CHAPTER 22

Flight Crew and Flight Operations Officers Basic Indoctrination Curriculum Segments

1.0 PURPOSE

1.1 This Chapter specifies the objectives and content of basic indoctrination curriculum segments. This training is required for all flight crew members and flight operations officers that are enrolled on an initial training programme as newly hired flight crew members.

1.2 Basic indoctrination is normally the first curriculum segment of instruction conducted for newly-hired flight crew members and flight operations officers. It serves as the initial introduction for the newly hired employee to the operator and, in many cases, to the operational requirements of the Nigeria Civil Aviation Regulations.

2.0 REFERENCE

2.1 **Regulation 8.10.1.9 of the Nigeria Civil Aviation Regulations.**

2.2 CHECKLIST: CL: O-OPS024

3.0 OBJECTIVE OF BASIC INDOCTRINATION

3.1 The objective of basic indoctrination training is to introduce the newly hired flight crewmembers and flight operations officers to the operator and the manner of conducting operations in air transportation. It specifically acquaints the student with the operator's policies, procedures, forms, organizational and administrative practices, and ensures that the new employee has acquired basic aviation knowledge.

3.2 The flight crew member basic indoctrination curriculum segment consists of training modules which contain information applicable to the new employee's specific duty position. Two general subject areas are required during basic indoctrination training. These subject areas are "operator-specific" and "Licensed-personnel-specific" training.

3.3 These two areas serve to acquaint the new employee with the operator's means of regulatory compliance and to ensure that basic knowledge has been acquired by the new employee before entering aircraft ground and flight training. These two areas are not always mutually exclusive and in many cases may be covered in the same training module.

4.0 OPERATOR-SPECIFIC INDOCTRINATION TRAINING

4.1 The first subject area, "operator-specific," must include training modules in at least the following:

4.1.1 Duties and responsibilities of flight crewmembers and flight operations officers;

4.1.2 Appropriate provisions of the Regulations;

4.1.3 Contents of the air operator's operating certificate (AOC) and operations specifications (OpSpecs).

4.2 Operator-specific training modules should also include information about the operator which the new employee needs in order to properly perform his duties as an employee of the operator. This information may include such items as the operator's history, organization, policies, scope of operation, administrative procedures, employees' rules of conduct, compensation, benefits and contracts.

5.0 LICENSED-PERSONNEL-SPECIFIC INDOCTRINATION TRAINING

5.1 The second subject area, **"LICENSED-PERSONNEL-SPECIFIC,"** must addressappropriate portions of the air operator's operating manual. Licensed-personnel-specific training should also include other pertinent information to ensure that the new employee will be prepared for aircraft ground and flight training. Licensed-personnel-specific indoctrination training should include elements which show that training applicable to the duty position will be given on the general principles and concepts of the following:

5.1.1 Flight supervision and control (this includes dispatch or flight release for operations under Part 8 and Part 9 of the Nigeria Civil Aviation Regulations);

5.1.2 Mass and balance;

5.1.3 Aircraft performance and airport analysis;

5.1.4 Meteorology;

5.1.5 Navigation;

5.1.6 Airspace and ATC procedures;

5.1.7 Enroute and terminal area charting and flight planning; and

5.1.8 Instrument procedures.

5.2 Licensed-personnel-specific indoctrination training should address the kind of operation and the

general capabilities of the operator's aircraft. For example, an operator using turbojet aircraft for commercial operations should include high altitude meteorological information (for example, the Jet stream) in the meteorology training module. An operator of a single-engine reciprocating powered aircraft, who is not operating at high altitudes, would not normally need to address high altitude meteorology in this module. It is important to note that Licensed-personnel-specific training is not "aircraft-specific" and is

6.0 FLIGHT CREW BASIC INDOCTRINATION TRAINING MODULES

6.1 The flight crew member basic indoctrination curriculum segments must include as many training modules as necessary to ensure appropriate training. An example curriculum segment is shown at appendix 1. Each module outline must provide at least the following:

6.1.1 A descriptive title of the training module;

6.1.2 A list of the related module elements to be presented during instruction on that module.

6.2 The training module outlines must contain sufficient elements to ensure that a new employee will receive training in both operator-specific and Licensed-personnel-specific subject areas to provide a suitable foundation for subsequent aircraft-specific" curriculum segments. An operator has a certain amount of flexibility in the construction of these training modules. For example, the Licensed-personnel-specific training modules for new employees with significant experience in operations may be less comprehensive than the training modules for new employees without such experience. In a case where an operator needs short term additional flight crew, he would normally hire only highly qualified personnel with experience in the type of operations envisaged.

