

CIVIL AVIATION AUTHORITY, PAKISTAN

Air Navigation Order

No. : 91- 0004

Date : 7th April, 2010

Issue : Two

OPERATIONAL CONTROL SYSTEMS

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1. AUTHORITY

1.1 This Air Navigation Order (ANO) is issued by the Director General of the Civil Aviation Authority (CAA) in pursuance of the powers vested under Rule 4 of Civil Aviation Rules 1994 (CARs 94).

2. PURPOSE

2.1 Provision of expanded regulatory information to the Operators on:

- a) Rule 187 that states "the Director-General shall issue or renew Air Operator Certificates, when he is satisfied that an applicant has demonstrated that his equipment, organisation, staffing, maintenance and other arrangements are adequate to secure the safe operation of the types of aircraft to be included in the certificate, on such flights as are to be authorised, and that the applicant can establish and maintain a satisfactory method of supervision of these flight operations. Satisfactory method of supervision of the flight operations under ICAO Standards, is defined to be as Operational Control;
- b) Rule 189 states that the Operator shall comply with such rules as are applicable and with all the operating conditions attached to the certificate and shall conduct his operations at least to the standard of flight safety required to qualify for the issue of such a certificate. Operating conditions attached to the AOC are contained in Operations Specifications which are applicable to Operator, Pilot-in-Command and flight operations officer.

3. SCOPE

This ANO covers the regulatory requirements for all Operators to exercise Operational Control over all commercial flights they conduct. It also covers as to who may be delegated to with the responsibility of Operational Control.

4. OPERATIONAL CONTROL

- 4.1 Operational Control is defined as the exercise of authority over the initiation, continuation, diversion or termination of a flight in the interest of the safety of the aircraft and the regularity and efficiency of the flight.
- 4.2 Civil Aviation Rules and relevant Air Navigation Orders require an Operator to establish and maintain a method of control and supervision of flight operations which is approved by PCAA.
- 4.3 Operational Control systems may vary with the kind of operation the Operator is authorised/proposed to conduct, the complexity of the operations, the means of communication, and with the persons who are involved in preparing for and conducting flights under the Operator's Operational Control system.
- 4.4 In addition to foregoing, following factors should also be taken into consideration for the purpose of Operational Control functions, organization and responsibilities:
 - a) rapidly improving communications capabilities and advances in weather forecasting and reporting in some areas have brought about a trend towards consolidation and centralization of Operational Control facilities;

- b) availability of computerized or stored flight plans and fuel load determination and the use of direct pilot/operations control centre communications have facilitated the performance of the Operational Control of flights;
- c) the Pilot-in-Command may, in many cases, have more up-to-date information and may be in a better position to evaluate evolving flight conditions than personnel in a distantly located.

5. RESPONSIBILITY

- 5.1 An Operator or a designated representative shall have Operational Control responsibility.
- 5.2 The actual responsibilities assigned shall be a part of the approved method of control and supervision of flight operations.
- 5.3 Responsibility for Operational Control shall be delegated only to the Pilot-in-Command and to a flight operations officer. Both are jointly responsible for the pre-flight planning, delay, and dispatch release of a flight in compliance with this ANO and Operator's operations specifications.

