Performance Measure Profile
Commercial Air Carrier Fatality Rate
FY 2014 Methodology Report

Performance Measure Applicability

<table>
<thead>
<tr>
<th>Metric</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance Measure Applicability</td>
<td>Reduce the commercial air carrier fatalities per 100 million persons on board by 24 percent over 9-year period (2010-2018). No more than 6.2 in 2018.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FY2014-2018 DOT Strategic Plan</th>
<th>Goal: Safety</th>
<th>Outcome: Improve safety of the system</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAA Strategic Initiative</td>
<td>Initiative: n/a</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Agency Priority Goal</th>
<th>Organizational Success Increase</th>
<th>Shared Short Term Incentive</th>
</tr>
</thead>
</table>

FY 2014 Performance Target
FY 2014 Target: 7.2 fatalities per 100 million persons on board.

Lead Organization: Aviation Safety (AVS)

<table>
<thead>
<tr>
<th>FY 2010</th>
<th>FY 2011</th>
<th>FY 2012</th>
<th>FY 2013</th>
<th>FY 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target</td>
<td>8.1</td>
<td>7.9</td>
<td>7.5</td>
<td>7.4</td>
</tr>
<tr>
<td>Actual</td>
<td>.3</td>
<td>0</td>
<td>0</td>
<td>1.1</td>
</tr>
</tbody>
</table>

Definition of Metric

<table>
<thead>
<tr>
<th>Metric Unit</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of fatalities per 100 million persons on board.</td>
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</tr>
</tbody>
</table>

| Computation | Number of fatalities, including ramp accidents and other fatalities as a result of the accident, divided by number of passengers and crew on board flights. |

| Formula | Number of commercial air carrier fatalities / (Number of persons on board/100,000,000) |

| Scope of Metric | This metric includes both scheduled and nonscheduled flights of U.S. passenger and cargo air carriers (14 CFR Part 121) and scheduled passenger flights of commuter operators (14 CFR Part 135). It excludes on-demand (i.e., air taxi) service and general aviation. Accidents involving passengers, crew, ground personnel, and the uninvolved public are all included. |

| Method of Setting Target | The annual targets were calculated to reflect a linear reduction based on the long-term strategic target to reduce fatalities per 100 million persons on board to 4.4% by the year 2025. The baseline, 8.9% was established during the 1997-2006 timeframe. |
Why the FAA and/or DOT Choose this Metric

FAA chose this metric because it is easy to understand and measures the individual risk to the flying public. The metric will help the Agency to move toward a low sustainable rate by maintaining its focus on recently identified risks.

Public Benefit

As fatal air carrier accidents have declined in terms of average fatalities per accident, this metric will sharpen FAA’s focus on helping air travel become even safer.

Partners

Partners include Bureau of Transportation Statistics (BTS), National Transportation Safety Board (NTSB), FAA’s Office of Policy, International Affairs and Environment (APL).

External Factors Affecting Performance

NTSB accident investigations indicate that aviation fatal accidents are largely related directly to some form or combination of human factors. These run the gamut of external organizational influences, inadequate supervision, personnel factors (such as self-imposed stress), to individual acts, such as skill-based errors, misperception errors, judgment and decision-making errors, etc. While an accident’s causation can be thoroughly investigated and understood by FAA, as a practical matter, the agency’s ability to influence basic decisions by every pilot, every day, and in every circumstance to prevent accidents becomes much more difficult.

Source of the Data

The data on commercial fatalities come from NTSB’s Aviation Accident Database. All but a small share of the data for persons on board comes from the air carriers, who submit information for all passengers on board to the Office of Airline Information (OAI) within BTS. In addition, FAA estimates crew on board based on the distribution of aircraft departures by make and model, plus an average of 3.5 persons on board per Part 121 cargo flight.

Statistical Issues

Both accidents and passengers on board are censuses, having no sampling error.
introduced by estimating crew will be very small and will be overwhelmed by the passenger census. Importantly, the fatality rate is low and could significantly fluctuate from year to year due to a single accident.

Completeness
The FAA does comparison checking of the departure data collected by BTS. This data is needed for crew estimates. However, FAA has no independent data sources against which to validate the numbers submitted to BTS. FAA compares its list of carriers to the Department of Transportation list to validate completeness and places the carriers in the appropriate category (i.e., Part 121 or Part 135). The number of actual persons on board for any given period is considered preliminary for up to 18 months after the close of the reporting period. This is due to amended reports subsequently filed by the air carriers. Preliminary estimates are based on projections of the growth in departures developed by APL. However, changes to the number of persons on board should rarely affect the annual fatality rate. NTSB and FAA's Office of Accident Investigation and Prevention confer periodically to validate the accident and fatality count.

To overcome reporting delays of 60 to 90 days, FAA must rely on historical data, partial internal data sources, and Official Airline Guide (OAG) scheduling information to project at least part of the fiscal year activity data. The FAA uses OAG data until official BTS data are available. The final result for the air carrier fatality rate is not considered reliable until BTS provides preliminary numbers. Due to reporting procedures in place, it is unlikely that calculation of future fiscal year departure data will be markedly improved. This lack of complete historical data on a monthly basis and independent sources of verification increases the risk of error in the activity data.

NTSB and the Office of Accident Investigation and Prevention confer periodically to validate information on the number of fatalities. Accident data are considered preliminary. NTSB usually completes investigations and issues reports on accidents that occur during any fiscal year by the end of the next fiscal year. Results are considered final when all those accidents have been reported in the NTSB press release published early in the following year. FY2014 results will therefore be final after the 2016 press release. In general, however, the number of fatalities are not likely to change significantly between the end of the fiscal year and the date they are finalized.

Reliability
Results are considered preliminary based on projected activity data. Most accident investigations are a joint undertaking. NTSB has the statutory responsibility to determine probable cause, while FAA has separate statutory authority to investigate accidents and incidents in order to ensure that FAA meets its broader responsibilities. The FAA’s own accident investigators and other FAA employees participate in all accident investigations led by NTSB investigators. The FAA uses performance data extensively for program management, personnel evaluation, and accountability.
Performance Measure Profile
Runway Incursions (Category A & B)
FY 2014 Methodology Report

### Performance Measure Applicability

| Metric | Reduce Category A & B (most serious) runway incursions to a rate of no more than .395 per million operations, and maintain or improve through FY 2018. |
| FY2014-2018 DOT Strategic Plan | Goal: Safety  
Outcome: Improve safety of the system |
| ☒ FAA Strategic Initiative | Initiative: |
| ☒ Agency Priority Goal | ☐ Organizational Success Increase  
☐ Shared Short Term Incentive |

### FY 2014 Performance Target

Reduce Category A & B (most serious) runway incursions to a rate of no more than .395 per million operations..

Lead Organization: Air Traffic Organization (ATO)

<table>
<thead>
<tr>
<th>Year</th>
<th>Target</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY 2010</td>
<td>0.450</td>
<td>0.117</td>
</tr>
<tr>
<td>FY 2011</td>
<td>0.450</td>
<td>0.138</td>
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<tr>
<td>FY 2012</td>
<td>0.395</td>
<td>0.356</td>
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<tr>
<td>FY 2013</td>
<td>0.395</td>
<td>0.220</td>
</tr>
<tr>
<td>FY 2014</td>
<td>0.395</td>
<td>TBD</td>
</tr>
</tbody>
</table>

### Definition of Metric

| Metric Unit | Rate of Category A & B (most serious) runway incursions per million operations. |
| Computation | The total number of Category A and B runway incursions is divided by the sum of the number operations divided by 1 million. |
| Formula | Number of A&B Incursions/ (Operations Count/1,000,000) |

**Scope of Metric:**

A runway incursion is any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle or person on the protected area of a surface designated for the landing and takeoff of aircraft. They are grouped in three general categories: air traffic, pilot, or vehicle/pedestrian events. Runway incursions are reported and tracked at airports that have an operational air traffic control tower. Operations are defined as total takeoffs and landings.

The FAA tracks four categories of runway incursions - A, B, C, D - but includes only those with the highest risk of collision, Category A and B incursions, in the measure.
Category A: Separation decreases to the point that participants take extreme action to narrowly avoid a collision.
Category B: Separation decreases, and there is a significant potential for a collision.
Category C: Separation decreases, but there is ample time and distance to avoid a collision.
Category D: There is little or no chance of collision, but the definition of a runway incursion is met.

Method of Setting Target:

This target was set based on past history and long term trends of the rate of serious runway incursion events.

In FY 2002 FAA changed the focus of measurement for runway incursions from all incursions to those incursions with measurable risk of collision, Categories A and B. Since Category C and D incursions are not likely to lead to an accident or a significant risk of an accident, their inclusion in the previous total tended to mask true safety risk. This metric reflects the focus of FAA’s runway safety effort to reduce the rate of the incursions with demonstrable risk.

Why the FAA and/or DOT Choose this Metric

The rate of Category A and B runway incursions is firmly established as a meaningful, object, and relevant measure to reflect the current surface operational risk in the National Aerospace System.

Public Benefit

Runway incursions create dangerous situations that can lead to serious accidents. Reducing the number of runway incursions lessens the probability of accidents that potentially involve fatalities, injuries, and significant property damage.

Partners


The RSC provides government and industry leadership to develop and focus implementation of an integrated, data-driven strategy to reduce the number and severity of runway incursions.
External Factors Affecting Performance

Runway incursions are the result of an air traffic controller, pilot, or vehicle/pedestrian event. The FAA has direct influence on air traffic controller performance, but indirect influence on pilots and airport personnel.

Source of the Data

Air traffic controllers and pilots are the primary source of runway incursion reports. The data are recorded in the Comprehensive Electronic Data Analysis Reporting (CEDAR) system. CEDAR replaced the FAA Air Traffic Quality Assurance (ATQA) database. Preliminary incident reports are evaluated when received and evaluation can take up to 90 days.

Operations data used to calculate the runway incursion rate are provided via OPSNET, and are downloaded directly from the FAA Operations and Performance Data database.

Statistical Issues

None.

