SAFER SKIES COALITION

Response to consultation for Canada Gazette, Part I – Flight Crew Member Hours of Work and Rest Periods, Published July 1, 2017

Submitted to
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Safer Skies Coalition
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Executive Summary

On behalf of Safer Skies, a coalition of more than 8,000 of Canada’s commercial pilots – represented by the Air Canada Pilots Association, Air Line Pilots Association, Unifor, the International Association of Machinists and Aerospace Workers, and the Office and Professional Employees International Union – we are pleased to provide comments on the Regulations Amending the Canadian Aviation regulations (Parts I, VI and VII — Flight Crew Member Hours of Work and Rest Periods), which was published in the Canada Gazette, Part I on July 1, 2017.

As the coalition highlighted in our comments of April 24, 2017 on the Notice of Intent to Amend the Canadian Aviation Regulations, fatigue is a type of impairment – it causes reduced alertness and degraded physical and mental performance. Fatigue affects all people – pilots included. It is therefore critical that this update of Canada’s more than 20-year old aviation fatigue regulations adopt the latest science and best practices, like other countries have already done with their regulations.

No less an authority than NASA’s Ames Research Centre underlines the link between safety and fatigue management in aviation, given the industry’s 24-hour operational demands. “Shift work, night work, irregular work schedules, unpredictable work schedules, and time zone changes will continue to be commonplace components of the aviation industry. These factors pose known challenges to human physiology, and because they result in performance-impairing fatigue, they pose a risk to safety.”

Upon review of the draft regulations, it is clear that the new rules proposed by Canada lag behind international standards and are dangerously out of sync with modern sleep science.

e-Petition 1051

The Safer Skies coalition has registered a Parliamentary petition calling on the government to take action in three areas to ensure pilots, other crew, and passengers are not endangered by lax regulation. The petition was created because we are disappointed that the proposed regulations do not address these fundamental issues that are shared by thousands of everyday Canadians.

- **One level of safety:**
  Pilots and passengers on all sizes of aircraft – whether they carry passengers or cargo – should have the same protective fatigue limits, coming into force at the same time;

- **Long-haul flights at night:**
  Address pilot fatigue on long-haul flights at night by limiting duty periods that begin after 1700h to 10 hours (or 8.5 hours of flight time) – in line with NASA research findings; and

- **Prescriptive limits and oversight as part of any Fatigue Risk Management System:**
  Ensure that any Fatigue Risk Management System relies on science-based prescriptive limits as a foundation, requiring independently verifiable data and stringent Transport Canada approval and oversight.
Regulatory Feedback – Critical Issues
Our submission describes 60 deficiencies within the proposed draft regulations. We have identified the most critical of these issues as follows:

Long-Haul Flights at Night and Returning from Overseas Un-acclimatized

Issue
A significant body of undisputed scientific evidence (including NASA’s Ames Research Center) has found that pilot fatigue during night-time operations has significant consequences for alertness and vigilance. Following the 2009 Colgan Air crash, the U.S. Federal Aviation Administration implemented new science-based fatigue rules which limited flight time for US pilots to 8 hours at night. The proposed regulations will allow pilots to fly up to 10.5 hours at night on long-haul flights – both when sleep is compromised when returning to home base after an overseas flight or for duty periods that begin at night. This is 2.5 hours longer than the Federal Aviation Administration allows American pilots to fly in the United States during a comparable timeframe, and 2 hours longer than NASA science recommends.

Figure 1 illustrates the deficiency in the proposed regulations compared with other jurisdictions.

![Figure 1](image)

*Figure 1- on duty periods beginning at 9pm*
When evaluating the proposed regulations beside those enjoyed by US pilots and the recommendations made by NASA’s Ames Research Center, Canada’s safety gap is readily apparent.

![Maximum Single Sector Flight Time](image)

*Figure 2 - Safety gap between US rules, NASA recommendations, and Canada’s proposed regulations*

**SAFER SKIES Position**

The Safer Skies coalition supports NASA’s recommendation for a maximum flight duty time of no more than 10 hours (8.5 hours of flight time) on long-haul flights at night. This is also comparable to that of the United States.

**Maximum Flight Time Values**

**Issue**

The draft regulations propose to allow 112 hours of flight time in less than 28 days; the global standard is 100 hours or less. As illustrated in the chart below, under the proposed regulations Canada will be one of only three jurisdictions that permit professional pilots to fly more than 100 hours in a single 28-day period.
SAFER SKIES Position

The Safer Skies coalition supports a limit of maximum flight time of 100 hours in 28 days, the global standard for professional pilots.

