controls high-altitude air traffic, 20,000 feet and above—could even make it to the year 2000. The program lacked central leadership. FAA was planning to have its systems ready, by the end of November 1999. It didn't seem to leave much room for a cushion.

Frankly, as all your opening remarks indicated, and GAO's statement as well, all that has changed with strong congressional oversight, leadership by the Secretary, Deputy Secretary, and FAA Administrator Garvey, and truly by very hard work on FAA's part at the staff level all across the Nation.

FAA has established strong central management for its year 2000 efforts. They do have a sense of urgency. They have replaced most of the host computers and will complete them all in a couple of months. And they did meet their June 30th milestone. They have been responsive to nearly all of our recommendations.

I think it is useful to highlight what FAA is going to be focusing on for the duration, and in that regard, it is useful to distinguish what they're doing internally and what they're doing externally.

Internally, there are four areas I'd like to highlight. First, local computer programs may vary from facility to facility in the air traffic control systems; second, upgrades to computers; third, testing FAA's systems with foreign interfaces; and, fourth, business contingency plans.

Externally, FAA will be focusing on airports, airlines, and international readiness.

I'd just like to say a word about each of those.

Before installing the year 2000 fixes into the online ATC system, FAA tested the systems at its test facilities and conducted a live test at the Denver Airport. But over the years various FAA facilities have adopted local computer programs that tend to complement or supplement their major systems. They need to make

sure they know where all those modifications are, and FAA is in the process of identifying those now, because sometimes those local modifications can impact in a negative way on a system that has already been determined to be Y2K compliant.

They are similar issues on upgrades. You've heard the air traffic control system is being modernized. They are deploying new systems. It is important that, once they determine that a system is compliant, that the compliance fix is not undone by an upgrade.

With regard to business contingency plans, no matter how extensive the effort, there's no absolute guarantee that every year 2000 glitch is going to be found, so FAA has a business contingency plan. We think it is largely workable.

There are a couple of issues we do have comments on. The controllers will need refresher training on how to operate the system if they have to go, on a local or national basis, to a non-radar procedure.

The controllers union tells us that they feel they need that training.

FAA has made significant progress with its Air Traffic Control Union. We think the maintenance union needs to participate more in the contingency plan, because if something goes wrong the controllers aren't going to fix it, it's going to be the maintenance technicians.

FAA has invited them to participate, but their participation to date has not been that significant.

Moving to external, FAA has taken an active role working with domestic aviation industry associations, but airports truly got a late start in fixing their problems.

In June 1998, FAA sent a letter to over 5,300 public airports to alert them to year 2000 problems. Based on association reporting, airports handling about 90 percent of passenger enplanements are making good progress, and will be ready on time. I think generally FAA's work tends to support that view.

But smaller airports—their number is significant, over 4,600 of the 5,300. They handle only about 10 percent of the traffic. We know very little about their state of compliance.

FAA's survey reported that 83 percent of airport safety systems are now year 2000 compliant, and others will be rolling within the next couple of months.

If not ready by October 15th, FAA plans to send airport operators a warning letter with possible actions they may take with regard to affected airports.

FAA also plans to require airports to perform readiness tests during the early hours of January 1, 2000, and I know that's the subject of some controversy. Maybe we can get into that later.

With regard to airlines, FAA surveyed over 3,300 certified carriers and received responses from 41 percent of those carriers. Almost all of the large carriers responded.

We feel comfortable with the large carriers in this country, but our sense is that FAA is going to really have to put the pedal to the metal with respect to the more than 50 percent that haven't even responded to a questionnaire about their readiness.

I might note that this is one area where we did make a recommendation to FAA that they require airlines to certify that they are compliant from a Y2K standpoint.

FAA chose to take another approach. Since they took that other approach, that's one reason why they have to go out now and get roughly 2,000 airlines that didn't bother responding to say whether they are compliant or not.

So it's not too late to consider that recommendation.

Last, moving to the international arena, with just over 100 days to go, two significant uncertainties exist.

The first uncertainty is that the International Civil Aviation Organization sent out a questionnaire to about 185 nations and asked them about their Y2K compliance—34 of 185 nations did not respond. Later, we can get into the areas of the world to which those countries pertain. Frankly, it's uncertain what is happening in those countries, and the fact that you don't respond to a questionnaire does raise some questions about what you might say if you did have to respond.

A second uncertainty is what we are going to do with respect to countries that in December we don't know whether they are compliant or we do know and we have some reservations about whether they are compliant.

We have a recommendation on the table that FAA say what it is going to do with respect to those countries.

That concludes my oral statement, sir.

Mr. HORN. We thank you very much for that.

[The prepared statement of Mr. Mead follows:]

**Before the Subcommittee on Technology, House Committee on Science, and  
the Subcommittee on Government Management, Information and  
Technology, House Committee on Government Reform**

**U.S. House of Representatives**

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**Readiness for the Year 2000  
Aviation Industry--Domestic and Foreign  
and the Federal Aviation Administration**

Statement of  
**The Honorable Kenneth M. Mead**  
Inspector General  
U.S. Department of Transportation



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Mr. Chairman, Madam Chairwoman, and Members of the Subcommittees:

We appreciate the opportunity to testify today on the Federal Aviation Administration (FAA) and the aviation industry's readiness for safe operations into, and after, the Year 2000. Our testimony will address these areas:

- Actions to fix FAA internal computer systems and remaining challenges,
- FAA's proposed business continuity and contingency plan,
- FAA's assessment of the aviation industry's Year-2000 readiness, and
- Foreign air traffic control services' Year-2000 readiness.

First, this is our fourth testimony before these two Subcommittees on the FAA Year-2000 computer program. In February 1998, we reported that FAA was 7 months behind schedule in assessing its computers for Year-2000 problems. There were serious questions as to whether the Host computer, which is used for control of high altitude air traffic, could make it to the Year 2000 or be made compliant. The FAA program lacked central leadership, and FAA was planning to have its mission-critical systems fixed and ready to go by November 1999. All this has changed with strong Congressional oversight, leadership by the Secretary and Deputy Secretary of Transportation, the FAA Administrator, and hard work on FAA's part.

FAA established a strong central management for its Year-2000 efforts, established a sense of urgency, made a prompt decision to repair and replace the Host computers, moved up the scheduled completion date to June 1999, and met the June 30 milestone. These actions were responsive to recommendations by the Office of Inspector General and others.

As of August 31, 1999, FAA replaced the Host and Oceanic computers at 19 of 23 sites, with the other 4 scheduled to be installed by September 30, 1999. FAA has done a commendable job getting its 152 mission-critical systems, which had Year-2000 problems, repaired and installed at over 4,000 sites. FAA is now concentrating its efforts in the following areas.

Before installing the Year-2000 fixes into the online air traffic control systems, FAA tested the repaired systems at its test facilities and conducted a "live" test at the Denver airport. Over the years, FAA field staff have developed local programs to supplement centrally deployed systems. FAA recognizes the possibility that local programs could cause Year-2000 compliant systems to not work as intended. Upgrades continue to be made to Year-2000 compliant systems after they were installed at field sites. For example, after Year-2000 fixes were made to the Oceanic Automation System software, it was modified to achieve

better data transfer between the Oceanic and Host computers. FAA must exercise extreme caution to ensure local programs and upgrades do not "undo" the tested and compliant work. FAA is putting plans in place to ensure this does not happen.

**Second**, no matter how extensive the search, there are no guarantees that all Year-2000 glitches have been found in internal systems, or systems provided by external sources, such as network service providers. While the work to date has shown that nothing significant is expected to happen, FAA is taking no chances, and is developing a workable business continuity and contingency plan. FAA's proposed Year-2000 business continuity strategy relies primarily on existing contingency procedures, coupled with a newly developed Business Resumption Process.

In the unlikely event of major Year-2000 related system failures, air traffic controllers would use special contingency procedures, such as non-radar (or manual) procedures to separate aircraft. While the non-radar contingency procedure is valid for handling Year-2000 failures, controllers will need refresher training in using this procedure on a large-scale basis. FAA has begun testing its contingency procedures.

FAA has made significant progress with its air traffic controllers union. Although the union representing employees responsible for maintaining air traffic control systems has been invited to participate in this important effort, it has not yet played a significant role. In the unlikely event of system failures, these union members will have to restore the systems. Both FAA and its union members need to agree on a contingency plan that will be used if systems should fail.

**Third**, FAA has taken an active role working with domestic aviation industry associations. U.S. airports got a late start on fixing Year-2000 computer problems. In June 1998, FAA sent a letter to over 5,300 public airports to alert them to Year-2000 computer problems. Based on airport associations' reporting, the airports handling about 90 percent of passenger enplanements are making good progress and will be ready in time. Smaller airports, while their number is significant, handle about 10 percent of passenger enplanements. Year-2000 readiness status of these smaller airports still needs to be reported.

Under the Federal Aviation Regulations, 563 public airports have to be certified by FAA for airport safety operations, such as airfield lighting. FAA surveyed all these airports for readiness to comply with its regulatory requirements, and visited the top 150 airports. The survey reported, as of August 31, 1999, 83 percent of airport safety systems are Year-2000 compliant. The remaining systems are still being evaluated. If not Year-2000 ready by October 15, 1999, FAA plans to send airport operators warning letters with possible actions FAA may take on

January 1, 2000. FAA also plans to require airports to perform readiness test of systems critical to airfield safety and efficiency within the first hours of January 1, 2000.

As part of FAA's survey of about 14,000 certificate holders, FAA surveyed over 3,300 certified carriers for their readiness in April 1999. FAA received responses from 41 percent of the air carriers, including most large carriers. The higher response rate from large carriers confirmed industry associations' claim that large air carriers (representing 95 percent of U.S. passenger and cargo services) will be Year-2000 ready by September 30, 1999. Our sense is that large carriers are handling preparation for the Year 2000 well.

FAA plans to follow up with those carriers that did not respond. With just over 100 days to go, this will be a very challenging plan to accomplish. This was why in March we testified that our confidence level with respect to the entire industry, particularly small carriers and suppliers, would be stronger if certification of Year-2000 compliance was required of them. FAA decided not to impose such a requirement on the industry, and is now faced with the challenging task of getting assurances of Year-2000 readiness from those who did not, or refused to, voluntarily respond.

Lastly, in our March 1999 testimony, we recommended that policy be developed as to whether U.S. carriers or U.S. code share flights, cargo and passengers, will be allowed to fly to countries that are not known to be Year-2000 compliant. DOT established an interagency committee with the Departments of Defense and State to evaluate foreign countries' Year-2000 readiness and make recommendations on safety of international air travel. This committee plans to resolve different opinions through consultation, and to give countries the opportunity to enhance readiness. With just over 100 days to go, two significant "uncertainties" still exist with international air travel.

First, as of August 31, 1999, a total of 53 countries had not responded to the International Civil Aviation Organization's (ICAO) survey. By region, they are: Asia and Pacific (18), central and south America (12), Africa (10), the former Soviet Union/Eastern Europe (8), Middle East (4), and Europe (1). In Fiscal Year 1998, over 5 million passengers (4.6 percent of total passengers for international travel) were flown between the United States and these countries. Second, policy still needs to be established as to whether U.S. carriers or U.S. code share flights will be allowed to fly to countries that either did not respond or cannot give sufficient assurance that they are Year-2000 ready. Time is running out. In our opinion, these "uncertainties" should be resolved by October 15, 1999.

### **FAA Systems Status and Remaining Challenges**

FAA met the significant challenge of implementing 152 repaired systems at over 4,000 sites. We sampled 14 systems, and verified that documentation supported system implementation, validation problems had been resolved, an independent verification and validation was performed for all 152 repaired systems, data exchange issues were resolved, vendor-supported systems were compliant, acceptance testing was performed, and affected databases had been addressed.

We also visited field sites to determine whether Year-2000 compliant fixes had been installed for 10 systems. In all cases, the Year-2000 compliant version was operating on the systems we checked. Now that implementation is complete, FAA needs to ensure that Year-2000 compliant versions in the field are not adversely affected by local programs or upgrades to compliant systems.

#### **Local Programs**

For the 152 air traffic control systems which had Year-2000 problems that needed to be fixed, FAA performed extensive Year-2000 testing at its test facilities. FAA also conducted a "live" test at the Denver airport. FAA requires local programs be centrally approved, documented, and monitored. Because of the millions of lines of software code in the National Airspace System, there is the possibility that local programs could cause Year-2000 compliant systems to not work as intended. FAA is aware of the issue with local programs, and is developing a plan to adequately assess these local programs. For example, FAA is determining whether all local programs for its Automated Radar Terminal System (IIIA) have been identified and are Year-2000 compliant.

#### Modifications to Year-2000 Compliant Systems

To ensure Year-2000 compliant status is maintained, FAA issued guidance requiring the monitoring of changes made to Year-2000 compliant systems. This policy requires, when a Year-2000 compliant system is modified, that the system owner assess the modification to determine if it affects Year-2000 compliance. If the assessment identifies problems, the system owners need to revalidate and re-certify the system. During our on-site review of 10 systems, we found 3 systems were modified subsequent to the Year-2000 modification without support to show the changes did not "undo" the compliance work. For example, the Oceanic Automation System software was modified, after being made Year-2000 compliant, to achieve better data transfer between the Oceanic and Host computers. FAA is working with its system owners to adequately assess modifications to Year-2000 compliant systems.