Completeness

The data are typically not finalized for 90 days following the close of the fiscal year. Surface event reports are reviewed on a daily basis to determine if the incident meets the definition of a runway incursion. Runway incursions are a subset of the incident data collected and the completeness of the data is based on the reporting requirements and completeness for each of the incident types.

If the operations data are not up to date, these calculations must be revised. The rate may also need to be recalculated if runway incursions are reported late. Historical volume data have been changed over the last three years, resulting in adjustments to current baselines.

Reliability

The FAA verifies and validates the accuracy of the data through the initial validation process followed by quality assurance and quality control reviews. Reconciliation of the databases is conducted monthly and anomalies are explored and resolved. In cases where major problems are identified, a request to re-submit is issued. The FAA conducts annual reviews of reported data and compares them with data reported from previous years. Annual runway incursion incident data are used to provide a statistical basis for research and analysis and outreach initiatives.
**Performance Measure Profile**

System Risk Event Rate (SRER)

**FY 2014 Methodology Report**

### Performance Measure Applicability

<table>
<thead>
<tr>
<th>Metric:</th>
<th>Reduce risks in flight by limiting the rate of the most serious losses of standard separation to 20 or fewer for every thousand (.02) losses of standard separation within the National Airspace System.</th>
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</thead>
</table>

<table>
<thead>
<tr>
<th>FY 2014-2018 DOT Strategic Plan</th>
<th>FAA Strategic Initiative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal: n/a</td>
<td>Initiative:</td>
</tr>
<tr>
<td>Outcome: n/a</td>
<td></td>
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</table>

<table>
<thead>
<tr>
<th>Agency Priority Goal</th>
<th>Organizational Success Increase</th>
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</table>

### FY 2014 Performance Target

Reduce risks in flight by limiting the rate of the most serious losses of standard separation to 20 or fewer for every thousand (.02) losses of standard separation within the National Airspace System.

**Lead Organization:** Air Traffic Organization (ATO)

<table>
<thead>
<tr>
<th>FY 2010</th>
<th>FY 2011</th>
<th>FY 2012</th>
<th>FY 2013</th>
<th>FY 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target</td>
<td>N/A</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Actual</td>
<td>N/A</td>
<td>24.54</td>
<td>9.33</td>
<td>5.66</td>
</tr>
</tbody>
</table>

### Definition of Metric

**Metric Unit:**

All instances of violation of a prescribed radar separation standards, termed loss of standard separation.

Loss of Standard Separation (LoSS):

The violation of a prescribed radar separation standard, as defined in FAA Order 7110.65 or other national directive, for an operation under ATO services, including a pilot deviation, which results in less than the applicable separation minima between two or more airborne aircraft.

Loss of Standard Separation (most serious):

All validated losses of standard separation events with 66 percent or less of standard separation are categorized as Risk Analysis Events (RAE) and examined by a panel consisting of bargaining unit representatives, pilots,
and other experts using a disciplined and exhaustive Risk Analysis Process. Criteria used to determine those RAES that constitute a serious LoSS event include: proximity, closure rate, repeatability and severity.

System Risk Event Rate (SRER):

The loss of standard separation data will be used to compute the SRER, which is the rate of the most serious losses, for every thousand losses of standard separation within the system.

<table>
<thead>
<tr>
<th>Computation:</th>
<th>Rolling 12-month rate of serious losses of standard separation per thousand losses of standard separation.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formula:</td>
<td>$\frac{\sum \text{(Serious Loss of Standard Separation)}}{\text{(Total Loss of Standard Separation)}} \times 1,000$</td>
</tr>
<tr>
<td>Scope of Metric:</td>
<td>This metric will measure the separation performance of radar controlled aircraft flying under Instrument Flight Rules.</td>
</tr>
</tbody>
</table>

Method of Setting Target:

The initial target of 20 was set based on a projection of SRER from legacy data (Operational Incidents and Pilot Deviations). The target of 20 has been set for FY 2011 through FY 2014 to establish a baseline while deploying improved analysis and loss of standard separation detection equipment. It will set a minimum level of system performance that should be attainable while continuing an improving trend over historical performance.

Why the FAA and/or DOT Choose this Metric

The ATO ensures that aircraft flying within the National Airspace System maintain required separation. With this new metric, FAA will be able to:

- Align our approach to safety with our international partners,
- Integrate pilot and controller performance data on all air traffic incidents,
- Evaluate separation incidents caused by other factors, including pilot deviations,
- Avoid under-reporting and misclassification of incidents, and
- Facilitate the safe transition to NextGen.

Public Benefit

SRER safety data provides the FAA with a quantifiable list of hazards that contribute to the highest risk events in the NAS. By addressing the most serious hazards, this targeted approach has become one of the ATO’s most powerful examples of how to prioritize its resources to identify hazards, take corrective action to mitigate the likelihood of severe LoSS events and monitor the results. Our targeted approach is the culmination of our proactive safety management process, which includes valuing input from frontline employees, developing new policies and deploying new technology which results in a greater measure of safety for the flying public.

Partners

The Federal Aviation Administration (FAA) through its Air Traffic Organization (ATO) internally coordinates with Quality Assurance, Voluntary Safety Reporting Programs, Air Traffic Services and Runway Safety to identify, assess and validate operational safety trends in an effort to mitigate risk before it can jeopardize safety. The ATO partners with
the Air Traffic and Technical Operations labor organizations, the National Transportation Safety Board (NTSB), Aviation Safety (AVS), Commercial Aviation Safety Team (CAST) and various industry organizations to develop national corrective action plans and initiate safety enhancements.

External Factors Affecting Performance
None.

Source of the Data
Source data for the SRER will be obtained through the reporting of loss of standard separation in accordance with the FAA orders or other national directives. Source data will be collected directly via the Comprehensive Electronic Data Analysis and Reporting (CEDAR) System and the Traffic Analysis and Review Program (TARP) from all the FAA’s air traffic control facilities. ATO Safety and Technical Training will be responsible for assuring the accuracy of this data and for maintaining records.

Statistical Issues
The data are not subjective and all identified loss of standard separation events will be included in the SRER.

Completeness
The data are typically not finalized for 90 days following the close of the fiscal year. The FAA has implemented procedures and equipment to identify, report, and validate all losses of separation, thereby removing the majority of the subjectivity and/or ability to filter the results.

Reliability
The FAA verifies and validates the accuracy of the data through the initial validation process followed by quality assurance and quality control reviews. Reconciliation of the databases is conducted monthly and anomalies are explored and resolved. In cases where major problems are identified, a request to re-submit occurrence data is requested. Performance data and information collected through a defined, repeatable risk analysis process is used for program management, personnel evaluation, and accountability in prioritizing facility audits and assessments. The FAA conducts annual reviews of reported data and compares them with data reported from previous years.
Performance Measure Profile
IT Risk Management and Information Systems Security
FY 2014 Methodology Report

Performance Measure Applicability

| Metric: Utilize Continuous Diagnostics and Mitigation (CDM) capabilities to continuously enhance our ability to prevent, deter, detect, and respond to cyber attacks against the FAA's infrastructure for 95% of non-NAS IP-based systems and pilot CDM capabilities on a NAS IP-based system. Due by September 30, 2014. |

| FY2014-2018 DOT Strategic Plan |
| Goal: |
| Outcome: |

| FAA Strategic Initiative |
| Initiative: |

| Agency Priority Goal |
| ☑ Organizational Success Increase |
| ☐ Shared Short Term Incentive |

FY 2014 Performance Target
95% of non-NAS IP-based systems
100% of one NAS IP-based system

Lead Organization: Finance and Management (AFN)

<table>
<thead>
<tr>
<th></th>
<th>FY 2010</th>
<th>FY 2011</th>
<th>FY 2012</th>
<th>FY 2013</th>
<th>FY 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>33T</td>
</tr>
<tr>
<td>Actual</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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</table>

<table>
<thead>
<tr>
<th>FY 2014</th>
<th>Non-NAS Target</th>
<th>NAS Target</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>95%</td>
<td>100%</td>
</tr>
<tr>
<td>Actual</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Definition of Metric

| Metric Unit: | Percentage of IP-based systems using Continuous Diagnostics and Mitigation capabilities. |

| Computation: | The total number of Federal Information Security Management Act (FISMA) reportable non-NAS IP based systems using Continuous Diagnostics and Mitigation hardware asset management and software asset management capabilities. In order to achieve the performance target, 95% or more of the systems must be using Continuous Diagnostics and Mitigation hardware asset management and software asset management capabilities. Based on the current inventory of 209 systems, 199 must be using Continuous Diagnostics and Mitigation hardware asset management and software asset management capabilities. In addition, CDM capabilities must be piloted on one NAS IP-based system. |

| Formula: | Non-NAS Metric = \( \frac{\text{Number of systems using CDM capabilities}}{\text{Total number of FISMA reportable non-IP based systems}} \times 100 \) |

September 2014
AND

\[
\text{NAS Metric} = \frac{\text{Number of NAS IP-based systems piloting CDM capabilities}}{1} \times 100
\]

**Scope of Metric:**
The metric is applicable to FISMA reportable non-NAS IP based systems and the one NAS IP-based system selected for piloting Continuous Diagnostics and Mitigation capabilities.

**Method of Setting Target:**
The target was selected based on a Federal government effort by the Department of Homeland Security (DHS) to assist Federal agencies in the detection and prevention of cyber-attacks. The FAA is a participant in this effort and will utilize the Continuous Diagnostics and Mitigation solutions and services provided by the DHS.

**Why the FAA and/or DOT Choose this Metric**
Cyber attacks that compromise FAA infrastructure exploit vulnerabilities in applications or operating systems. Establishing an effective hardware asset management and software asset management capability forms the foundation for assessing configuration compliance and vulnerability management. Rapidly addressing vulnerabilities reduces opportunities to exploit systems.

**Public Benefit**
The public benefits from an efficient, safe and secure National Airspace without disruption of service.

**Partners**
- **External**
  - The Department of Homeland Security (DHS) provides the Continuous Diagnostics and Mitigation (CDM) solutions and services. CDM will enhance our ability to prevent, deter, detect, and respond to cyber attacks against the FAA’s infrastructure, including the NAS.
  - General Services Administration (GSA) manages the Continuous Monitoring as a Service Blanket Purchase Agreements (CMaaS BPA). The CMaaS BPA is the acquisition vehicle that DHS and FAA will use to procure CDM tools and services.

