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Quality and Safety Management System of Maintenance Organizations

AC-145-FS-015 R1 Quality and Safety Management System of Maintenance Organization

1. Basis and Purpose

This Advisory Circular is formulated in accordance with the Civil Aviation Regulations of China "Rules for the Certification of Civil Aircraft Maintenance Organizations" (CCAR-145), and the purpose is to provide guidance for maintenance organizations to establish a standardized Quality Safety Management System (QSMS).

2. APPLICABILITY

This advisory circular is applicable to domestic maintenance organizations approved under CCAR-145. For foreign maintenance organizations approved in accordance with CCAR-145, their quality and safety management systems (QSMS) can be established in accordance with similar regulations of the civil aviation authority of the country where they are located.

3. Cancellation

From the date of issuance of this advisory circular, AC-145-15 "Safety Management System for Maintenance Organizations" issued on July 10, 2009 will be canceled.

4. Explain

All civil aviation authorities have always regarded the maintenance quality management system of aircraft and aircraft components as the focus of safety management, and specified requirements in regulations. With the development of maintenance management theory and practice, the maintenance quality management requirements of CCAR-145 have evolved from a simple quality inspection (QC) method to a quality assurance (QA) system, and then further implements total quality management (TQM) requirements.

The maintenance quality management system plays an important role in ensuring the safety of civil aviation flight. The flight accident rate caused by maintenance problems continues to remain at a low level. The number of accidents also does not meet the public's expectations for flight safety, nor is it acceptable to the aviation industry. To this end, since 2006, the International Civil Aviation Organization (ICAO) has recommended in the Annex to the Convention on International Civil Aviation that Contracting States control of maintenance organizations, airports, air operators and maintenance organizations require the establishment of a safety management system (SMS) to more effectively reduce the occurrence of flight accidents, and through the development of special documents ( D.9859) for guidance.

Internationally, there are many different models of safety management system, but they are generally considered: (1) Safety is the result of an organization's process;

(2) Safety management is actually the result of process quality management;

(3) Safety management system On the basis of process quality management, the safety objectives are emphasized, and the content of risk management is added for this purpose.

It can be seen that the safety management system cannot be independent of the existing quality management system, nor can it be limited to the original system. More views consider it to be the development of the quality management concept. This document is formulated in accordance with the ICAO Standards and Recommended Practices and with reference to document D.9859, but adopts the method of integrating the elements and processes of the safety management system on the basis of the original quality management system; In other words, different products or maintenance work have different degrees of impact on flight safety. Although some maintenance quality problems will not cause direct harmful consequences to flight safety, they are equally unacceptable. Therefore, the requirements for the safety management system of the maintenance organization are mainly measured based on the maintenance quality risk, so it is called the quality and safety management system (QSMS).

5. Terms and Definitions

Hazard: A state or behavior that may lead to a dangerous or serious consequence (but does not occur). Event: An abnormal situation or result that has occurred which, although not causing serious repercussions, has the potential to lead to serious consequences.

Risk: A measure of the danger or serious consequences of a hazard that take into account both severity and likelihood.

Risk Management: Identifying, analyzing, eliminating various hazards and the risks they bring or reducing them low to an acceptable level of management.

Maintenance Error: A malfunction or defect that jeopardizes an aircraft resulting from inappropriate maintenance activities. 6. Establishment of Quality and Safety Management System (QSMS)

6.1 General Requirements

The maintenance organization shall establish a quality and safety management system that meets the following requirements according to its maintenance category and scale, so as to ensure the maintenance quality of the maintenance items it engages in and prevent maintenance errors from affecting flight safety. Adverse effects:

(1) Quality and safety management should be an act of participation of all staff, and ensured by clarifying the responsibilities and work norms of each department and staff;

(2) Setting up a full-time quality and safety department to implement the control of existing risks, take necessary preventive or corrective measures in a timely manner, and continuously improve the management system.

6.2 Responsibility

for quality and safety management The responsible manager of the maintenance unit shall be the first responsible person for quality and safety management, including determining quality and safety management policies, formulating quality and safety management objectives, clarifying the responsibilities and work specifications of relevant departments and personnel, and ensuring sufficient quality Invest in safety, assess the effect of quality and safety management, and promote the establishment of a safety culture.