#### Testing of Interfaces with Foreign Air Traffic Control

FAA plans to test interfaces with 23 foreign air traffic control systems which handle 51 percent of U.S. passengers' international travel. These interface tests focus on voice transmissions and data transmissions of weather information, flight plans, and Airmen Notices. These tests are time consuming. With just over 100 days to go, completing all these interface tests will be very challenging. For example, FAA plans to conduct seven pre-tests (each of which requires 2 weeks) in preparation for the interface tests. FAA is attempting to accelerate these tests.

### **Business Continuity and Contingency Plan**

FAA developed a business continuity and contingency plan to ensure continued air traffic operations in case of system failures during transition to the new

millennium. The plan is composed of two parts--FAA's existing contingency procedures and a newly developed Business Resumption Process.

#### Non-radar Contingency Procedures

The air traffic control systems contain six core processes--automation, surveillance, communications, navigation, traffic flow management, and infrastructure, such as public utilities. All core processes are supported by automated systems subject to potential Year-2000 failures. Although unlikely, major system failures in automation and surveillance areas would have the most significant impact.

- Automation systems are used to display aircraft location and flight identification on the controller's screen. Examples include the Host computers used to direct high altitude traffic and the Automated Radar Terminal Systems used for lower altitude traffic.
- Surveillance Systems are used to identify aircraft locations. Examples include long-range Air Route Surveillance Radar used to support high altitude traffic and short-range Airport Surveillance Radar for lower altitude traffic.

In the unlikely event of major Year-2000 related system failures in either automation or surveillance areas, FAA plans to rely on non-radar procedures to direct air traffic. According to FAA, non-radar procedures are rarely used to support normal traffic operations, let alone high traffic volume. Representatives of the National Air Traffic Controllers Association (NATCA) have expressed concern that its members are not proficiently trained to use non-radar procedures on a large-scale basis.

#### Union Participation

FAA's Business Resumption Process calls for each system failure, regardless of type or impact, to be resolved quickly. FAA established a business resumption team that is responsible for determining causes of system failures, the severity of failures, and the actions to restore operations.

Union participation in development of this plan is important to FAA's success. NATCA is now participating. Although Professional Airways System Specialist (PASS)--the union representing employees responsible for maintaining air traffic control systems--has been invited to participate in this important effort, it has not yet played a significant role. In the event of Year-2000 related system failures, these union members will have to restore the systems. Both FAA and its unions need to develop a plan acceptable to, and agreeable by, all parties.

#### Testing of the Plan

FAA, with the assistance of contractors, recently conducted a small-scale contingency planning exercise. Preliminary results indicate the exercise went well. However, this exercise provided no "hands on" testing for controllers. FAA is in process of preparing a lessons-learned document to incorporate the information learned to be used for a larger-scale exercise in September 1999. FAA should use these opportunities to test the use of non-radar procedures.

### **Industry Readiness**

In our March 1999 testimony, we reported that our confidence level with regard to the entire aviation industry, particularly small carriers and suppliers, would be stronger if certification of Year-2000 compliance was required. FAA decided not

to impose such a requirement on industry. Instead, FAA is relying primarily on airport and air carrier operators' self-reporting of Year-2000 readiness to their trade associations and the FAA.

Airport Associations' Survey of Year-2000 Status

Under the direction of the President's Council on Year 2000 Conversion, an FAA-Industry Year-2000 Steering Committee was formed to coordinate industry-wide progress reporting. Major airport associations include the American Association of Airport Executives (AAAE) and Airports Council International-North America (ACI-NA).

AAAE and ACI-NA surveyed their member airports. Table 1 shows the 728 member airports account for 14 percent of U.S. public airports.

Table 1  
U.S. Public Airports' Year-2000 Readiness Reviews

<u>Public Airport Type</u>	<u>Number of Airports</u>
Member Airports	
Large Hubs	27
Medium Hubs	45
Small Hubs	77
Total Hub Airports	149
Member Airports Non-hub & General Aviation	579
Total Member Airports (14%)	728
Non-member Airports (86%)	4,624
Total Public Airports (100%)	5,352

Based on the AAAE/ACI-NA status report to the Steering Committee, and FAA's status report for submission to ICAO, the most current status is that airports handling about 90 percent of U.S. passenger enplanements reported they should be ready by December 31, 1999. However, there are two issues concerning airports:

- Of the 579 non-hub and general aviation airports, only 107 reported completion of Year-2000 work as of March 15, 1999. More current information is needed.
- Other than getting a letter from FAA alerting them to Year-2000 problems, the 4,624 public airports not associated with AAAE/ACI-NA were not surveyed by either FAA or the trade associations. Year-2000 readiness of these smaller airports still needs to be reported.

#### FAA's Survey of Airport Certificate Holders

In June 1998, FAA sent a letter to over 5,300 public airport operators to alert them to Year-2000 computer problems. Of these, under the Federal Aviation Regulation, about 500 airports are required to be certified by FAA for safe operations, adequate airport security, and adequate screening of passengers, baggage, and cargo. Automated systems often are used to meet these objectives.

- Airport Safety Systems: In October 1998, FAA sent a letter to 563 public airport certificate holders indicating FAA was going to conduct on-site visits or telephone interviews of Year-2000 readiness of systems used to ensure safe airport operations, such as runway lighting. FAA performed on-site reviews at the top 150 airports and conducted telephone interviews with the remaining 413 airport operators.

As of August 31, 1999, survey results indicate 83 percent of airport safety systems are Year-2000 compliant. The remaining systems are still being evaluated. In November 1999, FAA plans to issue warning letters to airport operators, who failed to provide the readiness assurance by October 15, 1999, that FAA will consider appropriate actions on January 1, 2000, including emergency certificate suspension or issuance of a Notice to Airmen restricting airport operations.

FAA also has proposed a rulemaking requirement for airports to perform a one-time readiness test of systems (to be selected by FAA regional representatives in consultation with airport management) critical to airfield safety and efficiency. These tests would be performed within the first hours on January 1, 2000. FAA is analyzing comments received from industry and plans to finalize the requirement by early October 1999.

- Airport Security Systems: In 1998, FAA collected information from 459 certified airport operators relating to Year-2000 readiness of computer systems used to support airport security, such as access systems. The survey indicated 109 airports were working on security systems to become Year-2000 compliant by June 30, 1999. A follow-up review showed 71 operators were repairing their security systems as of August 31, 1999.

In recent years, FAA has sponsored development of three advanced security systems to enhance airport security, including two explosive detection systems and one trace detection equipment. One of the explosive detection systems had to be upgraded to become Year-2000 compliant. According to FAA, all 66 airports with this equipment have completed the upgrade.

Air Carrier Associations' Survey of Year-2000 Status

Major air carrier associations in the FAA-Industry Year-2000 Steering Committee include the Air Transport Association (ATA) representing major carriers, Regional Airline Association (RAA) representing regional air carriers, and the National Air Carrier Association (NACA) representing charter and small airlines.

ATA, RAA, and NACA surveyed their member carriers. Table 2 shows the 101 member carriers account for 3 percent of the 3,343 U.S. air carriers.

Table 2  
U.S. Air Carriers' Year-2000 Readiness Reviews

<u>U.S. Air Carriers</u>	<u>Number of Air Carriers</u>
ATA Members (representing 95% of U.S. passenger & cargo services)	23
RAA Members (representing 98% of regional airline passenger services)	71
NACA Members	7
Total Member Air Carriers (3%)	101
Non-member Air Carriers (97%)	3,242
Total Air Carriers (100%)	3,343

Although these members account for only 3 percent of the total U.S. air carriers, they handle about 95 percent of U.S. passenger and cargo services. The most current status indicated major carriers reported they should be Year-2000 ready by

September 30, 1999. While ATA and NACA reported when their members plan to complete Year-2000 work, RAA had not yet provided such information.

FAA's Survey of Air Carrier Certificate Holders

In April 1999, FAA sent a questionnaire to all 3,343 certified air carriers requesting information about their systems and components that may be affected by Year-2000 computer problems. Submission of the information is voluntary. As of August 31, 1999, FAA received a 41 percent response rate, which included responses for 9 of the top 10 air carriers. Continental is the only major carrier that did not respond.

Table 3  
FAA's Survey of U.S. Air Carriers' Year-2000 Readiness

Carrier Category	Surveyed	Responded	Response Rate
Large	10	9	90%
Medium	205	97	47%
Small	3,128	1,255	40%
Total	3,343	1,361	41%

The high response rate from large carriers confirmed the general observation that they are managing the Year-2000 preparation well. The large carriers provide about 95 percent of U.S. passenger service. Status of many medium and small carriers still needs to be reported.

As of August 31, 1999, FAA is in process of compiling the data it received. FAA has not yet determined how to report the survey results, but plans to provide specific guidance to its inspectors for follow-up review. FAA will concentrate its activities on air carriers not responding to the questionnaire, air carriers that submitted inconsistent data, or air carriers identified as having significant Year-2000 problems. With just over 100 days to go, obtaining Year-2000

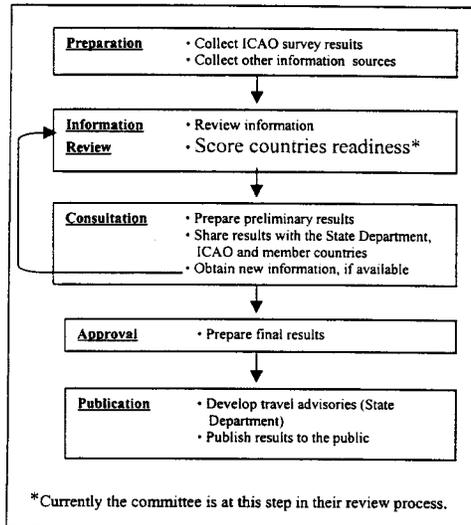
readiness assurance from the non-responding certificate holders will be a very challenging plan to accomplish.

### **Foreign Air Traffic Control Readiness**

In March 1999, we recommended that FAA develop a policy as to whether U.S. carriers or U.S. code share flights, cargo and passengers, will be allowed to fly to countries that are not known to be Year-2000 compliant. FAA has since developed the International Year-2000 Civil Aviation Readiness Information Review process. DOT is leading an interagency committee, including DOT, Department of Defense, and the State Department, to evaluate the Year-2000 readiness for flying to foreign countries.

The interagency committee developed a comprehensive process which places emphases on collecting information from multiple sources, having representatives from multiple agencies review the information, sharing evaluation (scoring) results with all related parties, and giving countries the opportunity to enhance Year-2000 readiness through the consultation process described in Table 4.

Table 4  
Interagency Committee Review Process



Since this is a new process, issues from how scoring should be weighted, to how the information should be reported, are being discussed and resolved as the first set of countries are being reviewed.

#### ICAO Survey on Year-2000 Status

ICAO surveyed its 185 member countries to identify Year-2000 issues and readiness. The interagency committee plans to rely on ICAO's survey as a key information source for evaluating the international aviation community's readiness for the Year 2000. Survey results were due from ICAO member countries by

July 1, 1999. ICAO planned to issue a report summarizing members' status by the end of July 1999. However, 53 of the 185 member countries have not reported their results to ICAO as of August 31, 1999.

Table 5  
ICAO Member Survey

ICAO Member Countries	Number of Countries	Countries Not Responding	Regions
90 Countries (accounting for 97 percent of international passengers)	90	17	Caribbean & Central America (9) South America (3) Asia & Pacific (3) Middle East (1) Former Soviet Union (1)
Other ICAO Countries	95	36	Asia & Pacific (15) Middle East (3) Africa (10) Europe (1) Former Soviet Union or Eastern Europe (7)
Total	185	53	

At this point, ICAO has deferred issuance of its status report. In Fiscal Year 1998, over 5 million passengers were flown between the United States and the 53 countries.

The interagency committee planned to issue its first review results for the 90 countries (accounting for 97 percent of U.S. international travel passengers) by September 15, 1999. As of August 31, 1999, the interagency committee is in the review stage, and has not started the consultation process. The consultation process is expected to be time consuming because it requires reconciliation of all parties' opinions, giving member countries the opportunity to provide additional information for analysis, or obtaining commitment for enhanced Year-2000 work.

It is uncertain as to whether the interagency committee will be able to complete its evaluation as currently planned. Meanwhile, the interagency committee has not yet developed a policy as to whether U.S. carriers or U.S. code share flights will be allowed to fly to countries that either did not respond or cannot provide sufficient assurance that they are Year-2000 ready. Time is running out. In our opinion, these "uncertainties" should be resolved by October 15, 1999.

We are working closely with the Secretary, Deputy Secretary, and the FAA Administrator as we close in on the new millennium. We will continue to monitor the issues we have discussed, and advise all parties of any progress or problems.

Mr. Chairman, Madam Chairwoman, this concludes our statement. I would be pleased to answer any questions.

Mr. HORN. We now have Administrator Garvey, and we thank you for coming. You've done a great job since you've arrived in Washington, and we look forward to your testimony.

**STATEMENT OF JANE GARVEY, ADMINISTRATOR, FEDERAL AVIATION ADMINISTRATION**

Ms. GARVEY. Thank you very much.

