CIVIL AVIATION AUTHORITY
OF THE PHILIPPINES

ADVISORY CIRCULAR
AC 08-006

APPLICATION & PROCESS:
ALL-WEATHER OPERATIONS APPROVALS

SECTION 1 POLICY & GENERAL INFORMATION

1.1 PURPOSE

This advisory circular (AC) provides a means for air operators to obtain operational authority to conduct all weather operations, including—

- Category II instrument approaches
- Category III Instrument approaches
- Low visibility takeoffs
- Low visibility surface operations

No person may operate a civil aircraft of Philippine registry or under an AOC granted by the CAAP in defined all-weather operations without a written authorization.

1.2 STATUS OF THIS AC

This AC is an original issuance.

1.3 BACKGROUND

1.3.1 GENERAL

A. Because of the complex nature of aircraft operations there is a need to approach the subject of all weather operations with the concept of a total system in mind. The major sub-systems are the ground and airborne elements.

B. The ground elements comprise facilities, services and obstacles; these relate in principle to the State of the Aerodrome.

C. The airborne elements comprise the aeroplane and its equipment, flight crew capabilities, and flight procedures which fall under the jurisdiction of the State of the Operator.

The international character of aircraft operation will mean that these could be 2 different States.

1.3.2 STATE OF THE OPERATOR FOCUS

In this advisory circular, the guidance is approached from the point of view of the State of the Operator, who is internationally obligated to approve all-weather operations for its operators and to ensure—

1) Supervision of their operators in the establishment, implementation, and use of their operating minima leading towards standardization of methods used in the establishment of aerodrome operating minima;

2) Establish suitable requirements for the progression from Category I operations down to Categories II and III; and

3) That pilots and other personnel understand and are competent in these operations.

1.3.3 FOCUS ON LOWER LANDING MINIMA

A. Landing minima are generally classified by Category I, Category II, and Category III.

B. Category I criteria is applied to all types of instrument approaches, both "non-precision" and "precision."

- Operators should be aware that, in international operations, slight differences exist in definition and use of Category I, II, and III terminology.
- These differences are minor and should not affect their operations adversely.

C. This AC assumes that—

1) All instrument-rated pilots have demonstrated the basic knowledge and skill regarding non-precision and precision approaches; and

2) All operators approved for IFR operations have qualified for Category I minimums prior to application for Category II and III operations.

D. The focus of this AC is on qualifying for CAAP approval for those "precision" all-weather operations that require the application of aerodrome operating minima for approach and landing or takeoff below Category I landing minima.

1.4 APPLICABILITY

The requirement for CAAP approval before conducting defined all-weather operations applies to—

1) Philippine AOC holders; and

2) Operators of Philippine-registered aircraft operated in general aviation who desire to conduct Category II and III instrument approach and landings.

1.5 RELATED REGULATIONS

- PCAR Part 2 includes requirements for qualification of general aviation pilots for certain all weather operations.
- PCAR Part 7 includes requirements for instruments and equipment for all-weather operations
- PCAR Part 8 includes the requirements for instrument flight operations and application of RVR.
- PCAR Part 9 includes the requirements for CAAP approval of AOC all-weather operations.

1.6 RELATED PUBLICATIONS

The following organizations and publications also provide pertinent information regarding all-weather operations—

1) International Civil Aviation Organization (ICAO)—

- ♦ Doc 93659 AN/910, Manual of All-Weather Operations (AWO)
- ♦ Annex 6, Part 1 (7.1.3), International Commercial Air Transport – Aeroplanes
- ♦ Annex 6, Part 3 (5.1.3), International Operations – Helicopters

Copies may be obtained from Document Sales Unit, ICAO, 999 University Street, Montreal, Quebec, Canada H3C 5H7

2) European Joint Aviation Authorities

   - JAR-AWO, All Weather Operations
   - JAR-OPS 1, Air Operators

3) United States Federal Aviation Administration (CAAP)

   - AC 120-28, Criteria for the Approval of Category III Weather Minima for Takeoff, Landing and Rollout
   - AC 120-29, Criteria for the Approval of Category I and Category II Weather Minima for Approach

These publications can be found on the following Web site: http://www.CAAP.gov. Select "advisory circulars" then search for the specific AC number.