In order to implement the above-mentioned quality and safety management responsibilities, the responsible manager of the maintenance unit shall organize a quality and safety management committee headed by him, with the participation of the heads of all relevant departments, and the quality and safety department as the office. The responsibilities and work specifications of the Quality and Safety Management Committee shall at least meet the requirements of paragraph

7.2 of this document; the responsibilities, institutional settings and work specifications of the quality and safety department shall at least meet the requirements of paragraph

7.3 of this document.

Note: When the responsible manager of the maintenance unit is an unincorporated representative, its responsibilities shall be confirmed by the legal person with written authorization from the quality and safety management system representative of the maintenance organization and assume responsibility for compliance with civil aviation regulations. Except for the personal actions of the responsible manager, the civil or criminal liability of the maintenance organization in accordance with national laws and regulations shall still be borne by the legal representative.

7. Quality and Safety Management System (QSMS) Management Specifications

7.1 Quality and Safety Management Policies The quality and safety management policies

of the maintenance organization shall be issued through the maintenance management manual, and the specifications of each policy shall be clearly implemented through the formulation of specific procedure manuals. 7.2 Quality and Safety Management Committee

7.2.1 Responsibilities

The quality and safety management committee of the maintenance organization, as the highest decision-making body for the quality and safety management of the unit, shall at least include the following responsibilities:

(1) Listen to the problems and corrective measures found in the quality and safety management work. Report, coordinate related improvement work, and make decisions on controversial matters;

(2) According to quality and safety management policies and objectives, make decisions on relevant inputs, including human, financial, and material

;Assess

the effect of quality and safety management, including handling of serious violations, and fully reflect the safety culture that focuses on promoting quality and safety improvement; (5) Changes according to actual conditions , decide to adjust the quality and safety management policies and objectives. 7.2.2 Work Specifications

The Quality and Safety Management Committee shall discuss and make decisions on the above responsibilities in the form of regular and irregular meetings. Each meeting should include at least the accountable manager, the quality manager and the main department members involved in the topic of the quality and safety management system of the maintenance organization.

The voting system for decision-making by the Quality and Safety Management Committee can be determined by the maintenance unit. Any disputed decision involving non-compliance with the requirements of CCAR-145 should be reported to the unit's chief maintenance supervisor in a timely manner.

Note: Reporting to the chief maintenance inspector of the unit does not mean that the Bureau can override the decision of the quality and safety management committee of the maintenance organization, but only means that the bureau's explanation of the compliance disputes can be obtained through the chief maintenance inspector. For the situation that the Administration determines that there is indeed a compliance problem, the maintenance unit may apply for the corresponding deviation or exemption, or the Administration may take necessary restrictive measures, which

will not result in administrative penalties, but the unreported situation will be in accordance with regulations. Implement necessary administrative penalties.

Each meeting of the Quality and Safety Management Committee shall be recorded in writing or by voice, and a written meeting minutes shall be formed on the issues for which decisions are made. The minutes of the meeting should include at least the time, place, topics, participants, voting records, final decisions and action items of the meeting.

The quality and safety department, as the office of the quality and safety management committee, shall track and control the implementation of the action items determined at the meeting.

The maintenance organization shall establish a special file of the quality and safety management committee to keep the quality and safety management committee's participants, meeting minutes and action items tracking and control records. The records of each meeting in the archives shall be kept for at least three years from the end of the meeting, and the minutes of the meeting shall be kept permanently with the maintenance organization.

7.3 Quality and Safety Department

7.3.1 Responsibilities

The Quality and Safety Department, in addition to serving as the office of the Quality and Safety Management Committee, shall at least include the following special quality and safety management responsibilities:

(1) Organize the preparation of maintenance management manuals and in accordance with civil aviation regulations and the actual situation of the unit of continuously update the quality and safety management system changes of the maintenance organization;

Review and approve the management procedures for the specific implementation of the policies in the maintenance management manual; Post qualification assessment and authorization;

(4) Regular internal review of the work standardization of each department;

(5) Evaluation of various outsourcing units;

(6) Establish an incident and hazard information reporting system, including voluntary reporting;

(7) Organize and carry out quality investigations, including investigations on maintenance quality and error events; (8) Establish a risk management system based on data collection and analysis, and manage and control prominent and key risks.