6. OPERATIONS MANUAL

- 6.1 The description of the Operational Control system shall be described in Operations Manual which shall be approved by PCAA and shall include the following information, as appropriate to the kind of operation:
 - a) Organization and management system with responsibilities for the Operational Control of all flights in accordance with operating regulations of PCAA applicable to aircraft operations;
 - b) List of name and title of each person designated as representative with the responsibility for Operational Control by the Operator;
 - c) Related policies, processes, standards and procedures;
 - d) Method of Operational Control and supervision of flight operations which shall require an approval of PCAA;
 - e) Functions and responsibilities of flight crew and flight operations officers/flight dispatchers for the initiation, continuation, diversion and termination of flights;
 - f) Guidance on the conditions that must be met before a flight may be initiated or continued, or under which a flight shall be diverted or terminated;
 - g) Methods and procedures for initiating, diverting, and terminating flights;
 - h) Persons or duty positions authorised to, and responsible for, exercise of Operational Control;
 - i) Facilities and location of facilities used by the Operator in the exercise of Operational Control;
 - j) Communication systems and procedures used by the Operator;
 - k) Special co-ordination methods and/or procedures used by the Operator to assure the aircraft is airworthy;
 - l) Emergency notification procedures.
- 6.2 In practice, it is not feasible for an individual to exercise Operational Control without assistance in any but the simplest of flight operations. Most Operators create specialised departments for crew scheduling, load control, and other functions. These functions may or may not be placed under the management and supervision of the "flight control" department. When these functions are delegated to specialised sections of the Operator's organisation, the Operator shall be responsible for the following:
 - a) Establishing a means to ensure that all functions have been accomplished before a flight can be authorised to depart;
 - b) Establish effective internal communications, operating procedures, and administrative controls to meet this obligation;
 - c) Ensuring that these procedures are published in the Operators Operations Manual.

7. RESPONSIBILITIES OF PILOT-IN-COMMAND

- 7.1 Each Pilot-in-Command of an aircraft is, during flight time, in command of the aircraft and crew and is responsible for the safety of the passengers, crewmembers, cargo, and airplane.
- 7.2 Each Pilot-in-Command has full control and authority in the operation of the aircraft, without limitation, over other crewmembers and their duties during flight time, whether or not he holds valid certificates authorizing him to perform the duties of those crewmembers.
- 7.3 The Pilot-in-Command is the person ultimately responsible for the safety of the flight.

8. RESPONSIBILITIES OF FLIGHT OPERATIONS OFFICER

- 8.1 Because of the nature and extent of the duties and responsibilities involved in the supervision of flight operations, the Operator shall require the services of a flight operations officer in an approved method of control and supervision of flight operations.
- 8.2 Flight operations officer shall be assigned to duty in the company operations control and he shall be responsible, while on duty, for carrying out the Operational Control procedures and policies specified in the operations manual.
- 8.3 The flight operations officer is responsible for:
 - a) Assisting the Pilot-in-Command in flight preparation and provide the relevant information;
 - b) Assisting the Pilot-in-Command in preparing the operational and ATS flight plans, sign when applicable and file the ATS flight plan with the appropriate ATS unit;
 - c) Furnishing the Pilot-in-Command while in flight, by appropriate means, with information which may be necessary for the safe conduct of the flight;

Note: It is equally important that the Pilot-in-Command also convey similar information to the flight operations officer during the course of the flight, particularly in the context of emergency situations.

 - d) Monitoring the progress of each flight under their jurisdiction for advising the Pilot-in-Command of company requirements for cancellation, re-routing or re-planning, should it not be possible to operate as originally planned;
 - e) Issuing necessary information for the safety of the flight;
 - f) Re-despatching a flight if, in his opinion or the opinion of the Pilot-in-Command, the flight cannot operate or continue to operate safely as planned or released;
 - g) Liaison with the air traffic, meteorological and communication services.
- 8.4 The operations manual shall specify the detailed responsibilities and functions assigned to Pilot-in-Command and to flight operations officers in accordance with ANO 91-0024 and ANO 90-0012.

9. OPERATIONAL CONTROL - FUNCTIONS.

- 9.1 Operators shall conduct Operational Control by making those decisions and performing those actions on a daily basis that are necessary to operate flights safely and in compliance with PCAA rules and regulations. Operational Control shall include, but is not limited to the Operator's performance of the following functions:
 - a) Ensuring that only those operations authorised by the Operations Specifications shall be conducted;
 - b) Ensuring that only crewmembers trained and qualified in accordance with the applicable regulations shall be assigned to conduct a flight;
 - c) Ensuring that crewmembers shall be in compliance with flight and duty time requirements when departing on a flight;
 - d) Designating a Pilot-in-Command for each flight;
 - e) Crew and aircraft scheduling;
 - f) Flight planning;
 - g) Procedures for flight crews and other operations personnel to follow in the performance of their duties;
 - h) Provide the Pilot-in-Command and other personnel who perform Operational Control functions with access to the necessary information for the safe conduct of the flight (such as weather, NOTAMs, and airport analysis);

