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*Office of Inspector General*  
***Audit Report***

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*National Aviation  
Safety Inspection Program*  
*Federal Aviation Administration*

*Report Number: AV-1999-093*  
*Date Issued: April 30, 1999*





**U.S. Department of  
Transportation**

Office of the Secretary  
of Transportation

Office of Inspector General

# Memorandum

Subject: INFORMATION: Report on the National  
Aviation Safety Inspection Program,  
Federal Aviation Administration, AV-1999-093

Date: April 30, 1999

From: Lawrence H. Weintrob  
Assistant Inspector General for Auditing

Reply to  
Attn. of: JA-1:x61992

To: Federal Aviation Administrator

This report summarizes our review of the Federal Aviation Administration's (FAA) National Aviation Safety Inspection Program. We are providing this report for your information and use. Your April 30, 1999, comments to our April 9, 1999, draft report were considered in preparing this report. An executive summary of the report follows this memorandum.

In your comments to the draft report, you concurred with all recommendations. We consider your actions taken and planned to be responsive to all recommendations. The recommendations are considered resolved subject to the followup provisions of Department of Transportation Order 8000.1C.

We appreciate the cooperation and assistance provided by your staff during the review. If you have questions or need further information, please contact me at (202) 366-1992, or Alexis M. Stefani, Deputy Assistant Inspector General for Aviation, at (202) 366-0500.

Attachment

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# EXECUTIVE SUMMARY

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## *National Aviation Safety Inspection Program*

### *Federal Aviation Administration*

*AV-1999-093*

*April 30, 1999*

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## **Objectives and Scope**

Congressman Peter A. DeFazio requested the Office of Inspector General to review the National Aviation Safety Inspection Program (NASIP) final report on ValuJet Airlines, Inc. (ValuJet)<sup>1</sup> issued in February 1998. We agreed to do the review and established the following objectives: to determine if there are systemic weaknesses in the NASIP process, and to evaluate the resolution process used in developing the February 1998 ValuJet report.

We performed our review at headquarters and field offices within the Federal Aviation Administration (FAA) Flight Standards Service. Additionally, we interviewed AirTran Airways, Inc. (AirTran) management officials. To obtain a broader perspective, we also performed a detailed analysis of the NASIP process, including NASIP reviews on Fine Airlines, Inc. (Fine Air) and Continental Express, Inc. (Continental Express). In addition, we interviewed 33 aviation safety inspectors who participated on these NASIP reviews.

## **Background**

To operate in the United States, an air carrier or repair station must obtain FAA approval (an operating certificate), which indicates the entity has the necessary procedures and equipment to comply with Federal aviation regulations. When FAA grants an operating certificate to an air carrier or repair station, it also assigns an FAA district office to monitor continued compliance with safety regulations.

To augment the oversight provided by FAA district offices, the FAA Flight Standards Service established the NASIP to provide an independent assessment of an entity's regulatory compliance. The NASIP is a key management tool to

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<sup>1</sup> During the time of the NASIP review, the air carrier's name was ValuJet Airlines, Inc. Subsequently, on November 17, 1997, after a corporate merger, the air carrier's name was changed to AirTran Airlines, Inc. and on April 15, 1998, it became AirTran Airways, Inc.

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monitor air carrier and repair station compliance with Federal aviation regulations. During a NASIP review, a team of aviation safety inspectors conducts a comprehensive inspection of an air carrier's or repair station's operations and maintenance activities. NASIP teams also determine if the inspected entity has implemented reliable systems and procedures to sustain compliance with the Federal aviation regulations.

The designated FAA Headquarters focal point to coordinate NASIP activities is the Program Management Staff, led by the National NASIP Manager, within the Flight Standards Certification Program Office. The Program Management Staff schedules NASIP reviews, forms NASIP teams, and manages the NASIP budget. FAA also has a NASIP Coordinator in each of its nine regions.

To initiate a NASIP review, FAA forms a team of aviation safety inspectors from FAA offices located outside the region and district office that have oversight responsibility for the inspected entity. FAA requests volunteers and selects a team manager and team members from the volunteers based on seniority. If FAA does not receive a sufficient number of volunteers, additional members are assigned by management as needed to form a team.

The team follows written procedures and a standard checklist to conduct the NASIP inspection, which usually lasts 2 to 3 weeks. FAA Order 8000.68<sup>2</sup> provides general guidance, with a Team Briefing Document providing more specific procedures for the individual inspection. The team manager for the NASIP compiles the findings<sup>3</sup> and, with assistance from the regional coordinator and National NASIP Manager, finalizes the draft report. The draft report is then provided to the responsible district office.

The FAA district office reviews each NASIP finding and supporting evidence, determines its validity, and approves corrective actions taken. The FAA district office has 120 days to complete this process, known as resolving the findings. During this time, aviation safety inspectors in the FAA district office can: i) accept the inspected entity's corrective actions to resolve a substantiated

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<sup>2</sup> FAA Order 8000.68 is titled Federal Aviation Administration National Aviation Safety Inspection Program.

<sup>3</sup> A typical finding would describe a violation of a Federal aviation regulation or noncompliance with an entity's procedures implementing a Federal aviation regulation.

## EXECUTIVE SUMMARY

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finding<sup>4</sup>, ii) initiate enforcement action against the entity for a violation of the regulations, or iii) take no action if the district office determines that the NASIP team's finding cannot be substantiated. In addition, for historical tracking purposes, findings and corrective actions are recorded in FAA's inspection database, the Program Tracking and Reporting System. The responsible FAA regional office issues the final NASIP report, which contains the NASIP findings and district office closure actions. Up until the ValuJet NASIP review, the final report included only the NASIP findings and not the closure actions.

### Results-in-Brief

FAA needs to strengthen the NASIP process to ensure NASIP reports provide accurate, reliable indicators of safety compliance by inspected entities and result in effective corrective actions. The overall concept of providing periodic independent assessments of air carriers' and repair stations' safety compliance by a well-qualified group of aviation safety inspectors is beneficial and an extremely useful oversight tool. The NASIP has been successful in the past as shown by results of the 1995 NASIP review of Express One International, Inc., which resulted in the identification of significant noncompliance and contributed to the air carrier surrendering its certificate of operations.

We concluded that the NASIP process should be strengthened in the following areas: team expertise, independence, identifying and correcting systemic weaknesses at inspected entities, and report quality and impact. Specifically, we found:

- The necessary expertise and experience levels of NASIP team members are not always achieved because team members are selected from volunteers. For example, 8 of the 18 team members on the Continental Express NASIP review either were first-time NASIP inspectors or were described as trainees. During our interviews, team selection was voiced as a major concern by all levels of FAA and air carrier management. Team selection was also one of the primary concerns of a joint FAA and Air Transport Association work group, which met from January 1996 until March 1997 to improve and refocus the NASIP. This work group concluded that qualifications and training are not considered in the selection process, so NASIP inspectors are not always the top performers and

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<sup>4</sup> Although an entity takes acceptable corrective action, FAA can still take enforcement action for noncompliance with the regulations.

## EXECUTIVE SUMMARY

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are sometimes inexperienced. FAA has recognized these problems and is currently working on improving the team selection process.

- Although FAA forms a NASIP team that is independent of the responsible district office, the NASIP process does not provide sufficient independence in the finding resolution phase. As currently structured, the FAA district office with day-to-day oversight responsibility has authority to close NASIP findings, and can do so without a complete independent analysis of the findings and closure actions, and without input from the NASIP team manager or members.

The FAA national and regional NASIP coordinators perform a limited review of the final NASIP report, but do not review the substance of finding closure actions. Thus, the district office manager and aviation safety inspectors with daily oversight responsibility for the inspected entity resolve the findings and take closure action. These inspectors normally remain in their positions for years, which may affect their objectivity. The integrity of the NASIP review is potentially compromised by the appearance of the lack of independence in finding resolution.

In addition, FAA guidance requires that the NASIP team work for the host region and district office during the review. Therefore, the NASIP team manager is in a subordinate position to the district office manager. In our opinion, the independence FAA expects from using aviation safety inspectors from other regions is mitigated by the team members' perception that the district office manager is their supervisor during the NASIP assignment. For example, inspectors we interviewed on two of the three NASIP reviews expressed concerns about the level of involvement and influence district offices had during the NASIP reviews.

- The NASIP process does not sufficiently address how to identify and correct systemic weaknesses at the inspected entity. For example, the June 1997 Fine Air NASIP report contained seven findings that were similar to those in a special FAA regional report issued following an August 1997 fatal crash of a Fine Air DC-8 aircraft. The Miami district office (the oversight office for Fine Air) accepted the corrective action for each of those seven NASIP findings from the air carrier. However, the changes did not correct Fine Air's underlying systemic problems related to those findings, as shown by the recurrence of similar findings in the post-crash regional report. The National Transportation Safety Board, in its report of the Fine Air accident, also

## EXECUTIVE SUMMARY

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concluded that NASIP inspections are not adequately identifying and addressing systemic safety problems.

- The quality and impact of NASIP reports were reduced by failure to follow important guidance, absence of adequate communication among the parties involved, and an inadequate quality review process, as described below.
  - Key NASIP guidance was not being followed. Specifically, we found unauthorized release of draft reports and retention of evidence by the NASIP team on completion of the review. For example, on the ValuJet review, premature release of the draft findings adversely impacted the effectiveness of the FAA inspection process as well as the reputation of the affected inspected entity. FAA guidance states that only the Flight Standards Certification Program Office, the host regional office, and the district office should receive a copy of the draft report. Additionally, the guidance states that team members should turn in all copies of supporting documents to the team manager.

We also found that NASIP teams failed to use required statistical sampling, which degraded the NASIP process by not providing FAA managers a sufficient perspective on the extent of the problems identified. For example, in the Continental Express NASIP report, the terms “numerous” and “a number of” were used to describe testing results and sample sizes. NASIP guidance requires the team to sample a representative number of each type of equipment and personnel records to assure a 95-percent confidence factor of compliance. Based on our discussions with NASIP team members and NASIP coordinators, a 95-percent confidence factor may be too high for the amount of time allotted for the NASIP review. Because statistical sampling with a 95-percent confidence factor requires a larger sample size to assure the sampled results are representative of sampled conclusions, FAA should consider alternative types of sampling methodology.

- Communication between the FAA district office, the NASIP team, and the inspected entity was inadequate. For example, reasons for omitting findings from the Continental Express NASIP report were not clearly communicated to 7 of the 12 team members we interviewed, creating distrust between the team members and team manager as to whether significant findings may have been omitted from the report. Additionally, on the ValuJet review, the lack of effective

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communication resulted in a contentious, unproductive exit briefing between the NASIP team and the Atlanta district office.

- The NASIP reports we reviewed included inaccurate citations to regulations and manuals and contained insignificant findings that could have been resolved during the NASIP review. For example, the draft ValuJet NASIP report included incorrect references to ValuJet procedures manuals, which affected the district office's ability to properly resolve the findings. Quality control reviews could have detected and corrected these errors before the draft reports were issued to the responsible district office.

### **FAA Efforts to Improve the NASIP Process**

In 1998, FAA made some beneficial changes to the NASIP process, such as including the resulting corrective actions in the final report and adding special emphasis areas regarding cargo loading and restraint systems. FAA also has several additional changes in process or planned to further enhance the process. A FAA working group is currently revising FAA Order 8000.68 and the Team Briefing Document.

However, to improve the integrity and effectiveness of the NASIP process, FAA needs to reevaluate three changes that it made in 1998.

- First, FAA changed its procedures to exclude from the final NASIP report findings that represent a lack of systems to support continuing regulatory compliance. A typical finding in this category would be a system that schedules pilot flight time, but does not assure compliance with the flight and duty time limitations specified in Federal aviation regulations. These type findings are now included in the draft report in a section called "Opinions and Recommendations" and are provided separately to the FAA district office manager for internal use only. FAA does not input all these findings in its inspection database. As a result, the final report does not provide full disclosure of all findings reported to the district office by the NASIP team and there is not a historical record of actions taken in response to all findings.<sup>5</sup>

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<sup>5</sup> In a February 3, 1999 meeting, FAA officials told us that they plan to reevaluate this change.



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- Second, FAA changed its procedures to require the NASIP team manager and district office manager to concur on all NASIP findings before the team manager departs the worksite. In our opinion, this procedure does not promote independence, but instead imposes a potential risk for the district office manager to influence the inspection results and an incentive for the NASIP team manager to eliminate findings to gain concurrence and thus return home more expediently.
- Third, FAA has discontinued scheduling NASIP reviews for the 10 major air carriers<sup>6</sup> currently inspected under FAA's new inspection program, the Air Transportation Oversight System. FAA needs to establish formal policy and procedures to ensure independent assessments similar to NASIP reviews continue to be planned and conducted for these air carriers. To ensure independent reviews continue, a formal policy is necessary because FAA plans to bring the remaining 140 air carriers into this new oversight system, which focuses on data trend analysis and does not include procedures for independent reviews comparable to the NASIP.

### **ValuJet NASIP Report Resolution**

In addition to the overall weaknesses in the NASIP process, we found the resolution process leading to the final NASIP report on ValuJet did not result in an accurate indicator of ValuJet's compliance with Federal aviation regulations as of the February 1998 final report date. Due to the controversy surrounding ValuJet, FAA departed from normal NASIP resolution procedures by assigning two supplemental independent teams to assist the Atlanta district office<sup>7</sup> in analyzing the most serious findings and writing the final NASIP report. However, neither of the two teams performed a comprehensive documented analysis of the evidence that supported all of the findings and resulting corrective actions. Ultimately, in the final NASIP report, the Atlanta district office did not substantiate 60 (57 percent) of the 106 findings reported by the NASIP team. FAA considers a finding was not substantiated if it concludes that sufficient evidence does not exist to pursue enforcement action for a regulatory violation.

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<sup>6</sup> The 10 major air carriers are: Alaska Airlines, American Airlines, America West Airlines, Continental Airlines, Delta Air Lines, Northwest Airlines, Southwest Airlines, Trans World Airlines, United Airlines, and US Airways. In addition, in Spring 1999, at AirTran's request, FAA plans to add AirTran to the air carriers inspected under the Air Transportation Oversight System.

<sup>7</sup> At the time of the NASIP review, the FAA district office located in Atlanta, Georgia, had oversight responsibility for ValuJet.

## EXECUTIVE SUMMARY

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Based on our independent assessment of 30<sup>8</sup> of the 106 findings and closure actions in the ValuJet report, we found:

- 19 (54 percent) resulting in corrective actions by the air carrier or strengthening of the air carrier's systems. Of the 19, 13 (37 percent) were instances where sufficient evidence existed to support the finding (i.e., substantiated) and the air carrier took corrective action.

For the remaining six (17 percent), FAA concluded in the report that the finding was not substantiated. Our review did show that actions were taken on these six. For example, for one of these six, the Atlanta district office considered the finding unsubstantiated because the air carrier had taken corrective action on the finding before the district office inspector could verify the NASIP inspector's observation. The NASIP inspector observed a hydraulic fluid leak on an aircraft that had deteriorated the required emergency exit instructional placards. After the NASIP inspector informed the air carrier of the condition of the placards, the air carrier replaced them.