In order to ensure the relative independence of the implementation of the above-mentioned special responsibilities, the maintenance organization should not assign responsibilities directly related to the production progress and benefits to the quality and safety department.

Note: For the quality and safety department, the maintenance organization may conduct performance appraisal by comparing the results of external review or evaluation, including the review by the Administrator and the evaluation conducted by the third-party professional organization of the voluntary inviter.

7.3.2

The person in charge of the quality and safety department of the organization shall generally be the quality manager of the maintenance unit, and shall report directly to the responsible manager. When the maintenance organization designates the management personnel above the person in charge of the quality and safety management department (such as the deputy general manager, the chief quality engineer or the safety director, etc.) as the quality manager, the management personnel shall be full-time personnel, and shall not concurrently be responsible for the production schedule and production progress. Management responsibilities directly related to benefits.

The quality and safety department shall divide internal institutions or working groups according to the nature of the special work. Each internal body or working group may have multiple responsibilities of the same type, but it should ensure that each job function has clear responsibilities and sufficient qualified personnel according to the workload to complete the assigned tasks

Work Responsibilities of Maintenance Organizations.

For multi-site maintenance units, the internal organization or working group of the quality and safety department can be extended or dispatched full-time personnel according to the situation, or the method of setting up a quality and safety sub-department in the locality can be adopted. For the method of setting up a quality and safety sub-department in the locality, the management method in which the person in charge of the quality and safety sub-department directly reports to the quality manager shall be adopted. If the management method is adopted in which the person in charge of the quality and safety sub-department reports directly to the person in charge of the maintenance site, the following requirements shall be met:

(1) The person in charge of the maintenance site is the person authorized by the responsible manager to be fully responsible for the management of the maintenance site;

(2) Clarify the quality The person in charge of the safety sub-department has the responsibility and power to report directly to the quality manager at the same time;

(3) The responsibilities undertaken by the quality and safety sub-department work under a unified work specification and information management system.

When a small maintenance organization does not set up a separate quality and safety department, the work that the quality and safety department should undertake should be directly responsible by the quality manager.

7.3.3 Work specifications

The quality and safety department, as a department of the maintenance organization, shall formulate various quality and safety management work specifications according to its responsibilities, and carry out work according to the work procedure specifications. Each special quality and safety management work specification shall at least meet the corresponding requirements of paragraph 7.4 of this document.

7.4 Special Quality and Safety Management Work Specifications

7.4.1 Preparation and Update of

Maintenance Management Manual The maintenance management manual shall be prepared and updated by the quality management department, and clearly reflect the actual quality and safety management policies of the unit.

Note: For the content of the maintenance management manual, please refer to the Advisory Circular AC-145-FS-005 "Maintenance Order

Guidelines for Compiling Manuals

The maintenance management manual shall be updated in time under the following circumstances:

(1) The actual situation changes, including the policy changes involved in the decision of the Quality and Safety Management Committee;

(2) The revisions involved in the changes in the requirements of civil aviation regulations and related regulatory documents.

The timeliness of the maintenance management manual update shall comprehensively consider the decision of the quality and safety management committee of the unit, the requirements of civil aviation regulations and related regulatory documents, the revision of specific management procedures, and the time for relevant training and preparation, and the preparation of the updated manual should be completed in advance. and specify the implementation time.

The prepared and updated maintenance management manual shall be discussed and approved by the Quality and Safety Management Committee, signed and approved by the responsible manager, and submitted to the Chief Maintenance Inspector (PMI) of the Administration for review and approval. The maintenance management manual approved by PMI shall be issued to the management personnel of various departments of the unit.

Note: The maintenance organization can consult PMI in advance to avoid the situation that the update of the maintenance management manual cannot pass the review after being signed and approved by the quality and safety management committee and the responsible manager.

7.4.2 Management procedures review and approval

The specific management procedures for the maintenance organization to implement the quality and safety management policies in the maintenance management manual shall be compiled and updated by the main responsible department, and submitted to the quality management department for review after coordinating the opinions of the departments involved.

Note: For the content of management procedures, please refer to Advisory Circular AC-145-FS-005 "Guidelines for the Preparation of Manuals for Maintenance Organizations".