Maximum Duty Time

Issue

The draft regulations impose a maximum duty time of 2400 hours, a full 20% higher than what pilots in the European Union are permitted to work. Moreover, the average Canadian works approximately 1700 hours per year, meaning that the proposed duty limit for Canadian pilots is 37% higher than the

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1 (European Agency for Safety and Health at Work, 2017)
2 (Organization for Economic Co-Operation and Development, 2017)
average for Canadian workers. Changes to weekly, monthly, and annual limits resulting in the 2400-hour maximum result in Canada having the highest duty time limits in the world.

SAFER SKIES Position
Duty time should reflect best practice as established by the European Union of 1900-2000 hours of duty time in 365 days rather than maximum values in the Canada Labour Code. Further, duty limits must reflect time of day sensitivity and ensure that adequate rest recovery is provided.

Rest Periods

Issue
The proposed regulations would permit an operator to have a pilot at work for up to 17 days in a row without a day off.

SAFER SKIES Position
As noted in Transport Canada’s Regulatory Impact Analysis Statement, “Flying (piloting) is a highly psychomotor and cognitively demanding job. Working long duty days consecutively without adequate rest and restoration will degrade human performance over time.” Accordingly, piloting should have lower duty and more rest than the minimum required by the Canada Labour Law.

The time free from duty requirement in the proposed regulations should follow international best practice: for example, the regulatory framework in the European Union provides for extended recurrent rest.”

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3 (Transport Canada, 2017, p. 2913)
Flight Duty Periods with Augmentation

Issue
There are a number of critical issues in the Flight Duty Period provisions that must be addressed in order to ensure safe flight. These issues include the definition of rest facilities, regulations vs. guidance, and table values for augmented flight crew and rest.

- Definition of Rest Facilities
  Rest facility definitions, especially those for class one and class three, are suboptimal. In particular, regulations must set out that class one rest facilities meet the standard established by Society of Automotive Engineers’ (SAE) aerospace Recommended Practice (ARP) 4101/3. Class three rest facilities cannot be joined with or attached to any seat occupied by a passenger.

- Regulations vs. Guidance
  As proposed, a significant amount what should be regulatory content is located in guidance material. Since guidance material is not compulsory, there is no guarantee that operators will follow guidance material and therefore guidance material must be written into the regulations.

- Augmented Flight Crew and Rest
  Restore table values from augmented flight crew and rest, incorporating time of day sensitivity.

Reprisal

Issue
The system of reporting fatigue contained within the prescriptive portion of the proposed regulations permits reprisal and punishment. Fatigue reporting must be done without fear of reprisal. As there are no explicit safeguards or protections in the proposed regulations, responsible pilots who declare themselves to be fatigued via the reporting system are exposed to the whims of vindictive operators who put profits before safety.

SAFER SKIES Position
The Safer Skies coalition will only support a regulatory system if it provides professional pilots with protections from reprisal when they report fatigue and other safety issues.

Professional Pilots Cannot Support Proposed Fatigue Risk Management System
As proposed, the Fatigue Risk Management System (FRMS) is of major concern. Almost every prescriptive limit set out in the draft regulations can be bypassed -- without regulator oversight or approval. By the government’s own estimation in CG1, FRMS is expected to be implemented by operators on up to 20% of regulated flights, meaning that a significant percentage of flights would essentially have no effective oversight. Compare this to approximately a dozen flights exempted under the United States’ FRMS model, where any deviation from prescriptive limits requires approval from the FAA as the regulator.
SAFER SKIES Position
Based on the severity of the critical deficiencies in the FRMS model as proposed, the 8,000 pilots of the Safer Skies coalition will refuse to participate in the FRMS without significant changes as \textit{we cannot support a system that is all risk and no management.}

Incorrect Claims Regarding Science and other Jurisdictions
CG1 claims that its recommendations are in keeping with scientific recommendations and comparable jurisdictions. This is clearly not the case, when the recommendations do not meet the agreed upon scientific standard established by the original CARAC working group, and when the recommendations are offside by up to two hours of flight time at night with the United States, Canada’s closest neighbouring jurisdiction.

Financial Analysis
CG1 Analysis Did Not Consider Key Issues
The Cost-Benefit Analysis conducted by Transport Canada and described in the preamble to the draft regulations omits a number of factors that would have otherwise had an impact on the final analysis. In particular, the Analysis did not:

- calculate the costs or benefits of reducing flight duty periods for long-haul flights at night to match scientific recommendations.
- calculate the benefit of reduced and avoided impacts to passengers, including reduced flight delays.
- include a calculation of the cost of appropriate crew rest facilities.
- provide transparency around avoided injuries and their related costs.