- 16 (46 percent) were indicative of a problem in the NASIP process. For 8 (23 percent) of the actions reviewed, the NASIP team did not provide sufficient evidence to support the finding. For the remaining 8 (23 percent), we concluded that the Atlanta district office took insufficient closure action. Within this category, there were varying degrees of insufficient closure action by the district office.

The most egregious instance of an insufficient investigation by the district office is described as follows. During the inspection of aircraft logbook pages at a contractor's facility in Mississippi, the NASIP team member determined that a required inspection had not been performed and documented because the inspector's signature was absent from the aircraft logbook. During the finding resolution phase, the air carrier provided the Atlanta district office a copy of this aircraft logbook page, which contained the necessary signature. As a result, in the final ValuJet report, the Atlanta district office concluded there was insufficient evidence to substantiate the finding. However, we obtained a copy of the logbook page from the NASIP team manager, which confirmed that the required signature was

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<sup>8</sup> Of the 30 NASIP findings, 3 had multiple parts that required separate corrective actions, resulting in a total of 35 actions reviewed.

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absent at the time of the NASIP review. We provided the Atlanta district office this item of proof, and the district office reopened the investigation. FAA determined that the inspector was in Atlanta at the time the work was performed and therefore could not have inspected the aircraft in Mississippi. Ultimately, FAA revoked the inspector's certificate.

After the NASIP review, ValuJet moved its corporate headquarters to Orlando, Florida, as a result of a corporate merger, thus shifting FAA oversight responsibility to the Orlando district office. The Orlando district office has made positive changes in the air carrier's operations and maintenance programs, in the areas of flight crew training, flight attendant procedures, surveillance of contract maintenance facilities, use of outside contractors, and maintenance training. These areas were also major concerns of the NASIP team and, in our opinion, were not adequately resolved by the Atlanta district office's closure actions.

## Recommendations

To improve the NASIP process, we recommend the Federal Aviation Administrator:

- Improve the quality of the NASIP teams by:
  - Defining the expertise and experience needed for the type of entity inspected and selecting only NASIP inspectors that meet those requirements.
  - Providing training to NASIP inspectors on industry best practices and auditing techniques, including risk analysis and report writing.
- Revise the NASIP process to be more independent by:
  - Strengthening the review of the NASIP report to include assessing the substance of the district office's closure actions.
  - Requiring the NASIP team to report to the national, instead of the regional, level and clarifying NASIP guidance on resolving technical disagreements.
  - Eliminating the requirement for the NASIP team manager and the district office manager to concur on all findings included in the draft report.

## EXECUTIVE SUMMARY

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- Establish guidance on how to identify and address systemic weaknesses at the inspected entities.
- Add warning language on draft NASIP reports to help preclude unauthorized release of draft NASIP findings without the explicit approval of FAA.
- Clarify the NASIP Team Briefing Document on how the NASIP team should use statistical sampling to support findings and establish clear guidance on what constitutes a statistically valid finding and under what circumstances an observation of a single, material incident could merit classification as a finding.
- Establish procedures to provide for more effective communication of inspection results to the FAA district office, air carrier management, and inspection team members.
- Establish a quality control process to ensure that criteria and statement of facts are adequately supported in the draft report.
- Require that the final NASIP report include findings that represent a lack of systems to support continuing compliance with the Federal aviation regulations, rather than providing such findings in a separate document.
- Establish formal policy and procedures to ensure independent assessments similar to NASIP reviews continue to be planned and conducted for air carriers that are inspected under the Air Transportation Oversight System.

### **Management Position**

FAA concurred with all recommendations and agreed the NASIP is a key management tool to monitor the performance of certified entities and should be strengthened. FAA stated it has drafted revisions to FAA Order 8000.68, Flight Standards National Aviation Safety Inspection Program, and the NASIP Team Briefing Document and plans additional revisions in response to our recommendations. FAA stated it would implement NASIP program revisions developed in response to our recommendations within 6 months of our final report, pending the availability of adequate resources and appropriate coordination with the union. Additionally, FAA agreed to take the following corrective actions:

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- Improve the quality of NASIP teams by revising the expertise and experience requirements to more closely correspond to the type of entity inspected and provide additional training for NASIP inspectors,
- Revise the NASIP finding resolution phase to be more independent by requiring additional review of district office corrective actions, ensuring that technical disagreements are resolved, and eliminating the requirement that NASIP team managers and district office managers must concur on all findings,
- Develop guidance on how to identify and address systemic weaknesses at inspected entities,
- Develop warning language to be added to all draft NASIP reports to help preclude unauthorized release,
- Improve the report quality by clarifying NASIP guidance on the use of statistical sampling, establishing procedures to help ensure all parties are properly informed of NASIP findings, and establishing a quality review process requiring full disclosure of all findings, and
- Ensure that independent assessments similar to NASIP reviews continue under the new Air Transportation Oversight System.

### **Office of Inspector General Comments**

The actions taken or planned by FAA are responsive to the recommendations.

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## SECTION I - BACKGROUND ON THE NATIONAL AVIATION SAFETY INSPECTION PROGRAM (NASIP)

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In January 1986, the Federal Aviation Administration (FAA) implemented the National Inspection Plan for performing in-depth inspections of selected repair stations and air carriers. At that time, FAA focused on turbine engine repair stations and air carriers that derived significant income from military charter flights. Since 1986, the predecessor National Inspection Plan evolved into the current National Aviation Safety Inspection Program (NASIP). The NASIP is an annual program of inspections performed in accordance with national standards and guidelines.

**What are NASIP Reviews?** - NASIP reviews are comprehensive inspections of air carriers and repair stations. The objective of a NASIP review is to determine if an entity has:

- ✓ Complied with Federal aviation regulations,
- ✓ Complied with the entity's FAA-approved internal guidance and procedures, and
- ✓ Developed and used adequate systems and procedures to sustain continued compliance with the Federal aviation regulations.

To operate in the United States, an air carrier or repair station must obtain FAA approval (an operating certificate), which indicates the entity has the necessary procedures and equipment to comply with the regulations. When FAA grants an operating certificate to an air carrier or repair station, it also assigns an FAA district office to monitor continued compliance with safety regulations.

To augment the oversight provided by FAA district offices, the FAA Flight Standards Service established the NASIP to provide an independent assessment of an entity's regulatory compliance. Periodic independent assessments are necessary because FAA aviation safety inspectors that provide day-to-day oversight normally remain in these positions for years, resulting in close ties to the inspected entities. To conduct NASIP reviews, FAA forms teams of aviation safety inspectors from FAA offices located outside the region and district office that have oversight responsibility for the air carrier or repair station being reviewed. During a NASIP review, this team of aviation safety inspectors conducts a comprehensive inspection of an air carrier's or repair station's operations and maintenance activities.

The NASIP team follows written procedures and a standard checklist to conduct the inspection, which usually lasts 2 to 3 weeks. FAA Order 8000.68<sup>1</sup> provides general guidance, with a Team Briefing Document providing more specific procedures for the individual inspection. The checklist for air carriers is divided into two main sections, Operations and Airworthiness<sup>2</sup>, with 10 subsections in the Operations section and 21 subsections in the Airworthiness section. See exhibit A for a sample page from the Airworthiness section of the checklist.

**Organizational Structure** - FAA's Flight Standards Service, which is within the Regulation and Certification Office of FAA, is responsible for the NASIP. The designated FAA headquarters focal point to coordinate NASIP activities is the Program Management Staff within the Flight Standards Certification Program Office, located in Dulles, Virginia. Resources assigned to the NASIP include a National NASIP Manager, a National Airworthiness Coordinator, and a program analyst. This group schedules NASIP reviews, forms NASIP teams, and manages the NASIP budget. Additionally, there are nine regional coordinators that provide logistics support and act as liaisons between the NASIP team and the district office, regional legal counsel, and public affairs office.

**Scheduling NASIP Reviews** - FAA Order 8000.68 states that regional Flight Standards division managers, through the regional NASIP coordinator, nominate air carriers and repair stations to receive NASIP reviews. However, since 1995, FAA has made scheduling determinations based on nationally established special emphasis areas. For example, in the fall of 1995, the former Secretary of Transportation directed that FAA conduct safety audits of all U.S. air carriers, after which FAA performed NASIP inspections of 41 U.S. air carriers. Because air carriers received inspections in Fiscal Year (FY) 1995, FAA directed the program toward repair stations during FYs 1996 and 1997. Additionally, during FY 1997, FAA scheduled inspections of new entrant air carriers (less than 5 years of operations) based on recommendations in the FAA 90-Day Safety Review<sup>3</sup>.

FAA conducted 39 NASIP reviews in FY 1997 and 23 in FY 1998. Fewer NASIP reviews were performed during FY 1998 because a budget shortage occurred in

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<sup>1</sup> FAA Order 8000.68 is titled Federal Aviation Administration National Aviation Safety Inspection Program.

<sup>2</sup> Operations areas include pilots, flight attendants, cabin safety, and flight dispatch. Airworthiness relates to maintenance of the aircraft and its components.

<sup>3</sup> Because of multiple deficiencies found at ValuJet Airlines after a May 1996 accident in the Florida Everglades, FAA formed a task force to make a 90-day review of the way FAA conducts safety inspections. The task force made 31 recommendations in its report issued on September 16, 1996.



the middle of the year. See exhibit B for a listing of the FY 1997 and 1998 inspections performed.

**Forming NASIP Teams** - Each quarter, the Program Management Staff convenes a meeting with the regional NASIP coordinators. NASIP guidance requires each Flight Standards regional office to contribute a proportional amount of aviation safety inspectors based on the number of inspectors in each region. At the quarterly meeting, the numbers and specifications for team composition are determined for each region to provide during the coming quarter. Requirements for each NASIP review vary based on the type of aircraft operated and the extent of the inspected entity's operations.

After the quarterly meeting, regional NASIP coordinators advertise upcoming NASIP reviews, along with the necessary qualifications, by electronic mail. At this time, the regional NASIP coordinators request volunteers for each review. FAA requests volunteers for team managers at least one quarter before the scheduled NASIP review, to allow them to provide input during the team selection process. According to FAA, team managers are given maximum flexibility to provide input as to who will be their operations and airworthiness coordinators.<sup>4</sup> The regional NASIP coordinator selects team members from the group of volunteers based on seniority. If the regional NASIP coordinator does not receive enough volunteers, additional members are assigned by management as needed to form a team.

**NASIP Review Process** - The on-site NASIP review begins with team introductions and familiarization with the inspected entity's manuals and systems. Team managers may conduct a pre-NASIP visit to arrange the logistics of the inspection, meet the district office inspectors, and meet key personnel at the inspected entity. The team manager and coordinators assign each team member specific areas on the NASIP checklist. According to the Team Briefing Document, team managers are supposed to maintain daily communication with the responsible district office manager to preclude any surprises during the exit briefing. At the conclusion of the NASIP review, the team conducts an exit briefing with the district office and with the inspected entity, in which the NASIP team briefly describes the findings and provides the supporting evidence to the district office.

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<sup>4</sup> An operations coordinator is responsible for assigning work to inspectors on the team with operations experience and compiling these inspectors' findings. An airworthiness coordinator is responsible for assigning work to inspectors on the team with maintenance experience and compiling these inspectors' findings.

**NASIP Reporting Process** - According to the Team Briefing Document, before departing the inspection site, NASIP team members turn in their findings and all copies of documents to the team manager. The NASIP team manager compiles the findings<sup>5</sup> and prepares the first draft of the NASIP report before leaving the inspection site. Then the team manager, with assistance from the regional NASIP coordinator and National NASIP Manager, finalizes the draft report. This report is then provided to the responsible district office.

The FAA district office reviews each NASIP finding and supporting evidence, determines the finding's validity, and approves corrective actions taken. The FAA district office has 120 days to complete this process, known as resolving the findings. During this time, aviation safety inspectors in the FAA district office can take one of three actions: i) accept the inspected entity's corrective actions to resolve a substantiated finding<sup>6</sup>, ii) initiate enforcement action against the entity for a violation of the regulations, or iii) take no action if the district office determines that the NASIP team's finding cannot be substantiated. In addition, for historical tracking purposes, findings and corrective actions are recorded in FAA's inspection database, the Program Tracking and Reporting System. The responsible FAA regional office issues the final NASIP report, which contains the NASIP findings and district office closure actions. Up until the ValuJet NASIP report in 1998, the final report included only the NASIP findings and not the closure actions. The final report disclosed all NASIP findings, including those that the district office ultimately did not substantiate.

In a separate report, for FAA internal use only, the NASIP team manager categorizes findings in one of three categories as follows:

- Category A - noncompliance with the Federal aviation regulations,
- Category B - nonadherence to an inspected entity's FAA-approved procedures, and
- Category C - lack of systems to ensure continuing or recurring compliance with the Federal aviation regulations<sup>7</sup>.

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<sup>5</sup> A typical finding would describe a violation of a Federal aviation regulation or noncompliance with an entity's procedures implementing a Federal aviation regulation.

<sup>6</sup> Although an entity takes acceptable corrective action, FAA can still take enforcement action for noncompliance with the regulations.

<sup>7</sup> These finding categories existed until January 1998 and applied to the ValuJet and Fine Air NASIP reviews. Category C findings are now defined as opinions and recommendations and omitted from the final NASIP report. We do not agree with this change and have included a recommendation for FAA to disclose these type findings in the final NASIP report.

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## SECTION II - OBJECTIVES, SCOPE, AND METHODOLOGY

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In March 1998, Congressman Peter A. DeFazio requested the Office of Inspector General to review the NASIP final report on ValuJet Airlines, Inc. (ValuJet)<sup>8</sup> issued in February 1998. We agreed to do the review and established the following objectives: to determine if there are systemic weaknesses in the NASIP process, and to evaluate the resolution process used in developing the February 1998 ValuJet report. To obtain a broader perspective, we also performed a detailed analysis of the NASIP process, including NASIP reviews on Fine Airlines, Inc. (Fine Air) and Continental Express, Inc. (Continental Express).

We focused on the FYs 1997 and 1998 NASIP process with special emphasis on the ValuJet, Continental Express, and Fine Air NASIP reviews. See exhibit C for background and inspection histories for these three air carriers. We were specifically requested to review the ValuJet NASIP report and we judgmentally selected the two additional NASIP reviews. These NASIP reviews were performed during the following time periods:

<b>Air Carrier</b>	<b>Dates of NASIP Review</b>	<b>Final Report Date</b>
Fine Air	March 31 – April 18, 1997	June 2, 1997
ValuJet	October 20 – November 7, 1997	February 27, 1998
Continental Express	January 26 – February 13, 1998	August 7, 1998

We conducted our review in accordance with Government Auditing Standards prescribed by the Comptroller General of the United States, and included such test of procedures, records, and other data as warranted. We also reviewed applicable public laws and Federal regulations. Our review covered the period of March 1997 to February 1999. Our review of prior audit coverage disclosed that there have not been any audits of the NASIP process performed, either by the Office of Inspector General or by the General Accounting Office, during the last 5 years.