1.7 DEFINITIONS & ACRONYMS

1.7.1 DEFINITIONS

The following definitions apply to this advisory circular—

1) **Aerodrome operating minima.** The limits of usability of an aerodrome for—

   (a) Take-off, expressed in terms of runway visual range and/or visibility and, if necessary, cloud conditions;

   (b) Landing in precision approach and landing operations expressed in terms of visibility and/or runway visual range and decision altitude/height (DA/H) as appropriate to the category of the operation;

   (c) Landing in approach and landing operations with vertical guidance, expressed in terms of visibility and/or runway visual range and decision altitude/height (DA/H); and

   (d) Landing in non-precision approach and landing operations, expressed in terms of visibility and/or runway visual range, minimum descent altitude/height (MDA/H) and, if necessary, cloud conditions.

2) **Alert Height**. A height above the runway based on the characteristics of the aircraft and its fail-operational landing system, above which a Category III approach would be discontinued and a missed approach initiated if a failure occurred in one of the redundant parts of the fail operational landing system, or in the relevant ground equipment

3) **All-weather operations**. Any taxi, take-off and landing operations in conditions where visual reference is limited by weather conditions.

4) **Category I (CAT I) operation**. A precision instrument approach and landing with—

   (a) A decision height not lower than 60 m (200 ft); and

   (b) With either a visibility not less than 800 m (1/2 sm) or a runway visual range not less than 550 m (1800 ft).

5) **Category II (CAT II) operation.** A precision instrument approach and landing with—

   (a) A decision height lower than 60 m (200 ft), but not lower than 30 m (100 ft); and

   (b) A runway visual range not less than 300 m (1200 ft).

6) **Category IIIA (CAT IIIA) operation.** A precision instrument approach and landing with—

   (a) A decision height lower than 30 m (100 ft) or no decision height; and

   (b) A runway visual range not less than 175 m (700 ft).

7) **Category IIIB (CAT IIIB) operation.** A precision instrument approach and landing with—

   (a) A decision height lower than 15 m (50 ft), or no decision height; and

   (b) A runway visual range less than 175 m (600 ft) but not less than 50 m (150 ft).

8) **Category IIIC (CAT IIIC) operation.** A precision instrument approach and landing with no decision height and no runway visual range limitations.

9) **Fail Operational System.** A system capable of completing the specified phases of an operation following the failure of any single system component after passing a point designated by the applicable safety analysis (e.g., Alert Height).

10) **Fail Passive System.** A system which, in the event of a failure, causes no significant deviation of aircraft flight path or attitude.

11) **Head Up Display System.** An aircraft system which provides head-up guidance to the pilot during flight.It includes the display element, sensors, computers and power supplies, indications and controls. It may receive inputs from an airborne navigation system or flight guidance system.

12) **Hybrid System.** A combination of two, or more, systems of dissimilar design used to perform a particular operation.

13) **Landing Rollout.** For the purpose of this AC, rollout starts from the first contact of the wheels with the runway and finishes when the airplane has slowed to a safe taxi speed (in the order of 30 knots).

14) **Non-precision approach and landing operations**. An instrument approach and landing which utilizes lateral guidance but does not utilize vertical guidance.

15) **Precision approach and landing operations**. An instrument approach and landing using precision lateral and vertical guidance with minima as determined by the category of operation.

16) **Takeoff Guidance System**. A system which provides directional command guidance to the pilot during a takeoff, or takeoff and aborted takeoff. It includes sensors, computers and power supplies, indications and controls.

17) **Visual Guidance**. Visual information the pilot derives from the observation of real world cues, outside the cockpit and uses as the primary reference for aircraft control or flight path assessment.