Chairman Horn, Chairwoman Morella, and members of the committee, good morning and thank you very much for the opportunity to appear before you this morning to report on the status of the FAA's Y2K compliance efforts.

When I last appeared before your committees, I promised you that the FAA would be Y2K compliant by June 30, 1999. I am pleased to report to you today that we met that deadline. And I'm also pleased to say that the DOT's Inspector General conducted a sample review of our work and has approved it, while an independent contractor has validated our approach, has validated our compliance.

Each of our components in which a Y2K fix was required has undergone multiple testing and validation. I know there are some additional questions, and we'd be happy to talk about that in the question and answer period. These components' parts and their fixes were then tested in an end-to-end test on April 10th of this year.

During this end-to-end test, our air traffic control systems were set forward to December 31, 1999, and rolled over to January 1, 2000. The results were that our system fixes operated through this transition flawlessly. Nevertheless, we will continue to test portions of the system as we progress through the next few months.

A critical question for us is maintaining the integrity of our Y2K compliance status by making sure that any changes we make to our systems in the normal course of business, such as routine maintenance and software upgrades, are Y2K compliant, and both the Inspector General and the GAO have raised that issue.

Moreover, we've established a moratorium on changes to the National Airspace System from mid-November through early January 2000. We believe we've got a process in place to protect that integrity, and, in addition, we will have a moratorium for any changes to the National Airspace System, as well.

In addition to our operational fixes and our testing, we've developed a comprehensive business continuity and contingency plan. I think that is critical, as well. This plan really builds upon our previously existing contingency plans to specifically address potential disruptions caused by the Y2K phenomena.

Our contingency plan has been developed, it has been modified with the participation of our labor work force and their elected representatives. We know that that's something we want to constantly do—continue to work with our labor unions to make sure that they are very much involved in this.

We are confident that, given the success of our end-to-end test, as well as with the multiple testing conducted prior to this event, we will safely transition into the year 2000.

And, while it's true that the air traffic control system has been and is our priority, our efforts do not end at FAA's door, and I think the IG has appropriately highlighted some of these issues.

We are aggressively working with our industry partners, with airlines, with the airports, and with the international community to raise their awareness and their need to achieve Y2K compliance in order to satisfy their obligation under the FAA's safety regulations. For example, we've told the domestic airport operators that we expect airport systems which may have an immediate effect on safety to be Y2K compliant by October 15, 1999, or they must provide an alternative means of compliance with current safety regulations. So they'll tell us by October 15th either they are Y2K compliant or what their contingency plan is.

For domestic air carriers, all U.S. certificate holders must be able to demonstrate regulatory compliance with operations and maintenance requirements on or after January 1, 2000.

While confidence grows within the United States—and I think it appropriately grows—we know that there is increasing anxiety about the international community.

The FAA and the Department of Transportation, along with the Departments of Defense and State, lead an interagency working group which is currently reviewing the information gathered from the International Civil Aviation Organization [ICAO].

And I want to stress that we are doing this very much in harmony and cooperation with the Departments of Defense and Departments of State.

And, while we are still in the process of reviewing the information, the preliminary analysis suggests that, if there should be a Y2K-related incident, it would take the form of limited disruption in service at some international destinations.

Let me assure you, though, as I have in the past, as I know the Deputy Secretary has said before this committee, that, should we gain knowledge or learn of an incident that would affect the safe operations of the civilian air fleet, we are prepared to act appropriately. I think it is going to be critical that we monitor the information that we have.

I can also tell you that the information that we're receiving will be up on the Web, summaries of that, by the end of September. The information will be available publicly. Since we believe that the public has a right to know, we do plan then to publicly disseminate international Y2K assessments by the end of this month.

Let me conclude on two notes. First, I am extraordinarily proud of the efforts of the FAA staff, for their dedication and their commitment to reaching that June 30th deadline. It was a terrific effort. As Ken Mead has said, it involved people throughout this country working overtime, giving up vacations, and just pressing ahead on that June 30th deadline.

But I'm also very grateful to the personal involvement of both the Inspector General and GAO. They personally—both of these gentlemen personally have been at meetings that we hold. Their staffs have been out to the field with us. And I really think they have been critical to the success we've received and met to date.

And, finally, also, I'd like to thank publicly the members of this committee. I believe—and I'd like to say that I think we would

have responded appropriately in face of the Y2K challenge, but there is no doubt that the attention of this committee, the focus that you've brought to the issue I think really has kept the debate very much on the public stage, if you will, and that has been extraordinarily helpful.

We are confident, but I want to stress that we are not overly confident. We agree with all of the comments that have been made this morning that there is still a great deal of work to do. There is still much that needs to be accomplished between now and January 1st, but we remain committed and I remain personally committed to seeing this effort through to an absolute wonderful completion.

And, Mr. Turner, I don't know if we've convinced you yet, but we'll save you a seat on that plane.

Thank you very much, Mr. Chairman.

[The prepared statement of Ms. Garvey follows:]

STATEMENT OF THE HONORABLE JANE F. GARVEY, FEDERAL AVIATION ADMINISTRATOR, BEFORE THE HOUSE COMMITTEE ON SCIENCE, SUBCOMMITTEE ON TECHNOLOGY AND THE HOUSE COMMITTEE ON GOVERNMENT REFORM AND OVERSIGHT, SUBCOMMITTEE ON GOVERNMENT MANAGEMENT, INFORMATION, AND TECHNOLOGY ON THE STATUS OF THE FEDERAL AVIATION ADMINISTRATION'S YEAR 2000 COMPLIANCE EFFORTS. SEPTEMBER 9, 1999.

Chairman Horn, Chairwoman Morella, and Members of the Subcommittees:

Thank you for the opportunity to appear before you this morning to discuss the status of the Federal Aviation Administration's (FAA) Year 2000 (Y2K) compliance efforts. I have had the honor of appearing before you several times to apprise the Members of our efforts, and it gives me great pleasure to inform you today that the FAA has completely implemented all Y2K fixes in our systems as of June 30, 1999, the date that we promised we would.

We have worked tirelessly to ensure that the transition of air traffic services to the new year would be as smooth as possible. All FAA computer systems, mission-critical and non-mission-critical are now Y2K compliant. An independent contractor has reviewed the documentation on the repairs we have performed on all these systems and verified our work based on engineering judgment. The Office of the Inspector General (OIG) of the Department of Transportation (DOT) has also validated our compliance. I am confident that the FAA will make the transition to the year 2000 smoothly and without compromising aviation safety in the National Airspace System (NAS).

Our confidence in this was reinforced by one of our most important checks on our Y2K efforts. On April 10 of this year, we conducted an "end-to-end" test of our systems at the FAA's operational facilities in Denver, Colorado. This event used an FAA flight check aircraft to fly from Colorado Springs to Grand Junction to Denver International Airport. During this flight, the FAA's air traffic control systems were set forward to December 31, 1999 and rolled over to January 1, 2000. We recorded all of the tracking data, examined that data, and discovered that there were no problems attributable to the Y2K transition. This was a particularly important step in our testing, since it provided us with the assurance that our individual system fixes were able to work together in an operational environment.

Although our systems are Y2K compliant, we all know that the FAA must continue to conduct business from now through the new year and as business needs change, so will our systems. Hence, we have added a Post Implementation phase to our Y2K repair approach. During this phase we will ensure that, as changes are applied to our systems, the system will remain Y2K compliant. Additionally, we are strengthening our efforts in testing and quality assurance to ensure the NAS will continue to function through the year 2000.

We are committed to making sure the NAS will remain safe and efficient through the Y2K change. We continue to keep a vigilant eye on our systems, testing and retesting them to assure ourselves, you the Congress, and the people that you represent, that our Y2K repairs really do work. We continue to perform interface and system integration

tests. Again, our focus is the maintenance of the integrity of our Y2K-compliant status. All enhancements, changes to the system, and deployment of new systems that the FAA would normally undertake are closely monitored to ensure continued Y2K compliance. We will maintain this focus until March 30, 2000, one month after the date of the last potential Y2K problem, the leap year date of February 29, 2000.

As an added precaution, the FAA has hired an independent contractor to conduct additional analyses of high-profile systems, such as the Common Automated Radar Tracking System (Common ARTS) and the Display System Replacement (DSR), to ensure that there are no obscure problems that we may have missed. Additionally, another independent contractor is currently auditing our change management process to ensure that retesting and recertification for Y2K is conducted where necessary. Moreover, we are developing a moratorium on changes to the NAS around the critical year-end period. This is yet another precaution to maintain the stability and the Y2K integrity of the NAS during potentially risky time frames.

In our continued and continuous Y2K efforts, our contingency planning continues to develop. The FAA published a Business Continuity and Contingency Plan (BCCP) Version 1.0 on April 15, 1999, and published Version 2.0 on July 15, 1999. Despite our confidence in the Y2K fixes implemented at the FAA, the BCCP details what actions the FAA would take should problems associated with Y2K arise. The FAA has always had strong contingency plans in place to deal with eventualities, such as inclement weather and power outages, and the BCCP builds on those strong contingency plans to address

potential Y2K-specific problems. We will publish Version 3.0 of the BCCP by October 15, 1999. We have also made sure that as the BCCP develops, our labor partners are fully informed and invited to contribute to that development.

The FAA has been reviewing and testing the BCCP, making sure that the various operational functions of the FAA work individually and coherently. We have identified the personnel and communications structures required to support "Day One" (January 1, 2000) operations as defined in the FAA BCCP, developing and executing the contingency plan training and testing to the level suitable to various operations. This effort ranges from a review of existing manual methods to full wargames. Local facility contingency plans continue to be trained and tested on a regular basis. We are planning a tabletop exercise in September to practice sharing of Y2K information throughout the agency, recording of Y2K incidents, and reporting of aviation infrastructure failures to DOT.

I should note at this point the invaluable service that the OIG and the General Accounting Office (GAO) have rendered us in validating our systems. They continue to conduct site visits at our field facilities, and they bring to our attention any concerns or issues they may find.

But our efforts do not end at our own front door. As our confidence in the compliance status of our own systems grows, we have aggressively increased our efforts related to our aviation industry partners, not just from a regulatory role, but by providing

leadership and facilitation in the industry. I would like to take this opportunity to tell you about the status of some of our work with airports, air carriers, and foreign countries.

The FAA's primary focus in our airports outreach efforts is that the airports maintain compliance with the existing FAA regulations. An airport operator may choose to repair computer systems that perform tasks to comply with our regulations, or it may choose some other means of regulatory compliance. For example, FAA regulations require the control of runway lighting. If that lighting is controlled by a computer system, we would expect that computer system to be Y2K compliant. The airport operator may, however, decide to control runway lighting manually in order to successfully maintain compliance with FAA regulations.

As of July 31, 1999, the FAA completed visits to the top 150 airports in the United States. The vast majority of those reported to us that they plan to complete their Y2K repairs by the end of September, and all of them expect to be completed by December. The FAA has identified 20 systems that may be used to comply with Part 139 regulatory requirements. We have also identified which of these systems exist at each airport. Of the 20 systems, we have identified 7 that could have an immediate impact on safety. We have told airport operators that we expect these systems to be Y2K compliant by October 15 or an alternate means of compliance needs to be developed to meet the requirements of the regulations. We also have a plan in place for continued contact with airport operators on a regular basis to monitor the status of their systems.

For our air carriers, our primary focus is again compliance with the existing regulations. All United States certificate holders must be able to demonstrate regulatory compliance with operations and maintenance requirements on and after January 1, 2000. The FAA began conducting a survey of over 14,000 FAA certificate holders in the aviation community earlier this year to make them aware that Y2K issues could potentially result in regulatory non-compliance. Currently, there is a 42% response rate to the survey. We have been aggressively following up with those certificate holders who have not responded to our survey request. As of this month, FAA inspectors will follow up by continued telephone calls and/or site visits with all remaining non-respondents and respondents for whom we still have questions and potential issues. We will also be working with certificate holders to approve changes to procedures and operational specifications, if necessary.

Supplementing these efforts, the agency chairs an FAA-Industry Y2K Outreach Steering Committee, formed at the request of the President's Council on Y2K Conversion. This committee includes members from six key organizations representing the major segments of the aviation community: air carriers, airports, and manufacturers. This Steering Committee provides a crucial gateway to 23 other aviation industry partners. The resulting partnership provides an arena for exchanging information and identifying and resolving major issues that could impact the safety, security, and efficiency of the aviation and commercial space transportation sectors.

A critical focus of the Steering Committee is the need for coordinated contingency planning across the aviation industry. The committee has published a guide, the *Airline-Airport Operations Contingency Planning Guide*, that provides a self-assessment template to ensure the industry is prepared and can provide a uniform response to situations which may arise. This guide was distributed to trade association members as well as to some international entities, and is also available on the FAA's Y2K website. In addition, the Steering Committee has sponsored two workshops, the first of which focused on presenting the FAA's BCCP. The second workshop, conducted on July 19-20, 1999, brought together major service providers such as electrical power and telecommunications with airport and airline operators to discuss in-depth the process for coordinating contingency planning. The workshop helped to define the core elements of an airline-airport contingency plan for use at the national, regional, and local levels and for coordinating contingency plans across government and industry.

