Task-based Civil Aviation Safety Inspector’s Training Course System

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Abstract. The training quality to the authority’s safety inspectors is the foundation for them to implement safety management responsibilities to the aircraft operators correctly. Task-based training course designing is a new method to build up the course system for civil aviation safety inspectors. After analyzing inspectors’ practical tasks, researching the relationship between tasks and available training courses will help the authority to select suitable courses for the inspectors.

Introduction

The civil aviation safety inspector’s qualifications are the key points in flight standards management for the national civil aviation authority. Active management to the inspector’s qualifications includes personnel resumes, training experiences, and task authorizations mainly. The inspectors’ training experiences shall comply with the training requirements, which derive from the work requirements. The training quality to the authority’s safety inspectors is the foundation for them to implement surveillance responsibilities to the aircraft operators correctly. Only qualified inspectors can understand and deal with their work well.

The goals of the research in this paper are:
1. Analyzing the inspectors’ job tasks, referring to flight operation, cabin safety, and airworthiness maintenance.
2. Determining the relationship between inspectors’ job tasks and training course requirements.
3. Selecting suitable courses to fulfill the inspectors’ practical work requirements.

Inspector’s Job Task Analysis

According to the International Civil Aviation Organization’s (ICAO) documentations, a national civil aviation authority’s inspectors shall accomplish these job functions: develop regulations, issue air operator certificates, conduct inspections and take corrective action. In detail, the inspectors duties involves the following contents:
1. Certification of air operators
2. Continuing surveillance of operators
3. Informing the CAA and operator of deficiencies
4. Recommending corrective action
The inspectors’ responsibilities are very important, and they perform a critical job function which is essential to aviation safety. The civil aviation authorities shall provide trainings for their inspectors. ICAO recommends that the inspector training system may include only two training profiles: one is for the operations inspectors; the other is for the airworthiness inspectors. There are 3 categories of job specialties for the operations inspectors, and 3 categories of job specialties for the airworthiness inspectors. For every specialty, there may be hundreds of possible job functions.

The Chinese aviation safety inspectors’ positions and work assignments are different from the ICAO recommended ideal system. After comparing the common specialties and the differences, the following specialties are determined for the Chinese inspectors to work in flight operation, cabin safety, airworthiness and aviation sanitation areas:

1. Operation certification
2. Supplemental operation certification
3. Aviation organization certification
4. Continuous surveillance
5. Personnel licensing
6. Aircraft evaluation group
7. Airport operation permission
8. Medical certificate
9. Medical organization certification
10. Airport emergency rescue
11. Emergent public health events management
12. Accident investigation

In every specialty, there shall be different possible job tasks (functions). For example, the personnel licensing includes more than 10 job tasks. Totally, there are nearly 200 job tasks for the 12 categories of job specialties.

Relationship between Job Tasks and Training Course requirements

As to the end of 2015, there are nearly available 300 courses in the domestic training organizations for the Civil Aviation Authority of China. Before selecting suitable courses, it is important to clarify the relationship between job tasks and courses.

There are 3 types of relationship between the Chinese inspectors’ job tasks and possible courses. A possible course means some of the required course to the job tasks is not available as to now, and such a course should be developed by the authority’s qualified training organizations as soon as possible.

The 3 types of relationship are:

1. One job task related to one required training course. This type of relationship means one training course is enough for an inspector to implement a specific job task. For example, in operation certification specialty, the Safety Management System course is the only required training course before an inspector to evaluate and approve an aircraft operator’s own safety management system.

2. One job task related to more than one required training course. This type of relationship means that there are more than one training courses before an inspector to be qualified to implement a specific job task. For example, if an inspector wants to be qualified to surveillance an aircraft operator’s maintenance personnel training program, which is in continuous
surveillance, there are 3 training courses awaiting him: Training Management, Maintenance Personnel Licensing, and Operator’s Manuals Approval.

3. More than one job tasks related to only one required training course. This type of relationship means that an inspector may do more than one job tasks after receiving the very one training course. For example, if an inspector has been trained the Airfield On-site Inspection course, he may implement the airplane operating inspection to both the domestic and the foreign operators, which are two different job tasks in the continuous surveillance specialty.

Suitable Courses Selection

After determining the relationship between job tasks and training course requirements, it is possible for the authority to select suitable courses for the inspectors. As mentioned that there are nearly available 300 courses in the domestic training organizations for the Civil Aviation Authority of China, the Chinese Authority determines to remain 200 courses in the all available candidate courses to fulfill the job task implementation requirements.

But only the existing 200 courses are not enough. In fact, the authority still needs nearly 200 courses to fulfill the task-based training requirements completely. So many courses cannot be developed in a short time, though these required courses are really necessary for the inspectors to implement their safety management functions. As a compromising resolution to this problem, the Chinese civil aviation authority decides to set a transitional period not less than 5 years. In the following 5 years, the inspectors without the appropriate training experiences may be authorized to do some job tasks, if their required training courses are not available now. But such assigned job tasks to these inspectors shall be monitored in acceptable ways, and some alternative trainings, especially some on-the-job, may help them to make up the formal course requirements deficiencies.

Summary

Even though there are some required but not available training courses, the Chinese task-based civil aviation safety inspector’s training course system has been developed now. This training course system will be used to analyze the training requirements and confirm the inspectors to be trained appropriately before they implement their duties correctly in the future.

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References