When the management procedure is updated, the time for relevant training and preparation shall be comprehensively considered, the preparation of the updated version of the document shall be completed in advance, and the implementation time shall be specified.

Quality management department of the quality and safety management system of the maintenance organization shall at least consider the following factors in addition to the document format and content specification when reviewing specific management procedures:

(1) Related to the maintenance management manual Compliance with quality and safety management policies; (2) Consistency with the actual situation of the departments involved, including department responsibilities, personnel and implementation conditions;

(3) Coordination with related management procedures.

If the quality management department finds that it is necessary to revise relevant management policies and input issues related to decision-making, it shall be submitted to the quality and safety management committee for discussion and decision-making, and the relevant follow-up work shall be completed before approval.

After the management procedure is approved, it can be submitted to the responsible manager for approval or authorized by the responsible manager to sign and approve the quality manager, and released to the relevant departments and personnel of the unit. Any management procedures that have not been reviewed and approved by the quality management department shall not be implemented in civil aircraft, aircraft component maintenance and related management activities.

Note: Management procedures in the maintenance organization that are not directly related to the implementation of various quality and safety management policies in the maintenance management manual, such as administration, finance, logistics management, etc., do not need to be reviewed by the quality management department, but if the relevant management affects safety and quality management, It should also be included in the scope of the quality and safety management committee's discussion and decision-making, and the responsibilities for improvement and control should be clearly defined through the minutes of the meeting.

7.4.3 Qualification Assessment and Authorization of Key Personnel

Each department of the maintenance unit shall conduct qualification assessment and authorization of its personnel according to the division of work positions, but the following key personnel (if applicable to the unit) shall be qualified and authorized by the quality and safety department. :

(1) Maintenance release personnel, including maintenance release personnel from the maintenance organization agreed at the outstation; (2) Non-destructive testing personnel, including non-destructive testing personnel using other maintenance organizations as agreed; (3) Engine hole detection personnel, including the contracted use of maintenance organizations The Engine Hole Scouts;

Maintenance

Organization personnel

can be determined by the maintenance organization, including but not limited to tool equipment calibration personnel, welding personnel, surface treatment and heat treatment personnel, etc. Note: The hiring of managers in various departments of the maintenance organization is deemed to have considered their qualifications and assigned responsibilities, and there is no need to repeat the qualification assessment, but when engaging in other work (such as maintenance release, quality audit, etc.) Evaluate and authorize in accordance with the corresponding job qualification requirements. The qualification evaluation of the above-mentioned key personnel shall at least refer to the approved training program to ensure that they meet the corresponding qualification and training (or recurrent training) requirements, and comprehensively consider their work experience, health status, and reward and punishment records. Among them, maintenance and release personnel shall have at least More than 2 years of maintenance experience for similar aircraft types or components, and there is no record of dishonesty in the civil aviation maintenance industry. When maintenance release personnel, engine drilling personnel, and engine test personnel need to directly use the English version of the technical documents issued by the aircraft, engine, propeller, and component manufacturers in their work, they shall follow the maintenance personnel license issued by CCAR-66. The English level endorsement should be level 3 or above.

Note: Please refer to AC-145-FS-013 "Development of Training Program for Maintenance Organizations" for the minimum requirements for each job training in the maintenance organization; for the relevant management requirements for dishonest behavior in the civil aviation maintenance industry, please refer to MD-MAT-FS-001 "Untrustworthy Civil Aviation Maintenance Industry" Behavior Management Measures.

The qualification assessment and authorization of each post shall be repeated at least every two years to ensure that the relevant personnel can continue to maintain the corresponding qualifications. Among them, the maintenance release personnel shall maintain at least 6 months of actual maintenance release experience.

Note: The above-mentioned job qualification evaluation by the quality and safety department does not mean that each department of the maintenance organization does not need to be managed, but should first pass the evaluation of the department and recommend it to the quality and safety department before entering the evaluation and authorization process of the quality and safety department of maintenance organization. The method of authorization after post qualification evaluation can be determined by the maintenance organization, but at least the scope of authorization and relevant restrictions shall be clearly displayed in writing.

