

OPERATIONAL CONTROL

GUIDANCE MATERIAL FOR INSPECTORS
CA AOC-016

SOUTH AFRICAN



*CIVIL AVIATION
AUTHORITY*

AIR OPERATOR CERTIFICATION

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OPERATIONAL CONTROL

SECTION 1. GENERAL TOPICS**I. BACKGROUND AND DEFINITIONS.**

This model directive contains background information, a definition of terms, and direction and guidance to be used by inspectors concerning operational control. Inspectors should be thoroughly familiar with this information before reviewing those sections of an AOC holder's Operations Manual concerning operational control, and before performing inspections of an AOC holder's operational control facilities, or when conducting licensing of flight operations officers/flight dispatchers or equivalently qualified persons. Flight Operations Inspectors (FOI) should be thoroughly familiar with this material when preparing those portions of an AOC holder's operations specifications (OpSpecs) that relate to operational control.

- A. Definition: The term "Person", means an individual, firm, partnership, corporation, company, association, joint-stock association, or body politic, and includes any trustee, receiver, assignee, or other similar representatives of these entities.
- B. Definition: The term "Operator", means a person, organisation or enterprise engaged in or offering to engage in an aircraft operation. Any person who causes or authorises the operation of aircraft, whether with or without the control (in the capacity of the owner, lessee, or otherwise) of the aircraft, shall be deemed to be engaged in the operation of the aircraft within the meaning of this act.
- C. Regulatory Requirements.

Civil Aviation Regulations (CAR), SUBPART 7: FLIGHT OPERATIONS, Operational control and supervision: 121.07.3 requires that AOC holders exercise operational control of each flight in commercial air transport and establish and maintain an approved method of supervision of flight operations. Operational control is defined as "the exercise of authority over 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".

 - 1. Operational Control Functions - General. AOC holders 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 the regulations. Operational control functions include crew and aircraft scheduling, accepting charter flights from the public, reviewing weather and notices to airmen (NOTAM), and flight planning. Another aspect consists of developing and publishing flight control policies and procedures for flight crews and other operations personnel to follow in the performance of their duties. AOC holders are responsible for collecting and disseminating

information that is needed to plan and conduct flights safely, including information about en route and terminal weather conditions, navigation, and aerodrome facilities.

D. Operational Control Systems - General.

Operational control systems vary with the kind of operation the operator is authorised 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 AOC holder's system. The AOC holder's oversight responsibility includes ensuring that both its flight crew and operational control employees comply with published policies and procedures.

1. AOC holder's Operations Manual. SA-CATS-OPS Subpart .04.2 "OPERATIONS MANUAL, 2.1.3: *Operational control and supervision*" require:
 - that AOC holders prepare and keep current a manual for the guidance of flight, ground and management personnel in the performance of their duties and responsibilities.
 - the AOC holder to include in its Operations Manual the duties and responsibilities of those persons to whom authority to exercise operational control has been delegated.
 - to provide the name of each manager responsible for flight operations (operational control) including a description of their duties and functions. The AOC holder's Operations Manual must contain guidance on the conditions that must be met before a flight may be initiated or continued, or under which a flight must be diverted or terminated.

E. Specific Operational Functions.

Operational control includes, but is not limited to, the AOC holder's performance of the following functions:

1. Ensuring that only those operations authorised by the OpSpecs are conducted.
2. Ensuring that only crew members trained and qualified in accordance with the applicable regulations are assigned to conduct a flight.
3. Ensuring that crew members are in compliance with flight and duty time requirements when departing on a flight.
4. Designating a PIC for each flight.
5. Providing the PIC 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 aerodrome analysis).
6. Specifying the conditions under which a flight may be released (weather minima, flight planning, airworthiness of aircraft, aircraft loading, and fuel requirements).
7. Ensuring that each flight has complied with the conditions specified for release before it is allowed to depart.
8. Ensuring that when the conditions specified for a flight's release cannot be met, the flight is either cancelled delayed, re-routed, or diverted.
9. Monitoring the progress of each flight and initiating timely actions when the flight cannot be completed as planned, including diverting or terminating a flight.

F. Specific Operational Control Systems.

The operator must include, in the Operations Manual, policies and procedures appropriate to the flight release system used.

NOTE: The AOC holder's system for exercising operational control may be described in the AOC holder's OpSpecs. Most operational control systems are too complex to be adequately described in a single paragraph. In such cases, the AOC holder's system may be described in its Operations Manual, and the POI may reference the Operations Manual location of the system description in the AOC holder's OpSpecs.

1. **Operational Control.** requires that AOC holders conducting scheduled passenger carrying flights employ flight operations officers or other equivalently qualified persons (i.e. flight operations officer/flight dispatcher) to exercise operational control of flights. CAR SUBPART 7: FLIGHT OPERATIONS, .07.3 "Operational Control and Supervision" requires the person responsible for exercising operational control for an AOC holder shall ensure the monitoring of the progress of the flight and provisions of information that may be necessary to safety.
2. **Flight Release.** CAR: Subpart 4, .04.2, 2.1.3, places a shared responsibility for the operational control of charter flights with a qualified person exercising operational control responsibilities and the PIC. For purposes of this Inspector's Handbook, employees exercising operational control during charter flights or other non-scheduled flights without passengers are termed flight followers. Inspectors should be aware that AOC holders might apply different job titles to these employees. Except for planned re-release

operations, AOC holders are not required to be able to establish direct radio contact with charter flights while they are en route. The flight follower must, however, concur with the PIC that a flight can be conducted safely before the flight may be initiated. This requirement necessitates a suitable means of communication between the flight follower and the PIC at each point of departure.

G. Organisational Structure.

An operational control function may be centralised in one individual or diversified throughout an AOC holder's organisation. In practice, it is not feasible for an individual to exercise operational control without assistance in any but the simplest of flight operations. Most AOC holders 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 AOC holder's organisation, the operator is responsible for the following:

1. Establishing a means to ensure that all functions have been accomplished before a flight can be authorised to depart
2. Establish effective internal communications, operating procedures, and administrative controls to meet this obligation
3. Ensuring that these procedures are published in the AOC holder's operations manual.

H. Complex Operations.

Practical and economic considerations may motivate AOC holders to install operational control systems that are more sophisticated than those required by the applicable regulation. Two AOC holders that conduct operations under the same regulation may require operational control systems of differing degrees of sophistication. For example, a charter operator carrying cargo may find a simple flight following system to be adequate. A scheduled cargo operator conducting a large number of flights a day to and from major terminal areas may find that a more sophisticated system is necessary to effectively control operations. The CAA may require, based on the complexity of operations, that an operator establishes a sophisticated operational control system as a condition of obtaining authorisation to conduct operations.

1. CAA Evaluation. Inspectors must evaluate each AOC holder's operational control system to ensure that the holder is in compliance with applicable regulations and that the system is effective and provides for an adequate level of safety in the operations actually being conducted.
2. Inadequate Operational Control. An inspector may find that an AOC holder's operational control system provides an inadequate level of control to ensure safety. In this case, the inspector should carefully document the facts and report them to the Commissioner. The Commissioner shall evaluate the facts and, if required, negotiate an acceptable solution with the certificate holder, ensuring that the changes are incorporated. Should the certificate holder be

unwilling to negotiate, the Commissioner may find it necessary to amend the holder's AOC.

NOTE: (CAR Proposed to CARCOM)

CAR: SUBPART 6, Amendment of an Air Operator Certificate

.06.9 The Commissioner may amend any AOC if —

(1) The Authority determines that safety in commercial air transport and the public interest require the amendment,

I. Operational Control by Contractors.

AOC holders may contract for equipment and facilities and, under some circumstances, the services of operational control personnel.

1. AOC Holders Conducting Scheduled Passenger Carrying Operations. If an AOC holder conducting scheduled passenger carrying operations contracts for the service of a flight operations officer/flight dispatcher to exercise operational control, the AOC holder must maintain exclusive control over the duties, functions, and responsibilities of the contracted flight operations officer.
2. AOC Holders Conducting Charter Operations. These AOC holders may contract for control functions. The AOC holder is responsible for ensuring that the training and qualification of contract personnel is adequate, that contractor personnel are performing their duties diligently, and that the provisions of the AOC holder's manual are being complied with. The AOC holder must also have an effective means of disciplining contractor personnel when set guidance and policy is not complied with.
3. OpSpecs Authorisation. Any contract arrangements must be clearly and completely defined in the AOC holder's Operations Manual and authorised by the FOI in the AOC holder's OpSpecs.

II. FLIGHT OPERATIONS OFFICER/FLIGHT DISPATCHER.

A flight operations officer/flight dispatcher is a person who is a qualified flight operations officer/flight dispatcher. AOC holders conducting scheduled passenger carrying must employ flight operations officers/flight dispatchers who are responsible for performing certain specified operational control functions. AOC holders conducting charter operations are not required to use qualified flight operations officer/flight dispatcher to exercise control. (They will use a "flight follower").

III. FLIGHT INFORMATION.

AOC holders must supply or ensure that the information necessary to plan, conduct, and control operations is available to operational control and flight crew personnel. Most of this data can be obtained through subscriptions to a government service or to a commercial aeronautical information and charting service. AOC holders should be expected to supplement these services if necessary and, in all cases, are responsible for ensuring that the information used is accurate and complete. AOC holders must also supply other data, such as NOTAMs, track messages, and aerodrome obstruction data, when applicable. The AOC holder's system to obtain and distribute aerodrome data

must be described in of the OpSpecs. The AOC holder's system may also be described in a section of the operations manual and referenced in the AOC holder's OpSpecs. The AOC holder's operations manual must contain the guidance and procedures by which flight crew and operational control personnel can acquire and apply this information.

A. Aerodrome and Facilities.

This information is obtained from the aeronautical information publications (AIP) of the State from which the AOC holder conducts flight operations. Inspectors should ensure that AOC holders understand their requirement to make this information (for those aerodromes at which operations are conducted) available to their personnel.

B. NOTAMs.

AOC holders must provide NOTAMs to flight crews and operational control personnel for domestic and international operations in airspace covered by NOTAM systems.

1. FOI Responsibility. FOIs must ensure that the AOC holder's operations manual contains specific procedures for the acquisition and dissemination of local NOTAM information to flight crews and operational control personnel. Operational control personnel must be provided with a positive means to collect, analyse, and disseminate current NOTAM information to flight crews.
2. Obtaining NOTAM Information. An acceptable means for AOC holders to acquire this information is to task an authorised agent with collecting this information and reporting it to the AOC holder's operational control centre.

NOTE: FOIs must ensure that the AOC holder's operations manual contains specific procedures for the acquisition, dissemination and cancellation of NOTAM information to flight crews and flight operations officer/flight dispatchers. AOC holders should clearly understand that a means must be devised to collect enroute, destination, and alternate aerodrome NOTAMs that may impact operations.

3. International NOTAMs. International NOTAMs are transmitted electronically to those AOC holders that have arranged to receive them, and they are available, on a request/reply basis, for those offices with Aeronautical Fix Telecommunication (AFTN) circuits. International NOTAMs are also available from some commercial services.
4. Operations Not Covered by NOTAMs. AOC holders may need to establish procedures or systems to develop or disseminate flight safety information concerning areas not covered by domestic or international NOTAMs, such as isolated aerodromes or offshore operations.

C. Track Messages.

Messages containing the co-ordinates of routes to be followed on flexible track systems such as the North Atlantic organised track structure or the Western Pacific flexible track structure are transmitted approximately every 12 hours. USFAA Air Traffic Control Centres send track messages to various operator dispatch offices. Western Pacific and Northern Pacific Track NOTAMs are also available as international NOTAMs under the location identifiers of the respective air route traffic

control centre; examples are Oakland Centre (KZOA) or Anchorage Centre (PAZA). Flightcrews operating over these routes are required to have all current valid track co-ordinates available in the cockpit to verify flight plan co-ordinates, should an in-flight rerouting become necessary. Inspectors must ensure that an AOC holder's operational control personnel have this information for flight planning and flight monitoring purposes.

