

Quality Control for the Maintenance Organization in Clark Pampanga for Line Maintenance

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ABSTRACT: Unscheduled maintenance happens where an unknown problem occurs that is not in the schedule of tasks to be performed by a mechanic unlike scheduled maintenance, line maintenance is done every landing and before take-off of the aircraft and in some cases due to technical and mechanical problem observed and detected during line maintenance cancellation of flight is implemented and a declaration of AOG “Aircraft on Ground” meaning the aircraft will be grounded until the time that the aircraft can meet the standards of airworthiness.

KEYWORDS: Maintenance Repair Organization, Civil Aviation Authority, Federal Aviation Administration, Philippines Civil Aviation Regulations, Quality Control

I. INTRODUCTION

The aviation in the Philippines is composed of three major businesses; Commercial Aviation, Approved Training Organizations and Maintenance Repair and overhaul (MRO). Among these three, the MRO plays an important role in keeping the the operations at the highest safety level. To achieve this, the Quality Control (QC) of an MRO must be reliable, efficient, and effective. The improvement of a sound quality control framework for maintenance is fundamental for guaranteeing high level quality of repair, overhaul, and continuous airworthiness. One of the determinants of a high standard quality is reliability, which pertains with ensuring that the maintenance tasks formulated for the aircraft are effective and their periodicity is adequate. Apparently, there are still times where some of the maintenance tasks are not scheduled properly, checked accurately, and done fittingly which causes a longer ground time for the aircraft. According to De Grendel (2016), In numerous cases, scheduled maintenance tasks are fair passages on a to-do list of work that should be performed with nothing inside the work package to drive compliance. The outcome can be a “tick and flick” style regular maintenance program that fails to recognize future failure warning conditions. Over reliance on past experiences or norms could also affect the quality of work being done by the mechanics. When tasks are based from opinions and conclusions rather than what is on the maintenance manual or the maintenance task cards, a project can be bound to having troubles. The research aims to improve the quality control system of the MRO in Clark to lessen the ground time of the aircrafts being repaired, overhauled, or maintained.

II. OBJECTIVES OF THE STUDY

A. General Objective

The study aims to improve the Quality control system of the Maintenance Repair and overhaul in Clark, Pampanga

B. Specific Objectives

Specifically, the research aims to:

1. Identify the causes that results to poor quality standard in the MRO
2. Improve the existing system being followed by the MRO in Clark.

III. RESEARCH METHODOLOGY

In this chapter it deals with the research design, participants, sampling technique, instrument, data collection and data analysis which will be applied in this study.

Research Design

In this study qualitative design will be utilized to identify the influence of Quality Control for The Maintenance Organization in Clark Pampanga for Line Maintenance. The participants will impart their inputs and own experiences on identifying the causes of poor quality standard in the MRO, and how to improve the existing system being followed by the MRO in Clark

A. Participants: In this study the participants will be the Line Maintenance Mechanic or Aircraft Maintenance Technicians and Line Maintenance Engineers in an MRO in Clark. A letter will be given upon requesting for the permission to the Supervisor, Crew Chief and Maintenance Head Chief to be able to administer the dialogue among the participants.

B. Instruments: Data will be collected through the use of close-ended questionnaire sent via online using google forms as a platform and focus group discussion to achieve the desired viewpoints of chosen Aircraft Technicians and Engineers. And open-ended questions for their experience in the field. The research will stick on the specific questions to determine the Perspectives of Aircraft Technicians and Engineers about Quality Control for The Maintenance Organization in Clark Pampanga for Line Maintenance

C. Data Collection: The researcher will ask for an approval on distributing the questionnaires to the participants from the Technicians and . After it has been approved, it is the time that the questionnaires will be distributed. After seven days, the questionnaire will be collected by the researcher to give enough time to answer it, taking into consideration their busy schedule.



Figure 1. Illustrates the data collection procedure which will be used in this study.

D. Ethical Consideration: Proper consent of the participants and authorities of the study will be sought by the researcher. The purpose and nature of the study are mentioned in the consent form. The data gathered will be kept in strict confidentiality. The researcher should ensure that the data are secured to promote trust between the researcher and the participants.

IV. ANALYSIS

Through the results gathered, and interview conducted we were able to identify the major issues in the Quality system. Identifying these problems can help us improve the current system that is being practiced by the organizations.

A. Training: Deficiency of qualified aircraft mechanic contributes to the delay of work in an organization. For a mechanic to be able to perform a specific task, he needs to be a licensed Aircraft Mechanic approved by CAAP, a rating holder of the specific component of the aircraft (Airframe, Powerplant, Airframe and Powerplant, Avionics) and must have the rating of the aircraft to be serviced. If any one of these requirements is not met, the mechanic will not be able to perform the scheduled task. Keeping track of the training and licenses of the mechanic is the responsibility of the mechanic themselves and the organization. Equipping them with the right knowledge and skill would also help in identifying the problems easily and being able to solve them in a short amount of time. One of the reasons why Aircraft

Mechanic Technicians and Line Maintenance Engineers lacked in training because they don't want to accept the offered trainings to them due to high demands and conditions by the company, wherein they are required to render their 5 years in the company and if they want to resign and expand their working experiences to other companies, they must pay the training that they've attended that was provided by the operator.

B. Communication: The importance of communication is not surprising especially once you consider the amount of time people spent in relaying messages. Basic communication requires two parts, receiver and sender. In an MRO a task is not usually accomplished by a single person, it is passed down from one person to the other until it reaches to the person where it is meant to be.

C. Team Collaboration: An organization is composed of different individuals with different strengths and weaknesses. The success of the quality control is a collaborative effort from addressing the problem by the quality department by conducting internal audits to creating a plan to address the problem, monitoring how the corrective action is being helpful, and by continuously improving by conducting regular checks.

D. Man Power: Man power is the number of people working or available for work or service. In the interview it was addressed that there is a lack of man power in performing a task, due to some mechanics and engineers filed a leave or a sick leave and not able to go in the field to work with a man power of fifteen (15) persons for more than ten (10) aircraft which needs an aid for maintenance, man power is a factor for a delayed maintenance task in an aircraft. Fifteen (15) persons includes line the crew chief, two (2) maintenance operations controller and two (2) defect analysts. Ten (10) persons are working in line for more than ten (10) aircrafts.

E. Environment: The Environment of an MRO is clearly stated under PCAR Part 6.3 which states that “A certificated approved maintenance organization must provide personnel, facilities, equipment, and materials in quantity and quality that meet the standards required for the issuance of the certificate and ratings that the approved maintenance organization holds.”

CONCLUSIONS

To improve the quality control of the MROs in Clark three major issues must be improved. The training of the personnel, communication within the organization, the environment within the work area and the man power inside. The continuous improvement of the quality system greatly relies on conducting internal audits. This is a venue in identifying the problems, analyzing them, and creating a corrective action. Concentrating in areas where little or no improvement was made helps in isolating specific problems to create progress. Quality control is a non-stop cycle, it is a continuous

process of improving what has been implemented and making sure that it is being followed. Schools offering Aeronautical Engineering courses and Aircraft Technicians courses needs to improve their system in terms of hands-on training for the students for the students to be prepared in the field of aviation. A systems and collaboration between a school and an airliner or maintenance organization relationship must be well develop.

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