The FAA knows that as the new year draws closer, international aviation becomes more of a concern. The FAA has been a global leader in creating awareness of the problem and of supporting programs to mitigate any impact of Y2K problems. We have widely distributed information about our Repair Process and GAO's Business Continuity Planning process. A year ago last June, I spoke to the world's airlines and encouraged them to support the International Air Transport Association (IATA) Y2K program. IATA and the FAA worked together to have International Civil Aviation Organization (ICAO) address the Y2K problem. The FAA sponsored the resolution that led to ICAO's Y2K assessment criteria and the reporting of Y2K readiness. The FAA has

supported ICAO's international regional contingency planning. We are promoting the IATA-ACI airline-airport business continuity planning project which parallels the effort of the FAA-Industry Y2K Steering Committee domestically.

The FAA is also conducting extensive international testing. By December, we plan to have conducted testing with 23 countries to ensure adequate system operation for those countries with which we have direct interfaces. We already have schedules in place to test both voice and data systems in order to validate the functionality and connectivity of air traffic control communication systems. This is an aggressive schedule intended to provide an extra measure of assurance for ourselves and the airlines.

In order to provide assurance to the public, the FAA, the Office of the Secretary of Transportation, and the Department of Defense are reviewing available information gathered through ICAO and other sources on the Y2K readiness of foreign civil aviation entities. The purpose of this review is to provide useful planning information to the American public. This effort is in support of the President's Y2K Conversion Council which is looking at global impact of Y2K. At this point it appears that if any Y2K impact is felt, it would take the form of limited disruption of service in some locations. Should a serious safety consideration arise involving international aviation, you may be assured that the FAA, in conjunction with other government agencies, will take appropriate steps to ensure the safety of our air travelers. Since civil aviation is inherently capable of addressing potential problems, it is unlikely that serious safety issues would be a problem. In addition, international contingency planning efforts and our encouragement

of business continuity planning at international airports should mitigate potential disruptions in service.

The FAA has worked diligently, not only to ensure Y2K readiness of our own systems, but to do whatever we can to help our industry partners and counterparts, domestically and internationally, to experience a smooth transition into the next year 2000. As I have told you in the past, I am proud of our accomplishments, and I have already booked my coast-to-coast flight on the evening of December 31, 1999 to demonstrate my confidence in these accomplishments. We are continuing, more aggressively than ever, to continue our outreach activities to ensure a seamless transition to the year 2000.

Thank you, Chairman Horn and Chairwoman Morella. I appreciate the opportunity to address the Subcommittees this morning, and I would be pleased to answers any questions you may have.

Mr. HORN. We're going to have a series of questions, and each member will have 6 minutes in which to answer the questions. We'll then have another round if we haven't finished with the various questions.

Let me begin with just clarification here. I think I heard you right in your oral testimony that a lot of the data would be released, hopefully by the end of the month, but let me go through this, to make very sure for the record that we're talking on the same things.

Federal Aviation Administration compiled a wealth of information on domestic airline and airport year 2000 readiness. The data was provided to the International Civil Aviation Organization in July. Furthermore, this information was provided to the General Accounting Office in August. However, on August 31st of this year, FAA notified GAO that this information was "for official use only," essentially placing a gag order on GAO for not discussing this information today.

Last night, we received this data.

Let me ask you, why was the data essentially deemed to be for official use only?

Ms. GARVEY. Mr. Chairman, in discussions with the general counsel's office at DOT, as well as our own FAA counsel, there were questions raised about what we could and what we could not release.

We were very eager to release the information as quickly as we could. We've worked closely and hard since the end of August, with both general counsel at DOT and our own chief counsel, to resolve the issue. We've had discussions with ICAO, and yesterday our general counsel at DOT agreed and gave us the OK, if you will, to release the document that we had given to GAO.

There were some questions, particularly on the international, whether some of that information was classified, but we've talked with ICAO and we're comfortable in releasing it.

The information that we will be releasing at the end of September is information that we've reviewed with State, with the Department of Defense, and we'll be doing summary information that will go up and I hope will be a very customer-friendly way for the American public to be able to take a look at what's happening in all of those countries.

But it was essentially a legal issue. We've resolved it. And I'm glad to say we've resolved it.

Mr. HORN. In terms of domestic airports, then, we will certainly be able to release that information, I take it?

Ms. GARVEY. Yes. Absolutely.

Mr. HORN. And ICAO, the International Civil Aviation Organization, will not have a veto on that?

Ms. GARVEY. Absolutely. And, again, that information, in addition, will be up at the end of September in a more customer-friendly way, if you will.

Mr. HORN. Now, if we move across from the United States, and particularly Los Angeles, where I land every other week, or New York, or Chicago, will there be any difficulty in finding out the situation at Frankfurt, let's say, or any other major international airport?

Ms. GARVEY. No, it should not.

Yesterday there was still, I think, one remaining question. We just wanted to further clarify with ICAO that some elements may have been deemed classified.

We don't think they are, and I believe that that call didn't take place last night. It will take place this morning, but more as a courtesy to them, as well.

But in conversations that I've had with senior members of ICAO, I think they have been expecting at some point more information to be released.

Mr. HORN. Well, I'm delighted to hear that. So there's no problem with airports. How about with airlines on releasing those data?

Ms. GARVEY. Well, one of the reasons I understand that the airlines are not here today is they are beginning a pretty aggressive public effort in major U.S. cities, beginning in New York today and traveling to all of the major cities, to talk about Y2K compliance and their information that they have to date, so I think, again, as we get closer, we will be releasing that.

Some of that information we have to date, and others of it we don't yet have, so we will be gathering that over the next several weeks, Mr. Mead said.

Mr. HORN. Mr. Willemsen noted in his testimony—and I think we've all agreed—that the survey had 20 percent of the airports were completed and 58 percent by the end of September, and then 22 percent later. We don't know what "later" means, whether it is October, whether it is December 31st.

Are you confident, then, on the airport data, that where they will be, let's say at the end of November? Do you think they'll all be compliant at the airport side?

Ms. GARVEY. Well, I'll be able to answer that better, I think, on October 15th, and that's why that's so critical.

I can say that we did do site visits to 150 of the major airports earlier this summer, and that encompasses over 93 percent of the enplanements, so those are the important, very important, airports. And we were very, very encouraged, the information that we were able to get at that point.

And, again, I will stress that our focus are the safety systems, and there are about 20 systems that are actually regulated and about 7 or 8 on airports that are directly linked to safety, and those are the ones that, obviously, from our perspective, are the most critical. It involves lighting and communications, fire trucks, those sorts of things.

Mr. HORN. At this point, is there any airport of, let's say, a medium-sized airport and up, that is sort of a basket case at this point and has a lot to do?

I'm not asking you to name it, particularly. I'm just saying, are there some problems like that out there, based on your first survey?

Ms. GARVEY. I'm more confident with the larger airports. I think they are in very good shape. I would say that some of the mid-sized airports, when last I looked at it, probably had some work to do, but there was nothing that was causing us great alarm at that point. October 15th will be important, though.

Mr. HORN. How about the international airports and the international aviation firms? Any feeling there that they are lagging quit a bit behind the United States, or what?

Ms. GARVEY. Well, I think we have some concerns. I think, as Mr. Mead said, the information, the early information from ICAO raised some flags for us in some areas, but we've gone back to those areas. ICAO has put a very hard press on.

So, again, the information that we're getting in this month is critical, and having that on the Web at the end of the month I think will be very helpful.

Good progress, more progress at the end of the summer than certainly the beginning of the summer. I think ICAO was really keeping the pressure on, and I think that's appropriate and very good to do.

But, again, we will be releasing that information, and full disclosure is really going to be our motto, if you will.

Mr. HORN. Yes, Mr. Mead?

Mr. MEAD. I have to get accustomed to the technology. This advanced technology—

Ms. GARVEY. I can explain it to you after, Mr. Mead, if you like.

Mr. HORN. We need a GAO survey, first. [Laughter.]

Mr. MEAD. I think that the key for airlines and airports, and internationally, is not only the public disclosure, but that there be some consequences attached to not responding to the Federal Aviation Administration.

We have roughly 2,000 small carriers out there, for example—I alluded to them in my statement—that have chosen simply not to respond to the agency that licenses them. I don't think that should be permitted.

So I think the disclosure, coupled with an announcement that there will be some consequences if we don't have a comfort level, will do the trick.

Mr. HORN. Well, can their license be yanked, shall we say? That isn't just north of the Mason-Dixon line. But just what can the FAA do about that to make sure they answer the survey?

Mr. MEAD. Well, I think they can make it a condition of their continued operation that they respond.

And, with regard to foreign nations, I do think the U.S. Government has some control over at least U.S. airlines and where they fly to.

Mr. HORN. Mr. Willemsen, any comments before I turn to Mrs. Morella for questioning?

Mr. WILLEMSSEN. Just to add that, in our experiences on Y2K beyond aviation, one of the biggest motivational tools to get entities on board on Y2K is to publicize site-specific Y2K readiness information. That has been a tremendous motivational tool to get those entities who are behind on track with the program and in compliance in time.

So I would just echo that statement.

Mr. HORN. Well, I'm delighted to hear you say that, because you're absolutely correct, and there is no gag order now, and the data will be out by the end of this month. So we thank you.

I now yield for questioning to my colleague and co-chairman, Mrs. Morella of the House Subcommittee on Technology.

Mrs. MORELLA. Thank you, Chairman Horn.

I just want to again thank the three of you for being so exemplary in the teamwork, working together, where you've got GAO that can be critical and look internally, and the Inspector General, who also scrutinizes very closely, and the FAA Director.

I think you are a great example for other agencies, also, in working together.

Mr. Mead, this is the fourth time you have testified, but we have had five hearings on the issue. I wanted to ask you, the FAA has identified 21 mission-critical systems that could pose the greatest risk to the national airspace system if they're not available on January 1, 2000. Of the 21 systems, only eight have been tested, as I understand it, in an end-to-end environment. Why haven't the other 13 systems been part of an end-to-end test?

I wonder—I would imagine, but I wonder, do you have them as far as the plans in the future for this end-to-end testing?

Ms. GARVEY. Congresswoman, the 12 or so that you've mentioned—let me back up a little bit.

We had a certain criteria when we looked at the end-to-end test. One was that they had to have gone through Y2K repairs, because some of our systems, though critical, didn't need to have Y2K repairs. So they had to have gone through the Y2K. They had to be an integral part of the system—in other words, not just stand-alone systems, but an integral part of the system, and they had to be used nationwide.

So we've taken a look at those 12 additional systems, if you will, and they did not meet that criteria, which is why they were not part of the end-to-end testing. But I will say that systems that need to be tested, even those that stand alone, are tested as stand-alone systems.

Remember from our previous discussions that one of the uniquenesses of the FAA system is how interconnected this system is. So if they are stand-alone systems, they were still tested, but they were not tested as part of the end-to-end. We were looking for those systems that were interconnected.

Mrs. MORELLA. Mr. Willemsen, could I ask you to comment on that, also?

Mr. WILLEMSSEN. Yes. Some of those systems are stand-alone systems, and therefore it wouldn't make a lot of sense to test them end-to-end. Some of those systems are not stand-alone systems. Indeed, some of them are communications systems which, by definition, are not stand-alone systems.

We would like to see, in the remaining months, some effort made by FAA to try to test those in an end-to-end environment. Given that we have the months remaining to do it, I think that FAA should embark on that kind of effort.

I would not necessarily agree that, just because a particular system early on was not judged to need Y2K repairs, that we shouldn't test it in an end-to-end fashion at this point in time.

We have seen other examples where one system was deemed compliant, again outside of FAA, another system was deemed compliant, but when they worked together there were problems because of the differences in how that compliance status was attained, and therefore I still think, in the remaining months, that

it would be especially important for FAA to take another look at that, especially on those critical communication systems, to see what additional testing can be done.

Mrs. MORELLA. Splendid. Will you do that, Ms. Garvey?

Ms. GARVEY. We will.

Mrs. MORELLA. Good.

I have time, I think, for another question in this first round, and that is, I'm concerned that 53 countries have not responded to the ICAO survey. What further steps—I would ask each of you—should the FAA take to learn more about the status of these countries? Mr. Mead?

Mr. MEAD. Well, we know who they are.

Mrs. MORELLA. We know who they are.

Mr. MEAD. I think that should be publicized.

Mrs. MORELLA. OK.

Mr. MEAD. I believe that serious consideration should be given to placing restrictions on U.S. carrier flights to countries that will not even respond to a questionnaire about where they stand on Y2K compliance.

In some of these nations, frankly, the Y2K problem may be the least of the problems. Some of their air traffic equipment may be ancient, and there may be even deeper problems.

But I would try that approach. I agree with Mr. Willemsen and Ms. Garvey about disclosure being a motivational factor, but I believe that needs to be coupled with some indication that there will be consequences for not responding.

Mrs. MORELLA. So how do we do that? I mean, tell us. Be practical in terms of what the next step should be and what you will be doing. Ms. Garvey?

Ms. GARVEY. Just to pick up a little bit on what Mr. Mead said, I think, for example, the fact that we know where they are is extraordinarily helpful.

Obviously, we can send or ICAO can send some all teams in to work with them. And we've done that, by the way, internationally, from, you know, for the last year or so. We've had people that are assigned just to the international efforts and have been part of ICAO teams that have gone into countries and worked with them to figure out exactly where they are with Y2K.