SAFER SKIES position
By neglecting these important considerations, the Cost Benefit Analysis cannot be considered complete.

CG1 Analysis Was Not Independent
In addition to neglecting the factors described above, the CG1 Cost-Benefit Analysis suffers from another serious deficiency: there is no evidence that Transport Canada conducted a critical review or assessment of the third-party financial figures provided by operators. The department has not made public the fundamentals underpinning its analysis, meaning that there is no to determine whether or not operator-provided figures are representative.

As occurred in the US during the modernization of their fatigue rules in 2011, financial figures provided by operators, who were lobbying against updating fatigue rules, were often inflated. Indeed, following a critical evaluation of figures provided by American commercial operators, the FAA determined that industry had overstated the financial impact by 5,026%; specifically, the FAA estimated costs of $390 million for a 10-year implementation period, while the airline industry had claimed these
implementation costs would be $19.6 billion\textsuperscript{4}. If the FAA's cost assessment was inaccurate, one would have anticipated a significant financial impact be reflected in airline financial performance, which did not occur. Given the dramatic discrepancy between US industry figures and the FAA’s own calculations, it is imperative that Transport Canada’s be independent and based on its own findings and research.

In particular, costs provided by Canadian operators with respect to crew scheduling and crew management did not receive scrutiny by Transport Canada. In the US case, the FAA independently calculated crew costs.

According to the financial model put forward by Transport Canada (CG1 pg. 2955), “The proposed amendments would result in approximately $0.14 per passenger per flight. The maximum that could be passed on to consumers is $0.28 per passenger per flight. Therefore, the cost passed on to consumers would be negligible.”

CG1 Analysis is Based on Questionable Assumptions
The proposal contains a number of questionable assumptions whose inclusion further undermines the validity of the final assessment. In particular:

- Transport Canada’s 17.5% fatigue contribution rate to accidents is derived from taking an average value from a single study. This unscientific approach to modeling, incorporated into the Cost-Benefit Analysis without any apparent validation, makes it difficult to ascertain the benefits to the aviation industry in terms of true costs of proper fatigue management and savings from accident avoidance. Furthermore, reduced fatigue leads to tertiary benefits, as was seen in the rail industry when improved fatigue rules led to reduced wear and tear in locomotives\textsuperscript{5}. A more robust scientific approach to determining the actual contribution rate is necessary for a valid Cost-Benefit Analysis.

- Transport Canada employs a period of 15 years in their Cost-Benefit Analysis; 50% longer than the modeling that the FAA used. Transport Canada attempts to justify this expanded timeframe by pointing to the long implementation period for certain air operators, neglecting to consider that the cost to industry is significantly magnified by incorporating an additional five years of impact on major airlines. A more appropriate safety-first approach would, as previously indicated, establish a one-year implementation period across all operators, rather than delaying implementation for some portions of the industry; including those flying into rural and remote areas in small aircraft. Failing that, an honest accounting would independently assess separate 10-year periods starting after the coming into force dates for each portion of the sector.

- More people are filling aircraft seats today and airlines are operating aircraft with more seats than they did 10-20 years ago. Essentially, there is a high probability that in the event of a fatal accident, the fatality rate could be higher because the average amount of passengers per aircraft has risen. Transport Canada does not provide details in their analysis that they have accounted for this trend. High fatality rates in an accident means that the industry enjoys even higher benefits when accidents are avoided.

\textsuperscript{4} (Office of Aviation Policy and Plans, 2011, p. 11)
\textsuperscript{5} (Dorrian, Hussey, & Dawson, 2007)
Conclusion

While the proposed regulations make some improvements to Canada’s regulatory regime, there are shortfalls that must be addressed. The more than 8,000 professional pilots represented by the Safer Skies coalition will have grave reservations about the integrity the Canadian system if the changes we propose to improve fatigue provisions are not made.

The draft regulations set out flight duty time limits that fall short of those recommended by science to a significant degree, while also not harmonizing with the rules adopted by the United States in 2010, as well as other jurisdictions.

The draft regulations propose a two-tier implementation period forcing the most vulnerable pilots, those flying smaller aircraft (typically in rural and remote areas) to wait four times longer than other pilots for the rules providing fatigue protection to come into force. The regulations should come into force in no more than 12-18 months.

With respect to the Fatigue Risk Management System, based on the severity of the draft regulation’s critical issues, as well as the other concerns detailed in the attached regulatory review, the 8,000 pilots of the Safer Skies coalition have no choice but to refuse to participate in the FRMS as proposed.

The Safer Skies coalition calls on Transport Canada to adjust its proposal so that Canada’s fatigue regulations are more closely aligned with science and harmonized with the best practices of our international aviation partners.
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