

## The Role of People in Continuing Airworthiness: A Case Study Based on the Royal Thai Air Force

**Authors :** B. Ratchaneepun, N.S. Bardell

**Abstract :** It is recognized that people are the main drivers in almost all the processes that affect airworthiness assurance. This is especially true in the area of aircraft maintenance, which is an essential part of continuing airworthiness. This work investigates what impact English language proficiency, the intersection of the military and Thai cultures, and the lack of initial and continuing human factors training have on the work performance of maintenance personnel in the Royal Thai Air Force (RTAF). A quantitative research method based on a cross-sectional survey was used to gather data about these three key aspects of "people" in a military airworthiness environment. 30 questions were developed addressing the crucial topics of English language proficiency, impact of culture, and human factors training. The officers and the non-commissioned officers (NCOs) who work for the Aeronautical Engineering Divisions in the RTAF comprised the survey participants. The survey data were analysed to support various hypotheses by using a t-test method. English competency in the RTAF is very important since all of the service manuals for Thai military aircraft are written in English. Without such competency, it is difficult for maintenance staff to perform tasks and correctly interpret the relevant maintenance manual instructions; any misunderstandings could lead to potential accidents. The survey results showed that the officers appreciated the importance of this more than the NCOs, who are the people actually doing the hands-on maintenance work. Military culture focuses on the success of a given mission, and leverages the power distance between the lower and higher ranks. In Thai society, a power distance also exists between younger and older citizens. In the RTAF, such a combination tends to inhibit a just reporting culture and hence hinders safety. The survey results confirmed this, showing that the older people and higher ranks involved with RTAF aircraft maintenance believe that the workplace has a positive safety culture and climate, whereas the younger people and lower ranks think the opposite. The final area of consideration concerned human factors training and non-technical skills training. The survey revealed that those participants who had previously attended such courses appreciated its value and were aware of its benefits in daily life. However, currently there is no regulation in the RTAF to mandate recurrent training to maintain such knowledge and skills. The findings from this work suggest that the people involved in assuring the continuing airworthiness of the RTAF would benefit from: (i) more rigorous requirements and standards in the recruitment, initial training and continuation training regarding English competence; (ii) the development of a strong safety culture that exploits the uniqueness of both the military culture and the Thai culture; and (iii) providing more initial and recurrent training in human factors and non-technical skills.

**Keywords :** aircraft maintenance, continuing airworthiness, military culture, people, Royal Thai Air Force

**Conference Title :** ICASOM 2020 : International Conference on Aviation Systems, Operations and Management

**Conference Location :** Bangkok, Thailand

**Conference Dates :** February 03-04, 2020