6.3 The following example illustrates one of the many acceptable methods in which a basic indoctrination training module could be presented:

AIR OPERATOR CERTIFICATE AND OPERATIONS SPECIFICATIONS

(a) Definitions, descriptions and organization
(b) Elements
(b) Regulatory basis in the Regulations Within a
(c) Content of Air Operator Certificate and Operations Specifications Training
(d) Applicable Limitations and Authorizations Module

6.4 It is not necessary or desirable to include detailed descriptions of each element within a training module outline. Such detailed descriptions are more appropriate when included in the operator's courseware such as lesson plans. During the approval process, the FOI should review lesson plans as necessary to ensure that the scope and depth of the courseware is adequate. The following example illustrates the interrelationship of training modules in the flight crew member basic indoctrination curriculum segment:

7.0 TRAINING HOURS

7.1 Regulation 8.10.1.9 of the Nigeria Civil Aviation Regulations specifies a minimum of 40 programmed hours of instruction for basic indoctrination training. Normally, 40 hours should be the minimum number training hours for basic indoctrination for air operators who employ personnel with little or no previous experience. Reductions to the programmed hours in certain situations, however, may be appropriate for several reasons. One example would be a merger or acquisition situation where flight crew members new to the surviving air operator may only require "operator-specific" training modules. Another example would be the operator's enrolment prerequisites requiring a high level of operations experience under Part 8 of the Nigeria Civil Aviation Regulations.

7.2 The 40 programmed hours for the indoctrination training programme apply to airoperators. Table 1 provides direction and guidance to FOIs on training hours when approving basic indoctrination curriculum segments for other operators. This table provides national norms. When approving these curriculum segments, FOIs must consider the complexity of the operation and aircraft. For example, training hours for a complex type of operation may need to exceed the national norm while training hours below the national norm for a less complex type of operation may be acceptable.

8.0 COURSE COMPLETION REQUIREMENTS

Completion of this curriculum segment must be documented by a certificate from an instructor or supervisor certifying that a new employee has successfully completed the course. This certification is usually based on the results of a written examination given at the end of the course. With some training methods, the certification may be based on new employee progress checks administered during the course.

9.0 CONTENT OF FLIGHT CREW BASIC INDOCTRINATION CURRICULUM SEGMENTS

A basic indoctrination curriculum segment should show that training will be given in at least two general subject areas appropriate to the operator's type of operation. These subject areas of training are "operator-specific" (see Paragraph 10.0) and ~~i~~censed-personnel-specific" (see Paragraph 11.0).

10.0 OPERATOR-SPECIFIC TRAINING MODULES

10.1 The subject area of a basic indoctrination training curriculum segment referred to as "operator-specific" includes training modules that pertain to the operator's methods of compliance with the regulations and safe operating practices.

10.2 Examples of recommended training modules for the operator-specific subject urea follow:

10.2.1 **Duties and Responsibilities**.

a) Operator history, organization, and management structure;
b) Operational concepts, policies, and kind of operation;
c) Operator forms, records, and administrative procedures;
d) Employee standards and rules of conduct;
e) Employee compensation, benefits, and contracts;
f) Authority and responsibilities of duty position;
g) Operator-required equipment;
h) Operator manual organization, revisions, and employee responsibilities concerning manuals.

10.2.2 Appropriate Provisions of the Nigeria Civil Aviation Regulations

a) Flight crew members and flight operations officers certification, training, and qualification requirements;
b) Medical certificates, physical examination, and fitness for duty requirements;
c) Flight control requirements (dispatch, flight release, or flight-locating);
d) Flight duty and rest requirements;
e) Recordkeeping requirements;
f) Operational rules in Part 8 and Part 9 of the Nigeria Civil Aviation Regulations, (where applicable) and any other applicable regulations;
g) Regulatory requirements for operator manuals;
h) Other appropriate regulations such as flight crew emergency authority, interference with crew members, and reporting requirements.

10.2.3 Contents of Air Operator Certificate and Operations Specifications.

a) Regulatory basis under Part 9 of the Nigeria Civil Aviation Regulations;
b) Definitions, description, and organization of operations specifications;
c) Limitations and authorizations of operations specifications;
d) Description of certificate;
e) Description of the Nigeria Civil Aviation Authority and responsibilities of a Flight Operations Inspector.