- **Internal**
  - NAS Domain: In order for the agency to achieve this goal, we are dependent on ATO to pilot CDM capabilities on one NAS IP-based system.
  - R&D Domain: In order for the agency to achieve this goal, we are dependent on ANG to implement CDM within the Research and Development (R&D) domain.

**External Factors Affecting Performance**
DHS, through the GSA managed CMaaS BPA, provides tools and services to implement CDM capabilities. The FAA will provide requirements through DOT to DHS and support the acquisition of tools and services under Task Order 2.

**Source of the Data**
- NAS Domain: ATO provides the system name for the one NAS IP-based system, the CDM capabilities that were piloted on that system, and their observations and conclusions.
- R&D Domain: ANG identifies the CDM capabilities that were implemented within their systems
- Mission Support Domain: System owners, in collaboration with AIT staff offices, determine the CDM capabilities that were implemented within each system.

**Statistical Issues**
Not Applicable
Completeness

- NAS Domain: ATO will verify the asset inventory is complete and correct for the one NAS IP-based system by comparing legacy to CDM results.
- R&D Domain: ANG will verify the asset inventory is complete and correct for their systems by comparing legacy to CDM results.
- Mission Support Domain: AIT will ensure that all assets are assigned to a system. System owners will verify the asset inventory is complete and correct.

Reliability

- NAS Domain: ATO is responsible for attesting to the reliability of the reported information. ATO will monitor the key activities and validate the successful completion of the NAS portion of this performance target.
- R&D Domain: ANG is responsible for attesting to the reliability of the reported information. ANG will monitor the key activities and validate the successful completion of their portion of this performance target.
- Mission Support Domain: IT System Owners are responsible for attesting to the reliability of the reported information. IT System Owner in collaboration with AIT staff offices will monitor the key activities and validate the successful completion of this performance target.
Performance Measure Profile
General Aviation Fatal Accident Rate
FY 2014 Methodology Report

Performance Measure Applicability

| Metric: Reduce the general aviation fatal accident rate to no more than 1 fatal accident per 100,000 flight hours by 2018. No more than 1.05 fatal accidents per 100,000 flight hours in FY2014. |
| FY2014-2018 DOT Strategic Plan               | ☒ FAA Strategic Initiative               |
| Goal: Safety   | Initiative: n/a                           |
| Outcome: Improve safety of the system       |                                      |

| Agency Priority Goal | ☒ Organizational Success Increase |
| Shared Short Term Incentive |

FY 2014 Performance Target
No more than 1.05 fatal accidents per 100,000 flight hours in FY2014.

Lead Organization: Aviation Safety (AVS)

<table>
<thead>
<tr>
<th>FY 2010</th>
<th>FY 2011</th>
<th>FY 2012</th>
<th>FY 2013</th>
<th>FY 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target</td>
<td>1.1</td>
<td>1.08</td>
<td>1.07</td>
<td>1.06</td>
</tr>
<tr>
<td>Actual</td>
<td>1.1</td>
<td>1.12</td>
<td>1.09</td>
<td>1.07</td>
</tr>
</tbody>
</table>

Definition of Metric

| Metric Unit: Number of fatal accidents per 100,000 flight hours. |
| Computation: The number of general aviation fatal accidents divided by the number of flight hours. |
| Formula: Number of general aviation fatal accidents / (Number of general aviation flight hours/100,000) |
| Scope of Metric: This metric includes U.S. registered on-demand (non-scheduled Title 14 Code of Federal Regulations (14 CFR) Part 135) and general aviation flights. General aviation comprises a diverse range of aviation activities, from single-seat homebuilt aircraft, helicopters, and balloons, single and multiple engine land and seaplanes, to highly sophisticated, extended range turbojets. |
| Method of Setting Target: The three safest years in general aviation history (FY06-FY08) were used as the baseline. Government and industry consensus was to target a 10 percent reduction in 10 years from this baseline. Each year’s annual target is a linear reduction to achieve the overall 10 percent reduction in 10 years. |

Why the FAA and/or DOT Choose this Metric
The FAA Administrator required the agency to convert the metric from numbers-based to rate based for FY09. The FAA and the general aviation community have determined that a general aviation fatal accident rate rather than the number of fatal accidents is a better performance metric because the rate reflects fleet activity levels and their relationship to the number of fatal accidents. The Fatal Accident Rate is a true rate-based metric and tracks changes in the fatal accident rate for a fixed volume of flight hours (per 100,000).

**Public Benefit**

By tracking the rate of fatal accidents per flight hours, FAA can more accurately identify trends, indicating a decrease or increase of potential safety risks.

**Partners**

Partners include the National Transportation Safety Board (NTSB), FAA Office Aviation Policy and Plans (APO) and the FAA and Industry General Aviation Joint Steering Committee (GAJSC): AOPA, GAMA, NBAA, EAA, academia, etc.

**External Factors Affecting Performance**

NTSB accident investigations indicate that general aviation fatal accidents are largely related directly to some form or combination of human factors. These run the gamut of external organizational influences, inadequate supervision, personnel factors (such as self-imposed stress), to individual acts, such as, skill-based errors, misperception errors, judgment and decision-making errors, etc. These human factor influences are occurring in a broad spectrum of general aviation activities from more highly regulated on-demand air taxi service in sophisticated aircraft, to more loosely regulated recreational flying in homebuilt aircraft. While accident causation can be thoroughly investigated and understood by FAA, as a practical matter, the FAA’s ability to influence basic decisions by every pilot, every day, and in every circumstance to prevent accidents becomes much more difficult.

**Source of the Data**

The data for general aviation fatal accidents comes from the National Transportation Safety Board's (NTSB) Aviation Accident Database. Aviation accident investigators, under the auspices of the NTSB, develop the data.

Annual flight hours are derived from the FAA’s annual General Aviation and Part 135 Activity Survey. The FAA’s Forecast and Performance Analysis Division provides current year estimates.

**Statistical Issues**

The NTSB finalizes the actual number of general aviation fatal accidents. Since this is a simple count of accidents, there are no statistical issues relevant to this data. The GA Survey data for activity is highly accurate with a percent-standard error of less than 1 percent. The general aviation community and the GAJSC, as part of the Safer Skies initiative, recommended development of a data collection program that will yield more accurate and relevant data on general aviation demographics and utilization. Improved GA Survey and data collection methodologies have been developed. As a result of these efforts, FAA, working with the General Aviation Manufacturers Association, the NTSB, and other aviation industry associations, has made many improvements to the survey. An improved survey was initiated in FY 2004. These annual surveys created, for the first
time, a statistically valid report of activity on which the general aviation community could agree. First, the sample size has significantly increased. Second, a reporting form has been created to make it much easier for organizations with large fleets to report. Third, the agency worked with the Aircraft Registry to improve the accuracy of contact information. Each year, significant improvements are being made to substantially improve the accuracy of the data.

The GAJSC General Aviation Data Improvement Team worked closely with the general aviation community and industry to develop this performance metric and target. There was unanimous support and consensus for the metric and target.

**Completeness**

The number of general aviation fatal accidents, even when reported as preliminary, is very accurate. NTSB and the Office of Accident Investigation and Prevention confer periodically to validate information on the number of fatalities. Accident data are considered preliminary. NTSB usually completes investigations and issues reports on accidents that occur during any fiscal year by the end of the next fiscal year. Results are considered final when all those accidents have been reported in the NTSB press release published early in the following year. FY2014 results will therefore be final after the 2016 press release. In general, however, the numbers of fatalities are not likely to change significantly between the end of the fiscal year and the date they are finalized.

GA Survey calendar hours are finalized by December 31 of the following year. Hence, the fatal accident rate for FY 2014 will not be considered final/complete until early 2016.

**Reliability**

Results are considered preliminary based on projected activity data. Most accident investigations are a joint undertaking. NTSB has the statutory responsibility to determine probable cause, while FAA has separate statutory authority to investigate accidents and incidents in order to ensure that FAA meets its broader responsibilities. The FAA’s own accident investigators and other FAA employees participate in all accident investigations led by NTSB investigators. The FAA uses performance data extensively for program management, and personnel evaluation and accountability.
# Performance Measure Profile

**Commercial Space Launch Accidents**

## FY 2014 Methodology Report

### Performance Measure Applicability

<table>
<thead>
<tr>
<th>Metric</th>
<th>FY2014-2018 DOT Strategic Plan</th>
<th>FAA Strategic Initiative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal:</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Outcome:</td>
<td>n/a</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Agency Priority Goal</th>
<th>Organizational Success Increase</th>
<th>Shared Short Term Incentive</th>
</tr>
</thead>
<tbody>
<tr>
<td>☑</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

### FY 2014 Performance Target

No fatalities, serious injuries, or significant property damage to the uninvolved public during licensed or permitted space launch and reentry activities.

**Lead Organization:** Commercial Space Transportation (AST)

<table>
<thead>
<tr>
<th></th>
<th>FY 2010</th>
<th>FY 2011</th>
<th>FY 2012</th>
<th>FY 2013</th>
<th>FY 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Actual</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>TBD</td>
</tr>
</tbody>
</table>

### Definition of Metric

- **Metric Unit:** Number of accidents resulting in fatalities, injuries, or significant damage.
- **Computation:** The number of accident occurrences is calculated.
- **Formula:** Count the number of occurrences.
- **Scope of Metric:** This metric focuses only on commercial space launch activities licensed or permitted and monitored by the FAA. "Significant" property damage is defined as any damage estimated to exceed $25,000 to property not associated with flight. On board crew members and space flight participants are NOT considered "uninvolved" members of the public.
- **Method of Setting Target:** Space launch is inherently risky. Over the past 25 years there have been no fatalities, serious injuries, or significant property damage. A metric of zero was set to maintain that record.