So I think knowing where they are and sending in specific teams, in fact, is occurring and should occur.

I think the public disclosure, again, at the end of this month is going to be extraordinarily helpful, and I think Mr. Mead is right—keeping on the table further restrictions or travel restrictions from the United States—well, obviously, we would involve State in those discussions and they would not be taken lightly. I think having that as a sort of ultimate step is one way to also keep some pressure on, as well.

I certainly hope in the last couple of weeks that number, 53, has gone down. Some of that is information that may, you know, be updated, and we're looking at that every day.

Mrs. MORELLA. And we assume you'll be working with our State Department and the consular office in—

Ms. GARVEY. Absolutely.

Mrs. MORELLA [continuing]. Getting this information out. Thank you.

Ms. GARVEY. Thank you.

Mr. MEAD. Mrs. Morella, if I might just say, if you consider the time of year that is most critical here that we're all focusing on, I think it is probably the early period of January, a key vacation time. Some of these places are popular vacation destinations.

Mrs. MORELLA. Yes.

Mr. HORN. I now yield to the gentleman from Texas, Mr. Turner, for questioning for 6 minutes.

Mr. TURNER. Thank you, Mr. Chairman.

Following up on what Mrs. Morella was asking, it seems to me that it would be appropriate for this joint committee to ask you, Ms. Garvey, to give us some written plan that will reveal to us exactly what you are going to ask for and what kind of public disclosures will be made.

It seems that what we ought to be seeing here is the hammer that Mr. Mead is talking about, it needs to be disclosed to the airlines and to the international community, give them time to recognize what you plan to do if they don't respond to you. In fairness they need notice. If they refuse to comply, then they know that you are going to publish a list or you're going to have a press conference or you're going to post it on the Internet, or whatever actions you are going to take. If you're going to demand that no flights go into a certain country because you haven't heard the status of their compliance those kind of things, in fairness, need to be known by those other parties, and then, if they fail to comply—or even if they do comply—then it is time to give the American people, the air travelers, notice in some specific way regarding the failure of those other airlines or those other countries or airports to be compliant.

And unless you have a specific plan, it doesn't seem to me that we can be fair to all the parties involved, nor can we get the right information to the American public.

It seems to me, even if our airlines understand that you are going to take a certain action at a certain date, they will increase the pressure on the international community to get into compliance. So that seems to me what Mrs. Morella was talking about, and it doesn't seem that we really have heard that today, and perhaps you could do that for us and then we could be assured that all of these things that we're talking about really have some form and substance to them.

Ms. GARVEY. Mr. Turner, I would agree. And I think you're right, by the way, in terms of pressure even from the airlines. They are extraordinarily, I think, effective in that regard, as well.

Let me do two things. One is, we can submit to you and for the record an in-depth discussion, if you will, our plan that we have internationally, both what we've done to date and some of the very specific steps where we might be having site visits, what might be

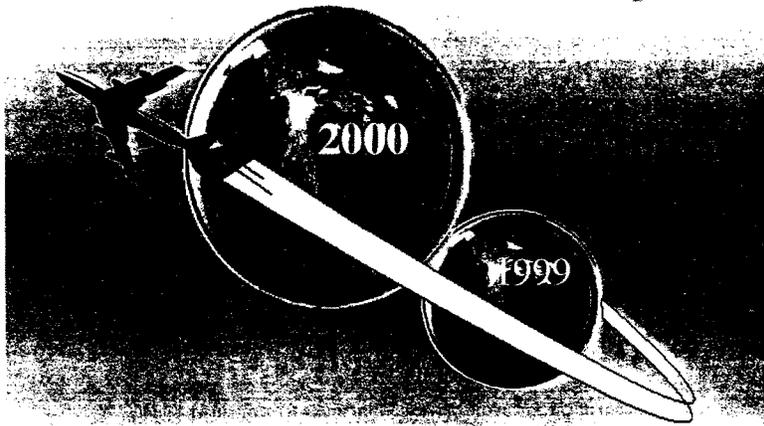
some of the followup information in terms of the survey, and we'll definitely submit that for the record.

Mr. HORN. Without objection, that will be put in the record at this point.

Ms. GARVEY. Thank you very much, Mr. Chairman.

[The information referred to follows:]

**Federal Aviation Administration**  
**International Project Plan II**



**FAA Y2K Program Office**  
**International Management Team**

March 1999

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## FAA International Y2K Project Plan

### 1. Background

#### 1.1. Relationship to Other Y2K Plans and Directives

This plan implements international aspects of the Federal Aviation Administration (FAA) Year 2000 (Y2K) Project Plan of March 1998, and the FAA Y2K Program Office Business Plan of October 6, 1998. This plan also implements the approach mandated by the President's Executive Order 13073, dated February 4, 1998, which directs executive agencies to "communicate with their foreign counterparts to raise awareness of and generate cooperative international arrangements to address the Y2K problem." This plan, dated January 1999, is the first revision of the original FAA International Project Plan, dated April 1998.

#### 1.2. The Y2K Problem

At 00:00:01 A.M. Universal Time on Saturday, January 1, 2000, many computer systems worldwide will malfunction or produce incorrect information simply because of a date change anomaly. The Year 2000 problem, as it is called, results from the way computer systems store and manipulate dates. Dates are often used as part of a computer-based system's algorithm or decision process. For efficiency and to economize storage space, most computer manufacturers and computer program designers omitted the first two digits of the year (i.e., the century) when they referred to dates in computer programs. Therefore, when the date rolls over from 1999 (99) to 2000 (00), many computer programs will fail to recognize the change in the century and misinterpret "00" (the year 2000), as 1900.

As the year 2000 approaches, the problems associated with the date rollover in various computer systems may affect various aviation activities. These problems include the following:

- Inability to sort routines to perform properly
- Reversal of logic decisions
- Inability to continue forecasting for shelf life items
- Inability of inventory systems to generate correct stock level reports for reordering
- Failure of commercial products to function
- Inversion of security access rules
- Inability to properly validate intelligence data

The types of systems that may be affected include mainframes, client/servers, networks, workstations, distributed systems, telecommunications systems, avionics, radar processors, and communications processors. The software that is potentially impacted includes both application software and system software.

There are three other date-related issues that compound the problem:

- Many of the systems fail to take into account that the year 2000 is a leap year
- Many of those same systems have associated values with date fields or they have hard-coded values in the software
- Many systems that use dates typically define and use a date data type, which, due to its dependence on storage structures of the computer systems, will rollover and fail

### **1.3. FAA's International Y2K Challenges**

The FAA international Y2K project plan is concerned with the Y2K compliance of air traffic management systems operated by FAA's counterpart air traffic services providers and international airports. The plan is also concerned with the Y2K compliance of foreign carriers operating into and out of FAA-controlled airspace.

There are 32 Flight Information Regions (FIRs) that are immediately adjacent to the FAA's National Airspace System (NAS). These FIRs have interfaces with 12 of the FAA's 21 FIRs that are controlled by 21 Air Route Traffic Control Centers (ARTCCs). Additionally, in the Pacific, Atlantic, and Caribbean areas, FAA ARTCCs interface with foreign airport approach control and tower control facilities. U.S. international air carriers operate in over 90 countries and at over 200 foreign airports. Likewise, over 125 foreign air carriers fly into and out of FAA-controlled airspace.

The FAA does not have the authority or resources to validate the compliance status of any foreign system. Consequently, specific tasks outlined in this plan are focused on providing global leadership to facilitate international activity on the part of system-owning countries in addressing the Y2K issue in order to minimize the risk to U.S. passengers and aircraft flying within the international community. In addition, the plan provides a means to collect metrics to monitor and validate international Y2K efforts, identify and resolve issues and concerns, and report progress on international Y2K activities.

### **1.4. The Global Civil Aviation Community's Y2K Challenge**

The challenge faced by the global aviation community is that of providing safe, reliable, and efficient aviation services worldwide into the year 2000 and beyond. As of December 1998, the challenge is enumerated to include:

- Global air traffic control systems not yet confirmed Y2K compliant and capable of operating at 100% capacity in Year 2000.
- Individual aviation systems and data exchanges not yet confirmed Y2K compliant.
- Global airport infrastructure (including security systems) not yet confirmed Y2K compliant.
- Global aircraft fleet not yet confirmed Y2K compliant.
- Air carrier, business aviation and associated suppliers' systems not yet confirmed Y2K compliant.
- International Y2K contingency planning not yet completed.

## **2. Purpose**

The purpose of the FAA International Y2K Project Plan is to facilitate international cooperative arrangements to address the Y2K problem. International cooperation is vital in order to maintain safe, reliable, and efficient civil aviation services worldwide. Due to the limited time and resources available, the Y2K problem makes cooperation between air traffic services providers, airports, air carriers and international aviation organizations especially critical.

The FAA has chartered the Y2K Program Office International Management Team to establish and monitor the ongoing assurance of international Y2K compliance efforts. FAA's international goals are to:

- Ensure that the NAS operations, NAS interfaces with adjacent countries, and NAS supporting systems will operate through the year 2000 and beyond.
- Obtain status of Y2K compliance of air traffic management systems that provide service to U.S. scheduled air carriers overseas from the global aviation community.
- Obtain assurance that all air traffic service providers, including those at international airports, have developed international Y2K contingency plans to maintain a safe operating environment through the various date change events related to the transition into the next millennium.
- Determine the status of the international airline industry regarding to ensure continued safety of the flying public.

## **3. Scope**

The scope of this work is to facilitate and monitor international Y2K compliance efforts. It includes activities by the FAA Y2K Program Office International Management Team to secure mutual assurance that all commercial and government organizations and entities involved in international civil aviation have conducted satisfactory Y2K compliance

actions. The FAA Y2K Program Office International Management Team will work with the appropriate FAA lines of business (LOBs) to facilitate their interaction with international civil aviation entities, as appropriate. The FAA Y2K Program Office International Management Team will assist in establishing communication with the respective international organizations and governmental agencies on matters related to Y2K. The FAA Y2K Program Office International Management Team will provide guidance, direction, and assistance regarding all international-related Y2K issues.

#### **4. FAA Y2K International Project Structure**

##### **4.1 FAA Y2K Program Office**

The FAA Y2K Program Office was established in February 1998 and given the task of providing central management of the Y2K endeavor for the FAA. Assisted by the Y2K Program Offices of the Lines of Business, the FAA Office is responsible for ensuring that all of the disparate FAA Y2K compliance efforts are carried out properly.

##### **4.2. FAA Y2K Program Office international Management Team**

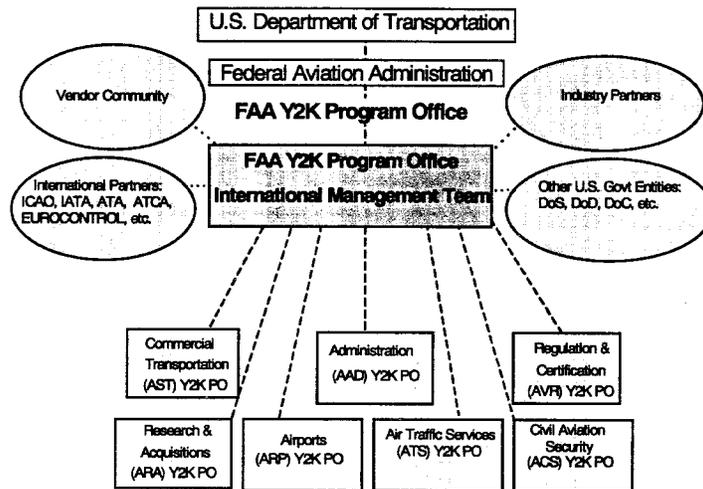
The FAA Y2K Program Office International Management Team has been designated by the FAA Y2K Program Office to create awareness of the Y2K problem on the international front, encourage international action to attain Y2K compliance, and create an evaluation methodology that can be used to assess international Y2K readiness status. Particular responsibilities of the FAA Y2K Program Office International Management Team include:

- Monitor FAA (and other U.S. civil aviation) Y2K activities that have an international element
- Create Awareness and Outreach: International and Industry
- Provide Mutual Assurance of International Y2K Compliance
- Establish and Maintain Bilateral Cooperation
- Establish and Maintain Cooperative Arrangements with International Organizations

The FAA Y2K Program Office International Management Team is comprised of the FAA Y2K International Manager and supporting staff to carry out these responsibilities.

**4.3. The FAA Y2K International Management Team and Other International Organizations**

The FAA Y2K International Management Team must interact with a variety of other agencies involved in the management and operation of the international civil air space. The following diagram depicts the FAA Y2K Program Office International Management Team and its relationship(s) with some of the other organizations having international Y2K interests.