D. Aircraft Performance and Aerodrome Obstacle Data.

Inspectors must ensure that operators of all types of aeroplanes comply with the performance requirements of CAR: SUBPART 8: AEROPLANE PERFORMANCE OPERATING LIMITATIONS before a flight departs. AOC holders must obtain and use aerodrome obstacle data for take-off performance calculations and must comply with en-route obstacle clearance requirements, including contingency planning for engine failure.

NOTE:

ICAO: Doc. 8168

IV. WEATHER INFORMATION FOR CONTROL OF FLIGHT OPERATIONS.

Inspectors must ensure that the system the operator uses to obtain and disseminate aeronautical weather data is either described in the AOC holder's OpSpecs or that the system description, if in the AOC holder's operations manual instead, is referenced in the AOC holder's OpSpecs.

A. Weather for Flight Release.

The critical time period is the estimated time of arrival (ETA). Inspectors must ensure that AOC holders use all available weather reports and forecasts, as applicable, to cover this time period.

1. Use of Forecasts for Long-Range Operations. Clearly, current weather reports are of less value than forecasts for long-range operations. A flight may be released to a destination that is currently below minima but that is forecast to be above minima at the ETA. The use of hourly reports to monitor trends is prudent and may be required.
2. Release of Flights Based on Forecast Weather Information. AOC holders may be required to release flights with limited weather information. For example, a transcontinental flight must depart several hours before the destination aerodrome opens and the first surface observations (SA) of the day are taken. An operator, flight operations officer/flight dispatcher, or PIC who operates a flight under such conditions would be considered to be in compliance with the CARs under the following conditions:
 - a) Those weather reports and forecasts, which are available, have been obtained and used
 - b) Adequate contingency plans have been made to deal with the situation, should later reports be unfavourable

3. Use of Pilot Reports. The term, "thoroughly familiar," includes being thoroughly familiar with all relevant pilot reports.

B. Conditional Phrases in Weather Forecasts.

Conditional phrases contained in the remarks section of a forecast (in addition to the information contained in the main body of the forecast) are controlling for purposes of a flight dispatch or flight release.

1. Exemptions from Weather Requirements. Many AOC holders have obtained exemptions to release flights to destinations at which the forecast remarks contain conditions below minima. Inspectors should be aware that these exemptions require those AOC holders to exercise a number of additional precautions. Typical precautions include the designation of a second alternate aerodrome and a requirement that the flight operations officer/flight dispatcher monitor and advise the flight crew of conditions while the flight is en route. FOIs of AOC holders using these exemptions should ensure that the AOC holder's operations manual contains adequate guidance.

V. FLIGHT PLANNING.

Inspectors must ensure that AOC holders conduct pre-flight planning so that flights are conducted as follows: to the standards of navigational accuracy required in the airspace traversed, to meet regulatory fuel requirements, to satisfy ATC information and reporting requirements, and to ensure that flights are operated safely. The degree of sophistication and accuracy required in flight planning depends on the type of navigation conducted and the airspace traversed. AOC holders may assign flight-planning duties to either flight crew or flight control personnel. It is a common and acceptable practice for AOC holders to contract for flight planning from specialised services. The operator, however, is responsible for the accuracy of any information the contractor uses and for the accuracy of the results.

A. Flight Plans.

The term "flight plan" means a paper document or a file of electronic data prepared for purposes of flight planning, flight control, and navigation. Flight planning consists of selecting an appropriate aircraft cruise schedule and applying forecast wind, temperature, and aircraft performance data to a planned route to predict estimated time en route (ETE) and estimated fuel consumption. The term "ATC flight plan" is used in this chapter to mean the subset of information extracted from the flight plan, which is filed with ATC to obtain an ATC clearance.

B. Computation and Verification.

A flight plan may be computed manually or with computer aids. In either case, inspectors must ensure that the AOC holder's operations manual contains the specified procedures, formats, and forms to be used. POIs shall ensure that AOC holders understand their responsibility for making sure 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. FOIs shall

also ensure that the AOC holder's operations manual contains adequate procedures for flight crew and operational control personnel to scrutinise all computer generated and all manually generated flight plans for accuracy.

C. Regulatory Requirements.

AOC holders are required by CAR: 91.03.4 to carry an air traffic service flight plan to destination on all flights. AOC holders typically require that flight crews record the flight progress on the flight plan or on other documents.

NOTE: In international operations, FOIs may require such procedures as a condition of authorising extended over water navigation. When the flight crew is required to record the flight progress, the annotated flight plan becomes a record of the flight.

D. Valid Track Co-ordinates.

Flight crews must carry the valid track co-ordinates in the cockpit during flights over flexible track systems.

E. Navigation Methods and Flight Plans.

Inspectors should keep in mind that the primary concerns in choosing navigation methods and procedures are the degree of precision required for the separation of air traffic and obstacle avoidance. Class I station reference navigation is VFR or IFR navigation within the standard service volume of International Civil Aviation Organisation (ICAO) ground based electronic NAVAIDs. Courses and distances are published on standard IFR charts or may be determined by plotting courses on an IFR or VFR chart. To be acceptable for Class I navigation, a simple flight plan should include at least the following:

- Fix or intersection identifiers, segment distances, ETEs for each segment, and an estimate of fuel consumption for each segment (A segment or zone is the distance between two check points.)
 - A summation of distance, time, and fuel to show regulatory compliance
1. Long Range, Class II Navigation. Long range, Class II navigation is navigation conducted beyond the operational service volume of standard ICAO NAVAIDs. Long range, Class II navigation normally requires specialised long range navigation systems such as inertial navigation systems (INS)/inertial reference systems (IRS), GPS, or Doppler. In some cases, dead reckoning (DR), or pilotage may be used.
 2. Long Range, Class II Flight Plan. An acceptable flight plan for long range, Class II navigation should contain the following elements:

- a) Waypoints (Fixes for the portion of the route conducted by Class I navigation)
- b) The waypoint co-ordinates identifier (located next to the waypoint or on the line below)
- c) The course leaving the waypoint
- d) Forecast segment wind, drift, or drift correction
- e) Forecast temperature (or temperature deviation) and true air speed (TAS)
- f) Segment distances, estimated ground speed, and segment ETE
- g) Estimate of fuel consumption for each segment
- h) Indication of equal time points (ETPs), if they are used for compliance with engine-out fuel or oxygen requirements
- i) A summation of distance, time, and fuel to indicate regulatory compliance
- j) A means of predicting clear air turbulence, such as the height of the tropopause, maximum wind level, temperature gradients, or shear index

3. Organised Track Systems. When operations are conducted over an organised track system, the flight plan co-ordinates must be checked against the track message. The AOC holder's operations manual must specify the individual responsible for the check and the procedures to be used.

F. Pilotage.

Pilotage is navigation conducted solely by reference to visually distinguishable checkpoints. Pilotage may be either [Class I or Class II navigation](#) but may only be approved over areas where checkpoints are readily distinguishable and in airspace where such operations are authorised. VFR navigation by pilotage may only be conducted by AOC holders as follows:

1. Flight Planning for VFR Pilotage. VFR pilotage requires the use of current VFR navigation charts. Inspectors must evaluate an AOC holder's flight plan to ensure that it includes, but is not limited to, the following elements as applicable to the operation:
 - a) Checkpoints, segment distances, ETEs for each segment, and an estimate of fuel consumption for each segment
 - b) A summation of distance, time, and fuel planning to show regulatory compliance (departure point to destination, required reserve, and contingencies)
2. Flight Planning and [Navigation for Class II](#), VFR Operations. Additional precautions may be necessary, depending on the area of operations. For example, in a polar or wilderness area, aircraft should always have adequate fuel to fly to the nearest fuelling point, along with a reserve of fuel. Helicopters operating offshore should at all times have at least enough fuel to reach land, and thereafter fly for an additional time as specified by the AOC holder's manual.

G. Dead Reckoning (DR).

DR is navigation conducted solely by the pilot flying a calculated heading and estimated groundspeed without a means of obtaining a position. The pilot computes such headings by applying estimated wind information to the measured track. Navigation by DR is only acceptable under certain limited circumstances.

VI. SELECTION OF ALTERNATE AERODROMES.

A critical element of pre-flight planning is the selection of alternate, takeoff, en route, and destination aerodromes. PICs and operational control personnel have a range of latitude to accommodate individual circumstances. This latitude must be carefully exercised. AOC holders must provide specific direction and guidance to PICs and flight operations officer/flight dispatchers for the selection of takeoff, en route, and destination alternate aerodromes.

A. Terrain.

[CAR: 91.07.7](#) requires the PIC to land at the "nearest suitable aerodrome" in case of an engine failure or shutdown.

B. Exceptions

When a PIC operating an aeroplane of three or more engines, it is permissible to proceed to an aerodrome other than the nearest suitable available aerodrome, when this course of action is as safe as landing at the nearest suitable aerodrome. While these rules apply specifically to PICs, operational control personnel should be aware of, and be guided by, these requirements when selecting alternate aerodromes. POIs shall ensure that AOC holders and PICs take particular care in the selection of alternate aerodromes in the mountainous areas. POIs should ensure that the operator would be in compliance with all model regulations (in normal and engine out configurations) while en route to the alternate aerodrome.

C. Weather, NAVAIDs, and Aerodrome Conditions.

Flight operations officers/ flight operations officer/flight dispatcher, flight followers, and PICs must be aware of the distance to the alternate, the effect of weather, inoperative NAVAIDs, and aerodrome conditions when selecting alternate aerodromes.

VII. LOAD CONTROL.

When heavy payloads are carried aboard an aircraft, the fuel load may have to be limited. In addition, take-off, en route terrain clearance, and landing performance limitations limit the weight at which an aircraft can be released.

A. Loading Assumptions.

Operational control personnel must have either actual loading information or they must make assumptions about aircraft loading before they can release a flight. For flights released using loading assumptions, inspectors must ensure that the operator has established a means for ensuring that flights actually do depart at, or below, the maximum weight used for planning.

B. Operations Manual.

Inspectors must ensure that the AOC holder's operations manual contains information and procedures for the control of fuel load, payloads, takeoff weights, and CG. The AOC holder's operations manual must clearly delineate the category of employee responsible for making these computations, adequate information and procedures for performing such calculations, and the procedures by which the flight crew and operational control personnel can ensure that these functions have been accomplished before the aircraft departs.

VIII. AIRWORTHINESS OF AIRCRAFT.

CAR: 91.02.7 and 91.10.1 prohibit the dispatch or flight release of an aircraft unless it is airworthy and has all required equipment installed and that before an aircraft can be operated it must have an airworthiness release (or appropriate logbook entry) and be prepared by a properly authorised person.

A. Compliance with Minimum Equipment List (MEL) or Configuration Deviation List (CDL) Provisions.

When an aircraft is released in accordance with MEL or CDL provisions, the AOC holder's procedures, policies, instructions, and controls for the use of the MEL or CDL must ensure that (1) there are no known conditions that would make the aeroplane un-airworthy, and (2) the aeroplane is in condition for safe operation.

NOTE: Use of the MEL or CDL does not require a new airworthiness release. Under certain circumstances, however, approved company procedures may require the issuance of a new airworthiness release. In any event, inspectors shall ensure that AOC holders follow the approved procedures.

B. MEL or CDL Limitations in Dispatch or Flight Releases.

When MEL or CDL restrictions impose aircraft performance or weight limitations, the flight operations officer/flight dispatcher or the person exercising operational control must be notified of these limitations before the flight is dispatched/released or released. It is not unusual for additional discrepancies to arise after a release has been prepared and transmitted. When a decision has been reached to operate the aircraft with an additional deferred discrepancy after the release has been prepared, the operator must have procedures for notifying the flight operations officer/flight dispatcher or the individual exercising operational control. If the flight cannot be operated as originally released, a new release must be prepared or the original release must be amended.