### Why the FAA and/or DOT Choose this Metric

Protecting the uninvolved public during launch and reentry operations is an FAA safety mission objective. Commercial space transportation is the means by which payloads such
as satellites and remote sensing devices are carried to orbit; these payloads have
tremendous benefit to our society. Commercial space launch or reentry accidents can
potentially have major catastrophic consequences, involving large losses of life and
property. The uninvolved public expects to be protected from the potential dangers and
hazards associated with commercial space launch and reentry activities. There has not
been a single commercial space launch accident since the FAA was granted the authority
to issue license in 1995.

Public Benefit

FAA’s Office of Commercial Space Transportation oversight of the commercial space
launch industry activities has resulted in no loss of life or property damage to the
uninvolved public.

Partners

FAA works in partnership to ensure protection of the public, property and national
security and foreign policy interests of the U.S. Its partners include the Department of
Defense, NASA, NTSB, and the commercial space industry.

External Factors Affecting Performance

Use of advanced technologies may increase public risk. Misrepresentations from
licensees could result in inaccurate identification of hazards that may affect public safety.

Source of the Data

The source of the data is the Office of the Associate Administrator for Commercial Space
Transportation (AST). Specifically, AST monitors all licensed launch operations and
maintains documented reports of each licensed event. These reports are generated by
AST’s assigned field inspectors and duty officers for each launch event. They include all
relevant details pertaining to the outcome of the licensed launch or reentry operation,
including the occurrence of any public fatalities, injuries, or property damage. AST will
utilize other sources of data such as the launch vehicle operators, and federal, local and
state government agencies.

Statistical Issues

None.

Completeness

AST’s Licensing and Safety Divisions maintain and verify reports that a mishap resulting
from a licensed or permitted launch operation has occurred. The Divisions support
coordination with other federal agencies, including the National Transportation Safety
Board (NTSB) and the military, on any subsequent investigations.

Reliability

If an accident occurs, the FAA and the NTSB will complete official reports fully
documenting circumstances associated with the event.
**Performance Measure Profile**

En Route Automation Modernization (ERAM)

FY 2014 Methodology Report

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**Performance Measure Applicability**

<table>
<thead>
<tr>
<th>Metric: Achieve Operational Readiness Date (ORD) on En Route Automation Modernization (ERAM) at four Air Route Traffic Control Centers (ARTCCs) by September 30, 2014.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FY2014-2018 DOT Strategic Plan</strong></td>
</tr>
<tr>
<td>Goal: Economic Competitiveness</td>
</tr>
<tr>
<td>Outcome: Choose a DOT Strategic Goal (or n/a)</td>
</tr>
<tr>
<td>☒ FAAR Strategic Initiative</td>
</tr>
<tr>
<td>Initiative: Choose an Initiative</td>
</tr>
<tr>
<td>☒ Agency Priority Goal</td>
</tr>
<tr>
<td>☒ Organizational Success Increase</td>
</tr>
<tr>
<td>☐ Shared Short Term Incentive</td>
</tr>
</tbody>
</table>

**FY 2014 Performance Target**

Operational Readiness Date (ORD) for En Route Automation Modernization (ERAM) at four Air Route Traffic Control Centers (ARTCCs) by September 30, 2014.

<table>
<thead>
<tr>
<th>FY 2010</th>
<th>FY 2011</th>
<th>FY 2012</th>
<th>FY 2013</th>
<th>FY 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>15 sites</td>
</tr>
<tr>
<td>Actual</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>TBD</td>
</tr>
</tbody>
</table>

**Definition of Metric**

<table>
<thead>
<tr>
<th>Metric Unit: The number of ARTCCs that achieve ORD on ERAM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Computation: Achieving ORD on ERAM at 4 ARTCCs for a cumulative of 15 ARTCCs on ERAM.</td>
</tr>
<tr>
<td>Formula: [ \sum \text{ARTCCs that achieved ORD on ERAM in FY2014} ]</td>
</tr>
<tr>
<td>Scope of Metric: This metric measures the ATO success in achieving ORD on ERAM at ARTCCs. The ERAM System replaces the 40-year-old En Route HOST Computer System used to manage high-altitude air traffic.</td>
</tr>
<tr>
<td>Method of Setting Target: The current ERAM schedule includes achieving ORD at 4 ARTCC sites (in addition to the 11 completed before FY2014) by end of FY 2014. The remaining 5 sites are scheduled to achieve ORD in FY2015 for a total of 20 ARTCCs.</td>
</tr>
</tbody>
</table>

**Why the FAA and/or DOT Choose this Metric**

This metric was identified because ERAM is needed to replace the aging legacy automation system infrastructure that supports high-altitude air traffic management, and...
because ERAM will also serve as a foundational platform for NextGen capabilities. ERAM will facilitate the evolution of the National Airspace System (NAS) to trajectory based operations and will incorporate future NextGen capabilities including en route automation processing necessary for other programs (Automatic Dependent Surveillance Broadcast services, System Wide Information Management, and Data Communications) in future releases beyond the current program baseline.

**Public Benefit**

With the establishment of this metric, expanding capacity and reducing costs in our aviation system will play an important role in improving the economic returns from our transportation system. In the decade between 1998 and 2008, total airline passenger traffic rose 13 percent in U.S. domestic markets and 47 percent in the international arena, despite the impacts of the September 11, 2001, terrorist attacks and the more recent global recession. As domestic and world economies recover, U.S. airline passenger demand is expected to increase and approach a growth rate of 3-4 percent annually.

**Partners**

The following partners contribute to the achievement of the performance target for FY2014:

- ATO Safety and Technical Training organization – to support the work necessary to ensure the safe introduction of ERAM capabilities to the NAS, and to support development of the necessary material to train the ARTCC workforce on ERAM operations.
- ATO service units – to support the successful deployment (En-Route ARTCC sites), integration (Terminal sites), and maintenance (Technical Operations personnel within each facility) of ERAM.
- Office of Aviation Safety – to support the work necessary to ensure the safe introduction of ERAM capabilities to the NAS, including development and approval of safety documents.
- National Air Traffic Controllers Association (NATCA) – to support the collaborative design, test, and deployment activities of ERAM to the NAS. Also, provide national-level input on program direction, training materials, and implementation strategies.

**External Factors Affecting Performance**

Using the description of external factors described above, there are no external factors that affect the achievement of this metric.

**Source of the Data**

Declaration of ORD is an event that is closely coordinated across ATO lines of business. It is communicated to the ERAM program office and other ATO lines of business by Facility managers and members of the ERAM facility team. Close coordination and communication is maintained across these stakeholder groups in the period leading up to, resulting in, and following the declaration of ORD.

**Statistical Issues**

This metric has no statistical issues.
Completeness

ORD Entrance Criteria: To be considered ready for ORD, the site will have completed the following:

Achievement of continuous operations - the site will have achieved continuous operations and progressed beyond the Pre-Operational National Automation Issues Management System (AIMS) Review process on ERAM and as defined per the processes outlined in the ERAM Operational Benchmarking Standard Operating Procedure (SOP).

Finalized Local Site Decommissioning and Disposition Plan – these plans are completed in collaboration with local facility teams and the ERAM Implementation Manager’s organization. Prior to approval, Air Traffic Services (AJT) will have access to the plans to provide comments.

Completed Joint Acceptance Inspection (JAI) – the ERAM Implementation Manager works with the Planning and Requirements (PNR) organization to initiate the JAI process. Once initiated, the Technical Operations District Manager (TODM) at each facility collaborates with Air Traffic, Labor, Field Automation Support Team (FAST), Program Operations Field Manager (POFM), Technical Operations (AJW), Program Office, and other relevant stakeholders at the facility to ensure the contents of the checklist reflect the perspective of each group appropriately. Attachment 1 to this memorandum contains a copy of a JAI checklist. The results of the JAI will drive either a) passing or acceptance of all defined criteria, or b) identification of one or more exceptions that require completion. A site can declare ORD with minor exceptions but not with major exceptions. For any exceptions identified, a time by which the exception must be fixed is defined. Details on the JAI are governed by FAA Order 6010.7A.

Decision-making to Declare ORD: The decision to declare ORD rests with the TODM with concurrence of the Air Traffic Manager and NATCA Facility Representative (FACREP).

Reliability

This metric has no reliability issue. The ARTCC either achieves ORD on ERAM, or it does not.
## Performance Measure Profile

### Major System Investments

**FY 2014 Methodology Report**

### Performance Measure Applicability

<table>
<thead>
<tr>
<th>Metric</th>
<th>FY2014-2018 DOT Strategic Plan</th>
<th>FAA Strategic Initiative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal:</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>Outcome:</td>
<td>☐</td>
<td>☑</td>
</tr>
</tbody>
</table>

### FY 2014 Performance Target

90% of major baselined acquisition programs must be maintained within 10% of their current acquisition cost, schedule and technical performance baseline as of the end of fiscal year 2014. Due September 30, 2014

#### Lead Organization:
Finance and Management (AFN)

<table>
<thead>
<tr>
<th>Year</th>
<th>Target</th>
<th>Actual</th>
<th>FY 2011</th>
<th>FY 2012</th>
<th>FY 2013</th>
<th>FY 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
<td>90%</td>
<td>90%</td>
<td>90.00%</td>
<td>90.00%</td>
<td>TBD</td>
</tr>
</tbody>
</table>

### Definition of Metric

**Metric Unit:** Percentage of programs within a 10 percent variance of the investment’s total established baseline cost at completion, baseline schedule duration at completion and technical performance baseline

#### Computation:

- Cost performance for each Major Investment program is measured by subtracting the Estimated Cost at Completion (ECAC) from the total Baseline Cost at Completion (BCAC) established with the approved Acquisition Program Baseline (APB), resulting in a Cost Variance of Completion (CVAC).
- Schedule performance for each program is measured by the subtracting the Estimated Schedule duration at Completion (ESAC) from the Baseline Schedule duration at Completion (BSAC) (first milestone to last milestone) established with the approved APB, resulting in a Schedule Variance at Completion (SVAC).
- Technical performance (PVAC) variance is computed by
subtracting the estimated performance at completion from the baseline performance values. A negative performance variance signifies an over performance condition. A scope increase for example would reflect an increase in the number of units to be delivered.

A positive performance variance signifies an under performance condition. A scope decrease for example would reflect a decrease in the number of units to be delivered.

