

PAPERWORK REDUCTION ACT SUBMISSION

**OMB 83-I Supporting Statement**

2008-2009 National Flight Attendant Duty/Rest/Fatigue Survey

**Resubmission Date: September 24, 2008**

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### 2008-2009 National Flight Attendant Duty/Rest/Fatigue Survey

#### **A. Justification**

##### **1. Explain the circumstances that make the collection of data necessary.**

A review of the fatigue literature indicates that all human performance is vulnerable to sleep loss and daily variations in the physiological processes tied to underlying body-clock mechanisms. That said, there has been little consideration of the human circadian processes of post 9/11 cabin crew members whose duties are critical to the safety and security of national air travel.

In response to recent concerns, the Civil Aerospace Medical Institute (CAMI) and the NASA Ames Research Center conducted a preliminary investigation of flight attendant schedules and potential vulnerability to fatigue. In the 2006 report of these studies, CAMI concluded that some degree of fatigue-related performance decrements were likely under the current regulations and suggested six areas of research that would facilitate a more complete understanding of flight attendant fatigue and government-industry decision making. Using the 2006 suggestions, Congress recently directed CAMI to conduct a survey of flight attendant field operations to assess the frequency with which fatigue is experienced, the situations in which it occurs, and the impact fatigue has on air carrier safety. Reports including descriptive statistics of the survey findings are expected no later than December 31, 2009.

##### **2. Indicate how, by whom, and for what purpose the information is to be used.**

In 2008, Congress directed CAMI to conduct a survey of field operations to assess the frequency with which fatigue is experienced, the situations in which it occurs, and the consequences that follow. CAMI will collect the information to improve our knowledge of flight attendant fatigue and to respond to a congressional mandate. To accomplish the research objectives, a flight attendant Duty/Rest/Fatigue survey will be administered nationally. The survey will be sent to randomly sampled flight attendants from each U.S. airline. Probability sampling will be used to obtain a degree of accuracy of +/- 3% and a 95% Confidence Interval. For example, if Comair (a regional air carrier) employs 1,500 flight attendants, a sample of 306 flight attendants would be needed. Assuming a 40% response rate, 765 surveys would need to be distributed to flight attendants employed by Sky West to obtain the required sample. In another example, if American (a network air carrier) employs 15,000 flight attendants, a sample of 375 flight attendants would be needed. Assuming a 40% response rate, 938 surveys would be distributed. Using this strategy, approximately 22,000 flight attendants in total will be administered a survey. Due to variations in the number of flight attendants employed by each carrier at a given time, overestimations were made for the current proposal. The actual sample will be selected using the population data available for each U.S. air carrier at the time of survey distribution. Using the available numbers as a rough estimate, approximately 9,000 surveys are expected to be returned to CAMI (assuming 40% response rate). Although a 40% response rate is considered low for many surveys, it is a reasonable estimate for the population of interest. In previous studies of pilots and flight attendants, we customarily receive a 30% response rate – a finding that is largely attributable to the long periods spent away from home and inconsistent scheduling. That said, CAMI researchers are attempting to improve the typical response rates (and reduce error) by providing both an online and hardcopy version of the survey. In addition, CAMI researchers expect higher response rates than typical since flight attendants requested this survey be conducted.

Flight attendants currently working for a U.S. air carrier will receive an anonymous and voluntary

survey via mail and be provided with two completion options: 1) to complete and return the survey by postal mail or 2) to complete and submit the survey online. CAMI will be responsible for the logistical details associated with obtaining contact information, mailing out surveys and maintaining internet access. CAMI will be responsible for collecting and processing the responses. This information will be used to develop a status report of flight attendant fatigue for congress.

**3. Describe any consideration of the use of improved information technology...to reduce burden.**

In an effort to utilize information technology and reduce burden, flight attendants will be provided with two optional response venues. In particular, a hard copy of the survey and a website link to the survey will be distributed to each flight attendant. Inclusion of the optional website link provides two noteworthy benefits. First, it provides the respondents an alternative to hard copy submission and enables them to select a mode of response that is most convenient. Second, it reduces both a time and money burden on the part of the government as noted by the Government Paperwork Elimination Act (2003) and the recommendations of OMB (2006). For example, utilizing online responses reduces the amount of time and money needed for the collection and processing of responses without increasing the time needed to complete the survey. Although other methods of data collection were considered (e.g., telephone surveys, individual interviews), preliminary analysis indicates that mailing surveys and providing an optional website link would be the most efficient strategy for collecting data from the perspective of both the public and the government.

**4. Describe efforts to identify duplication.**

No existing information of the type required for these studies exists in any other data repository.

**5. If the collection of information involves small business, describe methods to minimize burden.**

This effort involves individual flight attendants, not small business entities.

