PAN AMERICAN WORLD AIRWAYS, INC.

AEROSPACE SERVICES

QUALITY ASSURANCE PLAN FOR TRANSPORTATION PACKAGES

FOR NORMAL/SPECIAL FORM RADIOACTIVE MATERIAL

(10 CFR 71)

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I. Organization

The final responsibility for the Quality Assurance (QA) Program for Part 71 Requirements rests with Pan American World Airways, Inc., Occupational Medicine and Environmental Health Services (OMEHS) Project. The QA Program is implemented using the organization identified in the attachment (organizational chart).

The descriptions of the responsibilities of the job functions shown on the organizational chart are as follows:

1. Vice-President, Pan American World Airways, Inc., Aerospace Services

   The Vice-President has overall responsibility for management of Pan American World Airways, Inc., Aerospace Services.

2. Director, Pan American World Airways, Inc., OMEHS Project

   The Director has overall responsibility for management of the OMEHS Project and has additional responsibilities regarding Nuclear Regulatory Commission (NRC)/State licensed radiological operations conducted within OMEHS as the Chairman of the Pan American World Airways, Inc., Aerospace Services Division (ASD), Radiation Safety Committee.

3. OMEHS Supervisor of Planning and Quality Assurance

   The Supervisor of Planning and Quality Assurance is responsible to the Director for Safety and Quality Assurance within the OMEHS Project.

4. Senior Health Physicist, OMEHS Health Physics Section

   The Senior Health Physicist is responsible for the conduct of the OMEHS Health Physics (Radiological Health) program and is functionally responsive to the OMEHS Director.

   The functions and application of the QA Plan for transport packages possessed by Pan American World Airways (OMEHS) are restricted to procurement, maintenance, repair, and use of approved packages. Design, fabrication, assembly, testing and/or modification of transportation packages shall not be conducted under this QA Program.

   The Health Physics Section of OMEHS performs QA functions relative to the specified use of the transportation packages to assure appropriate elements of Appendix E (10 CFR 71) are implemented.

II. Quality Assurance Program

The management of Pan American World Airways, Inc., OMEHS, establishes and ensures implementation of the QA Program. The OMEHS Director, as the Chairman of the Pan American World Airways, Inc., ASD Radiation Safety Committee, has final responsibility for the conduct of the QA Program.

The OMEHS Director is responsible for regularly assessing the scope, status, implementation, and effectiveness of the QA Program to assure that the program is adequate and complies with 10 CFR Part 71, Appendix E, criteria.

In context with the described use of the transportation packages, the QA Program establishes safety controls for the handling and use of all such transport packages while under the physical control of Pan American World Airways, Inc., OMEHS.

Any disputes which arise from a difference of opinion involving quality between the Health Physics Section and other departments will be resolved by the OMEHS Director and the OMEHS Supervisor of Planning and Quality Assurance.

An indoctrination and training program is established to ensure that:

1. Personnel responsible for performing quality-related activities are instructed as to the purpose, scope, and implementation of the QA manuals, instructions, and procedures.

2. Personnel performing quality-affecting activities are trained and qualified in the principles and techniques of the activity being performed.

3. The scope, the objective and the method of implementing the indoctrination and training program are documented.

4. Proficiency of personnel performing quality-affecting activities is maintained by retraining, reexamining, and/or recertifying.

Quality related activities are performed with specified equipment under suitable environmental conditions, and prerequisites have been satisfied prior to inspection and test.

III. Procurement Document Control

Procedures are established that clearly delineate the sequence of actions to be accomplished in the preparation, review, approval, and control of procurement documents.

Procurement documents for transport packages will identify the applicable 10 CFR Part 71, Appendix E, requirements which must be complied with and described in the supplier's QA Program.

Procurement documents will contain or reference the design basis technical requirements including the applicable regulatory requirements, material, and component identification requirements, drawings, specifications, codes, and industrial standards, test and inspection requirements, and special process instructions.

Procurement documents will identify the documentation (e.g., drawings, specifications, procedures, inspection and fabrication plans, inspections and test records, personnel and procedures qualifications, and chemical and physical test results of material) to be prepared, maintained, and submitted to Pan American World Airways, Inc., (OMEHS), for review and approval.

Procurement documents will contain a statement to indicate to the supplier that a responsible representative of Pan American World Airways, Inc., (OMEHS), has the right of access to the supplier's facilities and records for source inspection and audit.

IV. Instructions, Procedures, and Drawings

Activities affecting quality under this Program are prescribed and accomplished in accordance with documented instructions, procedures, or drawings.