Any program with a CVAC, SVAC and /or PVAC greater than 10% is considered to not have met the established fiscal year cost, schedule and technical performance goal.

<table>
<thead>
<tr>
<th>Formula:</th>
<th>Total Number of Programs within 10% Variance of Cost, Schedule, and Technical Performance Baseline x 100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scope of Metric:</td>
<td>Programs classified as Acquisition Category (ACAT) 1, 2, or 3 are considered “Major” programs and included in this goal. For FY 2014, twenty (20) major acquisition programs will be tracked and monitored. This measure is consistent with Public Law 104-264 which requires the FAA Administrator to consider termination of a program if the program is breaching the cost, schedule, or technical performance baseline by more than 10%.</td>
</tr>
<tr>
<td>Method of Setting Target:</td>
<td>Public Law 104-264 dated October 9, 1996 authorized the FAA Administrator to consider the termination of acquisition programs if a program is: 1) more than 10 percent over the cost goal established for the program; 2) fails to achieve at least 90 percent of the performance goals for the program; or 3) is more than 10 percent behind schedule as determined in accordance with the schedule goal established for the program.</td>
</tr>
</tbody>
</table>

**Why the FAA and/ or DOT Choose this Metric**

The Major Systems Investments target represents a progressive measure for each fiscal year of the performance of critical FAA acquisition programs. The performance measure will continue each fiscal year through the acquisition phase of the selected programs. Choosing this measure ensures continuity and consistency with the Public Law. Public Law 104-264, dated October 9, 1996, requires the FAA Administrator to consider terminating any substantial acquisition with cost, schedule, or performance variances of 10 percent or greater. This measure allows the FAA to be consistent with the Public Law reporting requirements. In addition, the law requires the FAA Administrator to terminate programs funded from Facilities and Equipment (F&E) appropriations with variances of 50 percent or greater for cost, schedule, or technical performance initiated after the enactment of the Air Traffic Management System Performance Improvement Act of 1996.

**Public Benefit**

September 2014
FAA’s ability to keep acquisitions within budget and schedule will allow for a timely transition of NextGen programs. The transition to NextGen involves acquiring numerous systems to support precision satellite navigation; digital, networked communications; integrated weather information; layered, adaptive security; and more.

**Partners**

ABA works with the LOBs/SOs organizations that own the programs identified as major. These organizations include ATO, ACQ, etc. ABA works to monitor and track the cost, schedule, and technical performance of these major programs through an automated system, the disciplines and infrastructure are in place to provide monthly reporting. These processes allow for monitoring and reporting.

**External Factors Affecting Performance**

External factors that may affect the achievement of this performance target include funding limitations, unanticipated political developments, legislative constraints or policy changes.

**Source of the Data**

FAA Lines of Business (LOB) report monthly status of their acquisition program baselines using an automated database, SPIRE. FAA LOBs provide a monthly status of the ECAC, ESAC and technical performance and includes an analysis of the risks in maintaining baselines. Performance Indicators and commentary is provided monthly that detail problems, issues, and corrective actions, to ensure baselines are maintained within the established acquisition baseline parameters. The performance status is reported monthly to the senior level managers via the monthly Performance Committee Meetings.

**Statistical Issues**

The programs selected each fiscal year represent a cross section of programs within the FAA. They include programs that have an Acquisition Category 1, 2, or 3 and have established an Investment Decision Authority (IDA) approved Acquisition Program Baseline (APB).

**Completeness**

This measure is current with no missing data. Each DOT organization maintains its own quality control checks for cost, schedule, and technical performance data of each major systems acquisition in accordance with Public Law, OMB Circulars, FAA Acquisition Regulations, and Departmental orders implementing those directives and regulations.

**Reliability**

Each organization having major system acquisitions uses the data during periodic acquisition program reviews, for determining resource requests. They are also used during the annual budget preparation process, for reporting progress made in the President’s budget and for making key program management decisions. The monthly status is reported through the SPIRE database and included in monthly high-level management reviews. Once the program is selected and approved for tracking purposes it is reported on with detailed commentary each month, and assigned a Red, Yellow, or Green confidence indicator that the cost, schedule, and performance are within the 10% threshold. These detailed reports are reviewed at all levels of the appropriate Lines of
Business and Executive levels.
Performance Measure Profile
Sustainability
FY 2014 Methodology Report

Performance Measure Applicability

**Metric:** 1. Complete 80% of the activities that support the PLA milestones related to developing and maturing sustainable alternative jet fuels and aircraft technologies via the Continuous Lower Energy, Emissions and Noise (CLEEN) Program.

2. Issue Airport Improvement Program grants for eligible Voluntary Airport Low Emission (VALE) projects that will reduce nitrogen oxides (NOx) by 75 tons and volatile organic compounds (VOCs) by 7.5 tons between 2013 and 2018 in support of the five-year goal to reduce ozone emissions in Environmental Protection Agency-designated nonattainment areas by 500 tons of NOx and 50 tons of VOCs.

3. Improve National Airspace System energy efficiency by 1% per year.

**FY2014-2018 DOT Strategic Plan**

Goal: Environmental Sustainability
Outcome: Mitigate environmental impacts

**FAA Strategic Initiative**

Initiative: NAS: Achieving the Benefits of NextGen

**Agency Priority Goal**

**Organizational Success Increase**

**Shared Short Term Incentive**

FY 2014 Performance Target

Achieve two of three milestones.

Lead Organization: Policy, International Affairs & Environment (APL)

<table>
<thead>
<tr>
<th>FY 2010</th>
<th>FY 2011</th>
<th>FY 2012</th>
<th>FY 2013</th>
<th>FY 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target</td>
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<td>N/A</td>
<td>N/A</td>
<td>Achieve two of three milestones</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Achieve two of three milestones</td>
</tr>
<tr>
<td>Actual</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>Achieved</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TBD</td>
</tr>
</tbody>
</table>

**Definition of Metric**

**Metric Unit:** Number of milestones specified in the Performance Target.

**Computation:** The number of milestones completed each fiscal year.

**Formula:** The sum of milestones completed each fiscal year.

**Scope of Metric:** This measure focuses on three aspects: (1) Accelerating maturation of aircraft technologies and sustainable alternative jet fuels that reduce emissions and fuel burn, (2) Health-related emissions released from certain...
1. Reporting on the progress and outcomes of CLEEN aircraft technology and alternative fuel development is to be accomplished as part of the FY2014 project level agreement with the NAS Lifecycle Planning Office and Office of Environment and Energy. Project level agreements define and document work to be performed, including milestones, deliverables, obligation and spend plan. The FY2014 RE&D Environmental Research - Aircraft Technologies, Fuels, and Metrics agreement includes two milestones: the first is “Develop and Mature NextGen Aircraft Technologies via the CLEEN Program” and helps achieve NextGen goals to increase mobility by reducing environmental impacts of aviation, including significant community noise, air quality and climate impacts, the second is “Develop and mature sustainable alternative jet fuels” The FY2014 F&E Environment & Energy – Environment Management System (EMS) and Advanced Noise and Emissions Reduction agreement includes the milestone “Demonstrate and assess benefits of NextGen aircraft technologies via the Continuous Lower Energy, Emissions and Noise (CLEEN) Program.”

2. Through the VALE program, the FAA can incentivize airport sponsors to adopt measures to reduce air emissions by providing AIP grant funding for projects that reduce reliance on fossil fuels utilizing instead alternative fuel sources that are primarily domestic-based (e.g., electric, or natural gas) that significantly reduce potentially harmful air emissions. The VALE program is a cooperative effort with the Environmental Protection Agency (EPA) and State Air Quality agencies that provide Airport Emission Reductions Credits (AERC’s) for implemented VALE projects. The AERC’s can assist airport sponsors in offsetting future air emissions from certain airport development projects.

The VALE target was selected due to ability of the VALE program to reduce air emissions at commercial service airports located in EPA designated nonattainment or maintenance areas. The VALE program provides incentives to airports to invest in low-emission technology (e.g., on road vehicles, ground support equipment, and gate electrification) including infrastructure (e.g., refueling and recharging stations).

3. National Airspace System (NAS) fuel efficiency target was selected based upon knowledge of the factors that most accurately characterize commercial aircraft fleet fuel efficiency. The data that underlies this target can be assessed in terms of aircraft and engine technology, fleet turnover, and air traffic management procedures that influence routes and schedule.
Why the FAA and/or DOT Choose this Metric

1. Sustainable alternative jet fuels and new aircraft technologies are key elements of our strategic plan to address the environmental challenges facing aviation. In partnership with industry, CLEEN accelerates maturation of technologies that reduce fuel burn, emissions and noise. Once CLEEN technologies are demonstrated in ground and/or flight tests, industry plans to initiate product development to incorporate the new technology into the fleet by 2018. The FAA is working with a broad stakeholder community to develop alternative jet fuels through the CLEEN program as well as through the Commercial Aviation Alternative Fuels Initiative (CAAFI) and the new Aviation Sustainability Center (ASCENT), the FAA Center of Excellence for Alternative Jet Fuels and Environment.

2. Although building new runways and optimizing our airspace are the best ways to increase capacity, communities and local government are sometimes reluctant to support these projects if they are perceived as increasing potential health effects due to exposure to aircraft emissions.

   Likewise, through the VALE program, the FAA can incentivize airport sponsors to adopt measures to reduce air emissions by providing grant funding for projects that reduce reliance on fossil fuels and utilizes alternatives fuel sources that are primarily domestic-based that eliminate completely or significantly reduce harmful air emissions.

3. Measuring and tracking NAS-wide fuel efficiency from aircraft operations allows FAA to monitor improvements in aircraft/engine technology and operational procedures, and enhancements in the airspace transportation system. This information provides an assessment of their influence on reducing aviation’s emissions contribution.

Public Benefit

1. New aircraft technologies that further reduce fuel use and harmful emissions will enter service sooner. Sustainable alternative jet fuels are a key element of the FAA strategy to address the environmental and energy challenges facing aviation. These fuels can help the environment by reducing emissions that contribute to climate change and degrade air quality. They also can help to expand jet fuel supplies beyond petroleum, improving jet fuel price stability, enhancing supply security, and contributing to economic development.

