

Examining Safety and Health among Aviation Industry Workers in Alaska: A Survey

Supporting Statement Section B

New

**Request for Office of Management and Budget (OMB) Review and Approval for a Federally Sponsored
Data Collection**

Project Officer:

Mary O'Connor, MS

Aviation Safety Research Program

Centers for Disease Control and Prevention (CDC)

National Institute for Occupational Safety and Health (NIOSH)

Western States Division

4230 University Drive, Suite 310

Anchorage, AK 99508

Phone: 907-271-1571

Cell: 907-229-6885

E-mail: ifr7@cdc.gov

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B1. Respondent Universe and Sampling Methods

This project seeks to update findings from a NIOSH-funded (NIOSH, 2006; Conway, et al., 2004) survey done in Alaska from 2001-2002 on attitudes and practices of pilots and aviation companies with questions regarding work practices, risk factors, and potential interventions or safety solutions for these workers.

The target population for the “Examining Safety and Health among Aviation Industry Workers in Alaska” survey are workers in the commuter and air taxi aviation industry (14 CFR Part 135) in five broad occupational categories. These workers are air carrier operators (including the subset of single-pilot operators); commercial pilots; ramp/baggage/cargo/dock agents; customer service agents; and mechanics and maintenance technicians. These are the groups of workers NIOSH would like to better understand because of fatal and nonfatal occupational injuries incurred. No participants will be under the age of 18. It is not anticipated that participant age will exceed 80 years, but participants over this age will not be excluded. Table 1 provides an estimate of the respondent universe by occupational category.

Table 1. Estimated Population in Occupational Group*

| Occupation | Estimated Number |
|---------------------------------------|-------------------------|
| Air Carrier Operators | 306 |
| Commercial Pilots | 820 |
| Mechanics and Maintenance Technicians | 1400 |
| Ramp/Baggage/Cargo/Dock Agents | 1100 |
| Customer Service Agents | 1600 |

* These estimated populations are based on best current estimates. Number of air carriers is provided by the Federal Aviation Administration; population of commercial pilots is obtained from the Alaska Department of Labor and Workforce Development. Numbers of mechanics, maintenance technicians, ramp agents, baggage agents, cargo agents, dock agents, and customer service agents are provided by the Alaska Department of Labor and Workforce Development, however many of these workers are employed by airlines utilizing large aircraft not included in our study, or in the private aviation sector.

The same sample design used by the Institute of Social and Economic Research (ISER) in 2001 for the pilot and operator surveys will be used again for this updated survey. The sample population will come from the publicly available information in the Federal Aviation Administration’s Aviation Data Systems Branch’s Air Operators for Compensation or Hire database, which contains names and contact information for all 14 C.F.R. § 135 Commuter and On Demand Operations. Air carriers will be stratified by their geographic location within Alaska and ISER will draw a sample representing the proportion of operators in different geographic locations to ensure adequate representation of operators and workers.

The questionnaire for operators requests the number of pilots, ramp/baggage/cargo/dock agents, customer service agents, and mechanics and maintenance technicians employed. This is the second element in the sample design and will allow for the determination of the number of employees in each

occupational category that will be needed to complete the survey. The questionnaire also asks for the names and contact information for employees in the four occupations.

B.2. Procedures for the Collection of Information

Potential participants will receive a recruitment packet via email or U.S. mail containing three items. A recruitment letter (Attachment 5a and 5b) describes the project and requests participation by operators and workers. A letter (Attachment 4) from someone recognizable in the aviation industry in Alaska, such as the Board President of the Alaska Air Carriers Association or the Regional Administrator of the Federal Aviation Administration, supporting the project, and a copy of the consent form (Attachment 6a and 6b) will be included in the recruitment packet. The recruitment letter will contain a personalized link to the online version of the consent form. When participants enter the link in an internet browser the consent form will appear. If they click on the "I agree to participate in this study" button, the questionnaire will appear (Attachment 3a, 3b, 3c, 3d and 3e).

ISER will initially survey operators. The recruitment packet will be mailed to the sample of operators using contact information from the VIS. The questionnaire asks for the type, number, and contact information of employees by occupation group employed by the operator. After the operators in the sample have completed the questionnaire, ISER will compile the number of employees in each occupation stratified by the size of the operation, where 1 or 2 pilots is a small operation, and 3 or more pilots is a large operation.

A sample frame will be developed from the estimated population of employees by occupation group and size of the operation. The sample of workers in each occupational group will be selected in proportion to each group's population. Survey participants will not be selected by name. Each employee will be randomly assigned a number. A sample will be drawn based on randomly assigned numbers.