V. Document Control

Review, approval, and issue of documents and changes thereto, prior to release, are procedurally controlled to assure that they are adequate and the quality requirements are stated.

Changes to documents are reviewed and approved by the same organization(s) that performed the original review and approval or by other qualified responsible organizations delegated by the OMEHS Director.

Approved changes are included in instructions, procedures, drawings, and other documents prior to implementation of the change(s).

Documents are available at the location where the activity will be performed prior to commencing the work.

A master list, or equivalent, is established to identify the current revision number of instructions, procedures, specifications, drawings, and procurement documents.

VI. Identification and Control of Materials, Parts, and Components

Procedures are established to identify and control materials, parts, and components including partially fabricated subassemblies.

Identification of materials and parts important to the function of safety-related systems and components can be traced to the appropriate documentation such as drawings, specifications, purchase orders, manufacturing and inspection documents, deviation reports, and physical and chemical mill test reports.

Correct identification of materials, parts, and components is verified and documented prior to release for fabrication, assembling, and installation.

VII. Control of Special Processes

Special process such as welding, heat treating, nondestructive testing, and cleaning are procedurally controlled.

VIII. Inspection

An inspection program which verifies conformance of quality-affecting activities with requirements is established, documented, and accomplished in accordance with written and controlled procedures.

Inspection personnel are independent from the individuals performing the activity being inspected.

IX. Control of Measuring and Test Equipment

Measuring and test instruments are calibrated at specified intervals based on the required accuracy, purpose, degree of usage, stability characteristics, and other conditions affecting the measurement(s).

Reference and transfer standards are traceable to nationally recognized standards; or, where national standards do not exist, provisions are established to document the basis for calibration.

X. Handling, Storage, and Shipping

Special handling, preservation, storage, cleaning, packaging, and shipping requirements are established and accomplished by qualified individuals in accordance with predetermined work and inspection instructions.

All conditions (operations, tests, inspections, specifications, etc.) of the NRC package approval and the U. S. Department of Transportation shipping requirements are satisfied prior to shipment.

All necessary shipping papers will be prepared, as required.

Departure, arrival time, and destination of a package will be established and monitored to a degree consistent with the safe transportation of the package(s).

XI. Inspection, Test, and Operating Status

Identification of the inspection, test, and operating status of packages and components is known by affected organizations.

The application and removal of inspection and welding stamps and status indicators such as tags, markings, labels, and stamps are procedurally controlled.

Bypassing of required inspections, tests, and other critical operations is procedurally controlled.

The status of nonconforming, inoperative or malfunctioning packages or components is identified to prevent inadvertent use.

XII. Nonconforming Material, Parts, or Components

The identification, documentation, segregation, review disposition, and notification to affected organizations of nonconforming materials, parts, components, or services are procedurally controlled.

XIII. Quality Assurance Records

Records are maintained to provide documentary evidence of the quality and safety of items and the activities affecting quality safety.

QA records include operating logs; results of reviews, inspections, tests, audits, and material analyses; qualification of personnel, procedures, and equipment; and other documentation such as drawings, specifications, procurement documents, calibration procedures and reports; nonconformance reports; and corrective action reports.

Records are identifiable and retrievable.

A list of the required records and their storage locations will be maintained.

Design related records (e.g., drawings, calculations, etc.) are maintained for the life of the shipping package and all other records are maintained for a minimum of two years.

Inspection and test records contain the following, where applicable:

1. A description of the type of observation.
2. Evidence of completing and verifying a manufacturing, inspection, or test operation.
3. The date and results of the inspection or test.
4. Information related to conditions adverse to quality.
5. Inspector or data recorder identification.
6. Evidence as to the acceptability of the results.

XIV. Audits

Audits are performed in accordance with preestablished written procedures or check lists and conducted by personnel not having direct responsibilities in the areas being audited.

Audit results are documented and then reviewed with management having responsibility in the area audit.

Responsible management takes the necessary action to correct the deficiencies revealed by the audit.

Deficient areas are reaudited on a timely basis to verify implementation of corrective actions which minimize recurrence of deficiencies.

Audits of the QA Program are performed at least annually based on safety significance of the activity being audited.

PAN AMERICAN WORLD AIRWAYS, INC.
OCCUPATIONAL MEDICINE AND ENVIRONMENTAL HEALTH SERVICES (OMEHS) PROJECT
ORGANIZATION CHART
RELATIVE TO NRC QA PROGRAM
(10 CFR 71)