**5. FAA Y2K International Management Team Past Activities**

From its inception in April 1998 until December 1998, the FAA Y2K International Management Team conducted activities in accordance with its Project Plan, dated April 1998. These activities were organized into the following tracks and subordinate tasks:

- Track 1. Monitor FAA (and other U.S. civil aviation) Y2K activities that have an international element**

Task 1. Determine Lines of Business (LOB) responsibility within the International Community  
 Task 2. Monitor LOB International Interface Activities  
 Task 3. Establish Documented Understanding of Non-FAA Civil Aviation Organizations  
 Task 4. Support the Development of the International Aspects of the FAA Y2K Contingency Plan

**Track 2. Create Awareness and Outreach: International and Industry**

Task 5. Prepare Information Packages  
 Task 6. Develop International Y2K Communications Calendar for FAA  
 Task 7. Establish International Outreach Program for Y2K Issues  
 Task 8. Provide Industry Awareness and Outreach

**Track 3. Provide Mutual Assurance of International Y2K Compliance**

Task 9. Ensure International Information Exchange on FAA Y2K Progress  
 Task 10. Assist in Establishing an International Y2K Clearinghouse

**Track 4. Establish and Maintain Bilateral Cooperation**

Task 11. Monitor Adjacent System Y2K Compliance Efforts  
 Task 12. Facilitate Bilateral Testing of Systems  
 Task 13. Monitor Foreign Air Traffic Service Providers and Airports used by U.S. Operators  
 Task 14. Develop International Traffic Flow Analysis

**Track 5. Establish and Maintain Cooperative Arrangements with International Organizations**

Task 15. Work with ICAO  
 Task 16. Work with IATA  
 Task 17. Communicate with U.S. Department of State on International Y2K Status  
 Task 18. Work with Other International Organizations

Some of the highlights of accomplishments achieved in the execution of these tasks include:

- Established International Framework
  - ➔ Established FAA international Y2K program
  - ➔ Influenced establishment of ICAO Y2K program
  - ➔ Assisted IATA in establishing its Y2K program

- Influenced establishment of ICAO's Informal Global Y2K Coordination Action Group (IGYCAG)
- Secured ICAO resolution requiring the publication of Y2K status
- Created awareness of Y2K problem around the world
  - Developed FAA international Y2K web site
  - Sent Y2K program materials to all 96 countries to which US carriers fly
  - Provided Y2K awareness papers for international meetings
- Established relationship with international partners
  - Personally met with Y2K officials of top 6 countries to which US carriers fly
  - Established Test Working Groups with Canada and Mexico
  - Organized Y2K North American Aviation Y2K Trilateral Working Group
  - Briefed foreign visitors on Y2K
  - Provided on-site FAA representative to ICAO

#### **6. 1999 FAA Y2K International Project Tasks**

In order to more effectively carry out its responsibilities in the final year before the millennium event, the FAA Y2K International Management Team has revised its project plan. This new plan for the Year 1999 is comprised of nine Project Tasks, as described below. Each task description includes its purpose, a summary of activities necessary to carry out the task, and the task goal. International Management Team members have been assigned to carry out each of these tasks. They are responsible for developing a detailed Task Action Plan for each task that includes specific activities to be executed, identification of risks if the task is not successfully completed, failure points that would prevent successful completion of the task if they are not adequately addressed, and the required staffing level for task completion. Also to be included for each task are the key players involved in carrying out task activities, the products to be created as outcomes of the activities and milestone dates. Task Action Plans are working documents and should be revised as often as necessary to ensure successful attainment of task goals.

#### **TASK 01: PRIORITY ANALYSIS**

**Purpose:** To prioritize FAA Y2K International Management Team efforts (based on perceived risk) in support of Y2K Readiness Assessment, Repair Resource Facilitation, Recovery Operations, International Testing, and Contingency Planning.

**Activities:**

- Develop prioritization criteria for foreign Air Traffic Service providers, international airports, and international operators.

**Task Goal:** 3 Priority Lists (one each for foreign ATS service providers, airports, and operators) by February 28, 1999.

**TASK 02: REPAIR EXPERIENCE SHARING**

**Purpose:** To provide as detailed Y2K repair information as possible regarding best practices based on FAA and industry experiences and knowledge to foreign civil aviation entities in order to compress their Y2K repair cycle.

**Activities:**

- Collect and publish FAA Y2K repair information
- Encourage industry to share compliance status information of their equipment with their foreign customers

**Task Goal:** Publication of FAA list of component repair requirements and fixes with identified Air Traffic Services Points Of Contact by April 30, 1999.

**TASK 03: Y2K READINESS ASSESSMENT**

**Purpose:** To determine the Y2K readiness status of foreign-based ATS providers servicing U.S. carriers, international airports used by U.S. carriers, and foreign air carriers operating within FAA-controlled airspace and to provide this information to appropriate decision makers.

**Activities:**

- Establish an International Civil Aviation Y2K Evaluation Panel
- Develop recommended Assessment Criteria for ATS, airports, and operators
- Collect international Y2K readiness information on all foreign countries and operators based on Assessment Criteria
- Support Evaluation Panel deliberations

**Task Goal:** Recommendations to appropriate decision-makers based on assessments of foreign ATS providers, international airports, and international operators, by October 1, 1999.

**TASK 04: REPAIR RESOURCE FACILITATION**

**Purpose:** To aid foreign country civil aviation entities in obtaining the resources they need to attain Y2K compliance.

**Activities:**

- Conduct aviation priority analysis to determine assistance response priorities
- Evaluate and respond to requests for assistance

**Task Goal:** Respond to all mutually agreed upon requests for assistance through ICAO.

**TASK 05: RECOVERY OPERATIONS**

**Purpose:** To assist in the restoration of global civil aviation operations in response to post-millennium Y2K dysfunction.

**Activities:**

- Develop FAA policy on extent of assistance to be provided
- Develop FAA International Y2K Recovery Plan

**Task Goal:** Appropriate response to civil aviation post-millennium dysfunction.

**TASK 06: INTERNATIONAL TESTING**

**Purpose:** To manage the FAA international testing effort in conjunction with the FAA Y2K Program Office Technical Director and Lines of Business in order to ensure appropriate and timely international testing is conducted.

**Activities:**

- Facilitate establishment of an International Test Steering Committee
- Support coordination with each country with which tests should be conducted
- Monitor development of test plans
- Obtain assistance in getting bilateral testing agreements, if necessary

**Task Goal:** Test completion for all systems/circuits requiring test by October 1, 1999.

**TASK 07: CONTINGENCY PLANNING**

**Purpose:** To support FAA Lines of Business development of the international aspects of the FAA Y2K contingency plan and to support ICAO's regional contingency planning efforts in order to minimize the Y2K risk associated with our international exposure.

**Activities:**

- Support FAA Lines of Business in developing FAA Y2K contingency plans
- Support ICAO in developing international regional contingency plans

**Task Goal:** Provide all mutually agreed upon assistance to ICAO in meeting their September 30, 1999 deadline for the creation and testing of international regional Y2K contingency plans in order to facilitate consistency of FAA and international regional plans.

**TASK 08: COMMUNICATIONS (including awareness raising, information sharing, and event coordination)**

**Purpose:** (1) To provide FAA-external entities (e.g., foreign counterparts, industry, and other U.S. agencies) with the most current status of the FAA's international Y2K effort, (2) to gather international Y2K-related information from FAA-external sources, and (3) to communicate global civil aviation Y2K efforts with FAA Lines of Business and others.

**Activities:**

- Respond to information requests
- Publish a bimonthly FAA Y2K International Management Team newsletter
- Maintain FAA Y2K International Management Team web site
- Participate in monthly meetings of the ICAO Informal Global Year 2000 Coordinating Action Committee
- Participate in the President's Council on Year 2000 Working Group meetings

**Task Goal:** Respond to all mutually agreed upon requests for information

**TASK 09: INFORMATION MANAGEMENT**

**Purpose:** To collect and organize data in order to respond to internal decision making needs and external information requests.

**Activities:**

- Determine database elements
- Build database framework
- Populate and maintain database

**Task Goal:** Provide for all FAA Y2K International Management Team information requirements

## **7. Internal Critical Success Factors**

To effectively manage the international Y2K effort throughout the FAA, the FAA Y2K Program Office International Management Team must remain aware of several factors that are critical to their success. In particular, the AOA Y2K International Management Team recognizes the need to:

- Obtain the commitment of the Lines of Business
- Be wary of both internal and external resource constraints
- Be aware of legal restrictions on the release of information to third parties
- Adhere to established milestones

### **7.1. Commitment of the Lines of Business**

The commitment of the key players involved in each of the plan's tasks is critical to the successful attainment of FAA international goals. FAA Lines of Business must demonstrate their commitment to: (1) sharing their knowledge gained from their own Y2K repair efforts with their foreign counterparts, (2) participating in the Y2K readiness assessment of foreign civil aviation entities, (3) providing facilitation in helping foreign entities obtain the resources they require to attain Y2K compliance, (4) supporting worldwide recovery operations following passage of the millennial event, and (5) supporting international testing and contingency planning.

### **7.2. Ensure Budget and Resources Availability**

To manage costs effectively, the FAA Y2K Program Office International Management Team must ensure that the FAA maintains an accurate and flexible budget for conducting Y2K international compliance and assurance efforts. Associate Administrators and Directors should be prepared to reprioritize within their existing budgets so as to accommodate the work that must be performed for Y2K compliance activities that may involve international cooperative efforts and activities. This may involve reprogramming funds, making significant budget amendments, and increasing resource allocations. Budgets must anticipate additional costs that emerge throughout the Y2K process. The FAA Y2K Program Office International Management Team will work with the AOA Y2K Management Office and with individual LOB Y2K Program Offices to ensure that their budgets are appropriate and flexible to meet the emerging demands of the international Y2K conversion community.

### **7.3. Legal Restrictions on the Release of Information to Third Parties**

The Y2K Disclosure Act restricts the release of information obtained from U.S. organizations to third parties without their express approval. The success of civil aviation entities in addressing the Y2K problem may depend upon their knowledge of the Y2K

readiness of systems provided to them by these organizations, or upon obtaining repair information for like systems owned by these organizations. Therefore, it is imperative that these organizations acquiesce to share information regarding the status of their systems.

#### **7.4. Adherence to Plan Milestones**

With the millennium event horizon less than a year away, it is imperative that the FAA International Management Team adhere to the milestones set forth in this plan. There is very little leeway available to miss or delay deadlines in completing plan milestones. The overall success of this effort will depend upon meeting objectives on time.

### **8. External Dependencies**

Successful execution of the FAA International Y2K Project Plan is dependent upon external organizations for global cooperation and support of Y2K efforts. The Y2K International Management Team will coordinate with relevant organizations to communicate the desired outcomes to achieve Y2K compliance. The success of activities outlined in this FAA International Y2K Project Plan is contingent upon the following external dependencies:

- ICAO's willingness to continue to serve proactively in a leadership role
- ICAO's leadership in establishing Outreach Awareness and International Contingency Plans
- ICAO requiring countries provide timely Y2K readiness status, including publication of compliance data
- IATA, industry, and other federal agencies being committed to the successful overcoming of the Y2K problem
- Adjacent countries working with the FAA to establish and conduct international testing

Ms. GARVEY. Let me also go back to a discussion we had in Montreal last year. It was the fall of last year, and this I think goes right to your point about letting countries know, we had an international gathering of all of my colleagues from around the world representing aviation agencies in their respective countries, about 185 countries, in total.

The United States, at that forum, introduced two very critical resolutions. One was that ICAO publish a list of criteria for Y2K compliance and that be published by January of last year, which ICAO did. A lot of discussion around these resolutions, but it passed overwhelmingly and ICAO did follow through on that.

The second was a resolution that said, "Look, if the countries do not submit information by June 30th—" this past June 30, 1999—"then other countries—" in this case it was the United States making the resolution—"had the option of issuing travel restrictions," what's called in the aviation world "NOTAMS." But it is essentially the ability to issue travel restrictions.

So those were resolutions that were discussed in an open, public forum, with international countries in attendance, and was accepted by the body. So I think those were two very important steps in certainly giving the heads-up, but we will submit the plan, the detailed plan, for the record, as well.

Mr. TURNER. It seems to me that what is going to happen if we don't have some time table and some point at which we—

Ms. GARVEY. Absolutely.

Mr. TURNER [continuing]. Reveal to the American public the status of their air safety, that we are going to have air travelers making their travel plans and their reservations with airlines, and they're going to be saying, "Well, is it OK to fly into such-and-such a country?"

Ms. GARVEY. Sure. Absolutely.

Mr. TURNER. I think Chairman Horn has done an excellent job of using the bully pulpit and the publicity that can be generated from a congressional committee to talk about Y2K and to urge compliance and get information out. Perhaps, Mr. Chairman, we could have a similar event regarding air safety. It seems to me that somewhere around December 1st—

Ms. GARVEY. Oh, absolutely.

Mr. TURNER [continuing]. The American public deserves to know the exact status of Y2K compliance, and that it be publicized in numerous ways in order to be sure the information is available to them.

Ms. GARVEY. Right. I think the first introduction on the Website at the end of this month is going to be very closely watched, and travel agents and so forth, and I think the average traveler, too, is going to want to access that information. I think you are absolutely right. And our challenge will be to keep it updated, not just stopping at the end of September but adding to it in October, adding to it again in November, and I expect there will be many questions around that as we get closer. I think you're right.

Mr. TURNER. Thank you, Mr. Chairman.

Mr. HORN. I thank the gentleman. I was thinking of maybe Hal- loween for a hearing or something on this.

I now yield to the vice chairman, Mrs. Biggert, the gentlewoman from Illinois, for 6 minutes of questioning.

Mrs. BIGGERT. Thank you, Mr. Chairman.