2. The public will benefit from reduced exposure to aircraft and airport ground source emissions while benefiting from increased system capacity, reducing airport congestion and delays.

3. Today’s aircraft are up to 70% more efficient than early commercial jet aircraft. However there is growing concern over aviation’s impact on the environment and public health. Aviation is currently viewed as a relatively small contributor to those emissions that have the potential to influence air quality and global climate. Carbon dioxide (CO2)
emissions are a primary greenhouse gas and are directly related to the fuel burned during the aircraft’s operation. As air traffic grows, this contribution will increase without improvements in fuel-efficient technology, optimized air traffic operations, and renewable fuels. This measure supports the development of these improvements to reduce aviation’s impact on the environment and thereby improve public health and welfare. In addition, more fuel efficient aircraft should contribute to improving the financial well-being of commercial airlines and a growing economy.

**Partners**

1. CLEEN has a partnership with industry. Industry will fund at least 50% of development and testing costs leading to ground and/or flight test technology demonstrations. Industry will entirely fund product development costs required for certification and entry into service in the fleet. Since 2006, the FAA has worked in partnership with industry to explore the potential of alternative jet fuels. The FAA is a major partner in CAAFI (www.caafi.org), whose participants include a cross-section of airlines, manufacturers, airports, fuel producers, federal agencies and international players. CAAFI’s efforts are leading to new fuel standards and early production of sustainable alternative aviation fuels.

2. The VALE program is a cooperative effort with the Environmental Protection Agency (EPA) and State Air Quality agencies that provide Airport Emission Reductions Credits (AERC’s) for implemented VALE projects. The AERC’s assist airport sponsors in offsetting future air emissions from certain development projects at commercial service airports in EPA designated nonattainment and maintenance areas.

3. The National Aeronautics and Space Administration (NASA) works with the FAA to conduct research and development in order to identify engine and airframe technologies that offer potential for reducing fuel burn and emissions. The Aerospace Industries Association works with the FAA and NASA to commercialize technologies from the research phase and develop operational procedures to address environmental impacts. Airlines for America works with the FAA to identify fleet and air traffic procedural changes that improve fuel efficiency.

**External Factors Affecting Performance**

1. CLEEN industry participants may choose to end a technology development effort based on company needs, increasing level of technical and programmatic risk and significant changes in market demand. Under the Continuous Lower Energy, Emissions and Noise (CLEEN) Program we fund efforts to add new classes of fuels to the alternative fuel standard. We expect to achieve the qualification of two to three additional alternative jet fuels in the next year or two.

2. The VALE program is voluntary; therefore, the success of the program is dependent upon airport sponsors willing to implementing projects that reduce airport ground source emissions.
NAS Energy Efficiency is heavily dependent on commercial airline operating procedures and day-to-day operational conditions. This includes the airline’s operating fleet and route assignments, air traffic conditions, weather, airport operating status, congestion in the system, and any disruptions that introduce delay in scheduled flights. For example, a major sustained disruption or enhancement in air traffic and/or a significant shift in commercial operations amongst airlines, including changes in fleet composition and missions could have a profound impact upon achieving the performance target.

**Source of the Data**

1. Data will be provided per the terms of FAA’s Other Transaction Agreement with each company under the CLEEN program. FAA is also facilitating information exchange among the alternative jet fuel stakeholder community through the Commercial Aviation Alternative Fuels Initiative (CAAFI). FAA is focused on leveraging resources and efforts for sustainable alternative jet fuels and has established strong partnerships with the private sector, international partners and other Federal agencies.

2. The VALE program currently utilizes the FAA’s Emissions and Dispersion Modeling System (EDMS) model to calculate air emission reductions.

3. The AEDT uses radar-based data from the Enhanced Traffic Management System (ETMS) and Official Airline Guide (OAG) schedule information to generate annual inventories of fuel burn and total distance flown data for all U.S. commercial operations. The Bureau of Transportation Statistics (BTS) provides the payload factors for commercial aircraft.

**Statistical Issues**

1. CLEEN companies will provide test data with calculated levels of uncertainty and error. The extent to which aircraft technology improvements cannot be sufficiently modeled because of a lack of manufacturer proprietary data may also influence the performance target results. In this case, attempts will be made to characterize such aircraft with the best publicly available information, recognizing that newer aircraft types in the fleet will likely exist in significantly lesser numbers, thus minimizing the influence upon the results. Under the CLEEN program, the CLEEN companies will also provide data to support the approval of new alternative jet fuels. FAA is seeking alternative jet fuel solutions that offer environmental benefits over petroleum jet fuels and that have the potential to be cost competitive and produced at commercial scale. This is needed as improvements in aircraft/engine technology, operational procedures, and enhancements in the national airspace system (NAS) will not be sufficient on their own to allow us to achieve our goal of achieving carbon neutral growth in 2020 with carbon dioxide emissions levels equal to that of 2005 and further reductions by 2050.

2. In the VALE program, actual air emissions reductions are dependent upon the airport sponsor using the equipment at the levels assumed in the EMDS model. The model is a well-established and has a robust database of air emissions sources that enable accurate air emissions calculations. The model incorporates air emissions data as determined by the
EPA, which also enhances the model results.

3. Potential seasonal variability and variability from year-to-year can be expected when analyzing air traffic data and commercial operations.

The extent to which enhancements are incorporated to improve model accuracy, for example via more robust aerodynamic performance modeling algorithms and database of aircraft/engine fuel burn information, will impact the overall results and thus the performance target. This could create some statistical variability from year-to-year if not properly taken into account. In cases where such enhancements have the potential to create a significant shift in baseline, annual inventories may need to be re-processed and/or adjusted to ensure consistency and accuracy of results.

The extent to which aircraft fleet improvements cannot be sufficiently modeled because of a lack of manufacturer proprietary data may also influence the performance target results. In this case, attempts will be made to characterize such aircraft with the best publicly available information, recognizing that newer aircraft types in the fleet will likely exist in significantly lesser numbers, thus minimizing the influence upon the results.

**Completeness**

1. Data provided under the CLEEN agreements will be sufficient to meet CLEEN test and assessment objectives, including test results for alternative jet fuels.

2. The completeness of the VALE emissions calculations is ensured by an independent review of the proposed VALE project by a State Air Quality agency prior to the FAA issuing grant funding. By legislative requirement, State Air Quality agencies must review the model inputs and provide assurance to the FAA on the accuracy of the emission calculations and commitment to provide AERC’s in the future before the FAA can issue a VALE grant.

3. Data used to measure performance against the target is assessed for quality control purposes. Input data for the AEDT model are validated before proceeding with model runs. Radar data from the ETMS are assessed to remove any anomalies, check for completeness, and pre-processed for input to the AEDT model. ETMS data are verified against the OAG information in order to avoid any duplication of flights in the annual inventory.

In some cases ETMS data lack appropriate fields to conduct quality control and in these cases the data is removed. Data from the AEDT model is verified by comparing output from previous years and analyzing trends to ensure that they are consistent with expectations. In other cases monthly inventories may be analyzed to validate the results. Model output is subsequently post-processed through excel worksheets to perform the calculations for the performance target. Formulae and calculations are checked in order to ensure accuracy.
Full documentation of this target is determined when the annual inventories have been accomplished and the post-processing calculations have been completed, resulting in a percentage reduction in fuel consumption per miles flown (or increase in fuel efficiency) relative to the baseline. The standard for this documentation is set by the FAA Office of Environment and Energy, which is separate from the organization (DOT Volpe National Transportation Systems Center) responsible for input and output associated with the AEDT model runs and annual inventories.

**Reliability**

1. Aircraft technology tests and demonstrations will be at full-scale using engines and aircraft representative of the current fleet. Acquired data in such ground and flight tests will be considered reliable representations of actual performance within uncertainty of the measuring test equipment. Under the CLEEN program, necessary data for alternative jet fuel testing will be provided for their approval through the ASTM ballot process.

2. The measurement of air emission reductions for the VALE program is highly reliable due to the use of FAA’s EDMS model. The reliability of the VALE emissions calculations also benefits from the independent review of the air emissions reduction calculations by the State Air Quality agencies for each project prior to issuing grant funding. The State Air Quality agencies review the model inputs and provide assurance to the FAA on the accuracy of the emission calculations and commitment to provide AERC’s in the future.

3. The measuring procedure used for this performance target is highly reliable. That is to say that the processing of data through the AEDT model including the performance of algorithms is not subject to random factors that could influence the results. However, as mentioned above, this performance target is potentially influenced by factors outside the control of the FAA.
Performance Measure Profile
Noise Exposure
FY 2014 Methodology Report

Performance Measure Applicability

**Metric:** The U. S. population exposed to significant aircraft noise around airports has been reduced to less than 300,000 persons by 2018

- ☑ FY2014-2018 DOT Strategic Plan
  - Goal: Environmental Sustainability
  - Outcome: Mitigate environmental impacts
- ☐ FAA Strategic Initiative
  - Initiative: n/a
- ☐ Agency Priority Goal
- ☑ Organizational Success Increase
- ☐ Shared Short Term Incentive

FY 2014 Performance Target
Reduce the number of people exposed to significant aircraft noise to less than 356,000 in calendar year 2013.

**Lead Organization:** Policy, International Affairs & Environment (APL)

<table>
<thead>
<tr>
<th></th>
<th>FY 2010</th>
<th>FY 2011</th>
<th>FY 2012</th>
<th>FY 2013</th>
<th>FY 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target</td>
<td>419000</td>
<td>402000</td>
<td>386000</td>
<td>371000</td>
<td>356000</td>
</tr>
<tr>
<td>Actual</td>
<td>292000</td>
<td>318000</td>
<td>315000</td>
<td>321000</td>
<td>TBD</td>
</tr>
</tbody>
</table>

Definition of Metric

**Metric Unit:** Number of persons exposed to significant aircraft noise. Significant aircraft noise level is currently defined as values greater than or equal to Day-Night Average Sound Level (DNL) 65 decibels (dB). The target is determined by reducing the 2005 population exposed to significant aircraft noise by 1 percent in 2006, and by a 4 percent compounded rate from 2007 to 2018. For each fiscal year, the number of people exposed to significant noise in the previous calendar year is reported.

