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# Aircrew Fatigue Management in the New Zealand Aviation Industry

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# ABSTRACT

In the past two decades, fatigue has been widely studied and has proven scientifically to be a threat to flight operations and aircrews, as evidenced in disastrous aviation accidents. Internationally, it is recognised that the prevention or minimization of fatigue requires a collaborative approach, hence not just individuals. However, because of individual differences in coping with fatigue, the complex factors associated with fatigue, and the dynamics in aviation operations, it has proven unrealistic to expect to have a “one size fits all” policy to manage fatigue.

Nevertheless, with increased competition in the aviation domain, aircrews are increasingly made to work according to organisational requirements through rosters or schedules that function in “24/7” settings. Such arrangements have been, and are still being mandated by flight and duty time limitations in civil aviation rules elsewhere. With increased knowledge on the effects of fatigue in the cause of accidents and incidents, it has for some time been known that the historical prescriptive approach does not address potential fatigue-related factors. Australia and New Zealand Civil Aviation Authorities have led the way in developing an alternative approach in the management of fatigue, in a move to operate beyond mandated flight and duty time limitations. Such an approach does not intend to breach current prescriptive rules, but rather incorporate industry views by establishing an alternative strategy in managing aircrew fatigue considered best for the operation, organisation and the pilot.

Given the minimal information available on fatigue management in the New Zealand Aviation Industry, this study was initiated to gather perceptions from management, rostering staff and pilots on how their organisations are currently managing fatigue, via a questionnaire.

Results of the study showed that 33% of participants reported maintaining AC119-2 in meeting their flight and duty time limits, 9% indicated using AC119-2 with

dispensations, 11% stated that they have an accredited fatigue management scheme, 10% indicated “don’t know” and 38% reported using “other” methods as an alternative to mandated flight and duty time rules. The high percentage of participants opting for “other” methods is an indication that participants are not confident in positively identifying constructive strategies existing within their organisation. This reveals that knowledge on current rules and guidelines pertaining to flight and duty time limitations is lacking.

The main implication of the study is that knowledge on prescribed flight and duty time limitations (AC119-2) and fatigue management (AC119-03) in the aviation industry requires substantial enhancement to ensure an effective and sustainable non-prescriptive approach in the management of fatigue. The study further suggests that more informed education on AC119-2 could be advocated in the industry as a starting point, which may form a strong and mature basis for the development of successful and effective fatigue management schemes. These suggestions warrant a participatory and combined effort involving the New Zealand Civil Aviation Authority and the New Zealand Aviation Industry.

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