**6. Describe consequences to Federal program if collection were conducted less frequently.**

Data will be collected only one time, and each respondent will have the opportunity to respond only once. To obtain accurate information regarding the flight attendant's recent experiences, the flight attendant will be directed to respond to the survey in terms of their experiences within the previous bid period (approximately 30 days).

**7. Explain any special circumstances that would cause the information collection to be conducted:**

**a. More often than quarterly.** No participant will be asked to provide information more often than quarterly. Participation will be a one-time event.

**b. Response in less than 30 days.** No participant will be asked to give a response in less than 30 days.

**c. More than original.** No participant will be asked to submit more than the original copy of the data collection instrument.

**d. Using records for more than three years.** No participant will be asked to retain records for more than three years.

**e. In connection with an invalid statistical survey.** No invalid statistical survey is anticipated.

**f. Requiring unapproved data classification.** No unapproved data classification activities are anticipated.

**g. Includes unsupported pledge of confidentiality.** All data collection will be conducted anonymously.

**h. Requires trade secret of confidential information.** No trade secrets or items of similar confidential information will be requested.

**8. If applicable, identify date and page number of publication in Federal Register of agency notice required by 5 CFR 1320.8 and provide summary of comments and agency responses. Describe any efforts to consult with persons outside the agency.**

A notice was published in the Federal Registry March 20, 2008 (pgs. 15042-15043). See Appendix A to review a copy of the submitted Federal Register notice.

The notice received comments from the Air Transport Association of America (ATA) in terms of three key concerns: 1) the flight attendant fatigue survey represents self-reported, subjective data that eliminates its utility to address the regulatory issues in question, 2) extensive information already exists on fatigue in aviation, and 3) the Federal Register notice does not adequately describe the FAA proposal.

The issues identified by ATA are being addressed in the following manner:

**ISSUE 1:** *“The flight attendant fatigue survey represents self-reported, subjective data that eliminates its utility to address the regulatory issues in question.”*

This comment appears to be founded in a belief that the survey will not provide practical or useful information because it solely includes self-reports of fatigue. However, the occurrence of fatigue is an inherently intra-individual state that requires both subjective and objective measures. Self-report surveys are a necessary and accepted method for assessing fatigue (Caldwell, 2004; Ferrara & Gennaro, 2001; Haugli, Skogstad, Hellesoy, 1994; Holly, Sundaram, & Wood, 2003; Lowden & Akerstedt, 1998; Samel, Hans-Martin, & Vejvoda, 1997). The National Institute for Occupational Safety and Health (NIOSH) and the National Aeronautics and Space Administration (NASA) frequently use surveys to evaluate similar issues (e.g., Co, Gregory, Johnson, Rosekind, 1999).

**ISSUE 2:** *“Extensive information already exists on fatigue in aviation.”*

The existing research literature regarding flight attendant fatigue was used to develop the proposed survey. However, that literature does not include studies providing a normative and representative sample of U.S. flight attendants since the post-9/11 scheduling and operational changes that have presented a concern regarding flight attendant fatigue. Thus, Senate Report 110-131 directs the Civil Aerospace Medical Institute to examine flight attendant fatigue in the following manner.

“The Committee recommends \$7,780,000 for aeromedical research, an increase of \$1,000,000 more than the budget request and \$748,000 more than the fiscal year 2007 enacted level. The Committee continues to be concerned about the issue of flight attendant fatigue, and whether current regulations provide adequate rest time for flight attendants.

Pursuant to the Committee's request in the Consolidated Appropriations Act of 2005, the FAA submitted a report in July 2006 on the impact of the minimum rest requirements of FAR 121.467 and FAR 135.273. The study was limited in nature; however, the report stated that flight attendants are 'experiencing fatigue and tiredness and as such, (fatigue) is a salient issue warranting further evaluation.' In order to gain a fuller understanding of the impact of fatigue on flight attendants, the Committee directs FAA to utilize \$1,000,000 of its appropriation for CAMI to carry out its recommendations for further study of this problem. The Committee directs CAMI to submit a report to Congress not later than December 31, 2009, and expects the report to include analysis in the six areas that CAMI identified in its report of July 2006; a survey of field operations, a focused study of incident reports, field research on the effects of fatigue, a validation of models for assessing flight attendant fatigue, international policies and practices, and the potential benefits of training."

The aforementioned report and congressional directive to the Civil Aerospace Medical Institute is specifically referenced in the 2008 Consolidated Appropriations Act (H.R.2764) which states:

"Within aeromedical research, the amended bill provides \$980,000 for the Civil Aerospace Medical Institute, as proposed by the Senate, to submit a report by December 31, 2009 on the issue of flight attendant fatigue. The House included a similar reporting requirement, but did not provide specific funding for this purpose."

Thus, the Civil Aerospace Medical Institute is required by law to conduct the proposed survey. CAMI researchers will do so using appropriate sampling methods that assure a normative and representative sample of U.S. flight attendants from U.S. air carriers.

