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# Fatigue Management Seminar

FAR 117 Fitness for Duty and Responsibilities  
January 22–23, 2020  
McLean, Va.



# **CAMI Aviation Fatigue Research Plan relevant to Part 117**

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**January 22 at 1445-1545**

**“FAR 117 – Recent Interpretations and Studies”**



**Fatigue Management Seminar**  
FAR 117 Fitness for Duty and Responsibilities

# CAMI Overview of Research Plan

- Two studies are planned that are relevant to the application and interpretation of Part 117.
  1. Behavioral Adaptation/Acclimation to Time Zone Changes
  2. Effects of Workload in short haul operations on crew performance



# Behavioral Adaptation/Acclimation to Time Zone Changes

- Objectives:
  - *To deliver research which can be applied to the improvement of issues of concern to aviation safety*
  - *To identify and detail non-circadian human behaviors which aim to facilitate or prevent acclimation to a new time zone*
    - *To investigate the degree to which behavioral tactics modulate acclimation to new time zone*
    - *To investigate the impact of behavioral tactics on crew performance under operational conditions typical of the aviation industry*



# Effects of Short Haul Flight Ops on Crew Performance

- Objectives
  - To deliver research which can be applied to the improvement of issues of concern to aviation safety
  - To investigate the relative contribution of workload and work schedule factors to airline crew performance.
    - with particular attention to short haul flight schedules
    - with particular attention to the relationship between workload, sleep and fatigue
  - To identify potential mitigations to workload or schedules which may be related to improvements in crew performance



# Study Approach

- Study addresses issues of concern to aviation safety in the context of behavioral adaptation to time zone changes
- Findings can be applied to the operational environment in a manner which reduces risk or improves performance
- Study utilizes a sample population representative of the aviation industry
- Study uses a sufficiently-sized sample population to adequately address research questions and power statistical analyses
- Study procedures and/or interventions do not violate current aviation regulations for the country in which the study is to be conducted



# Both Proposals will Include Defined Sections

- Introduction
- Proposed methodology
- Recommendations and justification





# Introduction

- Literature Review – studies relevant to the objectives of the project.
- Review of Previously-used Methods – consider alternative methods and recommend a method most suitable to meet the objectives of the project.
- Gap Analysis – What important scientific gaps of knowledge will be addressed by the proposed research.





# Methodology Defined by Proposal

- Lead by scientists sufficiently expert in the field.
- Study design will be discussed with justifications based on the objectives of the study and practicality of achieving acceptable results.
- Study population will one most relevant to the concerns of the aviation industry.
- Define and justify the metrics and measurements to be used in the study.
- Provide an adequate statistical plan, including a power analysis to justify the population size.



# Contractual Driven Requirements

- Timelines, Milestones and Deliverables
- Cost Estimates and Budget
- Preferences and Recommendations
  - This section will highlight attributes of experimental design, subject matter expertise, and target metrics which are of particular interest to the Civil Aerospace Medical Institute and Federal Aviation Administration.