- i) Specifying the conditions under which a flight may be dispatched or released (weather minimums, flight planning, airworthiness of aircraft, aircraft loading, and fuel requirements);
- j) Ensuring that each flight shall comply with the conditions specified for release before it is allowed to depart;
- k) Ensuring that when the conditions specified for a flights release cannot be met, the flight shall be either cancelled, delayed, re-routed, or diverted; and
- l) Monitor the progress of each flight and shall ensure initiating timely actions when the flight cannot be completed as planned, including diverting or terminating a flight.
- m) Developing and publishing flight control policies;
- n) Collecting and disseminating information that is needed to plan and conduct flights safely, including information about en-route and terminal weather conditions, navigation, and airport facilities.

10. PROVISION OF STAFFING: The Operator shall ensure that:

- a) Operational Control centre is staffed with sufficient personnel to competently handle the assigned workload in accordance with operating regulations;
- b) Daily duty time limitations is prescribed in operations manual for flight operations officers and is adhered;
- c) Flight operations officers are not used for performing other functions such as that of clerks, maintenance officers, etc., to the detriment of the primary function;
- d) The conditions at the Operational Control centre facilities such as space, temperature, lighting, noise level and controlled access are adequate for carrying out dispatch and Operational Control responsibilities.

11. COMMUNICATION FACILITIES: The Operator shall ensure that:

- a) The communications facilities meet the requirements of the proposed operation;
- b) the procedures to be used to notify flights regarding hazardous conditions relating to aerodromes or navigation aids, etc., are adequate;
- c) NOTAMs are be made available to flight crew personnel in a timely manner;
- d) Emergency communications procedures and facilities are adequate;
- e) Flight operations officers are able to establish rapid and reliable voice communications with the flight crew at the gate;
- f) Communications between the Operational Control centre and appropriate ATS facilities are adequate;
- g) Air-ground communications and point-to-point circuits used for flight safety messages are adequate and are reasonably free of congestion to ensure rapid and reliable communications throughout the geographical area of operations;
- h) Flight operations officers are familiar with all facets of operations within their geographical areas of responsibility and are properly authorized and qualified in the use of all communications channels required by the approved method of control and supervision of flight operations;
- i) The necessary emphasis is placed on the timely receipt of messages both in the aircraft and at the Operational Control centre or en-route stations;
- j) Facilities for the communication of weather information to en-route stations and to aircraft are adequate.

12. METEOROLOGY: The Operator shall ensure that:

- a) Adequate procedures have been established to ensure the availability of weather forecasts and reports needed by the applicant for flight planning purposes;
- b) Procedures are established and followed to utilize all useful weather information pertinent to the area with which the Operational Control is concerned;
- c) Up-to-date knowledge is possessed by individual flight operations officers with respect to meteorology in general and to the weather conditions in the area with which they are concerned in particular;
- d) The pilots and the flight operations officers are provided with timely information pertaining to clear air, turbulence, thunderstorms, icing conditions and volcanic ash, as well as to the best routes and altitudes for avoiding such occurrences;

- e) Established procedures is employed by Operational Control for disseminating information pertaining to clear air turbulence, thunderstorms, volcanic ash, icing conditions and other significant weather phenomena;
- f) Procedures are established for provision of adequate weather information to the Pilot-in-Command at en-route stops.

13. OPERATIONAL RECORDS: Operators shall ensure that the procedures are established and are followed for the keeping of records relating to individual flights to ensure that:

- a) the operational flight plans are completed and retained;
- b) the operational flight plans provide for all of the information required by the operations manual;
- c) flight preparation forms are completed and recorded;
- d) an Operational Control log is maintained and that all watch-keeping is adequately documented; and
- e) oil and fuel records are kept.

14. FUEL COMPUTATION: The Operator shall ensure that:

- a) Aircraft are dispatched with adequate fuel loads calculated in accordance with PCAA regulations and the policy set forth in the operations manual as approved by PCAA.
- b) The fuel policy considers the additional fuel necessary to proceed to an adequate aerodrome in the event of failure of one engine or loss of pressurization, at the most critical point while en-route, whichever is higher.