11.0 LICENSED-PERSONNEL-SPECIFIC TRAINING MODULES

11.1 The "Licensed-personnel-specific" training modules of the basic indoctrination curriculum segment contain training to ensure a new employee will be able to enter subsequent ground and flight training curriculum segments.

11.2 These modules address the appropriate portions of the operator's manual and standard practices of airmanship and flight procedures. The emphasis in Licensed-personnel-specific training is not aircraft-specific. It should relate to the operator's kind of operation and the family or families of aircraft used by the operator.

11.3 The objective of Licensed-personnel-specific training is to ensure that the new employee has acquired the basic knowledge necessary for operations under the applicable Regulations.

11.4 Examples of recommended training modules for the Licensed-personnel-specific subject area follow:

11.4.1 **Operator Operations Control**.

a) Dispatch, flight release, or flight locating systems and procedures (as applicable);
b) Organization, duties, and responsibilities;
c) Weather and NOTAM information; and
d) Operator communications.

11.4.2 Mass and Balance.

a) Definitions (such as zero-fuel mass, moments, and inches of datum);
b) General loading procedures and centre of gravity computations;
c) Effects of fuel burn and load shifts in flight;
d) Mass and balance forms, load manifests, fuel slips, and other applicable documents.

11.4.3 Aircraft Performance and Airport Analysis.

a) Definitions (such as balanced field, Visual Meteorological Conditions, obstruction planes, and maximum endurance);
b) Effects of temperature and pressure altitude;
c) General criteria (obstacle clearance standards);
d) Airport analysis system as appropriate to the type of operation and family or families of aircraft;
e) Effects of contaminated runways.

11.4.4 **Meteorology**.

a) Basic weather definitions (such as forecasts, reports, and symbols);
b) Temperature, pressure, and winds;
c) Atmosphere moisture and clouds;
d) Air masses and fronts;
e) Thunderstorms, icing, and wind shear.

11.4.5 **Navigation**.

a) Definitions ;
b) Basic navigational instruments;
c) Dead reckoning, map reading and pilotage concepts and procedures;
d) Navigational aids;
e) VHF, VLF, GPS and self-contained systems (as applicable).

11.4.6 Airspace and ATC Procedures.

a) Definitions (such as precision approaches, airways, and ATIS);
b) Description of airspace;
c) Navigation performance and separation standards;
d) Controller and pilot responsibilities;
e) ATC communications;
f) Air traffic flow control;
g) Wake turbulence recognition and avoidance.

Note: *There have been several accidents and incidents related to Boeing 757 (B-757) wake turbulence. Although the B-757 does not fit into the "heavy" classification of aircraft, it is being treated as such until a new classification determination is made. Each of these events occurred when the trailing aircraft was not being provided IFR traffic separation. To reduce the possibility of such occurrences, ATC should issue "Wake Turbulence Cautionary Advisories" to VFR aircraft following B-757 aircraft. Studies of wake turbulence have expanded to include pilot awareness, avoidance, and aircraft-specific procedures for a wake turbulence encounter. .Pilots should be encouraged to maintain the prescribed wake turbulence separation distances. Since wake turbulence is not unique to the B-757, all pilots should exercise caution when operating behind and/or below all heavier aircraft.*

11.4.7 En Route and Terminal Area Charting and Flight Planning.

a) Terminology of charting services (such as Jeppesen);
b) Takeoff minimums, landing minimums, and alternate requirements;
c) General operator flight planning procedures;
d) Flight service and international procedures (as applicable);
e) Airport diagrams.

11.4.8 Concepts of Instrument Procedures.

a) Definitions (such as MDA, DH, CAT II ILS);
b) Holding patterns, procedure turns;
c) Precision approaches (such as CAT I, CAT II, and CAT III);
d) Non-precision approaches;
e) Circling, visual, and contact approaches (as applicable).

12.0 EVALUATION OF FLIGHTCREW BASIC INDOCTRINATION CURRICULUM SEGMENT FOR INITIAL APPROVAL

12.1 When evaluating a basic indoctrination curriculum segment, inspectors must determine that the operator-specific and Licensed-personnel-specific subject areas are properly addressed. Operator-specific and Licensed-personnel-specific elements may be outlined in the same training module.

