National Aviation Operational Monitoring Service (NAOMS)
NRC Study Kick-Off Brief

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• Started in 1998 by NASA with the overall goal of developing methods to facilitate a data-driven approach to aviation safety analysis.

• NAOMS Project used a survey methodology to generate statistically meaningful data representative of the aviation system to accomplish project goal.

• Project contracted with Battelle Memorial Institute to develop and conduct the survey.

• NAOMS project team collected approximately 24,000 surveys from commercial airline pilots and 5,000 surveys from general aviation pilots between April 2001 and December 2004.

• In early 2005, it was determined that sufficient data had been collected to evaluate whether the NAOMS survey methodology produced statistically meaningful and representative data.
Study Goal & Objectives

**GOAL:** To provide an independent assessment of the NAOMS survey methodology, and to the extent possible, of the survey data that were collected.

**Objectives:**

- Assess the process used by the contractor and described in the contractor report to determine how to acquire a statistically meaningful data set representative of a variety of factors that may affect (or impact) the safety of the national airspace system and that would enable one to track how these factors change over time.

- Assess the advantages and disadvantages of using a survey method to collect such a statistically meaningful data set.
Study Objectives – con’t

• Assess the survey methodology used by the contractor and described in the contractor report to include:
  – An analysis of specific details of the survey methodology such as the recall period, collection approach, sampling approach, questionnaire design and the use of non-aviation experts as interviewers.
  – An analysis of method or methods used to validate the survey methodology.
  – An identification of the various sources of error (both random and systematic) due to the survey methodology, along with estimates of the magnitudes of those errors, including an analysis of the adequacy of the sample size.
  – Recommendations of how one might estimate appropriate error bars for the survey results.
  – Recommendations regarding any methods that might enable one to correct for errors introduced by the methodology.
Study Objectives – con’t

• Conduct an analysis of the project survey data provided by NASA to determine its potential utility. (Note: The survey data will be a redacted data set also released to the public. This data set will be redacted in a manner that preserves the anonymity of the pilot respondents. Details of the redaction process will be provided.) This analysis may include an assessment of the data’s validity using other known sources of information.

• Provide recommendations on the most effective ways to use the NAOMS data. Such recommendations can include the possibility of using the data in combination with other safety data.
This assessment will be based upon information in the public domain including the following items posted on NASA’s NAOMS Information Release website (www.nasa.gov/news/reports/NAOMS.html):

- The final report provided by the prime contractor, Battelle.
- NAOMS project presentations and associated documents from 1998 to 2005.
- Redacted set of survey responses released to the public on 31 December 2007 in Microsoft Office Excel file format. Survey response data was updated on 6 February 2008.