C. Discrepancies after Departure.

A flight is considered to have departed when it moves under its own power (forward or backward) for purposes of flight. After this time, any discrepancy, which arises, must be handled according to the flight manual. If the flight manual has procedures for that particular discrepancy, which allow for the continuation of the flight, and the PIC determines that the flight can safely depart using those procedures, then the flight may continue. If the flight manual does not permit continuation of the flight, or if

the PIC determines that the flight cannot safely depart, the discrepancy must be entered in the technical log of the aeroplane in accordance with [CAR: 91.02.8 \(i\) and 91.03.5](#) and maintenance action must be taken before the aircraft takes off. A new or amended release is required when the flight cannot be operated as originally planned. For example, the antiskid could fail during the taxi for takeoff. If the flight manual contains procedures for adjusting performance computations, which indicate that the flight can operate within the required limits at the departure point, destination, and alternate aerodrome, the flight could continue. Conversely, if the flight manual does not contain any such procedures, the flight must return for maintenance action.

IX. CREW QUALIFICATION AND CREW FLIGHT TIME LIMITATIONS AND REST REQUIREMENTS.

The operator is responsible for assigning specific personnel to operate each flight, including the designation of a PIC. Crewmembers and the operator are jointly responsible for ensuring that crewmembers are qualified in accordance with the regulations (including special aerodrome qualifications) and are in compliance with crew flight time limitations and rest requirements before the flight departs. AOC holders may delegate these responsibilities to departments other than the operational control department but must establish procedures by which operational control personnel can verify that these requirements have been accomplished.

X. CREW MEDICAL QUALIFICATION AND PROCEDURES DURING TEMPORARY MEDICAL DEFICIENCY.

In order to maintain the highest level of safety required, flight crewmembers must not fly under conditions that would make them unable to meet the requirements for their current medical certificate. This decision should not be influenced by fear of company reprisals. FOI's should encourage their assigned air operators to have established sick leave policies and procedures, especially those concerning the release of flight crewmembers from duty when they develop sudden temporary illnesses, such as colds, flu, or fevers. These policies and procedures should not discourage flight crewmembers from taking sick leave when they are ill.

SECTION 2. FLIGHT SUPERVISION AND MONITORING SYSTEMS

I. GENERAL.

AOC holders conducting scheduled operations must have an adequate system approved by the CAA for proper dispatch and monitoring of the progress of scheduled flights. This system shall use qualified flight operations officers/flight dispatchers or equivalently qualified persons to directly control flight operations. A pilot in command (PIC) may not initiate or continue a flight unless both the PIC and the flight operations officer/flight dispatcher agree that the flight can be conducted safely as planned under the existing and forecast conditions. Once a flight is initiated, the flight operations officer/flight dispatcher must continually monitor the flight's progress and inform the PIC of conditions that could affect the safe operation of that flight.

A. Signature on a Dispatch/Operational Flight Plan

Although the SA-CAR /TS: 121.04.5 do not specifically require that both the flight operations officer/flight dispatcher and the PIC sign the dispatch copy of the flight release it is a recommended practice to operator to include this as a procedure in the Operator OM. The flight operations officer/flight dispatcher and PIC's signatures certify that, in the judgement of each, the flight can be made safely as planned. Some further guidance follows for inspectors to use regarding signatures on dispatch releases.

1. The conditions under which a flight is dispatched/released may make it impractical for both the flight operations officer/flight dispatcher and the PIC to sign on the same form. For example, the operator may maintain a centralised dispatch centre and transmit dispatch releases to each point of departure rather than maintain individual dispatch facilities at each aerodrome. AOC holders may establish procedures that comply with the intent of the rule, but accommodate the necessities of contemporary operations. One acceptable practice is for a flight operations officer/flight dispatcher to sign a duty roster at the beginning of the flight operations officer/flight dispatcher's shift, thus indicating the time the flight operations officer/flight dispatcher came on duty and the desk or geographic area the flight operations officer/flight dispatcher is working. The flight operations officer/flight dispatcher's name and a date time group printed on each dispatch/flight release may be considered the flight operations officer/flight dispatcher's signature in combination with the duty roster. Another acceptable practice is for the flight operations officer/flight dispatcher to sign and retain for the record a copy of each dispatch/flight release, which is transmitted.
2. Inspectors, AOC holders, and flight operations officer/flight dispatchers should be aware of the significance of an individual's signature, being that the individual who signs has consented to be bound by, and held responsible for, the act.

3. A flight operations officer/flight dispatcher may conduct an in-flight re-release by recording the re-release message on oral tape or in writing. A system of appending the flight operations officer/flight dispatcher's signature, such as that described in previous subparagraph (1) may be used. The PIC may accept an in-flight re-release over the radio by reading back the dispatch release message, recording the message in writing (including the flight operations officer/flight dispatcher's name), noting the date and time, and signing the entry. The preferred procedure is for the message to be copied on a designated master flight plan. These same procedures may be used for releases delivered over the telephone. The signed dispatch releases, duty rosters, and the master flight plan are company records that must be retained.

B. Flight Preparation.

Before dispatching any flight, a flight operations officer/flight dispatcher must be thoroughly familiar with the reported weather conditions and the forecast weather conditions (including adverse weather) and the status of communications, navigation, and aerodrome facilities. CAR 121.04.5 by implication require that a flight operations officer/ flight dispatcher ("the operator") must assist the PIC in flight preparation and provide the PIC with information on each of these items prior to release.

1. The flight preparation assistance provided to the PIC by the flight operations officer/flight dispatcher may be accomplished verbally or in writing. In the latter case, communications facilities must be available for the flight operations officer/flight dispatcher and the PIC to communicate directly by voice if direct communication is required or desired.
2. The flight operations officer/flight dispatcher and the PIC have adequate and identical information for planning. The PIC and the flight operations officer/flight dispatcher must be thoroughly familiar with, and consider all aspects of, the situation. For example, inoperative navigation aids and shortened runways as well as weather conditions can affect the selection of alternate aerodromes. For this reason the briefing by the flight operations officer/flight dispatcher is not optional for either the flight operations officer/flight dispatcher or the PIC under these rules.

C. Flight Monitoring.

A flight operations officer/flight dispatcher must monitor the progress of each flight under that flight operations officer/flight dispatcher's control until the flight has landed, passed beyond the flight operations officer/flight dispatcher's area of control, or until the flight operations officer/flight dispatcher is properly relieved by another. Flight monitoring, as a minimum, must consist of the monitoring of each flight's fuel state, flight time remaining, destination and alternate aerodrome weather trends, en route winds and weather (including pilot reports), and the status of aerodrome and navigational facilities.

1. The flight operations officer/flight dispatcher reports to the PIC any additional information that could affect the safety of the flight. This information may be delivered by voice message or by other means, such as air ground passive communication systems.
2. The flight operations officer/flight dispatcher ensure that flight locating and flight following procedures are followed.

D. Operations Manual.

Inspectors must ensure that the AOC holder's operations manual contains policies and procedures for releasing flights and subsequent in-flight monitoring. CAR: SUBPART 4: .04.2, (7) requires that the operations manual or applicable parts of it be issued to flight operations officers/flight dispatchers during the performance of their duties. Inspectors must ensure that the AOC holder's operations manual includes the information that follows.

1. The AOC holder's operations manual must contain flight crew reporting requirements and the actions that flight operations officers/flight dispatchers should take if reports from the flight crew are not received.
2. Once initiated, a flight must continue to destination as planned and within the conditions of the dispatch release. A PIC shares in the responsibility for operational control of the aircraft and has the situational authority to make decisions regarding operational control issues in-flight. Where the decision of the PIC differs from that recommended by the flight operations officer/flight dispatcher, the flight operations officer/flight dispatcher shall make a record of the associated facts.
3. ATC frequently delays, re-routes, or assigns an altitude to flights other than those planned by the operator. The ATC system requires this flexibility to reroute traffic flow around adverse weather and to function effectively. The AOC holder's policies and procedures for operational control should accommodate these demands while maintaining the duality of responsibility shared by the flight operations officer/flight dispatcher and the PIC. One acceptable means AOC holders may use to comply with the regulatory requirement is to publish notification requirements in the operations manual for flight crews to follow in these circumstances. For example, the operator might specify maximum amounts that the ETE, assigned altitude, estimated fuel remaining when overhead destination and distance from planned course may deviate, without reporting to the flight operations officer/flight dispatcher and obtaining an amended release. The operator may also place remarks on the dispatch release to alert the PIC to the fact that a routing has been chosen for a specific reason and give instructions to contact the flight operations officer/flight dispatcher if ATC needs to reroute the flight.

II. FACILITIES AND STAFFING.

Scheduled operators should provide enough dispatch centres and qualified flight operations officers/flight dispatchers to ensure adequate operational control of each flight.

A. Facilities.

Scheduled operators should provide enough dispatch centres for adequate control of the operations conducted.

1. AOC holders have wide latitude in meeting this requirement. With modern communications many AOC holders exercise world-wide operational control from a single centre. Any number and placement of centres is acceptable, provided the operator can show that organisational and communications arrangements are effective.
2. Many AOC holders have chosen to automate some dispatch duties and routines. A few AOC holders have introduced a high degree of automation. Many functions, which were previously performed manually by human beings, are now handled automatically by machine. For example, flight routes are automatically generated and flight plans are filed by computer. While these systems may be labour saving, they introduce special problems and specific hazards. FOIs must ensure that the operator has designed adequate safeguards into the system. For example, the operator must be able to ensure that a flight plan with a routing identical to the one filed with ATC is delivered to the PIC.

B. Staffing.

Scheduled AOC holders should provide enough qualified flight operations officers/flight dispatchers to ensure the adequate operational control of all flights as follows.

1. Flight operations officers/flight dispatchers shall be currently qualified with the AOC holder for the operation and the type of aircraft used. This requirement applies to all flight operations officers/flight dispatchers the operator assigns to revenue flights (including the management personnel who occasionally work a position to relieve personnel), and to those flight operations officers/flight dispatchers who trade assignments for personal reasons. Inspectors must ensure that AOC holders have established a means of qualification to satisfy this rule.
2. Flight operations officers/flight dispatchers commonly dispatch and monitor flights simultaneously. Inspectors must ensure that AOC holders provide enough flight operations officer/flight dispatcher personnel to fully accomplish both tasks. POIs should ensure that the AOC holder's flight operations officers/flight dispatchers are not neglecting flight monitoring duties due to the pressure of their duties for originating flights.
3. The time required for a flight operations officer/flight dispatcher to prepare a dispatch release or to monitor the progress of a flight varies according to the

geographical area the flight operations officer/flight dispatcher is working, the complexity of the operation, and the degree to which the process is automated. A flight operations officer/flight dispatcher employed by a small operator may do all of these tasks manually without assistance and may take, several hours to dispatch a single flight. On the other hand, a flight operations officer/flight dispatcher for a major air carrier may be able to adequately dispatch a flight in a few minutes by using a computerised system.

4. With all AOC holders, workloads tend to be cyclical with peaks and valleys. AOC holders should continually monitor flight operations officer/flight dispatcher workloads at peak periods to ensure that the flight operations officer/flight dispatcher is not overloaded. One acceptable means of controlling routine workloads is for AOC holders to assign flight operations officers/flight dispatchers to specific geographical areas and to regulate the number of flights a flight operations officer/flight dispatcher is scheduled to work in each hour and in each shift.
5. The operator must have adequate contingency plans for dealing with foreseeable nonroutine operations. For example, when a major storm system moves across an area and ATC central flow control begins rerouting traffic, a flight operations officer/flight dispatcher's workload can increase to several times the routine level. One acceptable means of dealing with this problem is for the operator to add more flight operations officer/flight dispatchers during periods of nonroutine operations. The contingency plan may require the reassignment of flight monitoring responsibilities to reduce the number of flights being handled by the affected flight operations officer/flight dispatcher.
6. AOC holders conducting "hub operations" have special problems. For example, if weather conditions unexpectedly restrict operations or close a hub while flights are inbound, the operator must demonstrate the capability to communicate with, and effectively control, a large number of flights in a short period of time.
7. POIs shall ensure that AOC holders using automated systems have published procedures for maintaining operational control after an unexpected loss of an automated system. These procedures should be published in the AOC holder's operations manual.