**ISSUE 3:** *"The Federal Register notice does not adequately describe the FAA proposal."*

After discussing this issue with FAA Headquarters Personnel who manage this process, we were assured that the appropriate protocol was followed regarding the Federal Register notice. Additional information would be provided to the public as the review process progressed. After the initial 60 day comment period is closed, OMB provides an additional 30 day comment period where the survey and instructions are made available to the public from the OMB website.

The full survey and proposed methodology were made available to all known vested parties over the past four months. To preemptively address issues or concerns regarding the flight attendant fatigue survey, CAMI researchers have been in frequent contact with all parties that have a known vested interest since January, 2008. CAMI researchers have provided multiple informational briefings and copies of the survey to the Air Transportation Association of America (ATA), Regional Airline Association (RAA), Association of Professional Flight Attendants, Association of Flight Attendants (AFA), Transportation Worker's Union (TWU), International Association of Machinists & Aerospace Workers (IAM), the Teamsters Airline Division, and federal agencies that frequently work with Flight Attendants (e.g., AFS-650). Feedback was provided by each of the aforementioned organizations and incorporated to develop the proposed survey that is currently submitted for OMB review.

#### **9. Explain decision to provide payment to respondents.**

No payments will be made to respondents.

#### **10. Describe any assurance of confidentiality provided to respondents.**

In the survey cover page, each respondent will be given an assurance of anonymity:

"The FAA's CAMI adheres to Aerospace Medical Association ethical standards, public law, and federal policies for safeguarding the information submitted by participants in this survey."

This information will be protected to the extent available under applicable laws and regulations and no individually identifiable information will be included in the published report. Additionally, identifying information will not be retained once the data collection is complete. All responses to survey items are **anonymous**. Only group statistics shall be used in any report. Participation in the survey is completely **voluntary**.”

**11. Provide justification for questions of a sensitive nature.**

No questions of a sensitive nature relating to sexual behavior or religious attitudes will be used. Potentially sensitive questions will be asked regarding specific medical conditions that are known to influence the type and degree of fatigue experienced. All questions used in the information collection efforts will relate to flight attendant demographics, rest and duty time, and fatigue.

**12. Provide estimates of burden to respondents.**

Over a four month time period, we expect to receive approximately 9,000 responses. Pilot testing of survey indicates a thirty to forty-five minute time investment. Assuming a time investment of forty minutes per respondent, a total time investment of 6,000 hours is expected. According to the Bureau of Labor Statistics, the median hourly wage for a flight attendant is \$25.00 per hour. Thus, the burden to each respondent is approximately \$17.00.

**13. Estimate total annual cost burden to respondents.**

9,000 respondents X .66 hour X \$17.00 = \$100,980

**14. Provide estimates of annualized cost to Federal government and to respondents.**

*Federal Government Costs*

The estimated cost (in dollars) to the government is less than \$140,000. Research assistants and technicians, and data entry clerks from Xyant Technology will assist in this project. The tasks they will perform with cost estimates are as follows:

<u>Task description</u>	<u>Estimated cost</u>
Survey development (hard copy & online)	\$15,000
Printing	\$21,000
Distribution	\$11,000
Processing and Reporting	\$90,000
TOTAL	<u>\$137,000</u>

FAA Researcher time: The mission of the Flight Deck Human Factors Research Division employees at CAMI is to support FAA research projects which originate from requests made by various offices within the agency. The proposed questionnaire is such a project. No new employees will be hired to conduct this project. PC & B expenses will be incurred for current employees whether or not this project is undertaken. Thus, it is not necessary to include the cost of FAA employee time.

### *Respondent Costs*

The package sent to respondents will include both the questionnaire and postage-paid envelopes. Thus, the cost to the respondent will be limited to the time required to complete the questionnaire. Pilot testing indicates that the survey should take respondents approximately 30 to 45 minutes to complete.

### **15. Explain reasons for any program changes or adjustments.**

No changes or adjustments are requested to the proposed survey. The survey is a new submission.

### **16. For collections whose results will be published, outline plans for tabulation, analysis, and publication.**

One purpose of this study is scientific inquiry. CAMI will deliver summary data reports (i.e., item by item frequency distributions) using key variables of interest (e.g., airline type (network, regional, low-cost), seniority classifications of flight attendants (bottom 1/3, middle 1/3, and top 1/3). CAMI will develop an overall data summary report that will be submitted to Congress. CAMI will provide these reports on an annual basis if we meet the respondent criterion. CAMI will also provide an overall data summary report.

CAMI will deliver an Office of Aviation Medicine technical report summarizing the overall findings of the survey project.

### **17. If seeking approval to not display expiration date of OMB approval, explain why.**

The expiration date of the OMB approval will be displayed on the cover letter and guide page of each survey distributed.

### **18. Explain each exception to certification statement identified in Item 19 of OMB Form 83-1.**

There are no exceptions to the certification statement.