Just one more question on the international flights. Does the FAA have the authority to ground international flights if there is a computer problem or civil unrest in some of these other countries because of Y2K, or whatever it would be? Do you have that authority in case of, for instance, war times or severe weather conditions?

Ms. GARVEY. The FAA has the authority, when safety is at risk—and, again, we want to get back to our mission of safety, when safety is at risk—to issue travel restrictions. It takes the form of what is called NOTAMS, or special, you know, restrictions that we might put in place. And sometimes when you go into an airport you'll see a sign that the Secretary of Transportation has restricted air travel to certain countries. So we would use those same regulatory powers.

But, again, I want to stress it is when safety is at risk. We take that, as Congresswoman Morella said, very seriously.

Mrs. BIGGERT. So you will consider that in case there is a problem?

Ms. GARVEY. That is certainly an option if safety is at risk.

Mrs. BIGGERT. There was something in the paper or the media at some point—and I'm sorry I don't have the exact article—but it talked about having, after the first flights, the turnover December 31st into January 1st, talking about somewhat of a shutdown to do testing right after that. Do you recall?

Ms. GARVEY. Congresswoman, I believe that refers to the rule that—we are in the process of rulemaking right now. We have proposed that airports, after midnight of January 1st, before their official operations begin, that they do a sort of post-testing to make sure everything is all right.

Of their critical safety systems that we regulate—for example, that would be lighting, that they test their lighting, that they test the fire trucks to make sure that they are still working appropriately and so forth. So it is a very limited number of systems that would be tested.

We have proposed that. We've received a number of comments that are technical in nature that suggest making some changes to it. We are reviewing those comments now.

Mr. Miller mentioned when he was here that his airport was particularly concerned about it.

We don't want to be burdensome to airports in any way. On the other hand, we do think it is prudent to do some testing to make sure everything is still OK, so we're reviewing those comments right now, and I believe that's what the press was referring to.

Mrs. BIGGERT. That's right. That's what it was.

Do you foresee, in doing that, that there would be then a shutdown or a slowdown?

Ms. GARVEY. We're not envisioning, Congresswoman, a real shutdown, but we're saying before those operations begin in earnest—and, again, we're talking between the hours of 12 midnight, when there are not a lot of operations, ordinarily—there is no need to go through the drill on January 1st. But sometimes testing the system

requires that the system be capable of having the clock rolled forward to January 1, 2000.

Mrs. BIGGERT. Well, it seems that there have been so many changes since July 1st, 1999, so many change orders or changes on the computer systems, but then doesn't that require further testing so until you really get to that date, there might have been changes that could affect the system?

Ms. GARVEY. Well, first of all, I believe we've got a very good process in place to make sure that those changes are Y2K compliant, but I do want to mention, because I think that GAO appropriately brought up a concern about 1,000 changes that they had seen, we're going back and just taking another look at that, but what we believe at this point is that the vast majority of those changes occurred before June 30th. So we think they can be accounted for. But we're going to double check, and we think GAO is right to flag that.

We think it is only about 66 that have actually occurred since June 30th.

I might also mention we have a wonderful team. Ray Long, who used to head the Y2K office, has moved to a new position, and he is responsible for all the sort of organizational support to these systems, and he is going in and doing a kind of validation and double checking of what's happening at the local facilities and those changes that have taken place, and no one will understand it better than he.

Right question. I think we've got a good answer to it and I think we're on top of that.

Mrs. BIGGERT. All right. Thank you. Thank you, Mr. Chairman.

Mr. HORN. Thank you. It is—if I might ask, you have an acting person in that position now. Is there going to be confirmation of that individual, or what?

Ms. GARVEY. Mr. Chairman, there will be very soon, and I might say the acting person, Mary Powers King—who is sitting, I think, right behind me—is doing an extraordinary job. She has been a very able deputy since we put the program in place and hasn't missed a beat. So it is wonderful to have her there, as well.

Mr. HORN. Well, I'm glad to hear that, because we've been stressing the management aspect of this problem—

Ms. GARVEY. Right.

Mr. HORN [continuing]. Not just technology, and we need managers in there.

Ms. GARVEY. Great team. Thank you.

Mr. HORN. I now yield to the gentleman from Oregon, Mr. Wu, of the House Committee of Science, Technology Subcommittee.

Mr. WU. Thank you, Mr. Chairman.

Administrator Garvey, I'd like to apprise you of a situation out on the west coast. It is not of a global nature, such as a Y2K problem, but it is very much connected with technology, and, unlike the situations that we might be concerned about at Frankfurt or LAX, this has to do with a community airport in the community of Astoria, OR. And it just so happens that Astoria is in my congressional district.

The airport has the good fortune to be at the mouth of the Columbia River, one of the most dramatic places in the world. Unfor-

tunately, the drama is not just in the river but it is also in the weather there.

Now, this airport is not a large, international airport. I believe, under your system, it is a level D airport. And it used to have four women observing the weather, and those four individuals have been replaced by ASOS, and I've had the pleasure of flying in and out of that airport—

Mr. HORN. Can someone explain what that term means?

Mr. WU. It's an automated weather system—

Mr. HORN. OK.

Mr. WU [continuing]. That is basically a hardware/software combination. It's supposed to monitor the weather accurately and in real time. But I believe that there are some special conditions at this airport which may cause some problems with the ASOS system. I have tried to bring this issue to the attention of General Kelley at the National Weather Service, and thus far we haven't had a satisfactory resolution of the situation.

Basically, ASOS looks straight up, I believe, and, having been through that airport, I know that conditions at one end of the runway can be very, very different from conditions at the other end of the runway, and basically what can happen is ASOS can tell you that the weather is clear when the other end of the runway may be socked in, or, conversely, it may tell you that the airport is socked in when the other end of the runway is clear. And under one set of circumstances someone flying in visually would be flying into an instrument weather condition, potentially, and under the other situation VFR pilots might be turned away from the airport because they think that it's IFR conditions.

This is a problem for the community, and I just wanted to apprise you of the situation. It is not of the scope of an LAX, Frankfurt. It is not of the scope of a Y2K situation. But it is very important to the community and I wanted the FAA to know about it because the National Weather Service thus far has not responded, in my view, in a sufficient manner.

Ms. GARVEY. We'll take a look at that, Congressman, and certainly the issue of safety is really critical, and in those cases where we've had ASOS we've been very careful about monitoring to make sure that we're not compromising safety in any way, so let me take a look at that.

Mr. WU. Thank you.

Mr. HORN. I'd like to have a response to the committee on that issue and, without objection, it will be put in the record at this point. You've raised a very good and important question.

Mr. WU. Thank you, Mr. Chairman.

Ms. GARVEY. Thank you, Mr. Chairman.

Mr. HORN. You're welcome.

Mr. WU. I yield back the balance of my time.

Mr. HORN. I now yield to Mr. Ose, the gentleman from California.

Mr. OSE. Thank you, Mr. Chairman.

A couple of questions, if I might.

I'm a little bit confused about something. I think it was Ms. Garvey, you mentioned the 53 locations that are of concern at present in terms of international travel.

Ms. GARVEY. Congressman, it was 53 countries that had not yet responded to the Y2K survey, and I would, again, just add that that may be a lower number today than it was—

Mr. OSE. So it might be 45 or 30 or whatever?

Ms. GARVEY. Exactly.

Mr. OSE. Well, the reason I ask that question—and I'm aware of the delicate nature of saying anything reflecting on this, but when I've traveled internationally I make my plans 90 to 120 days in advance, and it seems a stretch, if I were to be making my plans 90 to 120 days in advance, to wait until December 1st to advise the American public about countries that maybe they don't want to travel to.

So I'm interested in finding out whatever the list is. I'm interested in finding out what countries there are that either have not responded or not complied or that otherwise pose a potential danger, if you will, to American citizens flying in and out of those countries.

Ms. GARVEY. Congressman, we can provide that information. We've forwarded some information yesterday to the committee, and we also have an inter-agency group now with the Department of Transportation, State, and the Department of Defense that's taking a look at all the information as it is coming in and will be putting up on the Web at the end of this month the most current information that we have. But we have even more detail, probably more than would go up on the Web because it wouldn't be very customer friendly, if you will, but we can certainly provide that to the committee and to you, individually, and we would be happy to come up and brief you in detail.

But I do want to stress, again, we are working with State, and State will be putting out that information beginning at the end of September and will be adding it to the Web, so we'll be doing it in those two ways and we will be updating it from the end of September on.

Mr. OSE. So it will be a matter of public record on or after September 30th?

Ms. GARVEY. That is correct, sir.

Mr. OSE. And the reason for not making it public record today?

Ms. GARVEY. Well, in some ways it is public, because we've been able to give the information to the committee. What is occurring between now and September 30th is that the inter-agency group is reviewing all of that information and is summarizing it, getting it ready for the Web, making some assessments as a team, and also still gathering the information. Some of this information is still coming in.

Certainly, though, the issue about which countries have not responded to date, while I want to update that, is something that we could provide to you.

Mr. OSE. So today being September 9th, you're—I perceive implicitly that your advice to people would be between now and September 30th maybe they ought to hold their fire on making any plans traveling over—I mean, I'm trying to get to this. I don't understand why it is that we can't at least perhaps make the information public today. It might affect—

Mr. HORN. Would the gentleman yield for a comment?

Mr. OSE. Certainly.

Mr. HORN. And I just want to bring you two together here, and I agree with Mr. Ose.

Would it be appropriate for, since you furnished some of this to the subcommittee already—and we went over a lot of it yesterday—would it be appropriate for us to issue a statement, if you don't issue it this week, as to which countries have not replied to the survey?

Ms. GARVEY. I think, you know, Mr. Chairman, that would be—

Mr. HORN. Just to warn people that this is—

Mr. GARVEY [continuing]. That would be fine. I would see if I could get more updated information for you. I'd like to give you the most up to date. That's my only hesitation here.

Mr. OSE. Sure.

Ms. GARVEY. And, as usual, I would—

Mr. HORN. If you want to do it, fine. But I think it ought to be done this week that we're serious about it.

Ms. GARVEY. All right. And we will certainly communicate with State and make sure we're staying within the bounds of what you have outlined, as well.

Mr. HORN. I asked that question because we have jurisdiction over the Freedom of Information Act, and we're very conscious of this.

Ms. GARVEY. I understand.

Mr. HORN. And so we don't like things hidden in bureaucratic barns, shall we say.

Ms. GARVEY. And I think that's why we were so eager to get that resolution with our legal folks.

Mr. HORN. Good. Well, we appreciate you doing that last night, because this could have gotten very explosive if you hadn't taken that decision to get off that official use business. So thank you for doing that and getting it done.

Ms. GARVEY. Thank you.

Mr. OSE. Thank you, Mr. Chairman—

Mr. HORN. People have a right to know.

Mr. OSE [continuing]. For your clarifying.

If there's anything I can do to help, I'm happy to do that.

Mr. HORN. Well, thanks for the question. I think it is a very good one.

Mr. OSE. I have two other questions, if I could.

In terms of the actual turnover on the clock on December 31st, is it Greenwich Mean Time that we need to be concerned with, or is it local time that is affecting pilots in the air? I mean, I'm trying to figure out, in terms of the software, which time is it that we are focused on in terms of the actual tick-over?

Ms. GARVEY. It is Greenwich Mean Time, which is 7 Eastern time.

Mr. OSE. So it's midnight in Greenwich, 7 Eastern time, 4 Pacific time. That's the key moment, if you will?

Ms. GARVEY. That is correct, Congressman.

Mr. OSE. And then, finally, Mr. Willemsen, you have extensive knowledge about these matters. I'm going to put you on the spot

here. Would you fly on the evening of December 31st or the morning of January 1st?

Mr. WILLEMSSEN. I'll answer that in two ways.

First of all, I have several years of experience in looking particularly at FAA systems and how well they have been developed and maintained.

In my experience, from a systems perspective, safety has always been the paramount issue to FAA, so that, to the extent that there has been a problem or they expect a problem to occur, they will always from my experience and, from a systems perspective—take the necessary measures to ensure that safety is adequately dealt with.

Speaking more specifically to Y2K, we have presented some issues today in terms of the work not yet being done.

I'd like to see some additional evidence from the standpoint of FAA on how they plan to respond in a detailed fashion to some of those issues before I'd be comfortable in standing here today and saying unequivocally I'm going to embark on a flight at that time.

Mr. OSE. You think we're making progress, though?

Mr. WILLEMSSEN. There's no doubt that the progress has been extremely impressive. I give a lot of the credit to that, to the Administrator, and to their program management structure.

But, as we testified some time ago, the massive nature of this job made it almost mission impossible, and that's why the progress that has been made is so impressive.

But I don't think it is time to let up at this point.

Mr. OSE. Thank you, Mr. Chairman.

Mr. HORN. I thank you.

I now yield to the—what happened to the gentleman from New York? They're voting.

The gentleman, Mr. Baird, from Washington.

Mr. BAIRD. No, sir.

Mr. HORN. Any further questions? The gentlewoman from Maryland?

Mrs. MORELLA. Thank you, Mr. Chairman.

A couple of questions.

First of all, Ms. Garvey, I understand that you were on a plane a while ago and there was a delay, so you checked on what caused the delay, and the pilot had announced it was a Y2K problem. You checked on that and found that that wasn't the case at all.