III. FLIGHT OPERATIONS OFFICER/FLIGHT DISPATCHER DUTY TIME LIMITATIONS.

Inspectors must ensure that AOC holders place the following limitations on flight operations officer/flight dispatcher duty time, except in cases of circumstances or emergency conditions that are beyond the control of the operator.

A. Hours

A flight operations officer/flight dispatcher may not be scheduled for more than 10 consecutive hours of duty.

B. Days

Each flight operations officer/flight dispatcher must be relieved of all duty for at least 24 consecutive hours during any 7 consecutive days.

C. Other Limitations

A flight operations officer/flight dispatcher's shift must be scheduled to begin at a time that allows the flight operations officer/flight dispatcher to become thoroughly familiar with existing and anticipated weather conditions along the route before dispatching any flight. The flight operations officer/flight dispatcher must remain on duty until each flight under the flight operations officer/flight dispatcher's control has either landed, or gone beyond the flight operations officer/flight dispatcher's jurisdiction, or until the flight operations officer/flight dispatcher is relieved by another qualified flight operations officer/flight dispatcher. Then requirements necessitate a change over procedure between the oncoming flight operations officer/flight dispatcher and the flight operations officer/flight dispatcher being relieved.

IV. WEATHER REQUIREMENTS FOR DISPATCH.

Inspectors must be informed about the weather requirements for the dispatch of flights under Part 91, 121, 135 and 127 of the Civil Aviation Regulations.

A. Takeoff Alternate Aerodromes.

CAR: 91.07.7 prohibits a flight operations officer/flight dispatcher from authorising a flight under IFR unless without a suitable alternate specified in the flight release if it would not be possible to return to the aerodrome of departure. In addition, each alternate specified shall be located within one hour's flight time for two engine aircraft, unless the aircraft and crews are authorised for ETOPS, in which case the takeoff alternate specified shall be located within two hours or the approved ETOPS diversion time which ever is less. For three or four engine aircraft, the takeoff alternate shall be located within two hours flight time

B. Destination Weather - IFR Operations.

CAR 91.07.8 prohibits a flight operations officer/flight dispatcher from authorising a flight under IFR unless available weather information indicates that the weather conditions at the aerodrome of intended landing, and if required, at least one suitable alternate at the ETA, will be at or above the minimum ceiling and visibility values for the standard instrument approach procedure to be used, that would allow a VMC decent to the aerodrome.

Note: For commercial air transport IFR flight planning, a partial exemption is granted to the effect that the weather at the destination does not have to be at or above the approach minima to release and commence flight, as long as the designated aerodrome meets the IFR weather selection criteria.

C. Alternate Weather.

CAR: 91. prohibits a flight operations officer/flight dispatcher from authorising a flight under IFR in an aeroplane without at least one destination alternate aerodrome listed in the flight plan, unless there is a standard instrument approach procedure prescribed for the aerodrome of intended landing by the jurisdictional authorities. In addition, the available current meteorological information must indicate that the following meteorological conditions will exist from one hour before to one hour after the ETA at the aerodrome of intended landing:

1. a cloud base of at least 300m (1,000ft) above the minimum associated with the instrument approach procedure; and
2. visibility of at least 5.5km, or 4km more than the minimum associated with the procedure.

Note: The ceiling and visibility requirements above may be reduced upon approval of the CAA for helicopters or commercial air transport operations where no suitable destination alternate exists.

D. IFR Alternate Aerodrome Selection Criteria.

If alternate minima are published, CAR: 91.07.7 and prohibits a flight operations officer/flight dispatcher from authorising an alternate aerodrome in an IFR flight plan unless the most available forecast indicates that the meteorological conditions at the alternate, at the ETA, will be at or above those published alternate minima.

V. FUEL SUPPLY.

Inspectors need to be aware of the fuel requirements for dispatch under Part 91.07.12 of the Regulations. The fuel planning provisions of this part of the Regulations apply to all flights - whether turbojet, turbo propeller, or reciprocating powered.

A. Required Fuel Supply.

CAR: 121.07.12 and a flight may not take off unless, considering winds and forecast weather conditions, the flight carries all of the following increments of fuel:

1. Planning criteria for aeroplanes
An owner or operator must base the fuel policy, including calculation of the amount of fuel to be carried, by an aeroplane on the following planning criteria:
 - (1) The amount of –
 - (a) taxi fuel, which must not be less than the amount, expected to be used prior to take-off. Local conditions at the departure aerodrome and APU consumption must be taken into account;
 - (b) trip fuel, which must include –
 - (i) fuel for take-off and climb from aerodrome elevation to initial cruising level/altitude, taking into account the expected departure routing;
 - (ii) fuel from top of climb to top of descent, including any step climb/descent;
 - (iii) fuel from top of descent to the point where the approach is initiated, taking into account the expected arrival procedure; and
 - (iv) fuel for approach and landing at the destination aerodrome;

- (c) contingency fuel, which must be the higher of item (i) or (ii) below:
- (i) Either:
- 5% of the planned trip fuel or, in the event of in-flight replanning, trip fuel for the remainder of the flight; or
 - not less than 3% of the planned trip fuel or, in the event of in-flight replanning, trip fuel for the remainder of the flight, subject to the approval of the Commissioner, provided that an en route alternate is available; or
 - an amount of fuel sufficient for 20 minutes flying time based upon the planned trip fuel consumption: Provided that the owner or operator has established a fuel consumption monitoring programme for individual aeroplanes and uses valid data determined by means of such a programme for fuel calculation; or
 - an amount of fuel of not less than that which would be required to fly for 15 minutes at holding speed at 1 500 feet (450 m) above the destination aerodrome in standard conditions, when an owner or operator has established a programme, approved by the Commissioner, to monitor the fuel consumption on each individual route/aeroplane combination and uses this data for a statistical analysis to calculate contingency fuel for that route/aeroplane combination; or
- (ii) an amount to fly for 5 minutes at holding speed at 1 500 feet (450 m) above the destination aerodrome in standard conditions;
- (d) alternate fuel, which must be sufficient for –
- (i) a missed approach from applicable MDA/DH at the destination aerodrome to missed approach altitude, taking into account the complete missed approach procedure;
- (ii) a climb from missed approach altitude to cruising level/altitude;
- (iii) the cruise from top of climb to top of descent;
- (iv) descent from top of descent to the point where the approach is initiated, taking into account the expected arrival procedure; and
- (v) executing an approach and landing at the destination alternate aerodrome;
- (vi) if two destination alternates are required, alternate fuel must be sufficient to proceed to the alternate which requires the greater amount of alternate fuel;
- (e) final reserve fuel, which must be –
- (i) for aeroplanes with reciprocating engines, fuel to fly for 45 minutes; or
- (ii) for aeroplanes with turbine power units, fuel to fly for 30 minutes at holding speed at 1 500 feet (450 m) above aerodrome elevation in standard conditions, calculated with the estimated mass on arrival at the alternate or the destination, when no alternate is required;
- (f) the minimum additional fuel which must permit –
- (i) holding for 15 minutes at 1 500 feet (450 m) above aerodrome elevation in standard conditions, when a flight is operated under IFR without a destination alternate; and
- (ii) following the possible failure of a power unit or loss of pressurisation, based on the assumption that such a failure occurs at the most critical point along the route, the aeroplane to:
- descend as necessary and proceed to an adequate aerodrome; and
 - hold there for 15 minutes at 1 500 feet (450 m) above aerodrome elevation in standard conditions; and
 - make an approach landing,

except that additional fuel is only required, if the minimum amount of fuel calculated in accordance with subparagraphs (1)(b) to (e) above is not sufficient for such an event;

(g) extra fuel, which is at the discretion of the pilot-in-command.

(2) Decision point procedure

If an owner's or operator's fuel policy includes planning to a destination aerodrome via a decision point along the route, the amount of fuel should be the greater of item (a) or (b) below:

(a) The sum of –

(i) taxi fuel;

(ii) trip fuel to the destination aerodrome, via the decision point;

(iii) contingency fuel equal to not less than 5% of the estimated fuel consumption from the decision point to the destination aerodrome;

(iv) alternate fuel, if a destination alternate is required;

(v) final reserve fuel;

(vi) additional fuel; and

(vii) extra fuel, if required by the pilot-in-command; or

(b) the sum of –

(i) taxi fuel;

(ii) the estimated fuel consumption from the departure aerodrome to a suitable en route alternate, via the decision point;

(iii) contingency fuel equal to not less than 3% of the estimated fuel consumption from the departure aerodrome to the en route alternate;

(iv) final reserve fuel;

(v) additional fuel; and

(vi) extra fuel, if required by the pilot-in-command.

(3) Isolated aerodrome procedure

If an owner's or operator's fuel policy includes planning to an isolated aerodrome for which a destination alternate does not exist, the amount of fuel at departure must include –

(a) taxi fuel;

(b) trip fuel;

(c) contingency fuel calculated in accordance with subparagraph (1)(c) above;

(d) additional fuel if required, but not less than –

(i) for aeroplanes with reciprocating engines, fuel to fly for 45 minutes plus 15% of the flight time planned to be spent at cruising level, or two hours, whichever is the lesser; or

(ii) for aeroplanes with turbine engines, fuel to fly for two hours at normal cruise consumption after arriving overhead the destination aerodrome including final reserve fuel; and

(e) extra fuel, if required by the pilot-in-command.

(4) Pre-determined point procedure

If an owner's or operator's fuel policy includes planning to a destination alternate where the distance between the destination aerodrome and the destination alternate is such that a flight can only be routed via a predetermined point to one of these aerodromes, the amount of fuel must be the greater of item (a) or (b) below:

(a) The sum of –

- (i) taxi fuel;
 - (ii) trip fuel from the departure aerodrome to the destination aerodrome, via the predetermined point;
 - (iii) contingency fuel calculated in accordance with subparagraph (1)(c) above;
 - (iv) additional fuel if required, but not less than –
 - for aeroplanes with reciprocating engines, fuel to fly for 45 minutes plus 15% of the flight time planned to be spent at cruising level or two hours, whichever is less; or
 - for aeroplanes with turbine engines, fuel to fly for two hours at normal cruise consumption after arriving overhead the destination aerodrome, including final reserve fuel; and
 - (v) extra fuel, if required by the pilot-in-command;
 - (b) the sum of –
 - (i) taxi fuel;
 - (ii) trip fuel from the departure aerodrome to the alternate aerodrome, via the predetermined point;
 - (iii) contingency fuel calculated in accordance with subparagraph (1)(c) above;
 - (iv) additional fuel if required but not less than –
 - for aeroplanes with reciprocating engines, fuel to fly for 45 minutes; or
 - for aeroplanes with turbine engines, fuel to fly for 30 minutes at holding speed at 1 500 feet (450 m) above aerodrome elevation in standard conditions, including final reserve fuel; and
 - (v) extra fuel, if required by the pilot-in-command.
2. Fuel and oil supply for helicopters
- (1) A helicopter employed in the public transport operation category or public transport of cargo operation category, from one landing site to another, on a flight which is in whole or in part an IFR or a night flight, must carry fuel and oil reserves to provide for contingencies to fly to and to execute an approach and a missed approach at the destination landing site, and thence –
 - (a) to fly to a suitable alternative landing site;
 - (b) to fly for 30 minutes at holding speed at 1 500 feet above the elevation of the alternative landing site, under standard temperature conditions; and
 - (c) to execute an approach and landing:
 Provided that further reserves equal to 5% of the total required in terms of items (a), (b) and (c) must be carried.
 - (2) A helicopter employed in the aerial work category, industrial aid operation category, flying training operation category or private operation category, from landing site to another on a flight which is in whole or in part an IFR or a night flight, must carry fuel and oil reserves to provide for contingencies at least to fly to the destination landing site after having carried out its planned task or tasks (if any) en route, thence to a suitable alternative landing site, and thereafter to fly for a further 20 minutes.
 - (3) A helicopter employed in the public transport category, public transport of cargo category, industrial aid operation category, flying training operation category or private operation category, from one landing site to another on a VFR flight by day, must carry fuel and oil reserves to provide for contingencies –
 - (a) to fly to the destination landing site, and thereafter for 20 minutes; or

(b) if the flight is over water, to fly to the destination landing site, thence to fly to either a suitable alternative landing site or to the nearest point of land, and thereafter for 30 minutes.