ISER will send the recruitment packet to the randomly selected participants in each occupational group. These materials will be sent via the medium given by the operator for contacting the employee (mailing address, email, etc.). If the operator gives a company address for an employee, ISER will seek another method of contact so that no one at the company can identify potential participants.

At two and five weeks after sending the recruitment packet to each group, if a response has not been received a reminder postcard (Attachment 7a and 7b) will be sent via email or U.S mail depending on the contact information type.

The process described above is similar to the methodology used in 2001 NIOSH survey.

B.3. Describe methods to maximize response rates and to deal with issues of non-response.

To maximize participation, NIOSH will work with operators to explain the importance of the study for the operators, their employees, and the industry before the survey period begins. A flyer (Attachment 9) will be used to advertise the survey and encourage participation prior to commencing data collection.

Data collection will occur via online survey software, so participants will be able to easily select their answers, facilitating rapid questionnaire completion. For convenience, if participants cannot complete the survey at one sitting they will be able to stop at any point and pick up where they left off at later time.

Participation in this survey is voluntary. Participants do not receive payment or incentives. It is important to maximize response rates during information collection. The only similar information collection effort in the Alaskan aviation workforce was the survey conducted in 2001, so it is difficult to determine workers' willingness to participate. The response rate in 2001 for all operators was 79% and for pilots it was 69%. No incentive was used during data collection in 2001. Our goal for this survey is a 70% response rate. Where workers decline to participate, we will ask the worker if they would be willing to answer a very short, six-question non-response questionnaire (Attachment 10) that will allow researchers to compare basic demographics of participants and non-respondents to determine if there are any differences.

The different instruments will require different amounts of time to complete. Qualtrics software provides estimates of the completion time for each instrument: operators—25 minutes, pilots—25 minutes, maintenance technicians—16 minutes, ramp/baggage/cargo/dock agents—14 minutes, and customer service agents—14 minutes. The survey instruments will be pretested once OMB approval is received to gain the most accurate assessment of completion time.

B.4. Describe any tests of procedures or methods to be undertaken.

The only known survey that collected aviation-worker safety information, air carrier policies, and worker practices was the 2001 NIOSH-funded study of air carrier operators and pilots in Alaska. That study focused on fatalities, collecting the specific information needed for the reduction of deaths related to air crashes in Alaska, and used paper questionnaires with follow up telephone calls and surveys.

Necessary adjustments to data collection procedures and the questionnaire were made to account for changes in survey administration from 2001 to now (i.e. online versus telephone survey administration). This online survey administration will improve participant acceptance; increase accuracy and speed of responses; reduce data entry and cleaning; and improve data quality. Follow up will be via email or US mail.

The questionnaires were developed with consultation and input from professionals familiar with the aviation work environment in Alaska. Certain questions from the 2001 survey instruments are repeated in the current study where valuable for comparison. The survey instruments will be pretested after OMB approval.

B.5. Individuals consulted on statistical aspects and individuals collecting and/or analyzing data.

NIOSH employees and ISER researchers designed the questionnaire and performed initial review. The contractors will be responsible for collection of all data and analysis of all pilot and operator data. Key NIOSH and contractor contacts are listed below.

NIOSH:

Mary O'Connor, MS
Project Officer
Aviation Safety Research Program
CDC/NIOSH/Western States Division
4230 University Drive, Suite 310
Anchorage, Alaska 99508
Phone: 907.271.1571
Fax: 907.271.2390
lfr7@cdc.gov

Contractor:

Rosylnd Frazier, MSPH
Senior Research Professional
Institute of Social and Economic Research (ISER)
University of Alaska Anchorage
3211 Providence Drive
Anchorage, Alaska 99508-4614

Physical Location:

1901 Bragaw Street, Suite 301
Anchorage, AK

rrfrazier@alaska.edu
Phone: 907.786.5432
Fax: 907.786.7739
<https://iseralaska.org/>

Jessica Passini, BS
Research Professional
Institute of Social and Economic Research (ISER)
University of Alaska Anchorage
3211 Providence Drive
Anchorage, Alaska 99508-4614

Physical Location:

1901 Bragaw Street, Suite 301
Anchorage, AK

jnpassini@alaska.edu
Phone: 907.786.5412
Fax: 907.786.7739
<https://iseralaska.org/>

Research technicians and associates may assist in data collection and/or analysis. However, these exact persons have yet to be determined. Any new employees brought on board to assist will be trained as described in other portions of the OMB Packet.

References

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