15. PROCEDURES: The Operator shall ensure that procedures are established:

- a) To ensure that flight operations officers are adequately trained and informed on important aspects of flight planning such as weather forecasts and reports, fuel requirements, aerodrome limitations, NOTAM, navigation equipment, navigation facilities, ATM procedures, aircraft performance data, etc.;
- b) To comply with PCAA regulations concerning aircraft performance, i.e. the computation of the mass of the aircraft and the centre of gravity location, critical speeds, climb gradients, runway and obstacle clearance limitations, etc.;
- c) For the release of a flight are established which will ensure that the aircraft and its load are in conformity with the relevant flight release documents, e.g. aircraft maintenance release, minimum equipment list, configuration deviation list, aircraft mass and balance form, manifest, etc.;
- d) For flight monitoring are adequate and meet the requirements of PCAA regulations.
- e) for flight crew to record and report on routine meteorological observation during en-route and climb-out phases of the flight and special and other non-routine; observations during any phase of the flight;
- f) For flight crew to record and report on volcanic activity;
- g) To make available to flight crew and operational personnel, at any aerodrome authorized in its AOC and corresponding operations specifications, pre-flight aeronautical information essential for the safety, regularity and efficiency of air navigation;
- h) For the preparation and dissemination of NOTAM to flight crew and operations personnel of the information contained in the Aeronautical Information Publication (AIP) to flight crew and operations personnel;
- i) For the preparation and dissemination of the information contained in the Aeronautical Information Regulation and Control (AIRAC) to flight crew and operations personnel;
- j) for the preparation and dissemination of the information contained in the Aeronautical Information Circular (AIC) to flight crew and operations personnel.

16. COMPUTATION AND VERIFICATION

- 16.1 The Operator shall ensure that Operations Manual contains the specified procedures, formats, and forms to be used for computation and verification of computed details. A flight plan may be computed manually or with computer aids. Operators shall ensure that flight crew and Operational Control personnel verify the accuracy of planning. Since even computer generated flight plans are subject to input errors, use of a computer system that contains internal software to check for errors in flight plans is desirable.

- 16.2 Operations Manual of the Operator shall contain adequate procedures for flight crew and Operational Control personnel to scrutinise all computer generated and all manually generated flight plans for accuracy.

17. OPERATOR OVERSIGHT RESPONSIBILITY

- 17.1 Operator shall ensure that both its flight crew and Operational Control employees comply with published policies and procedures.

18. OPERATIONAL CONTROL BY CONTRACTORS

- 18.1 Operators may contract for equipment and facilities and, under some circumstances, the services of Operational Control personnel. The person performing those services shall be approved by PCAA for the performance of those services.
- 18.2 If an Operator contracts for the service of a flight operations officer to exercise Operational Control, the Operator shall maintain exclusive control over the duties, functions, and responsibilities of the contract flight operations officer.
- 18.3 Operator may contract to another organisation to exercise Operational Control of its operations provided that the organisation performing the services shall obtain approval and authority to perform those services from the PCAA.
- 18.4 Operators may contract for control functions but the final responsibility for Operational Control shall be retained by the Operator. The Operator shall be responsible for ensuring that:
- b) The training and qualification of contract personnel is adequate;
 - c) Contractor personnel are performing their duties diligently;
 - d) The provisions of the Operator's manual are being complied with;
 - e) An effective means of disciplining contractor personnel is in place when set guidance and policy is not complied with.

19. EVALUATION

- 19.1 Operational Control system of each Operator shall be evaluated by PCAA to ensure that the Operator complies with the applicable rules and that the system is effective and provides for an adequate level of safety in the operations actually being conducted. This detailed evaluation shall be carried out before the issue/renewal of AOC. Subsequent surveillance shall continue to ensure that the same standards for an adequate level of safety in the operations is maintained.

20. IMPLEMENTATION

- 20.1 This Air Navigation Order shall be implemented with immediate effect and it supersedes ANO 91-0004 Issue-1.

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(M. JUNAID AMEEN)
Air Commodore (Retd.)
Director General,
Pakistan Civil Aviation Authority

Dated:7th April, 2010