We performed our review from April 1998 to February 1999 at headquarters and field offices within the FAA Flight Standards Service. We performed our work at FAA Headquarters in Washington, D.C.; the Flight Standards Certification Program Office in Dulles, Virginia; the FAA Southern Region in Atlanta, Georgia; the district offices in Atlanta, Georgia; Orlando, Florida; Houston, Texas; and,

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<sup>8</sup> During the time of the NASIP review, the air carrier's name was ValuJet Airlines, Inc. Subsequently, on November 17, 1997, after a corporate merger, the air carrier's name was changed to AirTran Airlines, Inc. and on April 15, 1998, it became AirTran Airways, Inc.

Miami, Florida. Additionally, we interviewed AirTran Airways, Inc. (AirTran) management officials in Orlando, Florida.

To determine if there are systemic weaknesses in the NASIP process, we:

- interviewed FAA officials involved in the NASIP process, both past and present;
- evaluated the ValuJet, Continental Express, and Fine Air NASIP reviews for systemic weaknesses;
- interviewed the regional NASIP coordinators; and
- evaluated the NASIP procedures in existence through February 1999.

To evaluate the resolution process used in developing the final ValuJet NASIP report, we interviewed:

- FAA Headquarters and Southern Region management regarding their role in the ValuJet NASIP review;
- the FAA NASIP review team manager, coordinators, and selected team members regarding their experience on this NASIP and details of their findings. The ValuJet NASIP team was composed of 24 people:

1 Team Manager  
1 Operations Coordinator  
1 Airworthiness Coordinator  
5 Operations Inspectors  
6 Airworthiness Inspectors  
3 Avionics Inspectors  
1 Cabin Safety Specialist  
2 Suspected Unapproved Parts Specialists  
3 Drug Abatement Specialists  
1 Administrative Support Clerk

Team Total = 24

- aviation safety inspectors at the Atlanta district office regarding their role during the NASIP review and how they researched and resolved the findings;
- supplemental team members who were tasked with validating certain findings from the ValuJet NASIP and editing the district office responses for the final NASIP report; and
- AirTran officials regarding how they perceived the NASIP process and specific information on findings.

Additionally, we reviewed documents at the Atlanta and Orlando district offices. At the Atlanta district office, we reviewed documentation of the items of proof, Enforcement Investigative Reports, follow-up research and actions, and ValuJet's responses to the findings. At the Orlando district office, we reviewed files regarding FAA findings at AirTran and resulting operational and maintenance changes made during the merger process. Our analysis included a comparison of selected findings' support documentation, support documentation for corrective actions and consultation with FAA aviation safety inspectors, maintenance personnel of other air carriers and an aircraft manufacturer.

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### **SECTION III – THE EFFECTIVENESS OF THE NASIP PROCESS CAN BE ENHANCED**

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The overall concept of providing periodic independent assessments of air carriers' and repair stations' safety compliance is beneficial and an extremely useful oversight tool. However, FAA needs to strengthen the NASIP process to ensure NASIP reports provide accurate, reliable indicators of safety compliance by inspected entities and result in effective corrective actions.

The NASIP has been successful in the past as shown by results of the 1995 NASIP review of Express One International, Inc., which resulted in the identification of significant noncompliance and contributed to the air carrier surrendering its certificate of operations. However, we found weaknesses in the NASIP process that should be corrected.

- The NASIP process does not consistently afford the expertise and independence needed for a comprehensive, objective review of the inspected entity and aggressive corrective actions.
- The NASIP process does not provide adequate guidance for the identification of systemic weaknesses at inspected entities.
- FAA has not ensured that key guidance is current and followed, communications among all parties is enhanced, and a thorough quality review of each NASIP report is performed.

As a result, weaknesses in the inspected entity's safety compliance may go undetected and uncorrected, and the final NASIP report may not provide an accurate indicator of an inspected entity's performance.

#### **FAA Should Improve the Team Selection Process to Ensure NASIP Inspectors Have Adequate Expertise and Experience**

Because team members are selected from volunteers, the necessary expertise and experience levels are not always achieved. During our interviews, team selection was voiced as a major concern by all levels of FAA and air carrier management. Team selection was also one of the primary concerns of a joint FAA and Air Transport Association work group, which met from January 1996 until March 1997 to improve and refocus the NASIP. This work group concluded that qualifications and training are not considered in the selection process, so NASIP inspectors are not always the top performers and are sometimes inexperienced.

The work group also found there was no motivation for experienced, top performers to volunteer for NASIP reviews.

Both the Continental Express and ValuJet NASIP teams had problems related to team composition. For example, on the Continental Express NASIP review, 8 of the 18 team members were either first-time NASIP inspectors or they were described as trainees. For the ValuJet NASIP review, at least 6 of the 24 team members had not previously participated in a NASIP review. In addition, although the team selection process for this review was done using the normal NASIP procedures, it resulted in three inspectors from the same Boston district office and five inspectors that had previous inspection involvement with ValuJet. This created, whether real or perceived, the appearance of the team having a hidden agenda prior to beginning the review. Although our review did not confirm that a hidden agenda existed, the team composition did raise some questions by the Atlanta district office and contributed to conflict during the ValuJet NASIP review.

FAA recognized these problems and held a meeting in January 1998 to discuss lessons learned from the ValuJet NASIP review and ways to improve team composition. The objective of the meeting was to identify the skills required for an inspector to perform as a NASIP team member. During the meeting, the group identified the requirements for team composition for each type of air carrier (e.g., air cargo carriers versus passenger air carriers). These requirements were incorporated into the NASIP team selection process on October 1, 1998.

FAA should continue its early 1998 efforts to improve the team selection process and should consider establishing a core group of inspectors who will be trained in industry best practices and auditing skills, such as risk analysis and report writing, to perform NASIP reviews. This concept of using resource specialists is not new as shown by FAA's use of specialists in other lines of business. For example, FAA established the Special Activity Staff to promote expertise in investigating civil aviation security issues. In our opinion, a well-trained dedicated inspection staff would provide consistency and higher quality NASIP reviews. At a minimum, FAA needs to improve the quality of the NASIP teams by better defining the expertise and experience needed for the type of entity inspected, selecting only NASIP inspectors that meet those requirements, and providing training to NASIP inspectors on industry best practices and auditing techniques, including risk analysis and report writing.

### **FAA Should Improve the Independence of the NASIP Process**

The NASIP process does not provide sufficient independence in the finding resolution phase. For all three NASIP reviews we evaluated, in accordance with

formal NASIP procedures, the FAA district office with day-to-day oversight responsibility had authority to close NASIP findings, and could do so without a complete independent analysis of the findings and closure actions, and without input from the NASIP team manager or members. As currently structured, the national NASIP manager and regional coordinators perform a limited review of the final NASIP report, but do not review each finding closure action for substance. Thus, the district office manager and aviation safety inspectors with daily oversight responsibility for the inspected entity resolve the findings and take closure action. These inspectors normally remain in their positions for years, which may affect their objectivity. Additionally, the integrity of the NASIP is potentially compromised by the appearance of the lack of independence in finding closure actions.

In addition to the need for more independence in the finding resolution phase, FAA should revise the chain of command for the NASIP team during the inspection. Although the NASIP team is composed of inspectors from outside the regional or district office that has oversight responsibility, the team works for the applicable regional or district office manager during the inspection. Therefore, the NASIP team manager is in a subordinate position to the district office manager. In our opinion, the independence FAA expects from using aviation safety inspectors from other regions is mitigated by the team members' perception that the district office manager is their supervisor during the NASIP assignment. For example, inspectors we interviewed on two of the three NASIP reviews expressed concerns about the level of involvement and influence district offices had during NASIP reviews.

In addition, changes made to the NASIP process in 1998 require the NASIP team manager and the district office manager to concur on all findings before the NASIP team manager leaves the worksite. In our opinion, this procedure does not promote independence, but instead imposes a potential risk for the district office manager to influence the inspection results and an incentive for the NASIP team manager to eliminate findings to gain concurrence and thus return home more expediently. In a February 3, 1999 meeting, FAA Headquarters officials told us that it was not their intention that the team manager and district office manager agree on all findings. FAA officials stated that team managers could elevate disagreements to a higher level official. We told FAA officials that inspectors we interviewed are interpreting the guidance to mean the two parties must agree. Therefore, FAA should clarify the guidance to show disagreements can be elevated for resolution to a higher, more independent level.



## **FAA Should Provide Guidance on How to Identify and Address Systemic Weaknesses at Inspected Entities**

The NASIP process does not provide sufficient technical guidance to either the NASIP team or district offices on how to identify and correct systemic weaknesses at the inspected entities. For example, the June 1997 Fine Air NASIP report contained seven findings that were similar to those in a special FAA regional report issued following an August 1997 fatal crash of a Fine Air DC-8 aircraft. Although the Miami district office (the oversight office for Fine Air) accepted the corrective action for each of those seven NASIP findings, the changes did not correct Fine Air's underlying systemic problems related to those findings, as shown by the recurrence of similar findings in the post-crash regional report.

For example, the Fine Air NASIP report included a finding concerning the use of unsatisfactory forms to document hazardous materials training for ground personnel. The Miami district office responded "Training was accomplished, yet training of other than crewmembers, was recorded on a general form." The Miami district office closed the finding based on action to transfer all documented training to the appropriate form. However, the regional review team found two employees who did not receive the required hazardous materials training. Neither the NASIP team nor the district office identified the underlying systemic problem: the NASIP team was primarily concerned with the training forms rather than whether the training was actually accomplished, and the Miami district office did not delve into whether the training was actually received by all personnel.

The National Transportation Safety Board (Safety Board) expressed similar concerns with the NASIP process. In its June 16, 1998, report on the 1997 Fine Air accident, the Safety Board reported:

Based on its investigation of the ValuJet Everglades and the Fine Air accidents, the Safety Board is also concerned about the effectiveness of the NASIP and RASIP [Regional Aviation Safety Inspection Program] inspection processes. In the case of each airline, preaccident inspections identified operational and airworthiness deficiencies. Although the findings of these inspections resulted in short-term corrective actions for the specific items that were found to be deficient, the inspections failed to identify and address systemic problems that were found in postaccident inspections of both carriers and that resulted in their temporary shutdown. ...Thus, the Safety Board concludes that NASIP and RASIP inspections are not adequately identifying and addressing systemic safety problems that exist in air carrier operations at the time the inspections are conducted.

## **FAA Should Ensure NASIP Guidance Is Updated and Followed**

We found FAA is using an outdated NASIP Order and has not ensured compliance with all NASIP guidance. Despite changes in the FAA organization and procedures related to the NASIP, FAA has not updated FAA Order 8000.68 since February 1989. For example, new inspection guidelines, including utilizing managers and supervisors as inspection team leaders, and various office names need to be updated.

We also found that existing requirements were not consistently being followed. Specifically, we found unauthorized release of draft reports, and retention of evidence by inspectors on completion of the review, and failure to use statistical sampling.

**Unauthorized Release of Draft Reports Hampered the NASIP Process** - The NASIP Team Briefing Document states that only the National NASIP Manager and the host region are to receive a copy of the draft NASIP report. However, ValuJet draft reports were inappropriately released to the media. This lack of control over the draft inspection findings compromises the integrity of the NASIP process because findings have not been finalized and the inspected entity has not had the opportunity to respond. For example, on the ValuJet review, premature release of the draft findings adversely affected the reputation of the inspected entity because of news media publication of issues that had not been fully analyzed. Additionally, the effectiveness of the FAA inspection process was adversely impacted because the media scrutiny contributed to FAA's decision to take unprecedented action to assign supplemental review teams. These extra teams added more conflict and confusion to the normal NASIP process.

Inspectors and others involved in the inspection process must be made aware of the importance of maintaining inspection integrity and not discussing or providing draft inspection results to unauthorized sources. The NASIP Team Briefing Document states that only the Flight Standards Certification Program Office, the host regional office and the district office should receive a copy of the draft report. Draft inspection findings and reports should be strictly controlled and consequences established for unauthorized release of this information. Therefore, FAA should add warning language on draft NASIP reports to help preclude unauthorized release of draft NASIP findings without the explicit approval of FAA.

**Retention of Evidence by Inspectors on Completion of the Review Could Complicate the Resolution Process** - The Team Briefing Document requires each NASIP team member to turn over all supporting documents to the NASIP team manager, who has final responsibility for maintaining the documents. This

requirement is to ensure the team manager has all the necessary documents to support findings presented to the district office. Despite this guidance, at least 4 of the 12 team members on the ValuJet NASIP review that we interviewed had copies of documents related to their findings.

**Use Of Statistical Sampling Would Enhance the NASIP Process** - On all three NASIP reviews we evaluated, inspectors did not use required statistical sampling techniques, which degraded the NASIP process by not providing FAA managers a sufficient perspective on the extent of the problem identified in a finding. Use of statistical sampling provides for an unbiased sample selection that is representative of the universe and allows for the projection of testing results to the universe. When statistical sampling is used, the sampling method and sample size should be clearly stated in the report to put the finding in perspective. However, in the Continental Express report, the NASIP team used vague terminology such as “a number of” and “numerous” to describe results and sample sizes.

Although statistical sampling needs to be used, we found that the requirements of the NASIP guidance were unrealistic. The NASIP Team Briefing Document recommends a 95-percent confidence factor be used. Statistical sampling with a 95-percent confidence factor requires a larger sample size to assure the sampled results are representative of the sampled conclusions. For example, in a universe of 100 employee training records for an entity, a sample of 80 records would have to be reviewed to obtain a 95-percent confidence level. Based on our discussions with NASIP team members and NASIP coordinators, a 95-percent confidence factor may be too high for the amount of time allotted for the NASIP review. Discussions with a professional statistician disclosed that alternative types of sampling methodology or lower confidence factors can be used to achieve representative results.

FAA should consider allowing alternative types of sampling, such as discovery sampling, where appropriate. Discovery sampling is used when the probability of error is expected to be low (less than 3 percent). An initial, limited sample is selected and reviewed, and the sample is only expanded if errors are found. For example, if no errors are found in an initial sample of 10 items, the sampling is stopped. If one error is found, then the sample is increased.

Further, our interviews with FAA managers and inspectors disclosed differing interpretations regarding whether a finding should be based on the occurrence of one event or a statistically valid review. On the ValuJet review, the regional and district office managers did not consider that findings representing one occurrence merited detailed follow-up action. However, one occurrence of a material incident may indeed represent a reportable finding. For example, one improper maintenance action which resulted in an engine shutdown would be one

occurrence of a material incident. To ensure consistency in identifying a NASIP finding, we recommend FAA establish clear guidance on what constitutes a statistically valid finding and under what circumstances one observation of a material incident could merit classification as a finding.