1.7.2 ACRONYMS & ABBREVIATIONS

The following acronyms apply to this advisory circular—

1) **AC** – Advisory Circular

2) **AOC –** Air Operator Certificate

3) **AFM** – Airplane Flight Manual

4) **AH** – Alert Height

5) **ALS** – Approach Light System

6) **AWO** – All Weather Operations

7) **ATS** – Air Traffic Service

8) **CAAP** – Civil Aviation Authority of the Philippines

9) **DA** – Decision Altitude

10) **DA(H)** – Decision Altitude(Height)

11) **DH** – Decision Height
12) **ETOPS** – Extended Range Operations with Two-Engine Airplanes
13) **EVS** – Enhanced Vision System
14) **FCOM** – Flight Crew Operating Manual
15) **FMC** – Flight Management Computer
16) **FMS** – Flight Management System
17) **GLS** – GPS (or GNSS) Landing System
18) **GNSS** – Global Navigation Satellite System
19) **MEL** – Minimum Equipment List
20) **MMEL** – Master Minimum Equipment List
21) **NAVAID** – Navigational Aid
22) **PCAR** –Philippine Civil Aviation Regulations
23) **PF** – Pilot Flying
24) **PNF** – Pilot Not Flying
25) **POI** – Principal Operations Inspector
26) **SMSGS** – Surface Movement Guidance and Control System
27) **RII** – Required Inspection Items
28) **RNAV** – Area Navigation
29) **RNP** – Required Navigational Performance
30) **RVR** – Runway Visual Range
31) **TDZ** – Touchdown Zone

SECTION 2 OPERATIONAL APPROVAL PROCESS

2.1 GENERAL INTERNATIONAL REQUIREMENTS

2.1.1 COMPLETE CERTIFICATION REQUIREMENTS

Prior to operating a civil aircraft of Philippine registry in defined all-weather operations must first—

1) Satisfactorily complete the process for granting of the proper authorizations;
2) Obtain CAAP-approval document for the specific aircraft or fleet.

2.1.2 CERTIFICATION EVALUATION REQUIRED

In making this certification evaluation, CAAP shall take into account the—

1) Type(s) of all-weather operations proposed;
2) Suitability of the aircraft, instruments and equipment for those operations;

2.1.3 CRITERIA FOR GRANTING THE APPROVAL DOCUMENT

CAAP shall be satisfied that the—

1) The aircraft, instruments and equipment were designed and airworthiness-tested for the all-weather operations proposed by the operator;

2) Operator has instituted appropriate procedures and training in respect to maintenance programmes and practices necessary to ensure the continued airworthiness of the aircraft, instruments and equipment involved in the proposed all-weather operations.

3) Operator has instituted adequate and appropriate operational procedures to ensure the safe accomplishment of the all-weather operations;

- The criteria specified in this paragraph will be applied after certification to all inspections involving AWO operations.
- Consistent satisfactory performance is absolutely necessary for continued AWO approval.

4) Operator has ensured that all flight crew and flight dispatcher participants in the proposed all-weather operations are trained and qualified; and

5) The operator has demonstrated that its personnel can conduct the all-weather operations(s) consistently and safely

2.2 GENERAL PHILIPPINE REQUIREMENTS

2.2.1 CERTIFICATION PROCESS

A. While all certification proceeds through the same 5-phase process, whether is a single document or a completely new airline, the lines between the phases blur in a simple certification.

B. Granting of AWO authorizations is a simple process. The applicant will provide the required formal application as prescribed by CAAP.

C. The certification team will then accomplish the document conformance.

D. Document conformance is considered complete when all submitted documents have been—

1) Evaluated;

2) Found to be acceptable for use in aviation; and

3) Issued a formal instrument of approval or acceptance.

2.2.2 INSPECTION & DEMONSTRATION

A. The specific aircraft to be used will be inspected for installed AWO equipment capability and reliability.

B. If there is any doubt that the operator's personnel and equipment may not be capable of consistently meeting the navigation and procedure performance required, the applicant will be issued an LOA to conduct AWO operations under the close supervision of CAAP inspector personnel.

Past performance of the operator's personnel with the Category I instrument operations to meet the Category II and III requirements will be a key factor in the type of demonstration required.

C. The demonstrated consistency of safety completing the required maneuvers and procedures will be considered before granting the AWO approval(s).

2.2.3 FINAL CERTIFICATION ACTIONS

A. This is the period of time that CAAP completes the necessary documentation to formalize the approval of the applicant for AWO approvals in specific aircraft type(s) and, if necessary, in specific aerodromes.