Note: The quality and safety department of each maintenance organization should pay special attention to the issuance of licenses and model signatures in accordance with CCAR-66R3 and no longer distinguish between majors. If the maintenance work of certain aircraft types still needs to be classified into majors, it is necessary to use necessary qualifications in the post qualification evaluation and authorization process. controlled in a restrictive manner. 7.4.4 Internal audit

The quality and safety department of the maintenance organization shall regularly organize an internal audit of the implementation of its management procedures by internal departments, and cover various management elements of the quality and safety management policy.

Internal audits should be planned for at least a 12-month cycle and conducted as planned. Specifically, it can be planned by department and cover the implementation of all applicable management procedures during the audit, or it can be planned according to the matters corresponding to the management procedures and cover the implementation of all involved departments during the audit, or a combination of methods can be used. The audit plan may be adjusted appropriately with the approval of the quality manager, but the audit time adjustment for any department or matter shall not exceed a maximum of 6 months.

Before each audit, the quality manager or his authorized personnel shall designate full-time or part-time quality auditors, and specify the specific audit items in the form of audit worksheets. In addition to the corresponding qualifications and authorizations, the assigned quality auditors should also fully consider their professionalism and impartiality

(no direct work responsibility for the audited department or matter); the audit worksheet should cover all elements of the applicable management procedures.

During the audit process, the quality auditor shall complete the audit according to the audit items specified in the audit worksheet, and record the problems and existing hazards.

Note: During the internal audit, attention should be paid to both the work records and the work site. The work record should be a mandatory item for each audit. If the audit involves the work of the project during the audit, the work of the project is being opened. Exhibition of maintenance organization, the work site should also become a mandatory item.

After each audit is completed, the relevant responsible departments or personnel should be notified in the form of a notice for the problems and hazards found, and corrective requirements (including measures and deadlines) should be put forward, and reported to the quality manager in the form of an audit report for approval.

For the correction of problems and hazards found, the quality and safety department shall supervise the implementation of the relevant responsible departments or personnel, and report directly to the responsible manager for the problems that cannot be corrected within the required time limit or the relevant policies and procedures need to be adjusted.

Note: For the self-discovered problems in the internal audit of the maintenance organization, if the correction has been completed or the appropriate corrective measures are being taken, the CAAC may not record it as a problem during inspection, and no administrative penalty measures are required for situations that have no major safety impact.

Internal audit records should be kept for at least 5 years.

7.4.5 Evaluation of Outsourced Units

When the maintenance organization needs to provide support through outsourcing in the maintenance work, the outsourced unit shall pass the evaluation organized by the quality and safety department, and specify the units and matters that can be outsourced in the form of a formal list . The evaluation of the outsourced unit shall at least include the following matters: (1) Outsourced maintenance work;

(2) Tool equipment calibration;

(3) Supply of aviation materials;

(4) Material analysis and testing;

(5) Agreement to use other maintenance personnel of the unit, including line maintenance, non-destructive testing, engine drilling personnel, etc.

For the evaluation of external affiliates, the quality manager or its authorized personnel shall designate full-time or part-time quality reviewers, and specify the specific evaluation items in the form of evaluation worksheets.the assigned quality auditors should also fully consider their professionalism; evaluation worksheet of the maintenance organization shall cover the qualification requirements, management specifications, industry credit records and other elements applicable to the outsourced organization and matters.

Note: The outsourced maintenance work shall comply with the CCAR-145 Department's restrictions on outsourcing of the applied maintenance capability, and the installation of purchased or exchanged used aircraft parts shall also be regarded as outsourced maintenance.

The assessment of the outsourced unit can include on-site and written methods, among which the outsourced maintenance unit and the aviation material distributor without the maintenance license approved by CCAR-145 should carry out the on-site assessment.

Note: When the outsourced maintenance organization does not have a maintenance license approved in accordance with CCAR-145, it should generally be limited to the country where the maintenance organization is located, and the original parts will be returned for installation after repair (if the method of purchasing or exchanging used aircraft parts is adopted, the external maintenance license shall be The commission unit needs to hold a maintenance license approved in accordance with CCAR-145); for the evaluation of aviation material distributors, the evaluation can be based on the unified organization of the industry organization in accordance with the acceptance standard of the Civil Aviation Administration (for details, please refer to IB-FS-MAT-001). , be simplified or exempted.