### **Improved Communication Between the FAA District Office, the NASIP Team, and the Inspected Entity Would Enhance the NASIP Process**

A key ingredient to a successful NASIP is effective communication among all of the parties involved. Clear communication from the NASIP team manager to team members is important to ensure they understand the reasons some of their findings are being excluded from draft and final reports. As part of the NASIP process, the team manager is allowed to exclude team member findings that, in the team manager's opinion, are not adequately supported by evidence. However, team managers did not always communicate the reasons for these exclusions. For example, reasons for omitting findings from the Continental Express NASIP report were not clearly communicated to 7 of the 12 team members we interviewed, creating distrust as to whether significant findings may have been omitted from the report.

Given the tight timeframe for NASIP reviews and the tendency for potential conflict between the NASIP team and district office inspectors, effective communication is important. For example, on the ValuJet review, the lack of effective communication resulted in a contentious, unproductive exit briefing between the NASIP team and the Atlanta district office. Frequent briefings from the NASIP team to the district office inspectors and the air carrier would help to prevent any surprises and allow the district office inspectors to immediately research the important issues as well as resolve insignificant findings.

### **NASIP Report Should Be Accurate and the Content Should Be Expanded**

The ValuJet NASIP draft report contained incorrect references to FAA regulations and the air carrier's manuals, which can call into question the validity of findings and cause difficulty in the resolution process. Also, the report contained insignificant findings that could have been resolved during the NASIP review or combined with other findings concerning the manuals. For example, one finding was an insignificant error in referencing an FAA regulation in the ValuJet procedures manual. Even though these type findings can be easily resolved during the inspection, they should be included in the report for full disclosure. However, the inclusion of several minor findings among other more significant findings detracts from the important safety issues that need to be resolved. FAA should expand the report content by adding a separate section for less significant findings.

FAA should organize the report to focus on the primary issues first, and place less significant findings in this separate section.

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## SECTION IV - RESOLUTION PROCESS USED ON THE VALUJET NASIP REVIEW WAS NOT EFFECTIVE

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The resolution process leading to the final NASIP report on ValuJet did not result in an accurate indicator of ValuJet's compliance with Federal aviation regulations. The final report did not present an independent, objective assessment of all the NASIP findings and the resulting corrective actions. Due to the controversy surrounding ValuJet, FAA departed from normal NASIP resolution procedures by assigning two supplemental independent teams to assist the Atlanta district office in analyzing the most serious findings and writing the final NASIP report. However, neither of the two teams performed a comprehensive, documented analysis of the evidence that supported all of the findings and resulting corrective actions. Ultimately, in the final NASIP report, the Atlanta district office did not substantiate 60 (57 percent) of the 106 findings reported by the NASIP team. FAA considers a finding was not substantiated if it concludes that sufficient evidence does not exist to pursue enforcement action for a regulatory violation.

Based on our independent assessment of 30<sup>9</sup> of the 106 findings and closure actions in the ValuJet report, including both substantiated and unsubstantiated findings, we found:

- 19 (54 percent) resulting in corrective actions by the air carrier or strengthening of the air carrier's systems. Of the 19, 13 (37 percent) were instances where sufficient evidence existed to support the finding (i.e., substantiated) and the air carrier took corrective action. For the remaining six (17 percent), FAA concluded in the report that the finding was not substantiated. Our review did show that actions were taken on these six.
- 16 (46 percent) were indicative of a problem in the NASIP process. For 8 (23 percent), the NASIP team did not provide sufficient evidence to support the finding. For the remaining 8 (23 percent), we concluded that the Atlanta district office took insufficient closure action. Within this category, there were varying degrees of insufficient closure action by the district office.

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<sup>9</sup> Of the 30 NASIP findings, 3 had multiple parts that required separate corrective actions, resulting in a total of 35 actions reviewed.

## **Significant Events Surrounding the ValuJet NASIP Review**

**Selection of Team Manager, Coordinators, and Members** - FAA NASIP management selected the team manager from the Flight Standards Field Office in Boston, Massachusetts. This team manager had been the team manager on the 1995 NASIP review of ValuJet, and the National NASIP manager and New England Regional Coordinator considered his previous experience with the air carrier as beneficial. FAA did not receive volunteers for the operations and airworthiness coordinator positions. Therefore, the selected team manager, with approval from the New England regional NASIP coordinator and National NASIP Manager, selected the operations and airworthiness coordinators. Each of these coordinators worked in the same Boston office as the team manager.

**Conflict** - Throughout the NASIP review, there were conflicting opinions among NASIP team inspectors, the Atlanta district office inspectors, and ValuJet. These differences of opinion escalated during the 3-week inspection and culminated in extremely contentious exit briefings on November 6 and 7, 1997. The Regional Flight Standards Division notified senior Flight Standards management about the conflict. See exhibit C for a diagram of the key FAA personnel involved in this ValuJet NASIP review and subsequent report.

Our interviews disclosed that activities prior to the NASIP may have contributed to the problems that occurred during the NASIP review. On June 16, 1997, three FAA inspectors in the Boston Field Office, including the ValuJet NASIP team manager and airworthiness coordinator, conducted an inspection of one of ValuJet's aircraft that had flown into the Boston airport. The inspectors had two concerns: an abnormal noise they heard in the right nose wheel door and leaking sandbags that were being loaded into the aircraft. A 2-hour delay in the flight resulted when ValuJet Maintenance Control could not locate the necessary reference and specification limits for the wheel door links.

Subsequently, ValuJet management filed a complaint with the Atlanta district office regarding the aviation safety inspectors in the Boston Field Office. The manager of the Atlanta district office forwarded the complaint to the Boston Field Office. When these same inspectors were assigned as the NASIP team manager and airworthiness coordinator, it created the perception by the Atlanta district office that the team had a hidden agenda in response to the complaint. Contributing to this perception, five of the team members had previous involvement with inspecting ValuJet during the 1995 NASIP review, the 1996 special emphasis review conducted after a 1996 ValuJet fatal aircraft accident in the Florida Everglades, and the air carrier's recertification after a temporary shutdown.

Because of the significant conflict that occurred in Atlanta, FAA officials in the FAA Certification Program Office convened a meeting on November 17, 1997, to discuss the ValuJet NASIP review and “reach agreement on as many issues as possible in this open forum.” The meeting was open for the inspectors to discuss the major disagreements regarding the NASIP report, as well as other issues related to the overall NASIP process. NASIP maintenance inspectors and Atlanta district office inspectors were present, as well as FAA legal counsel, the National NASIP Manager, and an Office of Inspector General representative. Four major airworthiness issues were identified and discussed during the meeting: falsification of records, Continuing Analysis and Surveillance Program<sup>10</sup>, minimum equipment lists, and traceability of parts. Agreement was reached that the Atlanta district office would further investigate these areas of concern. Because the conflict during the NASIP review related primarily to maintenance findings, only the NASIP maintenance inspectors were present at this meeting. Therefore, operations concerns regarding pilot proficiency and flight attendant training were not the focus of this meeting.

### **Resolution Process Used on the ValuJet NASIP Review**

The resolution process used on the ValuJet NASIP review was three-fold. First, in November 1997, FAA formed a supplemental team of inspectors to assist the FAA Southern Region and Atlanta district office with their review of the NASIP findings and to accelerate the normal 120-day finding resolution. This team was on-site in Atlanta for approximately one week to evaluate the most serious findings and to determine if the Atlanta district office had adequate inspector resources to provide oversight of ValuJet. Second, the Atlanta district office inspectors continued to validate and close the findings under the normal NASIP process. Third, in January 1998, FAA Headquarters formed a second supplemental team to assist the Atlanta district office in writing the responses to NASIP findings. The second supplemental team did not work on reconciling differences between the NASIP team and district office and did not review supporting documents for the findings.

**First Supplemental Team** - To immediately address the concerns of the NASIP team, especially findings on the potential falsification of records, FAA Flight Standards executive management formed a supplemental team of inspectors on November 24, 1997. This team consisted of four inspectors, including the team manager. Senior FAA Flight Standards management selected the team manager.

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<sup>10</sup> Federal aviation regulations require each air carrier to establish and maintain a program for the continuing analysis and surveillance of the performance and effectiveness of its maintenance, preventive maintenance, and alterations of aircraft. The regulation also requires the air carrier to establish and maintain a system to correct any deficiency in these programs.



Two of the team members were from the Certification, Standardization, and Evaluation Team (CSET)<sup>11</sup>. Because the team also needed an inspector with operations expertise, the National NASIP Manager selected an Assistant Manager of a district office in the Eastern Region to complete the team.

The first supplemental team was on-site in Atlanta for approximately one week and was tasked with:

- Determining if the Atlanta district office had adequate inspector resources to provide oversight of ValuJet<sup>12</sup>,
- Reviewing the effectiveness of the air carrier's Continuing Analysis and Surveillance Program,
- Reviewing allegations of fraudulent activity,
- Determining whether ValuJet flight crewmembers were properly trained and qualified, and
- Determining whether all ValuJet aircraft were properly maintained and in a safe condition for flight.

The first supplemental team did not validate the entire NASIP report. This supplemental team did not review the supporting evidence provided by the NASIP team for all findings, nor did they review the district office's subsequent research and closure actions. The first supplemental team summarized its results in an undated, unsigned document<sup>13</sup>. The team concluded:

- The Atlanta district office inspection team was adequate and possessed the expertise to manage the oversight of ValuJet,
- The air carrier's Continuing Analysis and Surveillance Program lacked procedures for taking timely corrective action for recurring maintenance discrepancies,
- No fraudulent activity occurred,

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<sup>11</sup> In February 1997, FAA established the CSET, which is a national team of experienced aviation safety inspectors specially trained in certification procedures and requirements.

<sup>12</sup> The first supplemental team did not document the criteria used to make this determination.

<sup>13</sup> This report was intended as an internal FAA document from the team leader to the Acting Director of Flight Standards summarizing the team's results.

- There was no indication of improperly trained or unqualified flight crewmembers nor aircraft operating in an unsafe condition, and
- There were no other significant issues that would have a direct impact on safety or systemic failures.

We found that the first supplemental team arrived at these conclusions without a comprehensive analysis of the documentation supporting all NASIP findings and the resulting corrective actions. Our review further disclosed that not all of the first supplemental team **members'** concerns were included in the summary report. We found that the operations inspector assigned to the team was not involved in the writing of the report. Therefore, significant concerns with ValuJet's record keeping and its program to check pilot proficiency were omitted. Despite FAA's efforts to improve the resolution process in the ValuJet NASIP, FAA still did not receive an objective, independent assessment of ValuJet's safety compliance.

Three of the four team members voiced concern to us regarding the supplemental team report and the final report on ValuJet as follows.

- One supplemental team member had not been provided a copy of the summary report. Once this inspector reviewed the report, the inspector did not agree with the conclusion that there were no indications of improperly trained or unqualified flight crewmembers. Although this inspector was requested to review only one operations finding with alleged falsification, he expanded his review into other areas and found problems that the NASIP team had not detected.
- Another supplemental team member found several problems in the Continuing Analysis and Surveillance Program manual. This inspector did not agree with the final NASIP report's conclusion that **only** one area of concern with the Continuing Analysis and Surveillance Program was found. In addition, he did not agree with the Atlanta district office's conclusion that no systemic safety concerns existed in the Continuing Analysis and Surveillance Program. Also, the use of the word "only" by the Atlanta district office creates the perception by an outside reader that the problem found was insignificant. However, the problem that the district office was referring to was lack of timely correction of known maintenance discrepancies.
- A third team member returned to Atlanta from December 16 to 17, 1997, and performed a more in-depth review of the Continuing Analysis and Surveillance Program. This inspector claimed that there were repetitive

safety items related to the emergency slides and the aircraft seats that ValuJet's Continuing Analysis and Surveillance Program had not detected.

After the supplemental team completed its review, another meeting was held on December 8, 1997, at the Certification Program Office. Senior NASIP officials, the ValuJet NASIP team manager and coordinators, and the supplemental team members attended this meeting. This meeting was convened because the NASIP team members were concerned about the perception that their professional skills were in question because FAA management sent in a supplemental inspection team<sup>14</sup>. During this meeting, the supplemental team agreed with the NASIP team that there were problems in the Continuing Analysis and Surveillance Program and in pilot proficiency. Also, it was agreed that all the NASIP team's findings would be included in the final report with no revisions.

**Second Supplemental Team** - FAA formed a second supplemental team in January 1998 because FAA executive management wanted to accelerate issuance of the final NASIP report. FAA Flight Standards managers assigned the principal maintenance inspector for a major air carrier in the Southwest Region as the team leader for this second supplemental team. The other two members of the team were one of the members of the first supplemental team and a principal operations inspector from the Southwest Region. This second supplemental team worked on editing the Atlanta district office's responses to the findings and did not review the NASIP team's supporting evidence or the district office's research used to substantiate or unsubstantiate each finding. The report was then sent to FAA Headquarters for editing by senior Regulation and Certification and Flight Standards Service management.

### **OIG Assessment of NASIP Findings and Closure Actions**

Because FAA had not performed an independent review of the evidence used to support NASIP findings or the resulting corrective actions, we assessed the finding closeout actions given in the final report. We judgmentally selected 30 of the 106 findings to perform an in-depth analysis of the supporting documentation. Of the 30 findings, 3 had multiple parts that required separate corrective actions, resulting in a total of 35 actions reviewed.

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<sup>14</sup> Interviews with NASIP inspectors revealed that, in their opinion, FAA never adequately resolved the conflict between the NASIP team, Atlanta district office, and the first supplemental team.

Of the findings and closure actions we reviewed, we found:

Percentage	Number of Actions	Description
37	13	Finding adequately supported, substantiated, and resulted in acceptable corrective action
17	6	FAA concluded in the report that the finding was not substantiated but corrective action was taken
<b>54</b>	<b>19</b>	<b>Actions Taken By FAA and Air Carrier</b>
23	8	Insufficient evidence provided by NASIP team to support finding
23	8	Insufficient district office closure action
<b>46</b>	<b>16</b>	<b>Indicative of a Problem in the NASIP Process</b>

Total Actions:      **35**

### **Analysis of Findings**

The NASIP report disclosed the importance of conducting independent assessments as shown by the significant issues the NASIP team found. For example, of the 106 findings, 13 were found at a third-party contractor that was providing the new paint scheme and seat modifications for ValuJet aircraft. These findings resulted in the district office initiating enforcement action and recommending civil penalties of \$132,000 to ValuJet because it failed to properly oversee work performed by a contract maintenance facility<sup>15</sup> and \$12,000 to the contractor for improper maintenance. These findings were significant considering the Safety Board cited ValuJet's limited oversight capabilities of a contractor as a contributing cause of the 1996 ValuJet accident in the Florida Everglades.

In addition, because of the NASIP team's findings, the FAA conducted a NASIP inspection of this contract facility in January 1998. As a result of FAA's findings during this inspection and the ValuJet inspection, FAA recommended emergency revocation of this facility's certificate. The facility ultimately surrendered its certificate in July 1998.