**Computation:** Beginning in FY12\(^1\),\(^2\), the estimates of the number of people exposed to significant noise are calculated from the Aviation Environmental Design Tool (AEDT). Prior to the use of AEDT, estimates were calculated using the Model for Assessing Global Exposure to the Noise of Transport.

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\(^1\) For FY 2012, targets and results for this metric were changed from percent of population exposed to the number of persons exposed. The prior year’s targets and results have been recalculated from the original percentages.

\(^2\) For years before 2012, year 2000 Census data population density projected to the current year was used to calculate the number of people within the DNL 65 dB contour at each airport.
Aircraft (MAGENTA). The computational core of AEDT is FAA’s Integrated Noise Model (INM) with methodological improvements. INM is the most widely used computer program for the calculation of aircraft noise around airports. Major assumptions on local traffic utilization come from obtaining INM datasets that were developed for an airport or from ETMS. The AEDT model calculates individual DNL contours for the top 101 US airports using detailed flight tracks, runway use and track utilization. The contours are superimposed on year 2010 Census population densities projected to the current year being computed to calculate the number of people within the DNL 65 dB contour at each airport. For smaller airports, AEDT uses less detailed information consisting of flight tracks that extend straight-in and straight-out from the runway ends. The contours areas are then used to calculate people exposed using 2010 Census population densities projected to the current year being computed. The projection is used to account for population growth between 2010 and the computed year. The individual airport exposure data are then summed to the national level. Finally, the number of people relocated through the Airport Improvement Program is subtracted from the total number of people exposed. In addition, military operations for the KC-135 were updated based on more accurate information from the Air Force. Older, louder KC-135’s are being phased out of service, producing smaller contours at some airports.

<table>
<thead>
<tr>
<th>Scope of Metric:</th>
<th>The number of people exposed to significant aircraft noise is calculated as follows:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\sum_{i=1}^{n} POP_{65i} - \sum_{j=1}^{9} POPREL_j$</td>
</tr>
<tr>
<td></td>
<td>Where, POP_{65i} is the number of people residing in the DNL 65 dB contour at the ith Noise Inventory airport as of the current year being computed projected from the 2000 or 2010 Census and n is the number of Noise Inventory airports. A Noise Inventory airport is defined as any airport that reported having at least 365 jet departures for the year being used in the analysis. POPREL_j is the number of people relocated from the DNL 65 dB contour in the jth FAA region since the year 2010.</td>
</tr>
</tbody>
</table>

Formula:

The number of people exposed to significant aircraft noise is calculated as follows:

$$\sum_{i=1}^{n} POP_{65i} - \sum_{j=1}^{9} POPREL_j$$

Where, POP_{65i} is the number of people residing in the DNL 65 dB contour at the ith —Noise Inventory— airport as of the current year being computed projected from the 2000 or 2010 Census and n is the number of Noise Inventory airports. A Noise Inventory airport is defined as any airport that reported having at least 365 jet departures for the year being used in the analysis. POPREL_j is the number of people relocated from the DNL 65 dB contour in the jth FAA region since the year 2010.

3 For years before 2012, year 2000 Census data population density projected to the current year was used to calculate the number of people within the DNL 65 dB contour at each airport.
of the nighttime events accounts for the increased interfering effects of noise during the night when ambient levels are lower and people are trying to sleep.

In the promulgation of 14 CFR Part 150, FAA also published a table of land uses that are compatible or incompatible with various levels of airport noise exposure in DNL. This table established that levels below DNL 65 dB are considered compatible for all indicated land uses and related structures without restriction.

| Method of Setting Target: | The target was set by analyzing the historical rate of change of noise exposure and taking into account recent events and long term projections of air traffic demand. As air traffic grows over time, noise exposure is likely to move upwards. The target will continue to be re-assessed as we take a more integrated approach to environmental regulation – assessing the relative costs and benefits of noise, local air quality, and greenhouse gas emissions – and the trade-offs in achieving reductions in each. |

Why the FAA and/or DOT Choose this Metric

Mitigating noise directly impacts our ability to increase capacity while sustaining our future. Although building new runways is the best way to increase capacity, communities and local government are reluctant to build them if they impose increased aircraft noise exposure.

The number of people exposed to significant noise levels was reduced by about 95 percent between 1975 and 2012. This is due primarily to the legislatively mandated transition of airplane fleets to newer generation aircraft that produce less noise. Most of the gains from quieter aircraft were achieved by FY 2000. The remaining problem must be addressed primarily through airport-specific noise compatibility programs along with reduction at the source. The FAA pursues a program of aircraft noise control in cooperation with the aviation community. Noise control measures include noise reduction at the source, i.e., development and adoption of quieter aircraft, soundproofing and buyouts of buildings near airports, operational flight control measures, and land use planning strategies. The FAA is authorized to provide funds for soundproofing and residential relocation, but each project must be locally sponsored and be part of a noise compatibility program prepared by the airport sponsor and approved by FAA.

The base year for setting the target is 2005. This base year was selected starting with FY 2010 to account for the significant changes to the commercial fleet from the previous baseline. The target remains at a rate of reduction of one percent in 2006 and a four percent compounded reduction from 2007 to present. Environmental trends based on expansion of the U.S. air transportation system show that noise exposure is likely to move upwards as traffic growth continues – even taking into account forecasted fleet changes and implementation of beneficial new air traffic procedures. The agency’s ability to develop next generation technologies and have the broadest possible array of available noise mitigation approaches at its disposal will affect FAA’s ability to continue making significant improvements in aviation noise exposure.
**Public Benefit**

Public benefit is reduced exposure to unwanted aircraft noise and increased capacity, reducing airport congestion and delays.

**Partners**

Partners include government agencies worldwide and the aviation industry through the International Civil Aviation Organization (ICAO), who periodically update noise standards and methodologies. The FAA has also partnered with NASA in the development of advanced noise reduction technologies and FAA has the Continuous Lower Energy, Emissions and Noise (CLEEN) program to promote acceleration of those technologies into the fleet to help achieve NextGen goals to increase airspace system capacity by reducing significant community noise and air quality emissions impacts in absolute terms and limiting or reducing aviation greenhouse gas emissions impacts on the global climate.

**External Factors Affecting Performance**

The primary external factors affecting performance are market forces that drive changes in commercial aircraft fleets and operations. Other external factors include providing FAA the authority and funding to accelerate the implementation of new aircraft emissions and noise technology, and providing funding to FAA’s Airport Improvement Program. These programs help foster the type of fleet and performance change required to meet either our current target or historic experience.

**Source of the Data**

The Aviation Environmental Design Tool, AEDT, is used to track airport noise exposure. AEDT uses updated population data from the 2000 and 2010 Census projected to the current year to account for population growth. The data source for airport traffic is FAA’s Enhanced Traffic Management System (ETMS). This database has replaced the original source, the Official Airline Guide (OAG). Unlike the OAG, the ETMS database includes unscheduled air traffic, which allows for more accurate modeling of freight, general aviation, and military operations. The ETMS also provides more details on aircraft type for a more accurate distribution of aircraft fleet mix.

The current year’s result is the number of people exposed in the previous calendar year. Data on the number of people relocated through the Airport Improvement Program are collected from FAA regional offices. Local traffic utilization data are collected from individual airports and updated periodically.

A task group formed to review MAGENTA and AEDT by the Committee on Aviation Environmental Protection (CAEP) under the International Civil Aviation Organization (ICAO) has thoroughly reviewed both model’s population exposure methodology and has validated it for several airport specific cases. MAGENTA played an important role in the setting of new international aircraft noise standards by CAEP in 2001 and AEDT played that same role in setting of new international aircraft noise standard by CAEP in 2013.

**Statistical Issues**

This metric is derived from model estimates that are subject to errors in model specification. Trends of U.S. noise exposure may change due to annual improvements to the noise exposure model. A major change to AEDT (Aviation Environmental Design
Tool) could result in a significant change in the estimate of the number of people exposed to significant noise levels around US airports.

**Completeness**

No actual count is made of the number of people exposed to aircraft noise. Aircraft type and event level are current. However, some of the databases used to establish route and runway utilization were developed from 1990 to 1997, while others have been updated more recently. Changes in airport layout including expansions may not be reflected. The FAA is reviewing these databases and is working to update the databases. The determination of which databases will be updated is based on several factors. The benefits of federally funded mitigation, such as relocation, are accounted for.

**Reliability**

The Integrated Noise Model (the core of the AEDT model) has been validated with actual acoustic measurements at both airports and other environments such as areas under aircraft at altitude. AEDT has gone through extensive validation through an ICAO workgroup and through its own design review group. The AEDT population exposure methodology has been thoroughly reviewed by an ICAO task group and was most recently validated for a sample of airport-specific cases.
Performance Measure Profile

Unmodified Audit Opinion

FY 2014 Methodology Report

Performance Measure Applicability

Metric: Obtain an unmodified opinion with no material weakness (NMW) on the agency’s financial statements (Unmodified Audit Opinion with no material weakness).

- [ ] FY2014-2018 DOT Strategic Plan
- [ ] FAA Strategic Initiative

- [ ] Agency Priority Goal
  - Initiative: Organizational Success Increase
  - [ ] Shared Short Term Incentive

FY 2014 Performance Target

Obtain an unmodified opinion with no material weakness (NMW) on the agency’s financial statements (Unmodified Audit Opinion with no material weakness).

Lead Organization: Finance and Management (AFN)

<table>
<thead>
<tr>
<th>FY 2010</th>
<th>FY 2011</th>
<th>FY 2012</th>
<th>FY 2013</th>
<th>FY 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target</td>
<td>Unqualified Audit Opinion w/NMW</td>
<td>Unqualified Audit Opinion w/NMW</td>
<td>Unqualified Audit Opinion w/NMW</td>
<td>Unqualified Audit Opinion w/NMW</td>
</tr>
<tr>
<td>Actual</td>
<td>Unqualified Audit Opinion w/NMW</td>
<td>Unqualified Audit Opinion w/NMW</td>
<td>Unqualified Audit Opinion w/NMW</td>
<td>Unqualified Audit Opinion w/NMW</td>
</tr>
</tbody>
</table>

Definition of Metric

Metric Unit: Unmodified independent auditors’ opinion rendered on FAA’s annual financial statements, with no material weakness.