(4) A helicopter employed in the aerial work category must carry fuel and oil reserves to provide for contingencies –

(a) to complete its task or tasks;

(b) to execute an approach and landing at a suitable landing site; and

(c) thereafter to fly for 10 minutes, or a length of time considered to be the minimum for a safe flight for the particular helicopter, whichever is the longer.

A helicopter employed in any category on a VFR flight by day may carry fuel and oil additional to that available to the powerplant, provided that this is carried in a safe manner. The additional fuel and oil may be included in the quantities specified in subparagraphs (3) and (4): Provided that for the purpose of self-refuelling there must be a safe landing site en route, which can be reached before the levels specified in subparagraph (4)(c) are reached.

VI. ORIGINAL DISPATCH.

A scheduled flight should not depart from the point of origin unless a dispatch release contains specific authorisation for the flight between specified points. The dispatch release may be for a single flight or for a series of flights with intermediate stops.

A. Dispatch/Flight Release Elements.

Inspectors must ensure that AOC holders require that the dispatch/flight release be recorded in writing and contain at least the following information:

- Aircraft identification number
- Flight number
- Departure aerodrome, destination aerodromes, alternate aerodromes and route.
- The type of operation (IFR or VFR)
- Minimum fuel quantity required by regulation at the start of each takeoff (does not include taxi fuel)

B. Dispatch/Flight Release Attachments.

A dispatch/flight release shall contain or have attached: available weather reports, weather forecasts (or a combination thereof) for the destination aerodrome, and alternate aerodromes that are the latest available at the time the release is signed by the pilot.

1. The term "available" report includes pilot reports.
2. Any additional weather reports or forecasts that the PIC considers necessary or desirable must be included.
3. The operator must establish procedures to ensure, when a flight has been dispatched/released but is unable to depart as scheduled, that the weather

information is updated and is the latest available at the time of actual departure (takeoff). The operator may include procedures in the operations manual to have the flight operations officer/flight dispatcher forward to the flightcrew any new weather information which may be operationally significant as soon as practical after the aircraft departs.

4. To ensure that the weather information is updated, the flight operations officer/flight dispatcher must prepare a new dispatch when a flight takes off and then returns to the point of departure.

C. Dispatch/Flight Release - Additional Information and Conditions.

While a dispatch/flight release must contain the information specified in previous subparagraphs A and B, it is not limited to that information. Additional information and conditions should be placed on or attached to the release. For example, when an in-flight re-release is planned, a statement to that effect should appear on the release. When a flight is planned under conditions that could limit the PIC's discretion, those conditions should be indicated. For example, when a flight can be legally and safely conducted over the most direct route between two points, but not over possible alternate routings that ATC might assign, that statement should be noted on the release. The flight operations officer/flight dispatcher shall communicate to the PIC all information, including adverse weather phenomena, that may affect safety of flight on each route to be flown and aerodrome to be used.

D. Dispatch/Flight Release Time Limits.

When an aircraft is released for a series of scheduled flights, the aircraft may only remain on the ground for 1 hour at the intermediate stop. If the ground time exceeds 1 hour, a new dispatch release is required regardless of the scheduled ground time.

E. Destination.

A flight operations officer/flight dispatcher may designate any aerodrome that is listed in the OpSpecs for the type of aircraft, as the destination for the purpose of the original dispatch.

F. Aerodromes not listed in the OpSpecs.

A flight operations officer/flight dispatcher may not release a flight from an aerodrome that is not listed in the OpSpecs, unless the following criteria are met:

1. The aerodrome and related facilities are adequate for the operation of the aeroplane.
2. The operation is in compliance with the limitations of the flight manual and OpSpecs.
3. The aeroplane has been dispatched/released according to those rules applicable to dispatch from an approved aerodrome.
4. The weather conditions for takeoff are equal to or exceed that prescribed in Regulations.

VII. AMENDMENT OF A DISPATCH/FLIGHT RELEASE.

In the absence of an emergency, a flight may only proceed to the destination to which it was originally dispatched/released, and if the flight is unable to land at the original destination, it may only proceed to the designated alternate aerodrome. An amendment or re-release en route must be recorded. An amendment may become necessary or desirable because the conditions under which the flight was released have changed (unplanned re-release) or because it may have been planned before departure (a pre-planned, re-release).

A. Destination Weather Requirements While Enroute.

A commercial air transport flight is not prohibited from continuing toward a destination which has gone below landing minima or one which is forecast to be below landing minima at the ETA by a forecast issued after the flight has departed. For example, there may be enough fuel on board to hold overhead the destination until the weather is forecast to improve. CAR: 91.07.9 does, however, prohibit the PIC from continuing to the destination if the weather reports and forecasts indicate changes, which would render that aerodrome unsuitable for the original flight release. OIs should ensure that the AOC holder's operations manual provides guidance to both PICs and flight operations officer/flight dispatchers for dealing with these circumstances.

B. Alternate Weather Requirements While Enroute.

OIs should ensure that the AOC holder's operations manual contains specific procedures, however, for notifying the PIC and monitoring the weather at the alternate aerodrome when the selected alternate aerodrome is below minima at departure. These procedures may require the designation of a second alternate aerodrome or that contingency fuel must be carried on the flight.

1. Conditions other than ceiling and visibility can affect minima, such as navigational aids and runway lighting, operations. Flight operations officer/flight dispatchers must monitor these factors at designated alternate aerodromes as well as ceiling and visibility.
2. When weather conditions permit many AOC holders release flights in terms of CAR 91.07.7(6) without an alternate aerodrome. In some instances while the flight is enroute, the destination weather may deteriorate to below what was used to release the flight and to the point that an alternate aerodrome would have been required. The AOC holder's operations manual should contain direction and guidance to PICs and flight operations officer/flight dispatchers on how to manage such a situation.
3. The dispatch release may be amended while the aircraft is enroute to include any aerodrome as an alternate that has the following:
 - a) Authorisation for that type of aircraft
 - b) Is within the fuel range of the aircraft
 - c) Alternate aerodrome landing weather minima

C. Requirements to Amend a Dispatch Release.

Before a destination aerodrome or an alternate aerodrome may be changed, the following requirements must be met:

1. The PIC and the flight operations officer/flight dispatcher must jointly approve the change.
 1. The flight operations officer/flight dispatcher must be thoroughly familiar with reported and forecast weather conditions (including adverse weather) and the status of communications, navigation, and aerodrome facilities.
 2. The flight operations officer/flight dispatcher must provide the information specified in previous subparagraph 2 to the PIC.
 3. The destination and alternate aerodromes specified in the amended release must be forecast to be above the weather minima required in the AOC holder's OpSpecs for the destination and alternate aerodromes, respectively, at the ETA.
 4. The aircraft must have sufficient fuel on board at the time and point that the release was amended to complete the flight in compliance with the applicable fuel requirements (CAR: 91.07.12).
 5. The transmission of the re-dispatch message must be recorded by the flight operations officer/flight dispatcher, and its receipt must be recorded by the PIC

D. Planned Re-Release.

Planned re-release operations are conducted to conserve fuel to complete flights at ranges which would otherwise be beyond the aircraft's fuel capacity, and to solve weather related operational problems. A scheduled operator may only conduct planned redispach in extended overwater operations when authorised by the AOC holder's OpSpecs. Section 4 of this document contains a discussion of planned re-release procedures.

VIII. LOAD MANIFESTS.

Before each flight, a load manifest must be completed as follows:

A. Content of the Manifest.

An operator must prepare a load manifest in accordance with CAR: 121.04.9 containing the following:

1. Distribution of the load
2. Centre of gravity
3. Takeoff and landing weights
4. Compliance with maximum operating weight limitations and performance analysis

B. Disposition of Flight Records.

CAR: 91.03.1 requires that the operator ensures certain documents or certified true copies thereof be carried on board an aircraft. The operator must retain these flight

records for a period of time acceptable to the CAA. The OI must ensure that the AOC holder's storage methods and location provide reasonable access for inspections.

IX. ENROUTE TERRAIN CLEARANCE.

Due to terrain clearance requirements, AOC holders may be required to limit takeoff weights or list enroute alternate aerodromes on the dispatch release.

SECTION 3. FLIGHT FOLLOWING SYSTEMS

I. GENERAL.

This section contains information for inspectors about flight following/flight release systems and about the release of flights under the requirements applicable to charter flight operations.

A. Flight Followers.

Under CAR: 121.07.4, a suitably qualified person shall be designated by the AOC holder to exercise the functions and responsibilities for operational control of each flight in commercial air transport. For flights other than passenger flights conducted on a published schedule, the person exercising operational control responsibilities shall be available for consultation prior to, during and immediately following the flight operation. *For purposes of this model directive, these qualified persons are termed flight followers.*

1. SA CATS-OPS 121.04.2(2.1.2) requires that the name of each manager responsible for ground operations (flight following) be listed in the AOC holder's operations manual.
2. AOC holders may contract with other AOC holders or organisations to provide certain elements of an operational control system, such as communications and flight following. In such a case, the name of each employee of the contracting organisation authorised to provide such elements of operational control must be listed in the AOC holder's Operations Manual.

B. Release Authority.

PICs are responsible for pre-flight planning and for the safe conduct of the flight. The flight follower and the PIC share in the responsibility for operational control of each flight in commercial air transport. The flight follower is required to be available to the PIC for consultation during all phases of a flight. Where a decision of the PIC differs from that recommended by the qualified person exercising operational control authority (the flight follower) that person is required to make a record of the associated facts. Inspectors must ensure that the AOC holder's operations manual contains specific procedures to ensure that the operator, the PICs, and the flight followers are in compliance with this requirement. Unless the PIC decides it is unsafe to do so, the PIC must conduct the flight in accordance with the flight release.

C. Flight Monitoring.

The AOC holder's director of operations is responsible for monitoring the progress of each flight from its point of origin to its arrival at the destination, including its arrival and departure from intermediate stops. In the case of an emergency arising during flight, known to a flight follower, the PIC must be contacted and advised of

the situation. The PIC's decision on a course of action must be obtained and the PIC's decision recorded. If a flight follower cannot contact the PIC, the flight follower shall declare an emergency and take any action the flight follower considers to be necessary under the circumstances.

D. Demonstration of Flight Follower Competence.

CAR 121.07.4 requires that an operator show that each individual authorised to conduct operational control (i.e., a flight follower) is competent and able to perform the required duties. This rule applies to both employees of the operator and to contract personnel the operator authorises to perform required duties. The preferred means an operator may use to meet this requirement is to establish a flight follower training and qualification programme, which includes competency checks.

II. FAMILIARITY WITH WEATHER CONDITIONS, FACILITIES, AND SERVICES.

A PIC may not begin a flight unless the PIC is thoroughly familiar with reported and forecasted weather conditions on the route to be flown and until the PIC has obtained all available reports on aerodrome conditions and irregularities of navigation facilities that may affect the safety of the flight. During the flight, the PIC must obtain any additional available information on meteorological conditions and facilities that may affect the safety of the flight. The operator is responsible for ensuring that the PIC has the means to obtain this information. The operator is not required to be able to establish in-flight radio communications with the flight to deliver this information. One acceptable means an operator may use to comply with this requirement is to contract with a commercial radio service to provide this information.

III. FLIGHT FOLLOWING SYSTEM FACILITIES.

Each operator must have a flight following system. The flight following system the operator uses must be described or referenced in the AOC holder's OpSpecs. Most flight following systems are too complex to be described in a single paragraph; therefore, the preferred practice is for the system to be described in the AOC holder's operations manual, and referenced in the AOC holder's OpSpecs.

A. Communications

The operator must provide one or more flight following facilities to control and monitor the progress of each flight. Each flight following facility must be equipped with communications for monitoring the departure of each flight from the point of origin to its arrival at destination (including intermediate stops, diversions, and delays). Communications may be made by means of private facilities (such as company radio) or commercial facilities (such as telephone, telex, or radio). AOC holders conducting charter operations are not required to provide the capability to contact flights en route by radio. Communications are normally considered adequate when the flight follower can transmit a message to a PIC who is on the ground at the departure, destination, or intermediate point and can then receive confirmation of receipt of that message within 15 minutes.