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<sup>15</sup> The enforcement actions have been in FAA's normal legal resolution process for approximately a year since the district office referred them to FAA's legal office in the Southern Region.

### **Example of a Finding That Was Adequately Supported, Substantiated, and Resulted in Acceptable Corrective Action**

We categorized 13 (37 percent) of the 35 actions reviewed as adequately supported, substantiated, and resulted in acceptable corrective action.

NASIP Finding 2.07.02 – The NASIP team sent an inspector to a third-party contractor’s facility located in Mississippi to observe the work being conducted to provide a new paint scheme and to modify the number of seats for ValuJet aircraft. The NASIP inspector witnessed an improper rudder installation on a DC-9 aircraft on October 27, 1997. As a result, ValuJet initiated a fleet campaign to re-inspect the other 12 ValuJet aircraft for which this facility had already removed and reinstalled the rudder. On October 29, 1997, an Atlanta district office inspector went to the facility and confirmed the finding. The district office inspector concluded this was not an isolated incident and it appeared that the quality assurance system at the contract facility was nonexistent. This finding was part of the enforcement action against ValuJet for improper oversight of a contractor.

The NASIP inspector was also concerned about other air carriers’ aircraft that this contractor had painted and whether these aircraft should be immediately grounded. He initiated discussions with Boeing<sup>16</sup> representatives to determine the seriousness of this issue and whether improperly installed rudders were a “safety of flight” issue. Boeing replied that this situation would not affect the airworthiness to a point where FAA should immediately ground the aircraft. However, Boeing did recommend that within 50 hours the rudder should be checked by hand and then at the next major overhaul the air carriers should perform a complete rudder inspection. This recommendation was sent to DC-9 and MD-80 operators who had contracted with this repair station in the last 2 years. Thirty-three Northwest Airlines aircraft and 26 Continental Airlines aircraft were affected by the recommendation. This finding represents a good example of going beyond the current instance to take more extensive action on a potentially systemic weakness.

### **Example of a Finding that FAA Concluded in the Report Was Not Substantiated, But Corrective Action Was Taken**

We categorized 6 (17 percent) of the 35 actions reviewed as FAA did not substantiate, but corrective action was taken. This 17 percent was included in the final NASIP report in the 60 findings that the district office did not substantiate.

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<sup>16</sup> Boeing purchased the McDonnell Douglas Company who originally manufactured the DC-9.

The resulting conclusion that these type of findings were not substantiated is a misleading representation that the NASIP finding had no merit.

NASIP Finding 2.18.01 - On October 22, 1997, the NASIP inspector observed a hydraulic leak on an aircraft that deteriorated the required placards for the tailcone release and red directional arrow. The NASIP inspector reported the discrepancy to the maintenance personnel the same day. These placards must be in a readable condition prior to placing an aircraft in revenue service. The Atlanta district office did not substantiate the finding due to lack of verifiable evidence. The district office did not rely on the NASIP inspector's observations. However, the operator's response to the district office regarding this finding stated the air carrier substantiated the finding. ValuJet also provided a statement from a mechanic that stated the placards needed to be replaced and were replaced on November 6, 1997. An inspector in the Atlanta district office told us that the finding was reported as unsubstantiated because, by the time he was informed of the problem, the placards had already been replaced by ValuJet.

### **Example of Insufficient Evidence Provided by the NASIP Team to Support a Finding**

We categorized 8 (23 percent) of the 35 actions reviewed as insufficient evidence provided by the NASIP team to support a finding.

NASIP Finding 1.04.15 – The NASIP inspector observed a proficiency check of a ValuJet co-pilot being conducted by a ValuJet check airman and then the inspector reviewed the associated training records. The inspector found discrepancies in what was actually performed during the check ride versus what was recorded on the training records. Therefore, the inspector made an overall conclusion that the check airman had violated Federal aviation regulation Part 61.59(a)(2) because he made a fraudulent entry on a record used to show compliance. While the air carrier did revise the training records, the Atlanta district office did not substantiate the finding because the NASIP inspector failed to support the allegation of fraud. The first supplemental team corroborated the district office's closeout for this finding and determined there was no evidence of falsification, fraud, or violations of the Federal aviation regulations in this instance.

Although the overall conclusion of fraudulent activity was not sufficiently supported by the NASIP inspector, his concerns regarding the proficiency check program at ValuJet were supported. While the first supplemental team did not support the allegation of fraud, the team did conclude there were problems with the proficiency program. We do know that the Orlando district office has required AirTran to revamp the entire check airmen program and has reduced the number

of check airmen from 28 to 20. This would seem to confirm that there was some problem with the check airmen program.

### **Examples of Insufficient District Office Closure Action**

We categorized 8 (23 percent) of the 35 actions reviewed as insufficient district office closure action.

The closure action for NASIP finding 2.11.10 illustrated the breakdown in communication between the Atlanta district office and the NASIP team, and the need for an independent assessment of closure actions. In the final NASIP report, the Atlanta district office claimed the NASIP team did not provide items of proof to support this finding. However, we obtained the item of proof from the NASIP team manager. After we showed this documentation to Atlanta district office management, inspectors in the Atlanta district office found the item of proof, which was misplaced in another finding's file. The Atlanta district office never attempted to contact the NASIP team manager or member to discuss this finding when resolving the finding.

NASIP Finding 2.11.10 – The NASIP team sent an inspector to a third-party contractor's facility located in Mississippi to observe the work being conducted to provide a new paint scheme and to modify the number of seats for ValuJet aircraft. During the inspection of aircraft logbook pages, the NASIP inspector determined that a required inspection had not been performed and documented in the aircraft logbook. For required inspection items (RII)<sup>17</sup>, the installer's and the inspector's signatures are required. During the finding resolution phase, AirTran provided the Atlanta district office with a copy of this aircraft logbook page, which contained the necessary RII signature. As a result, in the final ValuJet report, the Atlanta district office concluded "The NASIP Team did not provide any specific Items of Proof to review. The follow-up investigation did not disclose sufficient evidence to substantiate the finding."

We obtained a copy of the item of proof from the NASIP team manager, which confirmed that the required signature was absent at the time of the NASIP review. During our review, we provided the Atlanta district office this item of proof, and the district office reopened the investigation. FAA determined that the inspector was in Atlanta at the time the work was performed and therefore could not have

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<sup>17</sup> Required inspection items are a designation of the items of maintenance and alteration that could result in a failure, malfunction or defect endangering the safe operation of the aircraft if not performed properly or if improper parts or material are used.

inspected the aircraft in Mississippi. Ultimately, FAA revoked the inspector's certificate.

NASIP Finding 1.07.03 – On October 25, 1997, a NASIP inspector performed a cockpit inspection on a flight from Atlanta to Fort Lauderdale. Just after takeoff, the inspector observed an oil pressure indicator fluctuate from 52 to 60 pounds per square inch (psi). According to the NASIP inspector, he notified the aircraft Captain of the maintenance discrepancy and the Captain indicated he would write up the discrepancy in the aircraft logbook when the aircraft landed in Fort Lauderdale. However, this discrepancy was not written up in the aircraft logbook until the aircraft had returned to Atlanta.

The district office closed out this finding by stating the evidence presented in support of this finding was not credible nor did it indicate that the crew operated the aircraft without complying with the operating limitations specified in the approved Airplane Flight Manual. The Atlanta district office obtained statements from the Captain and First Officer that disputed the NASIP inspector's claims.

However, in closing this finding, the district office failed to mention maintenance reports provided by the NASIP inspector that disclosed a maintenance trend with this aircraft's oil pressure indicator. The same indicator was written up 15 times from October 5 to October 27, 1997. The closeout documentation also failed to address the ValuJet Aircraft Operating Manual excerpt, which clearly states the maximum oil pressure for this type of engine is 55 psi. The manual further states a high pressure condition must be repaired before the next flight. Therefore, this discrepancy should have been repaired in Fort Lauderdale. The district office failed to address these issues in the closeout response for this finding.

### **Change of District Office Responsibility to Orlando, Florida**

After the NASIP review, ValuJet moved its corporate headquarters to Orlando, Florida, as a result of a corporate merger, thus shifting FAA oversight responsibility to the Orlando district office. The Orlando district office's merger review process<sup>18</sup> lends further support to our conclusion that the resolution process on the ValuJet NASIP was not effective in addressing all of the NASIP findings. For example, the Orlando district office has made positive changes in the air carrier's operations and maintenance programs, as listed below. These areas were also major concerns of the NASIP team that were not adequately resolved by the Atlanta district office's closure actions.

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<sup>18</sup> The Orlando district office's merger review process consisted of reviewing and approving all aspects of the air carrier's operations and maintenance activities.



- All of AirTran's flight crew training is completed in-house rather than being contracted out,
- AirTran is now using an improved level of flight simulator,
- AirTran completely revised flight attendant operating procedures, including training,
- The Continuing Analysis and Surveillance Program has been enhanced by increased surveillance of contract maintenance facilities,
- The number of outside contractors has been reduced, and
- The quality of maintenance training of AirTran mechanics has been improved.

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## **SECTION V: CHANGES MADE TO THE NASIP PROCESS WARRANT RECONSIDERATION**

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Because of the controversy involved in the ValuJet NASIP review and the National Transportation Safety Board's conclusion in the 1997 Fine Air accident report that weaknesses exist in the NASIP process, FAA made some beneficial changes to the NASIP process. For example, before the ValuJet NASIP review, the NASIP report included only the NASIP team's findings: it did not include any rebuttal or the corrective actions taken. The corrective actions were only recorded in FAA's inspection database. As a result, the report did not provide a complete or balanced picture of the inspection results. In response to concerns regarding the draft ValuJet NASIP report, FAA now includes the inspected entity's comments, the district office's comments, and descriptions of corrective actions. Also, FAA added the following special emphasis areas to the NASIP process:

Cargo loading and restraint systems,  
Outsourcing of maintenance, and  
Outsourcing of flight crewmember training.

To improve the integrity and effectiveness of the NASIP process, FAA needs to reevaluate three other changes it made in 1998.

- First, FAA changed its procedures to exclude from the final NASIP report findings that represent a lack of systems to support continuing regulatory compliance (Category C findings). A typical finding in this category would be a system that schedules pilot flight time, but does not assure compliance with the flight and duty time limitations specified in Federal aviation regulations. These type findings are now included in the draft report in a section called "Opinions and Recommendations" and are provided to the FAA district office manager for internal use only. FAA does not input all these findings in its inspection database because they are considered to be inspectors' opinions. FAA only enters in the database those opinions that result in enforcement action. As a result, the final NASIP report does not provide full disclosure of all findings reported to the district office by the NASIP team, and there is no historical database record of actions taken in response to all findings.<sup>19</sup>

This revised procedure was used for the Continental Express NASIP review. The final report contained 20 findings while an additional 47 findings were provided to the district office manager in a separate document. One of these 47 findings described elevator control system malfunctions that should have

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<sup>19</sup> In a February 3, 1999 meeting, FAA officials told us that they plan to reevaluate this change.

been reported to the National Transportation Safety Board as an “...immediate notification of a flight control system malfunction or failure.” In addition, the NASIP team reported in this “Opinions and Recommendations” section that the training status of personnel at several stations could not be determined. This section also stated the NASIP team found numerous amounts of improper maintenance sign-offs using references to inaccurate sections of the maintenance manuals and a trend of improper usage of minimum equipment lists.<sup>20</sup>

The significance of Category C findings can be demonstrated by the results of the ValuJet and Continental Express NASIP reviews. For the ValuJet NASIP review, 15 of the 21 Category C findings resulted in corrective action by the operator, and the district office initiated enforcement action for 4 of the Category C findings. For the Continental Express review, the Houston district office initiated four separate enforcement actions related to 3 of the 47 Category C findings.

- Second, FAA changed its procedures to require the NASIP team manager and district office manager to concur on all NASIP findings before the team manager departs the worksite. In our opinion, this procedure does not promote independence, but instead imposes a potential risk for the district office manager to influence the inspection results and an incentive for the NASIP team manager to eliminate findings to gain concurrence and thus return home more expediently. In a February 3, 1999 meeting, FAA Headquarters officials told us that it was not their intention that the team manager and district office manager must agree on all findings. FAA officials stated that team managers could elevate disagreements to a higher level. We told FAA officials that inspectors we interviewed are interpreting the guidance to mean the two parties must agree. Therefore, FAA should clarify the guidance to show disagreements can be elevated for resolution to a higher, more independent level.
- Third, FAA has discontinued scheduling NASIP reviews for the 10 major air carriers<sup>21</sup> currently inspected under FAA’s new inspection program, the Air Transportation Oversight System. FAA needs to establish formal policy and procedures to ensure independent assessments similar to NASIP reviews

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<sup>20</sup> Minimum equipment lists provide for the operation of the aircraft with certain instruments and equipment in an inoperable condition.

<sup>21</sup> The 10 major air carriers are: Alaska Airlines, American Airlines, America West Airlines, Continental Airlines, Delta Air Lines, Northwest Airlines, Southwest Airlines, Trans World Airlines, United Airlines, and US Airways. In addition, in Spring 1999, at AirTran’s request, FAA plans to add AirTran to the air carriers inspected under the Air Transportation Oversight System.

continue to be planned and conducted for these air carriers. To ensure independent reviews continue, a formal policy is necessary because FAA plans to bring the remaining 140 air carriers into this new oversight system, which focuses on data trend analysis and does not include formal procedures for independent reviews comparable to the NASIP. Because the effectiveness of the Air Transportation Oversight System is unproven, we believe FAA should continue to conduct independent assessments similar to NASIP reviews until FAA has fully evaluated the first phase of the new inspection system and has adequate assurance that the system includes sufficient checks and balances.<sup>22</sup>

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<sup>22</sup> FAA will evaluate the first phase of the Air Transportation Oversight System from June to September 1999.

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## SECTION VI – RECOMMENDATIONS

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We recommend the Federal Aviation Administrator:

1. Improve the quality of the NASIP teams by:
  - a. Defining the expertise and experience needed for the type of entity inspected and selecting only NASIP inspectors that meet those requirements.
  - b. Providing training to NASIP inspectors on industry best practices and auditing techniques, including risk analysis and report writing.
2. Revise the NASIP finding resolution process to be more independent by:
  - a. Strengthening the review of the NASIP report to include assessing the substance of the district office's closure actions.
  - b. Requiring the NASIP team to report to the national, instead of the regional, level and clarifying NASIP guidance on resolving technical disagreements.
  - c. Eliminating the requirement for the NASIP team manager and the district office manager to concur on all findings included in the draft report.
3. Establish guidance on how to identify and address systemic weaknesses at the inspected entities.
4. Update FAA Order 8000.68 and the NASIP Team Briefing Document for changes that have been made to the NASIP program and any new changes adopted by concurrence with this report.
5. Add warning language on draft NASIP reports to help preclude unauthorized release of draft NASIP findings without the explicit approval of FAA.
6. Clarify the NASIP Team Briefing Document on how the NASIP team should use statistical sampling to support findings and establish clear guidance on what constitutes a statistically valid finding and under what circumstances an observation of a single, material incident could merit classification as a finding.