During the evaluation process, the quality auditor shall complete the evaluation according to the evaluation items specified in the evaluation worksheet, record the problems found, and report to the quality manager for approval in the form of an evaluation report. Only outsourced units and matters approved by the quality manager can enter the list and publish it within the maintenance unit.

Note: Outsourcing units and matters that have passed the evaluation only mean that they meet the corresponding qualification requirements. After the actual outsourcing work is returned, the maintenance unit needs to pass the professional acceptance inspection and confirmation, and report any problems to the quality and safety department in time.

The evaluation of external affiliated units shall be repeated at least every two years to ensure that the external affiliated unit can continue to maintain the corresponding qualifications, and shall be verified by statistical analysis of the actual external affairs of the unit.

Note: When the assessed outsourcing unit meets the corresponding qualifications, but the actual outsourcing work is returned, it will

be released on 2022.13.

When problems are found in the quality and safety management system of the maintenance organization, the maintenance organization shall suspend its qualification in time and report to the bureau.

7.4.6 Incident and hazard reporting system

The quality and safety department of the maintenance organization shall establish an efficient incident and hazard reporting system, including active collection and voluntary reporting.

The system actively collects events and hazards that need to be reported by various departments and personnel according to regulations, including the events and hazards involved in the internal audit of the quality and safety management department, quality investigations, and interviews and discussions. The active collection system should specify reporting responsibilities, methods, channels, and deadlines, and should be clarified in the corresponding management procedures, and should be able to report to the quality management department in a timely manner.

Voluntary reporting system refers to incidents and hazards that are not required as mandatory, but are voluntarily reported or reported by relevant personnel with or without signature out of a sense of responsibility. In order to facilitate voluntary reporting, the quality and safety management department should at least store easily accessible written report forms in each production workshop, and set up a special information collection box (or establish a suitable computer network-based voluntary reporting system).

When both the active collection system and the voluntary reporting system fail to receive relevant reports for one consecutive quarter, the quality and safety management department shall organize personnel to learn about the relevant situation through interviews and seminars, and enter directly collected incident and hazard information into the active collection system.

Regardless of the incident and hazard reports collected from any channel, the quality and safety management department shall conduct necessary verification, sorting and processing in a timely manner, identify potential or existing risks, and use them as inputs to the risk management system. In addition, the quality and safety management department should regularly compare the quantity and quality of voluntary reports, voluntary reports of various departments, and the information entered by the quality and safety department, and use them as the report content of the meeting of the quality and safety management committee.

Note: Voluntary reports, active reports from various departments, and regular comparison of the information entered by the quality and safety department can reflect a unit's safety culture to a certain extent. That is, a good safety culture should be based on voluntary reporting and active reporting by various departments. Otherwise, it cannot be regarded as a good safety culture. Management needs to think about improving related management policies, especially punishment policies (some performance-related awards, incentive Policy (which may also be considered a Penalty Policy) to encourage truthful collection of incident and hazard reporting. 7.4.7 Quality investigation

When one or a combination of the following events occurs, the quality and safety management department of the maintenance organization shall immediately organize and carry out the corresponding quality investigation

: Error reporting;

(2) Maintenance errors

maintenance process; (3) Significant working hours deviation

occurred during the maintenance process; (4) Personal injury or abnormal property damage occurred during the maintenance process;

(5) The incident and hazard reporting system received Incident reporting that affects the quality of repairs. Note: The above-mentioned immediate organization to carry out quality investigation means that the relevant work records or site should be immediately sealed or controlled to ensure the smooth development and authenticity of the follow-up investigation, rather than immediate completion.

Unless the bureau's investigation procedure has been initiated, the quality investigation shall be carried out by the quality manager or his authorized personnel to designate full-time or part-time quality investigators. In addition to the corresponding qualifications and authorizations, the assigned quality investigators should also fully consider their professionalism and impartiality (without direct work responsibility for the department or matter under investigation). The quality investigation shall be carried out and recorded in accordance with the requirements of the corresponding management procedures.

Note: The CAAC’s investigation mainly involves the use of difficulties by air operators or the report of maintenance errors. In this case, the maintenance organization still needs to designate quality investigators to cooperate with the CAAC’s investigation, and clarify the improvement of relevant departments and personnel according to relevant improvement suggestions. Requirement.