- B. CAR Subpart 7 (.07.3): Operational control and supervision:
does not prohibit AOC holders conducting charter operations to contract with other organisations to provide operational control functions. The operator is responsible for ensuring the adequacy of all facilities, access to communications and information sources, the adequacy of policies and procedures, and the competency of flight followers (whether or not the operator or a contracting party provides them).
- C. Licensed Dispatchers
Aviation Legislation in South Africa does not require Flight followers to be a licensed flight operations officer/flight dispatcher.
- D. Operations Manual
Inspectors must ensure that the AOC holder's operations manual contains adequate policy, guidance, and procedures for operational control personnel to perform their assigned duties, comply with regulatory requirements, and to ensure safe operations in normal, abnormal and emergency circumstances. Flight followers must be familiar with, and have access to, the AOC holder's operations manual when on duty.

IV. OPERATIONAL FLIGHT PLAN (FLIGHT RELEASE FORM).

CAR: 91.02.7: "Duties of pilot-in-command regarding flight preparation" and CAR SUBPART 4, "Operational flight plan" (.04.5) requires an Operational Flight Plan to be completed before each commercial air transport flight. SA-CATS-OPS Subpart specifies that an operational flight plan must contain at least the following information:

An operator must ensure that the operational flight plan used and the entries made during flight contain the following items:

- (a) Aeroplane registration;
- (b) aeroplane type and variant;
- (c) date of flight;
- (d) flight identification;
- (e) names of flight crew members;
- (f) duty assignment of flight crew members;
- (g) place of departure;
- (h) time of departure (actual off-block time, take-off time);
- (i) place of arrival (planned and actual);
- (j) time of arrival (actual landing and on-block time);
- (k) type of operation (ETOPS, VFR, ferry flight, etc.);
- (l) route and route segments with checkpoints/waypoints, distances, time and tracks;
- (m) planned cruising speed and flying times between check-points/ waypoints. Estimate and actual times overhead;
- (n) safe altitudes and minimum levels;
- (o) planned altitudes and flight levels;
- (p) fuel calculations (records of in-flight fuel checks);
- (q) fuel on board when starting engines;

- (r) alternate(s) for destination and, where applicable, take-off and en route, including information required in subparagraphs (l), (m), (n) and (o) above;
- (s) initial ATS flight plan clearance and subsequent reclearance;
- (t) in-flight replanning calculations; and
- (u) relevant meteorological information.

NOTE:**121.04.5 OPERATIONAL FLIGHT PLAN**

~~(2) Items which are readily available in other documentation or from an acceptable source may be omitted from the operational flight plan.~~

~~(3) An operator must ensure that the operational flight plan and its use is described in the operations manual.~~

~~(4) An operator must ensure that all entries in the operational flight plan are made concurrently and that they are permanent in nature.~~

V. WEATHER REQUIREMENTS FOR FLIGHT RELEASE.

Inspectors must ensure that AOC holders are aware of the weather requirements for the release of charter flights.

A. Flight Release under VFR.

A charter flight may not be released for VFR operations unless the weather reports and forecasts indicate that the flight can reasonably be expected to be completed as specified in the release. The ceiling and visibility en route and at the destination aerodrome must be VFR and remain above applicable VFR minima until the aircraft arrives at the aerodrome or aerodromes specified in the flight release.

B. IFR Takeoff Weather Minima.

CAR: 91.07.7 "Pre-flight selection of aerodromes prohibits the release of a flight without a suitable takeoff alternate specified in the operational flight plan if it would not be possible to return to the aerodrome of departure. When weather conditions are below the landing minima specified in the AOC holder's OpSpecs at the departure aerodrome, the flight may not be released unless the following conditions exist:

1. For a two-engine aeroplane, an alternate aerodrome is available which is not more than one hour flight time at one-engine cruising speed according to the aircraft flight manual referred to in Regulation 91.03.2, in still air standard conditions based on the actual take-off mass for a twin-engine aircraft; or
2. Two hours flight time at one-engine inoperative cruising speed according to the aircraft flight manual referred to in regulation 91.03.2, in still-air standard conditions based on the actual take-off mass for three-engine and four-engine aircraft;
3. The takeoff alternate aerodrome is listed on the flight release.

4. The weather conditions at the designated takeoff alternate aerodrome meet the requirements of the AOC holder's OpSpecs.

C. Destination Weather - IFR Operations.

CAR: 91.07.9(4) prohibits an operator from releasing a charter flight under IFR unless the weather reports and forecasts indicate that the weather will be at or above minima required by the OpSpecs at the destination aerodrome at the estimated time of arrival.

Note: A partial exemption may be granted for commercial air transport IFR flight planning, to the effect that the weather at the destination does not have to be at or above the approach minima to release and commence a flight, as long as the designated alternate aerodrome meets the IFR weather selection criteria.

D. Alternate Weather.

CAR: 91.07.11 and the associated Technical Standards prohibit an operator from releasing a charter flight under IFR unless at least one alternate aerodrome is listed in the flight release for each destination aerodrome unless there is a standard instrument approach procedure prescribed for the destination aerodrome and available weather information indicates from one hour before to one hour after the ETA.

E. Reduction in Requirements

An AOC holder may apply to the CAA for a reduction to the ceiling and visibility requirements listed above where no suitable destination alternate exists.

VI. FUEL SUPPLY.

Inspectors must be aware of the fuel planning provisions of CAR: 91.07.12: "Fuel and oil supply" and SA-CATS-OPS 91.07.12, 1. "Planning Criteria for aeroplanes".

A. Required Fuel Supply.

An operator may not release a flight or takeoff unless, considering winds and forecast weather conditions, the flight carries all of the following types of fuel:

1. Taxi fuel, which must not be less than the amount, expected to be used prior to take-off. Local conditions at the departure aerodrome and APU consumption must be taken into account;
2. Trip fuel, which must include –
 - (i) fuel for take-off and climb from aerodrome elevation to initial cruising level/altitude, taking into account the expected departure routing;
 - (ii) fuel from top of climb to top of descent, including any step climb/descent;
 - (iii) fuel from top of descent to the point where the approach is initiated, taking into account the expected arrival procedure; and
 - (iv) fuel for approach and landing at the destination aerodrome;

3. Contingency Fuel: That fuel necessary for a flight to compensate for any known traffic delays and to compensate for any other condition that may delay the landing of the flight.
4. Alternate Fuel: That fuel necessary for a flight to fly from the point of completion of the missed approach at the destination aerodrome to the most distant alternate aerodrome, make an IFR approach (if the forecast indicates such conditions will exist), and then complete a landing.
5. Final reserve fuel, which must be –
 - (i) for aeroplanes with reciprocating engines, fuel to fly for 45 minutes; or
 - (ii) for aeroplanes with turbine power units, fuel to fly for 30 minutes at holding speed at 1 500 feet (450 m) above aerodrome elevation in standard conditions, calculated with the estimated mass on arrival at the alternate or the destination, when no alternate is required;
6. The minimum additional fuel which must permit –
 - (i) holding for 15 minutes at 1 500 feet (450 m) above aerodrome elevation in standard conditions, when a flight is operated under IFR without a destination alternate; and
 - (ii) following the possible failure of a power unit or loss of pressurisation, based on the assumption that such a failure occurs at the most critical point along the route, the aeroplane to:
 - descend as necessary and proceed to an adequate aerodrome; and
 - hold there for 15 minutes at 1 500 feet (450 m) above aerodrome elevation in standard conditions; and
 - make an approach landing,
7. Extra fuel, which is at the discretion of the pilot-in-command.

NOTE: The AOC holder's operations manual should contain specific policies and instructions to both flight followers and PICs for computing the amount of contingency fuel to be carried under the circumstances likely to be encountered in the AOC holder's specific operation.

A. Departure Fuel.

The fuel listed in previous subparagraph A must be on board the aircraft at takeoff. The flight release must include this amount. The AOC holder's operations manual should clearly state this point to pilots, flight followers, and load planners. An additional increment of fuel for start up, taxi, and pre-departure delays must be included in the fuel load on board the aircraft at engine start.

VII. AMENDMENT OF AN OPERATIONAL FLIGHT PLAN

In the absence of an emergency, a flight may only proceed to the destination to which it was originally released. If the flight is unable to land at the original destination, it may only proceed to the designated alternate aerodrome. CAR: 91.03. and AIP allow, however, for a flight plan to be amended while the flight is en route. An amendment may become necessary or desirable because the conditions under which the flight was

released have changed (unplanned re-release) or because it may have been planned before departure.

A. Destination Weather Requirements While En Route.

PICs should obtain any information on weather and facilities that may affect the safety of flight while flights are airborne. CAR: 91.07.8, (5) and 91.028 does not prohibit a flight from continuing toward a destination, which has gone below landing minima, or one that is forecast to be below landing minima at the ETA by a forecast issued after the flight has departed. For example, there may be enough fuel on board to hold overhead the destination until the weather is forecast to improve. CAR: 91.07.8, (4) does, however, prohibit the flight from continuing to the destination when, in the opinion of the PIC, it is unsafe to do so. FOIs should ensure that the AOC holder's operations manual provides guidance to both PICs and flight followers for dealing with these circumstances.

B. Alternate Weather Requirements While En Route.

In accordance with CAR: 91.07.8, an alternate aerodrome (not having published alternate minima) may be named which is below alternate minima at the time of release, but which is forecast to be at or above alternate minima at the ETA. FOIs should ensure that the AOC holder's operations manual contains specific procedures for notifying the PIC and for monitoring the weather at the alternate aerodrome when the selected alternate aerodrome is below minima at departure. These procedures may require the designation of a second alternate aerodrome or that contingency fuel must be carried on the flight.

1. Conditions other than ceiling and visibility can affect minima, such as navigational aids, runway lighting, and snow removal operations. PICs and flight followers must monitor these factors, as well as ceiling and visibility, at designated alternate aerodromes.
2. When weather conditions permit, many AOC holders release flights without an alternate aerodrome. In some instances, while the flight is en route, destination weather may deteriorate to below what was used to release the flight and to the point that an alternate aerodrome would have been required. The AOC holder's Operations Manual must contain direction and guidance to PICs and flight followers on how to manage such a situation.
3. The flight release may be amended while the aircraft is enroute to include any aerodrome as an alternate that has the following:
 - a) Authorisation for that type of aircraft
 - b) Is within the fuel range of the aircraft
 - c) Alternate aerodrome landing weather minima

C. Requirements to Amend an Operational Flight Plan.

Before a destination aerodrome or an alternate aerodrome may be changed, the following requirements must be met:

1. The PIC and the flight follower must jointly approve the change.
 2. The PIC must be thoroughly familiar with reported and forecast weather conditions (including adverse weather) and the status of communications, navigation, and aerodrome facilities.
 3. The destination and alternate aerodromes specified in the amended release must be forecast to be above the weather minima required in the AOC holder's OpSpecs for the destination and alternate aerodromes, respectively, at the ETA.
 4. The aircraft must have sufficient fuel on board at the time and point that the release was amended to complete the flight in compliance with the applicable fuel requirements.
 5. Each person who amends a flight release must record that amendment.
- D. Pre-planned Amendment of a Flight Release.
A charter operator may only conduct planned re-release operations when authorised by the AOC holder's OpSpecs.

NOTE: This authorisation does not apply to the amendment of flight plans for domestic operations.

VIII. EN ROUTE TERRAIN CLEARANCE.

CAR: 91.06.32 (2) contains the limitations on weights at which aircraft may be released due to terrain clearance requirements. While these limitations apply to all types of aircraft used in commercial air transport, they are particularly restrictive to two engine aircraft operated in mountainous terrain. Inspectors should be aware that to AOC holders may be required to limit take-off weights or to list en route alternate aerodromes on the flight release.