7. Establish procedures to provide for more effective communication of inspection results to the FAA district office, air carrier management, and inspection team members.
8. Establish a quality control process to ensure that criteria and statement of facts are adequately supported in the draft report.
9. Expand the content of the NASIP report to include a separate section for less significant findings. FAA should organize the report to focus on the primary issues first, and place less significant findings in this separate section.
10. Require that the final NASIP report include findings that represent a lack of systems to support continuing compliance with the Federal aviation regulations, rather than providing such findings in a separate document.
11. Establish formal policy and procedures to ensure independent assessments similar to NASIP reviews continue to be planned and conducted for air carriers that are inspected under the Air Transportation Oversight System.

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## SECTION VII – MANAGEMENT POSITION AND OFFICE OF INSPECTOR GENERAL COMMENTS

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### **Management Position**

In an April 30, 1999, response to our April 9, 1999, draft report, FAA concurred with all recommendations and agreed the NASIP is a key management tool to monitor the performance of certified entities and should be strengthened. FAA stated it would implement NASIP program revisions developed in response to our recommendations within 6 months of our final report, pending the availability of adequate resources and appropriate coordination with the union. Specifically, FAA agreed to take the following corrective actions.

- For Recommendation 1, FAA agreed to improve the quality of NASIP teams by revising the expertise and experience requirements to more closely correspond to the type of entity inspected and to provide additional training for NASIP inspectors.
- For Recommendation 2, FAA agreed to revise the NASIP finding resolution phase to be more independent by requiring additional review of district office corrective actions, ensuring that technical disagreements are resolved, and eliminating the requirement that NASIP team managers and district office managers must concur on all findings.
- FAA will develop guidance on how to identify and address systemic weaknesses at inspected entities for Recommendation 3.
- FAA concurred with Recommendation 4 and has drafted revisions to FAA Order 8000.68, Flight Standards National Aviation Safety Inspection Program, and the NASIP Team Briefing Document and plans additional revisions in response to our recommendations.
- To address Recommendation 5, FAA agreed to develop warning language to be added to all draft NASIP reports to help preclude unauthorized release.
- For Recommendations 6 through 8, FAA agreed to improve the report quality by clarifying NASIP guidance on the use of statistical sampling, establishing procedures to help ensure all parties are properly informed of NASIP findings, and establishing a quality control process to ensure criteria and statement of facts are adequately supported in the draft report.

- FAA agreed to disclose all findings in the NASIP report, including systemic findings, for Recommendations 9 and 10.
- For Recommendation 11, FAA agreed to ensure that independent assessments similar to NASIP reviews continue under the new Air Transportation Oversight System.

### **Office of Inspector General Comments**

The actions taken or planned by FAA are responsive to the recommendations.



**Sample Page from NASIP Inspection Checklist**

FAR PART 121 DETAILED INSPECTION AREAS SECTION 2 - AIRWORTHINESS MANAGEMENT AND ADMINISTRATION 2.01			
INSP. AREA	Q #		FAR or AC REFERENCE
		The initial entry in this inspection area will be Finding 2.01.00. It will contain a brief description of the management and administration of the operator.  Subsequent findings in this inspection area should be numbered sequentially beginning with 2.01.01. The following checklist items are provided for guidance and should be used during the NASIP.	
2.01		Does the operator have the appropriate type of operations specifications for its operation?	119.21(a) replaces 121.3
2.01		Does the operator have a memorandum of the terms of any lease arrangement specified in FAR 119.53(a), are the operations specifications properly annotated?	119.49(b)(10)
2.01		If the operator holds a supplemental or commercial operator operating certificate does it contain a description of the operations authorized?	119.49(a)(b) replaces 121.45
2.01		If the operator has waivers and/or authority for deviations, does the operator conduct operations in compliance with the terms of the authorization or waiver?. Additionally, each authorization should be reviewed to ensure the authorizing office had the appropriate authority.	119.55 : 119.57 replaces 121.57
2.01		Does the operator employ, on a full-time basis, positions required by FAR 119.65, or the positions that have been approved in the operations specifications of a supplemental air carrier or commercial operator?	119.65 replaces 121.59
2.01		Does the air carrier manual of a supplemental air carrier or commercial operator contain?  a. The duties, responsibilities, and authority of personnel. b. A listing of the names and addresses of the persons assigned to the positions.	119.65 replaces 121.59
2.01		Do the Director of Maintenance and the Chief Inspector meet the requirements of the FAR Part 119.67?	119.67(c)(d) replaces 121.61
2.01		Are the certificate holder's operating certificate and operations specifications available for inspection at its principal operations office (Corporate Headquarters or Main Base)?	119.59(b) replaces 121.73

**NASIP Reviews Performed in FYs 1997 and 1998**

<i>Company Name</i>	<i>Company Location</i>
<b>FY 1997 NASIPs Performed</b>	
AAR Landing Gear	Medley, FL
AAR Oklahoma	Oklahoma City, OK
Aerotech International	Phoenix, AZ
Air South Airlines, Inc.	West Columbia, SC
Air Transport International Ltd. Liability	Belleville, MI
Central Texas Airborne Systems	Waco, TX
Comair	Cincinnati, OH
D&C Airparts	Miami, FL
Dowty Aerospace	Sterling, VA
Eagle Jet Charter	Las Vegas, NV
Eastern Aero Marine	Miami, FL
Evergreen Air Center	Marana, AZ
Falcon Air	Miami, FL
Fine Airlines, Inc.	Miami, FL
Frontier Airlines, Inc.	Denver, CO
Gordon Hamilton	Tucson, AZ
Greenwich Air Services	Dallas, TX
Laker Airways, Inc.	Orlando, FL
Lynx Air International	Ft. Lauderdale, FL
Miami Air International	Miami, FL
Miami Modification	Miami, FL
Pan American Airways	Miami, FL
Pemco World	Dothan, AL
Pride International	Alexandria, LA
Professional Modification Services	Miami, FL
Prompt Air, Inc.	Chicago, IL
QC Laboratories	Hollywood, FL
Rich International	Miami, FL
Rocky Mountain Helicopter	Provo, UT
Seaborne Aviation, Inc.	Juneau, AK
Technical Applied Coating - T.A.C.	Miami, FL
Tower Air	New York, NY
Trans World Airlines (Repair Station)	Kansas City, KS
UNC Accessory Services I	Ft. Lauderdale, FL
UNC Accessory Services II	Bayshore, NY
UNC Accessory Services III	Grand Prairie, TX
UNC Accessory Services IV	Millville, NJ
US Airways, Inc. (Repair Station)	Pittsburgh, PA
Vanguard Airlines, Inc.	Kansas City, MO

**NASIP Reviews Performed in FYs 1997 and 1998**

<i>Company Name</i>	<i>Company Location</i>
<b>FY 1998 NASIPs Performed</b>	
Air Midwest	Wichita, KS
Allegheny Airlines, Inc.	Middletown, PA
Atlantic Southeast Airlines	Atlanta, GA
Business Express	Dover, NH
Champlain Enterprises	Plattsburgh, NY
Chautauqua Airlines	Indianapolis, IN
Continental Express, Inc.	Houston, TX
Continental Micronesia, Inc.	Guam
Corporate Air	Billings, MT
ERA Aviation	Anchorage, AK
Exec Express II	Fort Worth, TX
Executive Airlines, Inc.	San Juan, PR
Express Airlines I, Inc.	Memphis, TN
Flying Boat	Ft. Lauderdale, FL
Frontier Flying Service	Fairbanks, AK
Horizon Air	Seattle, WA
Kiwi International Holdings Co.	Newark, NJ
Leading Edge Repair Station	Greenville, MS
Merlin Express, Inc.	San Antonio, TX
Peninsula	Anchorage, AK
Skywest Airlines, Inc.	Salt Lake City, UT
Spirit Airlines	Belleville, MI
ValuJet Airlines, Inc.	Atlanta, GA

## **Background Information on ValuJet, Continental Express and Fine Air**

### **VALUJET**

**Background on Air Carrier** - ValuJet began operations in October 1993 with two McDonnell Douglas DC-9 aircraft serving three cities from Atlanta, Georgia, with eight flights per day. From 1993 to 1996, the air carrier grew in size, operating up to 320 flights per day with a fleet of 51 aircraft. After the accident of ValuJet Flight 592 on May 11, 1996, FAA conducted a special emphasis review of ValuJet operations and maintenance programs. As a result of FAA's findings, ValuJet voluntarily surrendered its operations certificate and suspended flight operations on June 17, 1996, pursuant to a consent order agreement entered into with the FAA. This consent order required the air carrier to pay a \$2 million fine. ValuJet resumed limited operations on September 30, 1996.

On July 10, 1997, ValuJet, Inc. (parent company of ValuJet Airlines) entered into a merger agreement with Airways Corporation (parent company of AirTran Airways in Orlando, Florida). The newly created holding company was named AirTran Holdings, Inc. The shareholders approved the merger on November 17, 1997, at which time the name of the air carrier changed from ValuJet to AirTran Airlines, Inc. AirTran moved its corporate headquarters to Orlando, Florida, thus shifting the oversight responsibility to the Orlando district office. On April 15, 1998, the air carrier became AirTran Airways, Inc.

As of October 1998, FAA had approved 40 of AirTran's DC-9 aircraft for flight. AirTran has entered into a contract with Boeing to purchase 50 new Boeing 717 aircraft to be delivered from 1999 to 2002. AirTran employs approximately 3,500 people.

**Inspections Conducted** - FAA conducted three in-depth inspections of ValuJet. First, from September 18 to September 29, 1995, FAA conducted a NASIP review of ValuJet. The final report was issued on October 31, 1995, with 58 findings. Second, in August 1997, inspectors in FAA's Southern Region conducted a review to determine if ValuJet was in compliance with the June 1996 consent order. The team issued a report entitled "ValuJet Consent Order Executive Review" on September 4, 1997. Third, FAA conducted another NASIP review from October 20 to November 7, 1997. The final report was issued on February 27, 1998, and contained 106 findings.

## **Background Information on ValuJet, Continental Express and Fine Air**

### **CONTINENTAL EXPRESS**

**Background on Air Carrier** - Continental Express was formed in 1987 because Continental Airlines, the parent airline, wanted to form a commuter operation. Continental Express operates as both a scheduled and a chartered passenger and cargo carrier with 124 aircraft in service (turboprops and regional jets) and 2,378 employees. Continental Express' home office is in Houston, Texas, but it also operates hubs in Cleveland, Ohio, and Newark, New Jersey.

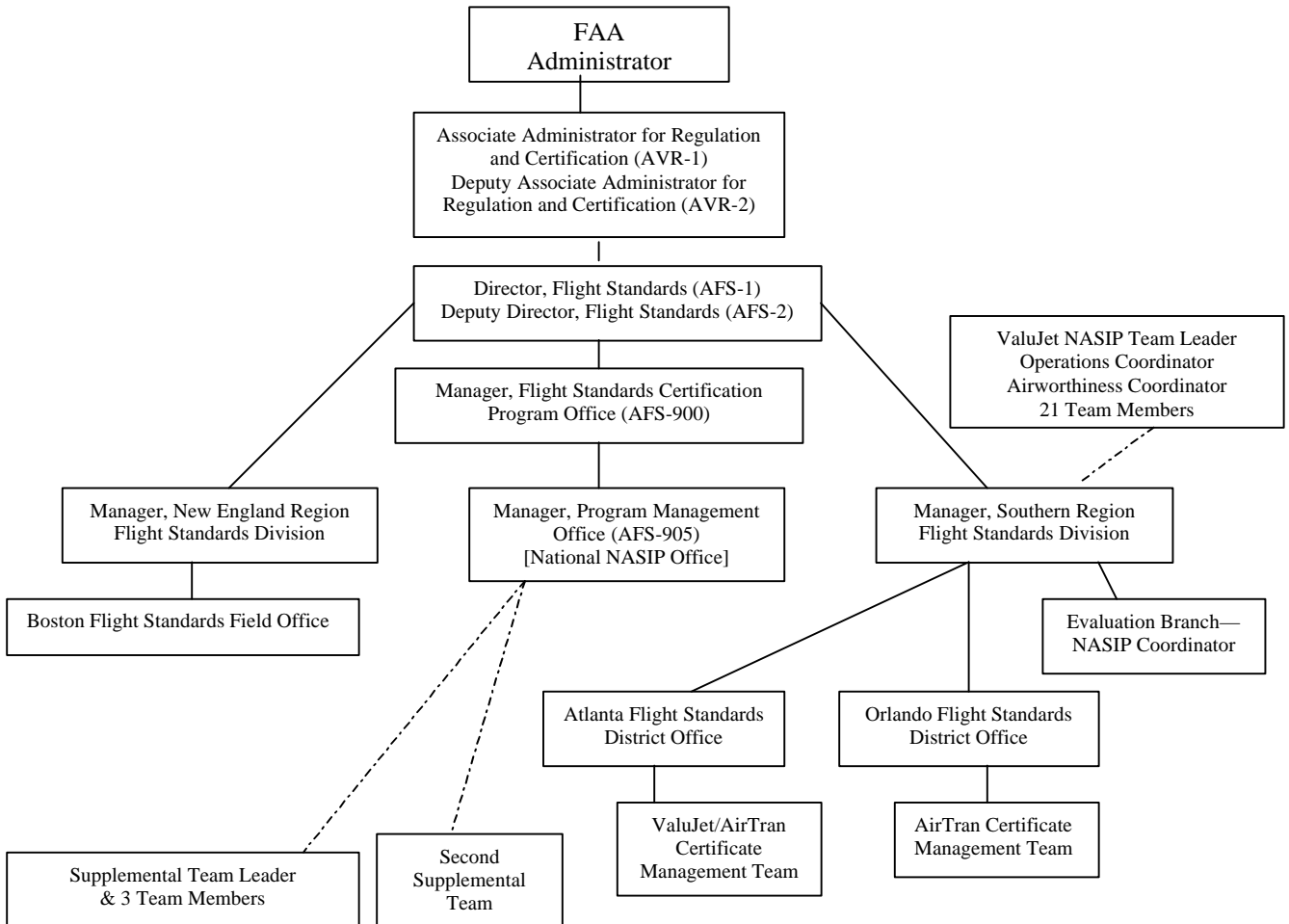
**Inspections Conducted** – FAA conducted a NASIP review on Continental Express from February 27 to March 3, 1995. The final report was dated March 22, 1995 and contained 19 findings. The 1998 Continental Express NASIP review was performed from January 26 through February 13, 1998, and was the first NASIP conducted after the NASIP process had undergone change as a result of the ValuJet NASIP review. The final NASIP report, which was issued on August 7, 1998, contained 20 findings.