After the quality investigation is completed, the incident information, investigation process, investigation conclusion, cause analysis and relevant improvement suggestions shall be recorded in the form of a formal quality investigation report. After the quality investigation report is approved by the quality manager and the relevant improvement requirements are specified, the relevant departments and the relevant departments shall be notified in writing and personnel of the maintenance organization and report to the responsible manager. If it involves the disposal of the relevant responsible personnel or the need to adjust the relevant policies, it shall be included in the meeting of the quality and safety management committee, and shall be implemented after the discussion and decision-making of the quality and safety management committee.

When the quality investigation confirms that there is a problem or that the defect may also exist in other products released by the unit for maintenance, the maintenance unit shall promptly recall or inform the repairer involved to make corrections, and submit a defect and unairworthy condition report to the Administration in a timely manner. When the quality investigation involves other maintenance organizations or due to improper use of factors by the air operator, it should also be reported to the Administrator in a timely manner.

Note: The purpose of the maintenance organization to submit the defect and unairworthy condition report to the CAAC in a timely manner is to urge the repairers involved to correct the relevant problems or defects in a timely manner, so as to avoid the occurrence of the same unsafe event in the future. For situations that do not have major safety impacts, the maintenance unit and the repairer can solve the problem by themselves according to the repair contract or agreement, and the bureau does not need to take administrative penalties. However, if the maintenance organization fails to submit a defect and unairworthy condition report to the Administrator in a timely manner, the Administrator may take administrative penalties regardless of whether there is a major safety impact.

7.4.8

The quality and safety management department of the maintenance unit of the risk management system shall establish an effective risk management system, collect, identify and analyze the quality and safety risks, risk values ​​and tolerances related to the maintenance work carried out by the unit, and study the possible risk reduction Quality and safety management policies and measures to an acceptable level, and their effects are continuously monitored.

The channels for collecting quality and safety risk information may include:

(1) Hazards systematically collected and identified by various departments through brainstorming or using other methods (such as flowcharts, fault trees, etc.);

(2) Hazards collected by the incident and hazard reporting system;

(4) Relevant information published by ICAO and other civil aviation authorities. identifies the list of quality and safety risks that may be involved in the organization based on the quality and safety risks collected by the above methods, and analyzes its risk value and safety risk one by one according to the organization's quality and safety management goals Tolerance (for details, please refer to the risk value and tolerance matrix sample listed in the appendix of this document), study and propose quality and safety management policies and measures to reduce to an acceptable level for situations other than acceptable risks.

Note: In addition to the risks involved in quality management and technical management, the quality and safety risk analysis of the maintenance organization should also be comprehensively analyzed from the perspective of human factors, including risks in occupational satisfaction, overtime fatigue, logistical support, reward and punishment system, etc.

The quality and safety management department shall continuously monitor the effect of risk management, and regularly revise the risk value and tolerance based on the information collected by the event and hazard reporting system, and continuously improve the quality and safety management policies and measures.

The quality and safety risk list, risk value and tolerance analysis and continuous monitoring shall be carried out at least quarterly, and submitted to the quality and safety management committee for discussion and decision-making, and translated into corresponding quality and safety management policies and management procedures for implementation.

8. Coordination with the air operator's safety management system (SMS)

When the maintenance organization is the air operator's maintenance organization, its safety and quality management system in accordance with the requirements of CCAR-145 can be combined with the air operator's safety management system according to the following principles. Coordination:

(1) The air operator's maintenance system is integrated and set up. The air operator's maintenance engineering department can undertake all the responsibilities of the safety and quality management system in accordance with the requirements of CCAR-145, and uniformly participate in the air operator's safety committee, without the need to establish Independent safety and quality committee.

(2) In the case of non-integrated air operator maintenance system, the

air operator maintenance center shall undertake the safety and quality requirements in accordance with the requirements of CCAR-145

The overall responsibility for the quality and safety management system management system of the maintenance organization, establish an independent safety and quality committee in accordance with the requirements of this document, and participate in the air operator's safety committee with the maintenance engineering department. Fleet matters, and incident and hazard reporting systems, quality investigations can be incorporated into an air operator's safety management system.

(3) The situation of the maintenance organization agreed by the air operator The Safety Committee coordinates matters involving the air operator's fleet.