SECTION 4. OPERATIONAL CONTROL INSPECTIONS

I. OBJECTIVE.

An operational control inspection has two primary objectives. The first objective is for the inspector or team to ensure that the operator is in compliance with the minimum requirements of the CAR and the Operations Specifications (OpSpecs). The second objective is for the inspector or team to ensure that the operator's system of control provides positive assurance of public safety. The operator must meet both objectives to obtain and retain an operating certificate under CAR: 121.06. To make this determination, the inspector or team must evaluate the operator to ensure that the following criteria are met:

- Responsibility for operational control is clearly defined
- An adequate number of operational control personnel are provided
- Applicable manuals contain adequate policy and guidance to allow operational control personnel and flightcrews to carry out their duties efficiently, effectively, and with a high degree of safety
- Operational control personnel are adequately trained, knowledgeable, and competent in the performance of their duties
- Flight control personnel and flightcrews have been provided with the necessary information for the safe planning, control, and conduct of all flights
- The operator provides adequate facilities
- The operator performs all operational control functions required by the regulations
- The operator performs all functions necessary to provide adequate operational control in the environment in which the operations are conducted
- Adequate emergency procedures and contingency plans have been formulated

II. PRACTICES AND PROCEDURES.

Inspectors conduct operational control inspections through systematic manual reviews, records inspections, observations, and interviews.

A. Inspector Preparation and Manual Review.

Before starting an operational control inspection, the inspector should become thoroughly familiar with the sections of this document that are applicable to the operator. Inspectors must then become familiar with the operational control sections of the operator's operations manual. This manual review is both the first step in the inspection process and preparation for subsequent steps. The job aids for the various aspects of the inspection contain the topics that should be included in the operator's manuals. Inspectors should use the job aids located at the end of this section to determine if the necessary topics are covered.

B. Records Checks, Interviews, and Observations.

The inspector should establish with the operator a mutually convenient time for conducting the records checks and interviews.

1. Inspectors must conduct interviews with both management and working level personnel to meet inspection objectives. Inspectors should plan these interviews so that the required information can be obtained without distracting personnel from their duties and responsibilities. To prevent intruding into actual operations, the inspector should, if possible, conduct these interviews privately and away from the flight control centre.
2. Inspectors must observe actual flight release operations. Before beginning these observations, an inspector should request a tour of the operator's facility for orientation, during which the inspector should observe a number of different people at work. The inspector should ask questions; however, care must be taken not to distract or interfere with the individuals in the performance of their assigned duties. An effort should be made by the inspector to make observations during periods of peak activity, adverse weather, or during non-routine operations. OIs of large operators should arrange to have these observations conducted at random times throughout the year, preferably in periods of inclement weather.
3. Inspectors should observe competency checks being conducted to evaluate the knowledge level of flight operations officer/flight dispatcher and the performance of the supervisor.

**FIGURE 001
DISPATCH JOB AID**

NOTE: This job aid applies to all scheduled passenger carrying operators.

I. POLICIES and PROCEDURES.

A. Authorised Operations.

1. Are the operations that may and may not be conducted according to the OpSpecs (including areas of operation) clearly specified?
2. Are there clear definitions of scheduled and charter operations? Are there clear definitions of the rules under which each of these operations are conducted?
3. Are the applicable CAR identified and the operator's policies applicable to each type of operation clearly stated?

B. Manuals.

1. Is there a section of the operations manual in which the policy and guidance for operational control have been collected for the guidance of flight crews and Flight operations officer/flight dispatcher?
2. Are the topics listed on this job aid adequately covered?
3. Is the applicable section of the operations manual readily available to flight operations officer/flight dispatcher and flight crews while they perform their duties?
4. Is the copy of the operator's operations manual that is available to flight operations officer/flight dispatcher or flight crews current?

C. Original Release.

1. Are the conditions clearly stated under which a flight may and may not be dispatched/released?
2. Are the conditions stated under which a flight must be re-routed, delayed, or cancelled?
3. Does the flight release contain all the required elements?
4. Are limitations required in the remarks of the release?
5. Is a written copy of weather reports and forecasts (including PIREPs) and NOTAMs attached to the release and provided to the flight crew?

D. Responsibility for Pre-departure Functions.

1. Are the responsibility and procedures for accomplishing the following functions clearly specified?
 - a. Crew assignment
 - b. Load planning
 - c. Aircraft routing
 - d. Flight planning
 - e. Release of the aircraft from maintenance
 - f. Control of MEL and CDL limitations
 - g. Weight and balance

2. Have adequate procedures for cross-checking and verifying these activities been established?
3. Is each of these procedures effective?
4. What means has the operator established for the PIC and flight operations officer/flight dispatcher to ensure that each of these functions has been satisfactorily accomplished before the aircraft departs?

E. Flight Operations Officer/Flight Dispatcher Briefing.

1. How do the operator's procedures provide for briefing of the PIC by the flight operations officer/flight dispatcher?
2. Is the minimum content of the briefing specified and adequate?

F. Dual Responsibility.

1. How are the signatures of both the PIC and the flight operations officer/flight dispatcher on the dispatch release accomplished?
2. Is the PIC's obligation to operate the flight according to the release, or to obtain an amended release, clearly stated?

G. Flight Following.

1. Are the flight operations officer/flight dispatcher's flight following requirements and procedures clearly stated?
2. Is policy and guidance provided to flight crews and flight operations officers/dispatchers for monitoring fuel en-route?
3. Are flight crew reporting requirements and procedures clearly stated?
4. Are there specified procedures for flight operations officer/flight dispatchers to follow when a required report is not received?
5. Is a record of communications made and retained?

H. Inability to Proceed as Released.

1. Is a policy stated concerning the PIC's latitude to deviate from a dispatch release without obtaining a new release?
2. Is there specific and adequate direction and guidance to PICs and flight operations officer/flight dispatchers for the actions to take when a flight cannot be completed as planned (such as destinations or alternates below minima, runways closed or restricted)?
3. Are procedures to follow specifically and clearly stated in case of diversion or holding?

I. Weather.

1. Does the operator obtain weather reports from an approved source?
2. Are forecasts based on approved weather reports?
3. Does the operator have an adverse weather system?
4. Does the operator have adequate procedures for providing the latest available weather reports and forecasts to flight crews while the flight is en-route?
5. Does the operator have adequate procedures for updating weather information when the aircraft is delayed on the ground?

J. Weather Minima.

1. Is release under VFR authorised by the OpSpecs?
2. If so, has the forecast and actual weather allowed VFR flight to destination on those flights so released?
3. Have turbojet aircraft been released under VFR?
4. What IFR departure minima are authorised by of the OpSpecs?
5. When flights are released with the departure aerodrome below landing minima, are takeoff alternates named on the dispatch release?
6. What destination weather minima are authorised by the OpSpecs?
7. What weather minima are authorised for captains under the SOPs that do not meet the requirements of the CAR?
8. When destination alternates are required, are they named on the dispatch release?
9. Is the weather at the named alternate aerodrome equal or better than that required by the SOPs?
10. Is "marginal" defined for the designation of two alternates on the dispatch release?
11. Are two alternates designated when required?
12. How does the operator ensure that flight operations officer/flight dispatchers are aware of these limitations before dispatching a flight?
13. Do weather forecasts from the trip records show that these limits have been complied with for dispatch?

K. Selection of Alternates.

1. Is policy, direction, and guidance provided for the selection of alternates?
2. Is terrain and engine-out performance considered in the alternate selection?

L. NOTAMs.

1. Is the required NOTAM information provided?

M. Information.

1. What provisions does the operator make for supplying aerodrome and navigation information?
2. What means does the operator use to comply with the requirement for an aerodrome data system? Is it adequate?
3. Are flight crews provided with written flight plans for monitoring flight progress and fuel burn?
4. How does the operator provide data flight operations officer/flight dispatchers on takeoff and landing minima at each aerodrome?
5. Do flight operations officer/flight dispatchers have immediate access to such data?
6. Are provisions made for non-standard operations, such as inoperative centreline lighting?

N. Fuel.

1. Are all the required increments of fuel provided (start and taxi, takeoff to arrival at destination, approach and landing, missed approach, alternate fuel, 45 minutes of reserve, and contingency fuel)?
2. Are the operator's policies concerning contingency fuel adequate for the environment in which operations are conducted?
3. Are there minimum fuel procedures specified for both flight operations officer/flight dispatchers and PICs?
4. When aircraft are dispatched/released without an alternate, is adequate contingency fuel carried for un-forecast winds, terminal area delays, runway closures, and contingencies?

O. Emergency Procedures.

1. Are emergency action procedures and checklists published and readily available for the following emergencies?
 - a. In-flight Emergency
 - b. Crash
 - c. Overdue or missing aircraft
 - d. Bomb threat
 - e. Hijacking

P. Changeover Procedures.

1. Is an adequate overlap provided for the flight operations officer/flight dispatcher being released to brief the oncoming flight operations officer/flight dispatcher on the situation?

Q. Trip Records.

1. Are the required trip records carried to destination?
2. Are trip records retained for the period specified by the CAA?

II. FLIGHT OPERATIONS OFFICER/FLIGHT DISPATCHERS AND METEOROLOGISTS.**A. Qualification.**

1. Are all flight operations officer/flight dispatchers certified/licensed?
2. Have all flight operations officer/flight dispatchers successfully completed a competency check within the eligibility period?
3. Have all flight operations officer/flight dispatchers completed route familiarisation within the preceding 12 calendar months?
4. How does the operator ensure that flight operations officer/flight dispatchers are currently familiar with the areas in which they work?
5. How are meteorologists qualified?

B. Knowledge of Weather.

1. Are flight operations officer/flight dispatchers knowledgeable about the following weather conditions?
 - a. Surface (fronts, fog, low ceilings, etc.)
 - b. Upper Air (tropopause, jet streams)
 - c. Turbulence (pressure and temperature gradients)
 - d. Severe (low level windshear, microburst, icing, thunderstorms)
2. Can flight operations officer/flight dispatchers read an aerodrome report (METAR) forecast accurately and interpret the meanings?
3. Can flight operations officer/flight dispatchers read various weather depiction charts and interpret the meanings?
4. Can flight operations officer/flight dispatchers read upper air charts and interpret the meanings?

C. Knowledge of the Area.

1. Do flight operations officer/flight dispatchers immediately recognise the aerodrome identifiers for the aerodromes in the area in which they are working?
2. Are flight operations officer/flight dispatchers generally familiar with the aerodromes in the area in which they are working (number and length of runways, available approaches, general location, elevation, and surface temperature limitations)?
3. Are flight operations officer/flight dispatchers aware of which aerodromes, in the areas in which they are working, are special aerodromes, and why?
4. Are flight operations officer/flight dispatchers aware of the terrain surrounding the aerodromes in the areas in which they are working?
5. Are flight operations officer/flight dispatchers aware of dominant weather patterns and seasonal variations of weather in the area?
6. Are flight operations officer/flight dispatchers aware of route segments limited by drift down?

D. Knowledge of Aircraft and Flight Planning

1. Are flight operations officer/flight dispatchers aware of the general performance characteristics of each aeroplane with which they are working (such as average hourly fuel burn, holding fuel, engine-out, drift down height, effect of an additional 50 knots of wind, effect of a 4,000 foot lower altitude, crosswind limits, maximum takeoff and landing weights, required runway lengths)?
2. Can flight operations officer/flight dispatcher read and explain all the items on the operator's flight plan?

E. Knowledge of Policy.

1. Are flight operations officer/flight dispatchers knowledgeable of the SOPs, particularly such items as authorised minima?
2. Are flight operations officer/flight dispatchers aware of the policies and provisions of the operator's manual as discussed under policies and procedures?

F. Knowledge of Responsibilities.

1. Are flight operations officer/flight dispatchers knowledgeable of their responsibilities under the CAR (such as briefing PIC; cancelling, rescheduling, or diverting for safety; in-flight monitoring; in-flight notification of PIC)?
2. Are flight operations officer/flight dispatchers knowledgeable of their responsibilities under the operator's manual as discussed in paragraph II A?
3. Are flight operations officer/flight dispatchers aware of their obligation to declare emergencies?