### **FINE AIR**

**Background on Air Carrier** - Fine Air began operations in November 1992. However, Fine Air voluntarily surrendered its operations certificate after a DC-8 crashed during takeoff at Miami International Airport on August 7, 1997. The three flight crewmembers, one security guard on board, and a motorist on the ground died. The air carrier was certificated again as Fine Air Services, Inc. on October 6, 1997. Fine Air provides air cargo services between the U.S., South and Central America, and the Caribbean. Fine Air is also one of the largest international cargo airlines at Miami International Airport, carrying 11 percent of the airport's total cargo in 1997. The airline employs about 950 personnel, primarily in Miami. The aircraft fleet consists of 15 DC-8 aircraft.

**Inspections Conducted** – FAA conducted three in-depth inspections of Fine Air. First, a Regional Aviation Safety Inspection Program inspection was conducted in April 1995. The final report was issued on May 19, 1995 with 13 findings. Second, the FAA conducted a NASIP review from March 31 through April 18, 1997. The final NASIP report was issued on June 2, 1997. The NASIP team reported 75 findings. Third, FAA conducted a post-accident Regional Aviation Safety Inspection Program inspection in August 1997. The final report was issued on September 9, 1997 with 42 findings.

**Key FAA Offices Involved in the ValuJet NASIP**



Solid lines indicate permanent reporting structure.  
Dashed lines indicate temporary assignments.

**Results of ValuJet NASIP Findings Reviewed by OIG**  
**Listed by Finding Number**

<b>Corrective Action Taken By FAA and Air Carrier</b>		<b>Problems in the NASIP Process</b>	
<b>Finding Adequately Supported, Substantiated, and Resulted in Acceptable Corrective Action</b>	<b>FAA Concluded in Report that the Finding was Not Substantiated But Corrective Action Was Taken</b>	<b>Insufficient Evidence Provided by NASIP Team To Support Finding</b>	<b>Insufficient District Office Closure Action</b>
1.02.01	1.02.02	1.04.03 (part 1)	1.04.07
1.04.03 (part 2)	1.04.14	1.04.15	1.07.03
1.07.02	1.07.04	1.04.16	2.08.01 (part 3)
2.02.01	2.08.05 (part 2)	2.03.03	2.11.07
2.03.01	2.11.01	2.04.09	2.11.10
2.03.08	2.18.01	2.08.01 (part 1)	2.11.11
2.06.08		2.08.05 (part 1)	2.13.01
2.07.02		2.11.08	2.14.02
2.07.04			
2.08.01 (part 2)			
2.08.05 (part 3)			
2.11.09			
2.18.04			
<b>13 Total</b>	<b>6 Total</b>	<b>8 Total</b>	<b>8 Total</b>

We reviewed 30 NASIP findings, of which 3 had multiple parts that required separate corrective actions, resulting in a total of 35 actions reviewed.

**Major Contributors to This Report**

The following team members contributed to this report.

Alan D. Robson	Program Director
Robin P. Koch	Project Manager
Anne V. Longtin	Auditor
Tina B. Nysted	Auditor
J. Barry Taylor	Auditor
Lisa H. Stone	Auditor





U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

# Memorandum

Subject: **INFORMATION**: Draft Report on the National  
Aviation Safety Inspection Program, FAA

Date: APR 30 1999

From: Assistant Administrator for Financial  
Services/CFO

Reply to  
Attn. of:

To: Assistant Inspector General for Auditing

As requested in your April 9 memorandum, we have reviewed the subject report and offer the attached comments.

Should you have any questions, please contact Mr. Anthony Williams, Management Programs Division, APF-200. Mr. Williams can be reached on 267-9000.

  
Carl B. Schellenberg

Attachments

**Federal Aviation Administration (FAA) to the  
Office of Inspector General's (OIG) Draft Report on the National Aviation  
Safety Inspection Program (NASIP), Federal Aviation Administration**

**Management Position**

We appreciate the detailed review of the NASIP process performed by the Office of the Inspector General (OIG). We agree that the NASIP is a key management tool to monitor the performance of certified entities and concur with the OIG recommendations to strengthen the process.

The NASIP program augments the daily oversight provided by FAA's well trained and highly experienced inspector workforce. In many instances, the inspectors assigned to a particular operator will request a NASIP inspection to provide additional insight into the operator's performance. Although OIG suggests that an inspector assigned to an operator for a period of years may lose his or her objectivity, no data is provided to support this conclusion. It should be noted that when resources and workload permit, inspectors are regularly reassigned from one certificate to another certificate held by the field office. In addition, participation in NASIP, Regional Aviation Safety Inspector Program (RASIP) and other special emphasis inspections broaden an inspector's perspective and enhance objectivity. Many inspectors take part in these opportunities every year. Finally, supervisors and managers review inspector performance to ensure proper surveillance and oversight of operators.

As noted throughout this report, Flight Standards has made considerable progress in drafting modifications to the NASIP process. Final revisions to FAA Order 8000.68, Flight Standards National Aviation Safety Inspection Program, and the NASIP Team Briefing Document will address the final recommendations from this audit. While all the draft recommendations presented in the written report are generally attainable and supported by Flight Standards, there is the concern of available resources. Those recommendations that may require additional cost include training for recommendation 1; additional committee workgroup for recommendation 3; curriculum development and additional travel for recommendations 5 and 6, respectively. Ideally all of the recommendations could improve the program, however, prior to their adoption and implementation, some financial impacts must be considered. Pending the availability of adequate resources and appropriate coordination with the union, Flight Standards will ensure that implementation of NASIP program revisions developed in response to these audit recommendations, will commence within six months of the final audit report.

**OIG Recommendation 1:** Improve the quality of the NASIP teams by:

a. Defining the expertise and experience needed for the type of entity inspected and selecting only NASIP inspectors that meet those requirements.

**FAA Response:** Concur. Flight Standards has drafted revisions to the expertise and experience requirements to more closely correspond to the type of entity to be inspected. See Attachment 2 - NASIP TEAM SKILLS AND COMPOSITION.

b. Providing training to NASIP inspectors on industry best practices and auditing techniques, including risk analysis and report writing.

**FAA Response:** Concur. Flight Standards currently provides orientation training to NASIP team leaders, coordinators and team members as defined in the NASIP Team Briefing Document. In addition, Flight Standards will be reviewing Certification Standardization and Evaluation Team (CSET) training methodologies to determine those which are applicable to NASIP. Pending availability of training resources, these will be incorporated into a training profile for NASIP team members and will include analysis and auditing techniques.

**OIG Recommendation 2:** Revise the NASIP finding resolution process to be more independent by:

a. Strengthening the review of the NASIP report to include assessing the substance of the district office's closure actions.

**FAA Response:** Concur. The analysis review process of PTRS data generated from each NASIP report has been clarified and enhanced. Flight Standards has identified the requirement for an attorney, airworthiness and operations inspectors, and a senior analyst to conduct the analysis. This requirement will be included in the revised order.

b. Requiring the NASIP team to report to the national, instead of the regional, level and clarifying NASIP guidance on resolving technical disagreements.

**FAA Response:** Concur. Flight Standards Certification Program Office, AFS-900, has national NASIP program responsibility and is responsible for composing NASIP teams. Based on regional nominations of potential team leaders and members, AFS-900 review and endorsement of qualifications, and successful completion of NASIP orientation, these individual will serve as a "pool" of NASIP resources.

Though the NASIP Program is a national program, when a team conducts a review in the field, it is expected to coordinate and interact with the regional manager. Should any technical disagreements occur during the inspection, the NASIP team will be required to follow the guidance in the process contained in the NASIP Team

Briefing Document. See Attachment 3 - NASIP Report Writing Process. If resolution is not reached to the satisfaction of all parties, including the inspector who originally finds and documents a the finding, headquarters will be consulted for guidance and ultimate resolution.

c. Eliminating the requirement for the NASIP team manager and the district office manager to concur on all findings included in the draft report.

**FAA Response:** Concur. Potential inspection findings must be discussed with the air carrier and the district office manager. Although the district office manager is not considered a NASIP team member, he/she must be kept informed of the progress of the inspection and concur with the categorization of the inspection findings, conclusions, and the rationale applied. Findings will be supported by items of proof and documented by reference to the appropriate regulation or documented company procedures to which the air carrier did not adhere.

To provide more objectivity to the NASIP process, if there are any disagreements on the category of a finding, conclusions, or the rationale applied, the issue(s) will be elevated to the regional division manger and then in turn to headquarters for resolution and final determination.

**OIG Recommendation 3:** Establish guidance on how to identify and address systemic weaknesses at the inspected entities.

**FAA Response:** Concur. Guidance has been developed on the identification of system and systemic issues that are identified by NASIP inspection findings. This guidance includes directions on documentation as well as follow-up and tracking activities. This information will be included in the revised NASIP Order and the NASIP Team Briefing document.

**OIG Recommendation 4:** Update FAA Order 8000.68 and the NASIP Team Briefing Document for changes that have been made to the NASIP program and any new changes adopted by concurrence with this report.

**FAA Response:** Concur. Revisions to FAA Order 8000.68 and the NASIP Team Briefing Document have been drafted. Additional revisions may be made based on the recommendations included in this audit report. The Order and Briefing Document will be finalized prior to conducting any future NASIP inspections.

**OIG Recommendation 5:** Add warning language on draft NASIP reports to help preclude unauthorized release of draft NASIP findings without the explicit approval of FAA.

**FAA Response:** Concur. Language to be included on all draft NASIP reports is being developed and coordinated with the Office of General Counsel. The following draft report warning language will also be included in the Briefing Guide:

THE WORKING DRAFT WILL BE FINISHED BEFORE LEAVING THE INSPECTION SITE. DO NOT LEAVE THIS DRAFT WITH ANYONE. IT WILL BE USED DURING THE OUT BRIEF WITH THE CHDO AND HOST REGIONAL OFFICE. IT IS FAA POLICY THAT NO ONE OTHER THAN AFS-900, HOST REGIONAL OFFICE AND THE CHDO OFFICE MANAGER RECEIVE A COPY OF WORKING DRAFT. THERE ARE NO EXCEPTIONS TO THIS POLICY. Release of any portion of the working draft report by any FAA employee is a conduct and discipline matter and shall be handled accordingly. Public Release Prohibited Except In Accordance With 5 USC 553.

**OIG Recommendation 6:** Clarify the NASIP Team Briefing Document on how the NASIP team should use statistical sampling to support findings and establish clear guidance on what constitutes a statistically valid finding and under what circumstances an observation of a single, material incident could merit classification as a finding.

**FAA Response:** Concur. The Briefing Guide is being revised to include language that provides the following instructions:

The NASIP report is a comprehensive summary of the inspection activities for each area evaluated under the NASIP. It will include historical documentation of what was inspected and how it was inspected. This should include which programs were evaluated and what methods were used. For example, if a random sampling method is used, vague terms such as "several," "numerous," etc., are not to be used. The actual numbers associated with the inspection, i.e., inspected 62 of 154 records are to be cited. If the exact number of potential items is not known, the report must contain the exact number of items reviewed, i.e., performed 16 en route inspections.

Attachment 4 contains information on Sampling Techniques which will be provided to each NASIP inspector.

**OIG Recommendation 7:** Establish procedures to provide for more effective communication of inspection results to the FAA district office, air carrier management, and inspection team members.

**FAA Response:** Concur. Flight Standards is drafting procedures to help ensure all parties are properly informed of an NASIP inspection findings. These procedures will be included in the Briefing Guide and will be applied to all NASIP inspections.

**OIG Recommendation 8:** Establish a quality control process to ensure that the criteria and statement of facts are adequately supported in the draft report.

**FAA Response:** Concur. See recommendation 2c.

**OIG Recommendation 9:** Expand the content of the NASIP report to include a separate section for less significant findings. FAA should organize the report to focus on the primary issues first, and place less significant findings in this separate document.

**FAA Response:** Concur. Flight Standards contends that any NASIP finding that cannot be categorized as follows should not be included in the NASIP report.

- a) Non-compliance with a regulation.
- b) Failure of the operator to adhere to documented company procedures, not related to specific regulatory requirements, that have been developed by the certificate holder and approved or accepted by FAA.
- c) Related to practices and procedures acceptable to the Administrator, i.e., deviations from advisory circular recommendations and industry practices.

If any finding cannot be categorized as above, it will be included in a separate internal document and provided to the regional and field office managers for follow-up activities.

**OIG Recommendation 10:** Require that the final NASIP report include findings that represent a lack of systems to support continuing compliance with the Federal Aviation Regulations, rather than providing such findings in a separate document.

**FAA Response:** Concur. NASIP guidance is being revised to state that system and systemic issues identified by NASIP findings must be documented and placed in the applicable section of the NASIP report.

**OIG Recommendation 11:** Establish formal policy and procedures to ensure independent assessments similar to NASIP reviews continue to be planned and conducted for air carriers that are inspected under the Air Transportation Oversight System.

**FAA Response:** Concur. CSET is developing a program to provide periodic "systemic safety" audits of ATOS air carriers commencing in Fiscal Year 2000. These audits will be similar to NASIP inspections, but will focus on system safety aspects of the air carriers.

**NASIP  
TEAM SKILLS AND COMPOSITION**

Necessary skills to serve on a NASIP team: Minimum 2 years experience required. These are the necessary skills for initial selection to be a NASIP team member. **Note:** The final selection for team participation is at the discretion of the team leader.

