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May 5, 2017

**Via Email: [jacqueline.booth@tc.gc.ca](mailto:jacqueline.booth@tc.gc.ca)**

Jackie:

Please accept the following comments on the DRAFT AC with respect to FRMS Guidance Material, with our apologies for the delay delivering them to you.

### **Overarching Comments**

The cumulative effect of the DRAFT AC in its current form – since it is so far beyond the reach of any small or medium size helicopter operator, will be to drive them to use the prescriptive regulations. From HAC's point of view, the prescriptive regulations are quite oppressive, and will require some radical changes in the way that helicopter operators conduct their businesses. FRMS has always been held out as a way to obtain relief from these regulations and mitigate fatigue at the same time. FRMS, as currently described in the Guidance Material will ensure that operators are driven to use the prescriptive regulations. As with SMS, Transport Canada has crafted FRMS guidance, that is suited for large CAR 705 operators, and then is left scrambling to determine how they can realistically expect small operators to accommodate their requirements without compromising the complicated principles and practices that they have set out therein.

We urge Transport Canada to take the time that is necessary to really understand the capability of small operators to manage a FRMS. HAC was comforted by the idea that the Department was preparing to undertake a couple of pilot projects to make this assessment however, we are led to believe that this will only be taking place with CAR 705 and 702 operators. The involvement of CAR 702 operators in this project is a source of confusion to this association, since CAR 702 has been specifically excluded from the application of the proposed regulations. We would be pleased to identify a few CAR 703 helicopter operators to participate in the pilot project, if Transport Canada decides to revisit this misguided decision. Transport Canada's commitment to a consultative process with operators is absolutely essential if Transport Canada genuinely wants FRMS to be available as a risk mitigation tool for smaller operators.

HAC is open to the concept of developing a generic HAC FRMS program, but only if the department frees up resources to allow departmental staff to allow industry to develop an understanding of departmental expectations – and for staff to develop an understanding of the capabilities of our industry segment. Transport Canada cannot expect CAR 703 operators to accommodate CAR 705 procedures. Transport Canada staff should remain open to the modification and simplification of the Guidance Material as they learn more about the abilities of the CAR 703 community to accommodate FRMS practices. This can only be accomplished through an open dialogue and through the use of Guidance Material modified collaboratively, for use by small operators.

The DRAFT AC makes frequent reference to TP Documents and ICAO documents drafted for use in an airline environment, which renders them largely impractical for small operators, except as they may contribute to an understanding of the broader FRMS principles. Transport Canada must take the time to distil the material contained in these airline-centric documents to outline practices, policies and procedures that recognize the ability of small operators to accommodate them.

### **Examples of Problematic Specific Sections and Comments**

“2.3 (1) (b) **Biomathematical fatigue model:** A computer program designed to predict aspects of a schedule that might generate an increased fatigue risk for the average person, based on scientific understanding of the factors contributing to fatigue.”

**Comment:** Smaller operators will have no ability to utilize a Biomathematical fatigue model.

### 3.5 Using an FRMS to manage fatigue

“(2) Air operators must have sufficient fatigue data or science demonstrating that their proposed deviation is safe and that all risks have been managed.”

**Comment:** Smaller operators will have limited access to data, except as it relates to their own company, in the absence of a national database to draw upon. They could draw upon fatigue related science, but there will be limited access to data. It may be useful to have an on-line library with a consolidated source for accepted fatigue-related science.

### 4.2 Are SMS and FRMS the same thing?

“(1) Many of the components that comprise an SMS can be used to satisfy the requirements of an FRMS, such as data collection, corrective measures and self-reporting procedures. However, the goal of an FRMS is to identify fatigue-related hazards and to minimize the safety risks. In order to do this, specific tools are required such as methods to understand when schedules are fatiguing, policies that speak uniquely to fatigue-related situations, and training and awareness that highlights fatigue risks.”

**Comment:** On many occasions during the Fatigue Management Working Group, Transport Canada commented how difficult it would be to implement a stand-alone FRMS in the absence of an SMS. For almost 20 years, Transport Canada has been trying to find an SMS model that can work for small operators “suitable for the size and complexity of the operation”, without success. HAC believes that it is disingenuous now, to suggest that FRMS could work as a stand-alone Risk Management tool, to mitigate oppressive proposed prescriptive fatigue management regulations. In the same way that Transport Canada has been unable to find an SMS model that can recognize and accommodate the realities of smaller operations, they have been unable to craft FRMS Guidance material for smaller operators. To make matters worse, FRMS builds on the SMS principles that Transport Canada has been unable to come to grips with and are NOT a regulatory requirement, except in sub-part 705. Smaller operators must be provided with simple tools to implement Fatigue Risk Management Systems, in the absence of an SMS. The contents of the FRMS Toolbox set out in Table 2 are far too complicated for use by small operators, except as background material. Much of the reference material in the DRAFT AC is from ICAO, and designed for use by large scheduled international carriers, and not on-demand charter operators (i.e. frequent reference to the *Fatigue Management Guide for Airline Operators*).

The scope and complexity of the FRMS described in the DRAFT AC would require more than one person dedicated to manage the FRMS. Many small operator management personnel occupy more than one management position as-it-is, and they may only have at total of three or four employees, making it impossible to dedicate one or more people to this one role (see 5.1.4 (1) (a) (ii), for example, and the requirement for an FRMS committee and the reporting structure set out at page 12 of the TP 14576).

**5.2.1 Identify Fatigue Hazards**

“(4) To identify situations where fatigue may constitute a hazard requires a good understanding of the operational factors that are likely to cause crew member fatigue, which vary across different types of operations. Examples of common factors in aviation operations that may affect fatigue risk include:”

**Comment:** In an on-demand environment, the items (a) through (p) would require the operator to examine data for each individual crewmember, that is simply not available i.e. “Multiple high workloads in a shift”. The shift may differ every day, and the crew member would be responsible for recording their workload at all periods of each shift, for example. It is also difficult to understand how different workloads would be classified (i.e. long-lining versus timber-cruising versus “pulling wire” versus water-bucketing)

**5.2.2.2 Assess Likelihood and Severity**

“(a) Severity classification methods for fatigue-related risk include:

...

(ii) Defined bio-mathematical model thresholds (e.g. low/moderate/high impairment due to fatigue); and...”

**Comment:** Helicopter operators will simply not have the ability or resources to use bio-mathematical models.

**5.2.2.4 Control and Mitigate Risks**

**Comment:** This section is one of the few sections of the DRAFT AC where there are some principles that could effectively be applied by small operators, however there must be more practical reference material and examples provided in the context of a small operator.

## 5.2.4 Safety Case Development

**Comment:** This section provides some useful suggestions for structuring the Safety Case, however the requirement for data and biomathematical modeling renders its requirements beyond the reach of small operators.

### 5.2.4.4 Develop and Implement Controls

**Comment:** References here, and throughout the document to “fatigue data modeling”, serve only to complicate the AC. Without a description of what would specifically be required from a small operator, it suggests that some type of high-level scientific analysis of data (that small operators do not generally have), would be required.

All of the above is respectfully submitted.

Regards,



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President & CEO  
Helicopter Association of Canada