Computation: N/A

Formula: N/A

Scope of Metric: The scope of this measure includes FAA’s annual audited financial statements, which include several required elements such as related footnotes, required supplementary information, and management’s discussion & analysis. The financial statements, together with the auditor’s report (the audit opinion referenced in this goal) are published by FAA in its annual Performance and Accountability Report.
### Method of Setting Target:

This measure was set as “unmodified” because that means that in the opinion of independent auditors FAA’s financial statements are fairly stated in accordance with Generally Accepted Accounting Principles. In addition, when systems of internal control contain material weaknesses, they are subject to risk that a material misstatement of financial data may occur and not be detected and corrected in a timely manner. Therefore, FAA will not accept the existence of material weaknesses as a satisfactory performance measure. Accordingly, the goal of obtaining an unmodified audit opinion is substantially more rigorous when, in addition, such an opinion must be rendered by the auditors without any material weaknesses being detected.

### Why the FAA and/ or DOT Choose this Metric

The FAA chooses this measure because it is an independent assessment of FAA’s internal control environment over financial reporting, FAA’s compliance with certain laws and regulations, and FAA’s ability to fairly present the results of its financial position and financial activities during the year.

### Public Benefit

The public benefits by being reasonably assured that the agency is being managed in a transparent and fiscally responsible manner.

### Partners

Although the Office of Financial Services takes the lead in achieving this goal, all FAA organizations have key roles. They have responsibility for entering accurate and timely source data into the accounting system and following accounting policy properly. These are essential components to achieving an unmodified audit with no material weaknesses. The following activities in particular, are required from all lines of business (LOBs) and staff offices (SO) to accomplish this goal:

- Financial and budgetary transactions (e.g. obligations) must be accurate, timely, and for bona-fide needs. This also includes taking transactions off the books accurately and timely (e.g. de-obligating, closing out contracts, recording asset retirements, etc.)
- The Enterprise Services Center (ESC) must get a good audit result on their data center audit so that any information technology and systems security related findings are insignificant.
- Lines of business and staff offices must continue to review their aged obligations quarterly and de-obligate amounts no longer needed. They must also take the Federal Managers’ Financial Integrity Act (FMFIA) vulnerability assessment process seriously to identify and mitigate any significant financial control weaknesses.
- Program offices must process paperwork for asset acquisitions and deployments in a timely manner. Also, they must report asset transfers and disposal activities timely so that the financial effects of those activities can be recorded into the FAA’s financial statement.

### External Factors Affecting Performance

September 2014
External factors that can affect FAA’s results include the fact that certain financial data, such as excise tax revenue of the Airport and Airway Trust Fund (AATF) are collected and attributed to the AATF by the Department of Treasury (Treasury). While FAA analyzes this data to ensure reasonableness, FAA must rely, to some degree, upon various Treasury bureaus for the accuracy of these amounts which are reported in FAA’s financial statements.

**Source of the Data**

The data used to evaluate FAA’s measure against this target comes from the independent auditors’ report, issued at the conclusion of their audit of FAA’s annual financial statements. The auditors’ report is published annually in FAA’s Performance and Accountability Report.

**Statistical Issues**

None

**Completeness**

Because of the nature of this measure and how the outcome is reported, there is virtually no possibility that the result could be reported inaccurately or incompletely. FAA reports the outcomes of this goal in the annual Performance and Accountability (PAR) with a full copy of the auditors’ official report (called the audit “opinion letter”). The auditors’ opinion letter is the official “ruling” from the independent third party source (the auditors) of the outcome of this measure. The auditors’ opinion is published on the letterhead stationery of the audit firm, and bears the signature of the auditor. Therefore, the FAA does not have any opportunity to interpret the results, translate data, make projections, or perform calculations, in order to identify whether this goal was met or not. The auditors tightly control the publication of the PAR and will not allow FAA to publish or release the report until they have verified it includes the official and final version of their audit report.

Finally, the financial statements audit is the responsibility of the independent Office of Inspector General (OIG). The OIG must perform sufficient quality control procedures over the contract auditors’ work, so that the OIG can accept the conclusions reached as their own. As evidence of the OIG’s quality control review over the work and conclusions reached by the auditors the OIG issues a quality control memorandum, on the OIG’s letterhead, under the signature of the Inspector General. The OIG’s quality control memorandum is also fully published in FAA’s PAR. For these reasons, the performance of this measure that is reported by FAA is beyond reproach. There is virtually no method of erroneously reporting this measure because both third party auditors and the OIG provide the final outcome.

**Reliability**

The outcome of this measure is reliable because it is reported by a third party auditor and OIG in the PAR. This document is closely scrutinized by both the contract auditors and the OIG before it is published therefore is virtually impossible that this result could be reported inaccurately.
## Performance Measure Profile

**2014 FAA FedView Survey**

**FY 2014 Methodology Report**

### Performance Measure Applicability

**Metric:** Administer OPM's annual FedView Survey to gather employee perceptions on agency human capital practices. Communicate results to agency stakeholders to improve employee engagement and performance.

<table>
<thead>
<tr>
<th>FA2014-2018 DOT Strategic Plan</th>
<th>FAA Strategic Initiative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal: Organizational Excellence</td>
<td>Initiative: Workforce of the Future</td>
</tr>
<tr>
<td>Outcome: Develop human capital</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Agency Priority Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Organizational Success Increase</td>
</tr>
<tr>
<td>☒ Shared Short Term Incentive</td>
</tr>
</tbody>
</table>

### FY 2014 Performance Target

FAA is ranked in the top 37 percent of Federal Agencies in the Best-Places-to-Work FedView rankings.

**Lead Organization:** Human Resource Management (AHR)

<table>
<thead>
<tr>
<th>FY 2010</th>
<th>FY 2011</th>
<th>FY 2012</th>
<th>FY 2013</th>
<th>FY 2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target</td>
<td>Top 83%</td>
<td>Top 83%</td>
<td>Top 75%</td>
<td>Top 75%</td>
</tr>
<tr>
<td>Actual</td>
<td>Top 83%</td>
<td>Top 83%</td>
<td>Top 39%</td>
<td>Top 40%</td>
</tr>
</tbody>
</table>

### Definition of Metric

**Metric Unit:** FAA’s percentage rank in the Partnership for Public Service (PPS) Best Places to Work (BPTW) Index results for Federal Agencies Subcomponents.

**Computation:** The Partnership for Public Service (PPS) obtains the Federal Employee Viewpoint Survey (FedView) data from the Office of Personnel Management (OPM) and calculates the BPTW Index results. PPS ranks FAA’s index result among the results for other federal agency subcomponents (subordinate organizations of larger agencies). FAA’s percentage rank is based on its rank below the top ranked, divided by the total number of federal agency subcomponents. The absolute rank is converted into a percentage rank below the top. The BPTW Index result for FAA will be an average of FAA’s percent positive results for FedView items 40, 69, and 71 as calculated by PPS.

**Formula:**

$$\text{FAA’s percentage rank} = \left(\frac{\text{FAA’s numerical rank}}{\text{number of ranked federal agencies subcomponents}}\right) \times 100.$$

For 2013, FAA’s rank was 120 out of 300 federal agencies subcomponents, therefore its...
Percentage rank was \((\frac{120}{300})\times 100 = 40\%\) from the top.

<table>
<thead>
<tr>
<th>Scope of Metric:</th>
<th>The items used are indicators of employees’ job and organizational satisfaction and PPS selected this combination of items for its overall index, based on statistical modeling of FedView results. The BPTW Index items are: Item 40. I recommend my organization as a good place to work. Item 69. Considering everything, how satisfied are you with your job? Item 71. Considering everything, how satisfied are you with your organization?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Method of Setting Target:</td>
<td>The FAA can meet its 2018 target of Top 25 percent ranking with annual increases of three percent. Meeting the 2014 target will keep FAA on track.</td>
</tr>
</tbody>
</table>

**Why the FAA and/or DOT Choose this Metric**

The BPTW is used to rank Federal Agencies and the rankings receive a lot of attention from Congress, the press and other stakeholders. It is often the most well publicized EVS result.

**Public Benefit**

Improvements in FedView results that are used to calculate the BPTW rankings would indicate that FAA is managing its workforce better. Research indicates that improved employee survey results are associated with higher organizational performance.

**Partners**

The FAA leadership, including executives, managers, and supervisors need to work collaboratively to improve BPTW Index results, particularly in the larger organizations, and all must be held accountable.

**External Factors Affecting Performance**

Factors such as Congressional decisions, negative press articles etc. can affect employees’ attitudes governmentwide and within FAA. FAA’s BPTW Index rank depends, in part, on the FedView results for other federal agencies, since a ranking is a comparison. FAA is ranked close to about 300 “sub-components”, which are components of cabinet agencies or independent agencies. Some of these organizations compare well with FAA in size and complexity, while others are quite small in size and scope of work. The validity of FAA being compared to such an “apples and oranges” group is unknown.

**Source of the Data**

FAA’s results are based on a stratified, sample of FAA employees and are subject to sampling error. OPM has varied its sampling plan across the years. For these reasons, it may take several years before an overall trend emerges. OPM administers the FedView Survey, maintains the database and provides the official results and reports for the whole government and individual agencies. The Partnership for Public Service (PPS) obtains the FedView data from OPM and calculates the BPTW Index results and rankings.

**Statistical Issues**

FAA’s results are based on a stratified, sample of FAA employees and are subject to sampling error. OPM has varied its sampling plan across the years. For these reasons, it
may take several years before an overall trend emerges.

**Completeness**

The Shared Executive Short-Term Incentive Goal indicates that executives are accountable for ensuring that potential employees have highly positive views of FAA as a place to work. The BPTW index directly measures employees’ attitudes with respect to job and organizational satisfaction. The FedView is administered and the results are analyzed using the highest professional standards.

**Reliability**

See above comments on statistical issues.