**PART 121**

**Part 121 TEAM LEADER**

Inspector must have experience on a like certificate and be a:

- CMO or PSDO Manager or
- Unit Supervisor with experience on a like certificate or
- Headquarters (Hdqtrs.) or Regional Staff Manager/Supervisor

**Part 121 COORDINATOR**

Inspector must have experience on a like certificate as well as NASIP/RASIP experience and be a:

- Unit Supervisor or
- Principal Inspector or
- Geographic Inspector or
- Principal Program Manager (PPM), or Assistant Principal Manager (APM) or
- Accomplished Team Leader or
- Specialized Inspector or
- Hdqtrs. or Regional Staff

**Part 121 TEAM MEMBER**

Inspector must have experience on a like certificate and be a:

- APM, PPM, API, AAPMI, APPM or
- Geographic Inspector or
- ASI or
- Specialized Inspector or
- Hdqtrs. or Regional Staff

**PART 121 AND 135 CARGO CARRIERS**

**121/135 CARGO TEAM LEADER**

Inspector must have experience with a like certificate and be a:

- CHDO Manager or
- Unit Supervisor or

- Supervisory PI or
- HQ or Regional Staff  
Manager/Supervisor

**121/135 CARGO TEAM  
COORDINATOR**

Inspector must have experience on a like certificate as well as NASIP/RASIP experience and be a:

- Principal Inspector or
- Geographic Inspector or
- Field Inspector or
- Hdqrts. or Regional Staff

**121/135 CARGO TEAM MEMBER**

Inspector must have experience on a like cargo certificate and be a:

- Principal Inspector or
- Geographic Inspector or
- Field Inspector or
- Hdqrts. or Regional Staff  
Specialist

**PART 135 Passenger**

**PART 135 PASSENGER TEAM  
LEADER**

Inspector must have experience on a like certificate and be a:

- Field Office Manager or
- Unit Supervisor or
- Supervisory Principal Inspector  
or
- Hdqrts. or Regional Staff  
Manager/Supervisor

**PART 135 PASSENGER  
COORDINATOR**

Inspector must have experience on a like certificate as well as NASIP/RASIP experience and be a:

- Principal Inspector or
- Geographic Inspector or
- Field Inspector or
- Hdqrts. or Regional Staff  
Specialist

**PART 135 PASSENGER TEAM  
MEMBER**

Individuals must have experience on a like certificate and be a:

- Principal Inspector or
- Geographic Inspector or
- Field Inspector or
- Hdqrts. or Regional Staff  
Specialist



## ROTORCRAFT

### TEAM LEADER

Inspector must have experience on a like certificate and be a:

- Field Office Manager or
- Unit Supervisor or
- Supervisory Principal Inspector or
- Hdqrts. or Regional Staff Manager/Supervisor

### TEAM COORDINATOR

Inspector must have experience on a like certificate as well as NASIP/RASIP experience and be a:

- Principal Inspector or
- Geographic Inspector or
- Field Inspector or
- Hdqrts. or Regional Staff Specialist

### TEAM MEMBER

Inspector must have Experience on a Like Certificate and be a:

- Principal Inspector or
- Geographic Inspector or
- Field Inspector or
- Hdqrts. or Regional Staff Specialist

## PART 145 TEAM LEADER

### Team Leader

Inspector must have experience on a like certificate and be a:

- Field Office Manager or
- Unit Supervisor or
- Supervisory Principal Inspector or
- Hdqrts. or Regional Staff Manager/Supervisor

### TEAM MEMBER

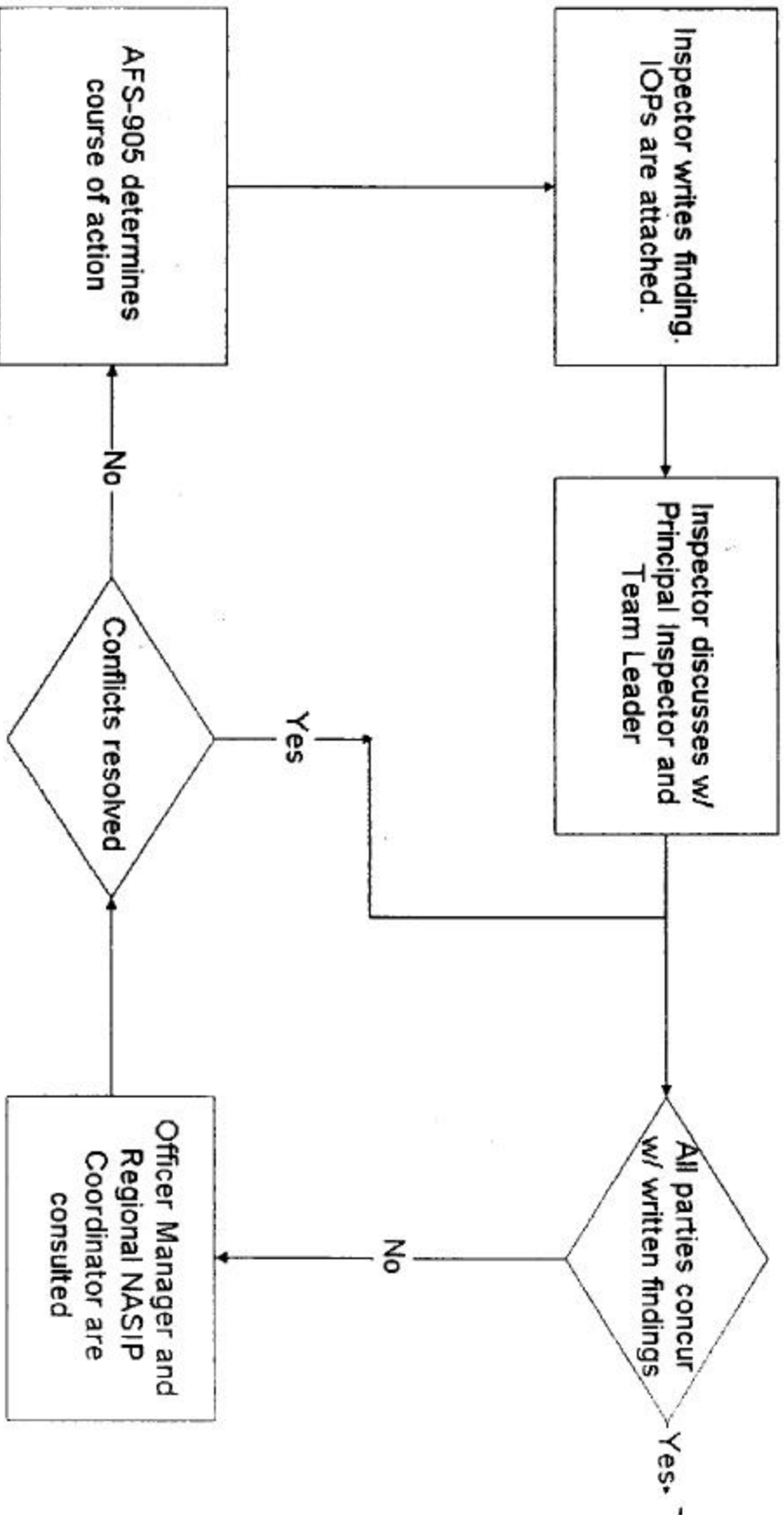
Inspector must have experience on a like certificate and be a:

- Principal Inspector or
- Geographic Inspector or
- Field Inspector or
- Hdqrts. or Regional Staff Specialist

# NASIP Report Writing Process

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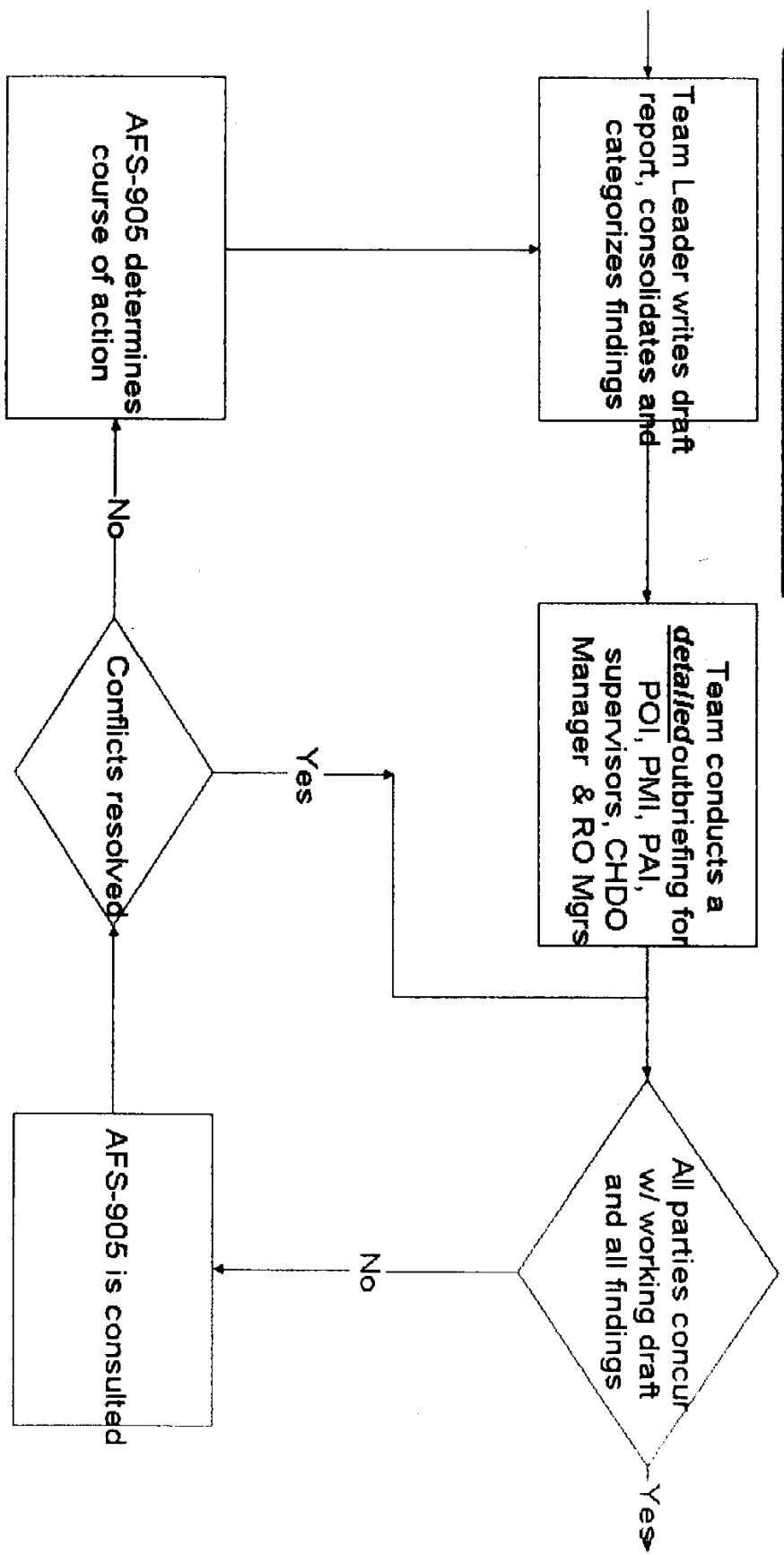
Quality Assurance  
Level 1



# NASIP Report Writing Process

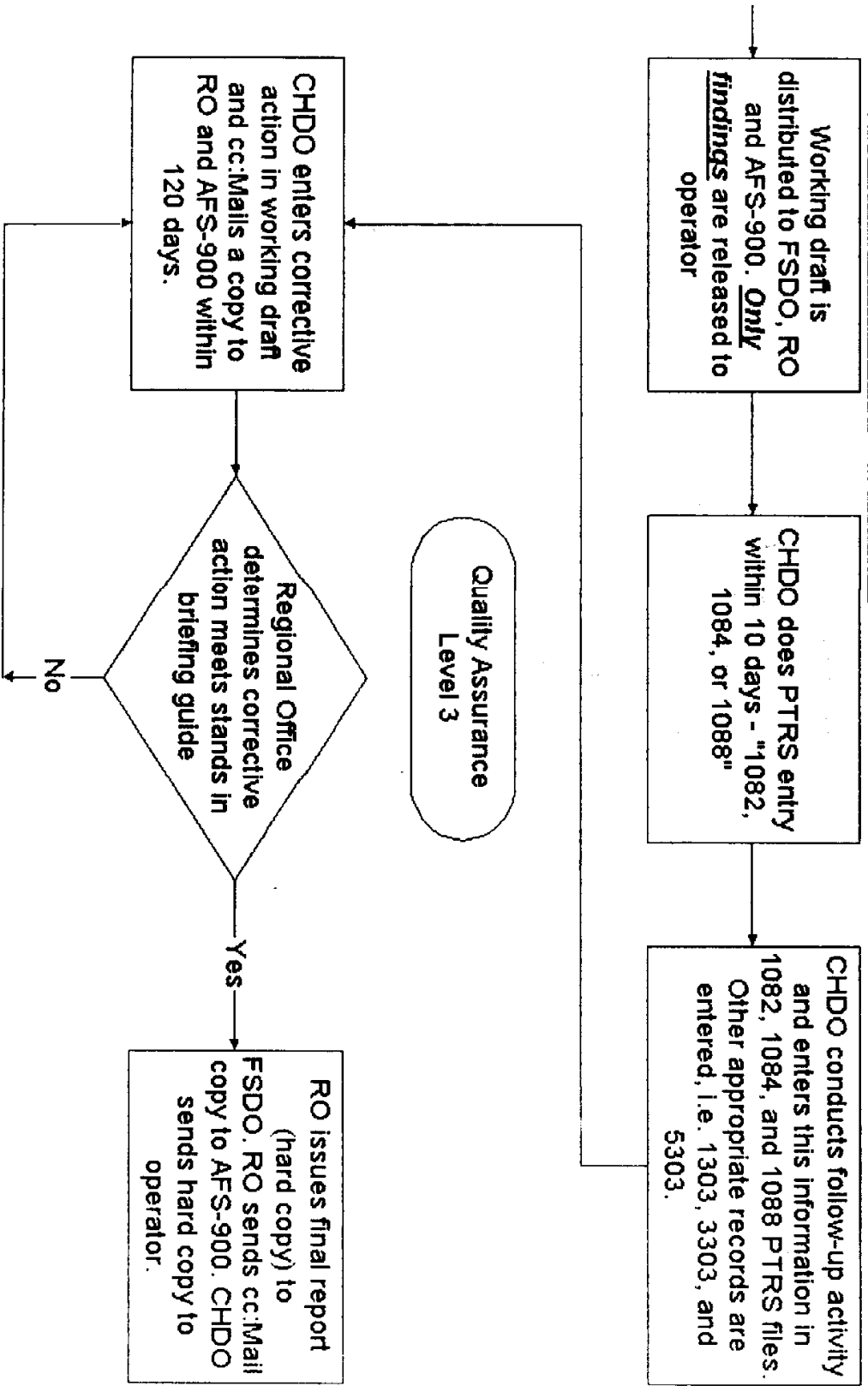
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Quality Assurance Level 2



# NASIP Report Writing Process

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### Sampling Techniques

The ability to project conclusions from a sample to the total population effected by the method of collecting sample data. Both size of the sample and how the individual samples are selected, impact the validity and consequently the confidence level of the results. For these inspections, each identifiable, homogenous group is to be considered separately when determining sample size. For example, if there are 100 pilots, 225 mechanics, 7 aircraft, and 150 flight attendants, each of these totals is to be considered separately when determining sample size.

Our ultimate goal is to achieve a 95 percent level of confidence in the results of the various components of the inspection. To achieve this level it may require an inordinate amount of time for an inspection team when very large complex data must be examined. The team leader and group coordinators must carefully determine the size of their samples and the time which will be devoted to each task. To assist in determining a sample size, a table which shows the required sample size to achieve a 95 percent level of confidence is provided (see table of sample sizes) for populations from 1 to over 2000.

In all cases the team is obligated to sufficiently document any problems detected, this may require examining more records than initially planned. Once the team leader and the host region Flight Standards Division Manager are satisfied this has been accomplished, the team can move on to other areas of the inspection. The certificate holding district office must at the time assume the responsibility for further investigation which may include a 100 percent examination of the records in question in order to fully determine the scope of the problem.

Population Size	Sample Size	Population Size	Sample Size
1-99	50%	1150	203
100-199	40%	1200	204
200-399	35%	1250	206
400	153	1300	207
450	159	1350	208
500	165	1400	209
550	170	1450	210
600	175	1500	211
650	179	1550	212
700	182	1600	213
750	185	1650	214
800	188	1700	215
850	191	1750	216
900	193	1800	216
950	195	1850	217
1000	198	1900	218
1050	199	1950	218
1100	201	2000	219
		Over 2000	Add one record for each 500 records over 2000