I use that as an example to ask you if you have a concern that there may be too many situations where people use the Y2K compliance problem as a cover-up for some other problem. And have you taken any steps to make sure that, you know, the airlines are not hiding behind that?

Ms. GARVEY. Well, I think the fact that we've had and continue to have such direct communication with the airlines about where we are—we talked about public disclosure. We've been very up front about exactly where we are with Y2K compliance and with our testing, and so forth, and so, from my perspective, those are the best steps we can take is to keep that communication, those lines of communication, open.

I certainly hope that in the case of my experience that was just one unique situation where he just either misunderstood what

somebody had told him about what the situation was. That pilot, in particular, may just have gotten the wrong information. So I'm certainly hopeful that that was just a very unique situation.

I think the communication, making sure that they know exactly where we are and being very public about what our testing schedules are, and so forth, is all that we can continue to do.

Ken, you may—

Mr. MEAD. I think the direct answer to your question is yes. Problems masquerading as Y2K problems on January 1st, I think, are a matter of concern. In fact, one has already come to our attention—not in the airline or travel area, but involving pipelines. An individual acquired some stock options in anticipation of being able to cash in those options shortly after January 1st at a high price. At the same time, there were allegedly some plans afoot to plant a bomb on the pipeline on January 1st. The disruption of the pipeline flow would have been attributed to a Y2K computer problem.

That was a wake-up call.

Mrs. MORELLA. Yes. So we have to be vigilant, do all we can to make sure we inform the public.

Ms. GARVEY. And I think, Congresswoman, that day one of our great challenges—we talked about this yesterday in a table top exercise we did with DOT. We're going to be getting a lot of information in, and, even, for example, with airports, there may be situations or there may be problems and they may, as Mr. Mead said, not be Y2K compliant.

So, as we get the information in, sorting out what's the cause of it is going to be very, very challenging, and I'm not sure we've yet, you know, figured out the answer to how we are going to sort everything out.

We had a map, for example, up on the screen yesterday, and it showed all the airports, and it said you could end up having a disruption there and it could show up as red, but, once you get into it, you find out, in fact, it's not related to Y2K but it's something entirely different. And that's going to be a great challenge getting that correct information and then letting the public know the exact information.

Mrs. MORELLA. I couldn't agree with you more, and this is September 9, 1999, so I guess we're going to be Y2K OK on September 9, 1999. I guess you would agree. I'd like you to answer it in a moment, but I do have another question before my time is up.

In March, before our subcommittees, Mr. Mead recommended that the FAA actually should take a more active role to certify that the entire industry, particularly small carriers and suppliers, are compliant, rather than relying on their self-reported data.

I just wondered, Ms. Garvey, why FAA decided not to embark on that recommendation of the Inspector General.

Ms. GARVEY. We had an awful lot of discussion on that. As Mr. Mead suggested, we've really gone—we've really agreed with just about every recommendation, and came pretty close on this one with the intensive surveys.

We're working within the regulatory framework that we have. We also, frankly, are working with—we know what our resources are and what we can deliver on and what we can promise. We felt that getting the assessments and then following up with the indi-

vidual site visits—we've got over 3,000 inspectors now who are all keyed in on working those remaining folks that we haven't heard from.

Mr. Mead asked again today that we take another look at this, and, of course, we will, but I think we are making very good progress and I think we still want to stay within our regulatory charge.

Mrs. MORELLA. Final point, Mr. Mead, you want to emphasize or—

Mr. MEAD. Sure. I think that the current situation reinforces the strength of the recommendation that the airlines simply be told, "By October 15th we want a certification in hand that you're Y2K compliant."

There are 2,000 air carriers, and they're small—admittedly, very small—that have chosen not to respond. Now, are we just going to leave that hanging? People will be flying on these carriers around about January 1st.

I don't think it is a Draconian step to ask an airline to certify. I make certification to the Department of Motor Vehicles and no one loses a lot of sleep over that. And I think it is a reasonable expectation that air carriers who have people's lives in their hands could make a certification to FAA like that.

Maybe they could have a caveat: "We've done our best, and, to the best of our knowledge, everything is compliant." I understand that they may need some wiggle room. But I think it would help clean up this universe of 2,000 out there that hasn't responded.

Mrs. MORELLA. Sounds very logical to me.

Ms. GARVEY, would you reconsider?

Ms. GARVEY. We will, Congresswoman.

Mrs. MORELLA. OK. Good. Thank you.

Thank you, Mr. Chairman.

Mr. HORN. Well, besides reconsider, are you getting close to saying that's the right approach?

Ms. GARVEY. Well, first of all, every time Mr. Mead raises an issue I take it very seriously, and he is always very compelling.

I want to also be very careful that we are promising what we can deliver. I think we are very close to what he has already described—that is, with a caveat. I mean, I think the survey that we put out, it pretty much comes to the same conclusion.

I'll take another look whether we can be even tougher on it or put a specific date.

We have, with airports, done that, and we'll take another look at it.

Mr. HORN. I would hope in this country that if any of them are watching some of this hearing, they'd fax the answer to you right now.

I find when people have to put their name on a document, that helps.

Ms. GARVEY. Absolutely. And, again, I get back to the public disclosure. I think having just—"Here are the airlines that have not yet responded." You don't even have to say anything more than that. That is a terrific leverage. That is the kind of information that will be on the Web.

Mr. HORN. Good. We'll work something out with you.

I now yield to the gentleman from New York, Mr. Weiner.

Mr. WEINER. Thank you, Mr. Chairman.

Ms. Garvey, you said that you had provided to the subcommittee and to the joint committee a list of the 53 nations that hadn't complied with the ICAO survey. Could someone, a member of your staff, point to where that is, because I have the document you provided to the committees in front of me and I don't see it anywhere.

Ms. GARVEY. Let me double check with our folks, but I believe that part of what we gave the committee last night was the information that we had to date, and that is, again, a little bit dated, which includes the surveys from the individual—

Mr. WEINER. I don't see any reference to ICAO nations that have not responded.

Ms. GARVEY. I'm sorry. I think we would be—the way the book is laid out, it gives a list of all the countries and which ones have responded, but we can extract which ones have not and provide that in—sort of on a separate page.

Mr. WEINER. Do you have that with you, Ms. Garvey?

Ms. GARVEY. I don't, but I can get that for you.

Mr. WEINER. Do you have that with you, Mr. Mead?

Mr. MEAD. I have regions, specific regions of the world that did not respond. The answer is no, I do not have by specific country. I do have by region.

Mr. WEINER. Mr. Mead, you, in response to another question—I think it was by my colleague, Mr. Turner—said that there was some nations—I thought you said some nations on that list that fell into the category of vacation destinations. Can you give some examples?

Mr. MEAD. I was thinking of the Caribbean, and some places in South America.

Mr. WEINER. Now, you were referring to regions or nations when you made that answer?

Mr. MEAD. I'm referring to regions. I am not personally able to specify the countries that have not responded.

Mr. WEINER. I see.

Ms. Garvey, now, this survey is done, an airport-to-airport survey? Is it one airport by one airport? Is it each airline gets a survey? Is it—how is it done that it's broken down by region in the documents that you have? Is it an interview by regions? Explain how that's done.

Ms. GARVEY. The work was done by ICAO, was done by the international organization. We were part of that team. It is done both by regions and also talks about—if you look at—I'm not sure that this is included in the report, but we can certainly get it—the supporting documentation that would break it down by the airports and by the airlines.

What we have talked about putting up on the Web with State at the end of September is a summary of the country, because there's going to be so much information, so we're talking about a summary of the country.

Obviously, if somebody has got a particular concern, I would think, about a particular airline or a particular airport in a country, that we could provide that subsequently to that—

Mr. WEINER. But in response to a previous question you mentioned to the chairman that the information had been provided to the committees and the chairman then I think very appropriately suggested that we might beat you to the punch and release it sooner, because many of us don't believe, as Mr. Ose said earlier, that waiting to the end of the month, waiting for the State Department to shake hands with the FAA—can you provide that information in a more timely manner to members of the committee?

Ms. GARVEY. We can provide specifically which countries have not yet responded, and we can do that. We'll do that—I hope I'm not over-promising by saying today we can get that information out.

Mr. WEINER. Great.

Ms. GARVEY. What I would like to do, if I could—

Mr. WEINER. Sure.

Ms. GARVEY [continuing]. Is perhaps update it to give you the best information that we have. If the number has moved from 53 to 45, I'd like to give you that.

Mr. WEINER. Well, you know, I have a theory about this that you might not share. If a nation or an airport or an airline is unwilling to make a June 30, 1999, deadline to even respond to a survey about what they had to do to come into compliance by December 1999, I'd be very surprised if these truants then began sprinting to get you information.

What it probably speaks to is they're not taking the problem very seriously.

And, echoing what Mr. Ose and what the chairman and what Mr. Turner said earlier, we don't have a great deal of time. Putting aside the travel time, they don't have a great deal of time, if I understand the time line for doing some of these tests and doing some of the research necessary.

I don't know who we are protecting at this point and what leverage we're trying to protect by not releasing it, frankly, on June 30th. That's probably the way to do it. If we're going to be serious about a deadline, that should be it.

But if you can provide that information by the end of the day, I would certainly appreciate seeing that, because I have a fantasy about some day taking a vacation, as well.

Let me just ask you—I'm not sure if it is Mr. Willemsen who might want to answer this question—putting aside the abstract notion of Y2K problems, is there any scenario whereby a plane falls out of the sky on January 1st, 2000, or is the worst-case scenario delays and inconveniences? Is there any scenario where there is catastrophe?

Mr. WILLEMSSEN. We haven't been able to identify any evidence at this point that there would be any scenario of a plane falling out of the sky.

Mr. WEINER. So I think that it would be helpful for consumers and Members of Congress to keep in mind that what we're talking about is, frankly, having delays on the ground, canceled flights, and the like—in other words, like a typical day at LaGuardia.

We have to be careful that we don't reach a level of hysteria surrounding this issue that people begin, you know, hunkering down, driving to Sweden rather than taking a plane, and things like that.

I think that this committee does a great service to the Nation by keeping in mind the parameters of this potential problem, but also using the leverage that we have in making sure that people are aware of what nations and what airlines are not complying with basic requests.

I yield back the balance of my time.

Mr. HORN. I thank the gentleman, and I now recognize the gentleman from Washington, Mr. Baird, for 6 minutes.

Mr. BAIRD. Thank you, Mr. Chairman.

Ms. Garvey, I spoke with the members of the aviation industry a while back, and they expressed some concern about some changes that preceded the Y2K issue as FAA was updating installations and expanded—I believe it is called “miles in trail distance.”

Ms. GARVEY. Yes.

Mr. BAIRD. One of their concerns was that they felt there had not been adequate consultation about that and that the miles and trail distance had remained at an extended length, and that was, in fact, responsible for a great number of delays that we currently experience, many of us who fly a lot.

Help us understand how FAA has worked with the aviation companies, themselves, with the airlines, on this issue of Y2K, and can we expect to see greater cooperation and perhaps a reduction in the miles in trail distance at some time in the future?

Ms. GARVEY. Congressman, in fact, we already have. And you're absolutely right. The miles in trail was instituted as a result of some of the transition to new technology. In particular, it was a transition to DSR. And we wanted to keep a very, very great separation as we were transitioning to new equipment.

The airlines, I think appropriately, raised some questions about whether we were, A, too conservative and, B, whether or not we had kept the miles in trail restrictions in place too long.

Mr. BAIRD. Yes.

Ms. GARVEY. We had some very good discussions with them over the last 2 weeks, and we have seen a reduction of miles in trails.

I want to make it very clear, though, again, never at the expense of safety. That is our paramount concern, and I think it is to the airlines, as well.

So, while we've reduced the miles in trail restrictions, we have still always stayed well above the minimum standards, the minimum safety standards.

And we're talking with the airlines every morning and every evening from our command center. We're getting immediate real time feedback about how the miles in trail restriction is working, as well as how our ground stock delay program is working, as well. Both of those are tools that we can use to manage the air space system safely and efficiently, and that's really our focus.

Mr. BAIRD. I hope you'll continue that, because I know it is a critical issue—

Ms. GARVEY. Thank you.

Mr. BAIRD [continuing]. And I can imagine it recurring with the Y2K concerns.

Ms. GARVEY. Yes. Thank you, sir.

Mr. BAIRD. Thank you, Mr. Chairman.

Mr. HORN. I thank you very much, and I want to thank all of our witnesses, and I want to thank the staff. And let me just note, for the Subcommittee on Government Management, Information, and Technology, we have Russell George standing over there by the door, staff director and chief counsel; behind me with particular emphasis on this hearing and this subject is the senior policy director, Matt Ryan; Bonnie Heald, director of communications and professional staff member; Chip Ahlswede is the clerk; and Mr. Caceres is an intern, and we're glad to have that free help.

On the minority staff, we have Jean Gosa, staff assistant, and Trey Henderson, minority counsel.

And for the Technology Subcommittee we have Jeff Grove, staff director; Ben Wu, counsel; Joe Sullivan, clerk; Mike Quear, minority professional staff; and Marty Ralston, minority staff assistant.

And our court reporter today is Mel Jones.

We thank you all, and with that this is adjourned.

[Whereupon, at 11:45 a.m., the subcommittees were adjourned, to reconvene at the call of their respective Chairs.]