G. Proficiency.

1. Are flight operations officer/flight dispatchers competent in the performance of their assigned duties?
2. Are flight operations officer/flight dispatchers alert for potential hazards?

H. Duty Time.

1. Are the regulatory duty time requirements being complied with?

III. SUPERVISORS.

- A. Qualification. Are supervisors qualified and current as flight operations officer/flight dispatchers?
- B. Conduct of Checks. Are competency checks appropriate, thorough, and rigorous?

IV. FACILITIES AND STAFF.**A. Physical.**

1. Is enough space provided for the number of people working in the dispatch centre?
2. Are the temperature, lighting, and noise levels conducive to effective human performance?
3. Is the access to the facility controlled?

B. Information.

1. Are flight operations officer/flight dispatchers supplied with all the information they require (such as flight status, maintenance status, load, weather, facilities)?
2. Is the information effectively disseminated and displayed? Can information be quickly and accurately located without overloading the flight operations officer/flight dispatcher?
3. Are real time weather displays available for adverse weather avoidance?

C. Communications.

1. Can a flight operations officer/flight dispatcher establish rapid and reliable radio communications (voice or ACARS) with a captain when a flight is parked at the gate?

2. How much time does it take to deliver a message to an en-route flight and get a response?
3. Are direct voice radio communications available at all locations? Are they reliable? If communications facilities are shared with other airlines, does traffic congestion preclude rapid contact with a flight?
4. If hub and spoke operations are conducted, are there adequate communication facilities available to contact and deliver a message to all arriving flights within a 15-minute period?
5. Are backup communications links available in case of a failure of the primary links?

D. Management.

1. Has overall responsibility for operations in progress been assigned to one individual who can co-ordinate the activities of all of the flight operations officer/flight dispatchers?
2. Have procedures been established for co-ordinating with central flow control?
3. Have adequate internal communications links been established?

E. Workload.

1. What method does the operator use to show compliance with the requirement to assign enough flight operations officer/flight dispatchers during periods of normal operations and periods of non-routine operations?
2. Are the operator's methods adequate?
Do flight operations officer/flight dispatchers have enough time to perform both dispatch and flight following duties in a reasonable manner?

**FIGURE 002
FLIGHT RELEASE JOB AID**

NOTE: This job aid applies to all charter operators for domestic operations

I. POLICIES and PROCEDURES.

A. Authorised Operations.

1. Are the operations that may and may not be conducted according to the OpSpecs, including areas of operation, clearly specified?

B. Manuals.

1. Is there a section of the operations manual in which the policy and guidance for operational control has been collected for the guidance of flight crews and flight followers?
2. Are the topics listed on this job aid adequately covered?
3. Is the applicable section of the operations manual readily available to flight followers and flight crews while they perform their duties?
4. Is the operator's operations manual current?

C. Original Release.

1. Are the conditions clearly stated under which a flight may and may not be released?
2. Are the conditions stated under which a flight must be re-routed, delayed, or cancelled?
3. Does the flight release contain all of the required elements?
4. Are limitations placed in the remarks?
5. What provisions are made for PICs and flight followers to obtain weather reports and forecasts (including PIREPs and NOTAMs)?

D. Responsibility for Pre-departure Functions.

1. Are the responsibilities and procedures clearly specified for accomplishing the following functions?
 - a. Crew assignment
 - b. Load planning
 - c. Aircraft routing
 - d. Flight planning
 - e. Release of the aircraft from maintenance
 - f. Control of MEL and CDL limitations
 - g. Weight and balance
2. Have adequate procedures been established for cross-checking and verifying these activities?
3. Is each of these procedures effective?
4. What means has the operator established for the PIC and flight follower to ensure that each of these functions has been accomplished satisfactorily before the aircraft departs?

E. Dual Responsibility.

1. How is the concurrence of the flight follower obtained before the PIC signs the release?
2. Is the PIC's obligation to operate the flight according to the release or to obtain concurrence of the flight follower for an amended release clearly stated?

F. Flight Following.

1. Are the flight follower's duties and procedures clearly stated?
2. Is policy and guidance provided to flight followers for monitoring flight movements?
3. Are flight following procedures effective?

G. Inability to Proceed as Released.

1. Is a policy stated concerning the PIC's latitude to deviate from the flight release without obtaining a new release?
2. Is there specific and adequate direction and guidance to PICs and flight followers for the actions to take when a flight cannot be completed as planned (such as destinations or alternates below minima, runways closed or restricted)?
3. Are procedures to follow specifically and clearly stated in case of a diversion or holding?

H. Weather.

1. Does the operator obtain weather reports from an approved source?
2. Are forecasts based on approved weather reports?
3. Does the operator have an adverse weather system?
4. Does the operator have adequate procedures for the flightcrews to obtain the latest available weather report while the flight is enroute?
5. Does the operator have adequate procedures for updating weather information when the aircraft is delayed on the ground?

I. Weather Minima.

1. Is release under VFR authorised by the OpSpecs?
2. If so, have the forecast and actual weather report allowed VFR flight to proceed to destination on those flights so released?
3. Have turbojet aircraft been released under VFR?
4. What IFR departure minima are authorised by the OpSpecs?
5. When flights are released with the departure aerodrome below landing minima, are takeoff alternates named on the flight release?
6. What destination weather minima are authorised by the OpSpecs?
7. What weather minima are authorised for "high minima" captains in the OpSpecs?
8. When destination alternates are required, are they named on the flight release?
9. Is the weather at the named alternate aerodrome equal to or better than that required by the OpSpecs?
10. Is "marginal" defined for the designation of two alternates on the dispatch release?
11. Are two alternates designated when required?
12. How does the operator ensure that flight followers are aware of these limitations before concurring with the release of a flight?

13. Do weather forecasts from the trip records show that these limits have been complied with for dispatch?

J. Selection of Alternates.

1. Is policy, direction, and guidance provided for the selection of alternates?
2. Are terrain and engine-out performance considered in alternate selection?
3. Is an alternate aerodrome always designated?

K. NOTAMs.

1. Is the required NOTAM information provided

L. Information.

1. What provisions does the operator make for supplying aerodrome and navigation information?
2. What means does the operator use to comply with the requirement for an aerodrome data system? Is it adequate?
3. Are flight crews provided with written flight plans for monitoring flight progress and fuel burn?
4. How does the operator provide data to flight followers on takeoff and landing minima at each aerodrome?
5. Do flight followers have immediate access to such data?
6. Are provisions made for non-standard operations such as inoperative centreline lighting?

M. Fuel.

1. Are all of the required increments of fuel provided (such as start and taxi, takeoff to arrival at destination, approach and landing, missed approach, alternate fuel, 30 minutes of reserve, and contingency fuel)?
2. Are there minimum fuel procedures specified for both flight operations officer/flight dispatcher and PICs?
3. Are the operator's policies concerning contingency fuel adequate for the environment in which operations are conducted?

N. Emergency Procedures.

1. Are emergency action procedures and checklists published and readily available?
 - a. In-flight Emergency
 - b. Crash
 - c. Overdue or missing aircraft
 - d. Bomb threat
 - e. Hijacking

O. Changeover Procedures.

1. Is an adequate overlap provided for the flight follower being released to brief the oncoming flight follower on the situation?

P. Trip Records.

1. Are the required trip records carried to destination?
2. Are trip records retained for 30 days?

II. FLIGHT FOLLOWERS.

A. Qualification.

1. What means does the operator use to comply with the requirement that flight followers are competent? Is the operator's method effective?
2. How does the operator ensure that flight followers are currently familiar with the areas in which they work?
3. How are meteorologists qualified?

B. Knowledge of Weather.

1. Are flight followers knowledgeable of the following weather conditions?
 - a. Surface (fronts, fog, low ceilings)
 - b. Upper Air (tropopause, jet streams)
 - c. Turbulence (pressure and temperature gradients)
 - d. Severe (low level windshear, microburst, icing, thunderstorms)
2. Can flight followers read a terminal report, forecast accurately, and interpret the meanings?
3. Can flight followers read various weather depiction charts and interpret the meanings?
4. Can flight followers read upper air charts and interpret the meanings?

C. Knowledge of the Area.

1. Do flight followers immediately recognise the aerodrome identifiers for the aerodromes in the area in which they are working?
2. Are flight followers generally familiar with the aerodromes in the area in which they are working (number and length of runways, available approaches, general location, elevation, and surface temperature limitations)?
3. Are flight followers aware of which aerodromes, in the areas in which they are working, are special aerodromes and why?
4. Are flight followers aware of the terrain surrounding the aerodromes in the areas in which they are working?
5. Are flight followers aware of dominant weather patterns and seasonal variations of weather in the area?
6. Are flight followers aware of route segments limited by drift down?

D. Knowledge of Aircraft and Flight Planning.

1. Are flight followers aware of the general performance characteristics of each aeroplane with which they are working (such as average hourly fuel burn, holding fuel, engine-out drift down height, effect of an additional 50 knots of wind, effect of a 4,000 foot lower altitude, crosswind limits, maximum takeoff and landing weights, required runway lengths)?
2. Can flight followers read and explain all the items on the operator's flight plan?

E. Knowledge of Policy.

1. Are flight followers knowledgeable of the OpSpecs, particularly authorised minima?
2. Are flight followers aware of the policies and provisions of the operator's manual as discussed under policies and procedures?

F. Knowledge of Responsibilities.

1. Are flight followers knowledgeable of their responsibilities under the CAR?
2. Are flight followers knowledgeable of their responsibilities under the operator's manual as discussed in paragraph II A?

G. Proficiency.

1. Are flight followers competent in the performance of their assigned duties?
2. Are flight followers alert for potential hazards?

III. FACILITIES AND STAFF.**A. Physical.**

1. Is enough space provided for the number of people working in the flight following centre?
2. Are the temperature, lighting, and noise levels conducive to effective human performance?
3. Is access to the facilities controlled?

B. Information.

1. Are flight followers supplied with all the information they require (flight status, maintenance status, load, weather, facilities)?
2. Is information effectively disseminated and displayed? Can information be quickly and accurately located without overloading the flight follower?
3. Are real time weather displays available for adverse weather avoidance?

C. Communications. Can a flight follower establish reliable communications with a PIC before release?**D. Management.**

1. Has overall responsibility for operations in progress been assigned to one individual who can co-ordinate the activities of all flight followers?
2. Have procedures been established for co-ordinating with central flow control?
3. Have adequate internal communications links been established?

E. Workload.

1. What methods does the operator use to show compliance with the requirement to assign enough flight followers during periods of normal operations and periods of non-routine operations? Are the operator's methods adequate?
2. Do flight followers have enough time to perform both release and flight following duties in a reasonable manner?

IV. FLIGHT FOLLOWERS.

A. Qualification.

1. How does the operator ensure that flight followers are currently familiar with the areas in which they work? Are flight followers given en-route familiarisation in extended over-water operations?

B. Knowledge of Extended Range Operations.

1. Are flight followers knowledgeable in the performance characteristics of each aeroplane with respect to over-water considerations (such as average hourly fuel burn, engine-out, drift down height, engine-out cruise performance, effect of an additional 50 knots of wind on Equal Time Point (ETPs), effect of a 4,000 foot lower altitude, relationship of single engine and 2 engine ETPs)?

C. Knowledge of the Area.

1. Do flight followers immediately recognise the aerodrome identifiers for the aerodromes in the area in which they are working?
2. Are flight followers generally familiar with the aerodromes in the area in which they are working (number and length of runways, available approaches, general location, elevation, and surface temperature limitations)?
3. Are flight followers aware of which aerodromes are special aerodromes in the areas in which they are working, and why?
4. Are flight followers aware of dominant weather patterns and seasonal variations of weather in the area (such as monsoons and jet streams)?
5. Are flight followers aware of route segments limited by drift down, engine-out performance, or depressurisation considerations?
6. Are flight followers aware of the available en-route alternates and the characteristics of these aerodromes?

D. Knowledge of Special Fuel Reserves and Planned Re-release.

When special fuel reserves or planned re-releases are authorised, are flight followers thoroughly versed in these procedures and requirements?