R&D
project profile

Transportation Development Centre
Working for Innovation in Transportation
TP 14430E Project 9995 September 2005

Assessment of aircraft maintenance engineers' hours of work

Transportation Development Centre

The Transportation Development Centre (TDC) is Transport Canada's central research and development branch. It manages a multimodal R&D program aimed at improving the safety, security, and efficiency of Canada's transportation system, while contributing to economic growth and protecting the environment. Its mandate is to enhance the department's technological capability, address the department's strategic objectives and federal government priorities, and promote innovation in transportation.

Human Factors R&D

TDC's human factors R&D program focusses on the human factors affecting operator performance and on the ergonomic design of systems and equipment. Covering all transportation modes, the research is designed to optimize the safety, productivity, and capacity of human-machine systems.

For more information on TDC's human factors R&D program, visit our on-line project directory at www.tc.gc.ca/tdc/projects/menu.htm.

Transportation Development Centre
800 René Lévesque Blvd. W., Suite 600
Montréal, Quebec, Canada H3B 1X9
Phone: (514) 283-0000
Fax: (514) 283-7158
E-mail: tdccdt@tc.gc.ca
Web site: www.tc.gc.ca/tdc/menu.htm

Objectives

- To collect and analyse data on aircraft maintenance engineers' hours of work and working environment
- To estimate the potential for fatigue under these conditions
- To determine the best approach to developing countermeasures to that fatigue

Description

This project was the first step in work to develop fatigue management guidelines for air carrier maintenance services.

The study involved:

- literature review of research in this area
- development, validation, and distribution of a questionnaire for maintenance engineers
- analysis of the responses
- recommendation of an approach to the next step, based on the results of the data analysis

Results

The researchers received 1209 completed questionnaires from the 5000 distributed. They also interviewed 12 AMEs representing different types of

operations (major, regional, and charter airlines; stand-alone and general aviation; and helicopters). From the data acquired they documented the current situation in each type of operation. They found that many AMEs work long hours and experience fatigue, but most have developed coping strategies.

The researchers recommended the development and evaluation of fatigue management guidelines tailored for the different types of operations.

Project Officer
Howard Posluns

Contractor
Rhodes & Associates Inc.,
Toronto, Ontario

Contractor Contact
Wayne Rhodes

Schedule
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9995

Report
TP 13875E, *Assessment of aircraft maintenance engineers (AMEs) hours of work*, Rhodes & Associates Inc., 2001

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