12.2 Inspectors must determine that basic indoctrination curriculum segments meet the following two requirements:

12.2.1 The operator-specific training must contain information of sufficient quality, scope, and depth to ensure that the crew member fully understands the duties and responsibilities applicable to the duty position. Training modules must also provide enough information to acquaint the new employee with the operator's policies, procedures, and practices.

12.2.2 Licensed-personnel-specific modules must address appropriate portions of the air operator's operating manual and other pertinent information. These modules should contain elements that address the operator's type of operation and certain generalized areas, such as meteorology and the principles of mass and balance. It is essential that inspectors and operators understand that Licensed-personnel-specific training is not aircraft-specific training. Licensed-personnel-specific training is intended to ensure that new employees have acquired fundamental aviation concepts before progressing into ground and flight training for a specific aircraft.

13.0 FLIGHT CREW MEMBER BASIC INDOCTRINATION CURRICULUM SEGMENT CHECKLIST

13.1 The basic indoctrination curriculum segment checklist (table 2) is provided to assist the inspector when evaluating this curriculum segment outline. This checklist is provided for guidance only and must not be construed as containing mandatory or regulatory requirements. This checklist focuses on the two subject areas of this curriculum segment (operator-specific and Licensed-personnel-specific training). It serves as an aid for inspectors when evaluating individual training modules.

13.2 When using the checklist, inspectors should make a side-by-side comparison of the operator's proposal to make the following determinations:

13.2.1 The proposal provides for operator-specific and Licensed-personnel-specific instruction;

13.2.2 The proposal is generalized in nature, and serves to acquaint the new employee with the operator's procedures, policies, and practices;

13.2.3 Normally, training modules should not contain elements which are "aircraft-specific;"

13.2.4 Sufficient training module elements should be listed to ensure the appropriate depth and scope of the material will be presented.

13.3 The checklist is organized with training subjects listed in the left column and evaluation criteria or remarks listed horizontally across the top. Inspectors may use the spaces within the matrix for items such as notes, comments, dates, or checkmarks. There are also blank columns and rows in each checklist that permit inspectors to include additional training modules or evaluation criteria.

APPENDIX 2 - FLIGHT CREW GENERAL EMERGENCY TRAINING CURRICULUM SEGMENTS

GENERAL

There are two types of emergency training that Part 8 of the Nigeria Civil Aviation Regulations operators must provide to flight crew members. One type is "aircraft-specific." This type of emergency training includes instruction and practice in emergency and abnormal procedures associated with aircraft systems, structural design, and operational characteristics. This training provides pilots and flight engineers with the knowledge and skills necessary to perform the emergency or abnormal procedures specified in the approved airplane flight manual (AFM) or those AFM procedures incorporated in the operator's aircraft operating manual. Examples of such procedures are those used when engine, landing gear, flight control, and/or pressurization problems occur. "Aircraft-specific" also includes training on the location of specific items of emergency equipment on the aircraft, such as fire extinguishers, oxygen bottles, life rafts, life vests and first aid kits. Aircraft-specific training must be included in the aircraft ground and flight training curriculum segments. The other type of emergency training is referred to as "general emergency training." General emergency training is required for crew members on each item specified in Part 8 of the Nigeria Civil Aviation Regulations. This section provides direction and guidance on the content, methods of presentation, evaluation, and approval of flight crew member general emergency training. Two distinct subject areas of training are required in the conduct of general emergency training. These areas of training are "emergency drill" training and "emergency situation" training. The general emergency training curriculum segment must contain training modules that provide for training in both subject areas;

NOTE: *"Emergency drill" training provides instruction and practice in the actual use of certain items of emergency equipment, such as the extinguishers, life vests, oxygen bottles, and first aid equipment.*

NOTE: *The discharge of Halon extinguishing agents during fire fighting drills is not appropriate unless a training facility is used that is specifically designed to prevent harm to the environment from the discharged Halon. When such facilities are not used, other fire extinguishing agents that are not damaging to the environment should be used during the drills.*

"Emergency situation" training consists of instruction on the factors involved, as well as the procedures to be followed, when emergency situations occur. Examples include passenger evacuations, ditching, rapid decompressions, aircraft fires, and persons needing first aid. The training modules for general emergency training must address the type of operation performed by an operator. For example, if a operator operates aircraft above 25,000 feet, crew members must receive instruction in subjects such as respiration, hypoxia, decompression sickness, and any related procedures. As another example, a operator which does not conduct extended-over-water operations does not need to conduct training in the use of life rafts.