B. That approval will be in the form of—

1) For general aviation operators; an LOA valid for a period of 12 months; and

2) For AOC holders, a revision to the—

(a) Master (formal) operations specifications; and

(b) Aircraft Display operations specification (for each type of aircraft).

SECTION 3 CONTENTS OF FORMAL APPLICATION PACKAGE

3.1 GENERAL REQUIREMENTS

The following documents will be considered individually—

1) Letter of request for AWO approval

2) Summary of relevant past operating history (where available);

3.2 FOR AIRCRAFT TYPE

The following documents must be submitted for each aircraft type—

1) Description of aircraft Type Certificate data;

2) Operations manuals (or proposed revisions to existing manuals) providing specific procedures or procedure steps to include AWO;

3) For AOC holders, training programs that include initial and recurrent training that provides pilots, flight dispatchers and maintenance personnel with adequate knowledge of AWO requirements;

4) Proposed Minimum Equipment List (MEL) revisions for AWO, if applicable;

5) Current Master Minimum Equipment List (MMEL)

6) Maintenance Program

3.3 AVAILABLE FOR CONSULTATION

The following documents (for each type of aircraft) must be available at the applicant's facilities for consultation—

1) Maintenance manuals;

2) Standard practices manuals; and

3) Illustrated parts catalogues.

- CAAP inspectors shall have unobstructed ability to refer to these documents.
- If this criteria is not met, copies of these manuals will be required to be submitted to the CAAP offices as a part of the application.

SECTION 4 AIRWORTHINESS CONSIDERATIONS

4.1 AIRWORTHINESS DEMONSTRATIONS

A. Airworthiness demonstration of aircraft equipment is usually accomplished in support of operational authorizations on a one-time basis at the time of Type Certification (TC) or Supplemental Type Certification (STC).

B. This demonstration is based upon the airworthiness criteria in place at that time.

C. The operating rules will continuously apply over time and may change after airworthiness demonstrations are conducted, or may be updated consistent with safety experience, additional operational credit or constraints may apply to operators or aircraft as necessary for safe operations.

D. The criteria related primarily to the airworthiness demonstration of systems or equipment is assumed through the proper validation of the data provided by the State of Design (or Manufacture) airworthiness demonstration.

Unless otherwise accepted by the CAAP, each aircraft should meet relevant criteria specified by the applicable aircraft manufacturer or avionics manufacturer for associated systems and equipment, such as

- Valid Type Certificated
- Appropriate STC records
- Compliance, assessment of status of any engineering orders, ADs, service bulletins or other compliance requirements.

4.2 CONTINUING AIRWORTHINESS / MAINTENANCE

4.2.1 MAINTENANCE PROGRAM

A. Unless otherwise approved by CAAP, each operator should have an approved maintenance program.

B. The approved maintenance program should include any necessary provisions to address lower landing minima (LLM) or low visibility takeoff in accordance with the operator's intended operation and the—

1) Manufacturers recommended maintenance program;

2) MRB requirements or equivalent requirements; or

3) Any subsequent Manufacturer, State of Design or CAAP designated requirements (e.g., ADs, mandatory service bulletins).

Emphasis should be on maintaining and ensuring total system performance, accuracy, availability, reliability, and integrity for the intended operations.

4.2.2 MAINTENANCE PROGRAM PROVISIONS

A. The maintenance program should be compatible with an operator's organization and ability to implement and supervise the program.

B. Maintenance personnel should be familiar with—

1) The operator's approved program;

2) Their individual responsibilities in accomplishing that program; and

3) The availability of any resources within or outside of the maintenance organization that maybe necessary to assure program effectiveness.

♦ Examples include getting applicable information related to the manufacturer's recommended maintenance program and getting information referenced in this AC such as service bulletin information).

C. Provision for low visibility operations may be addressed as a specific program or may be integrated with the general maintenance program.

D. Regardless whether the maintenance program is integrated or is designated as a specific program for Lower Landing Minima (LLM), the maintenance program should at least address the following—

1) Maintenance procedures necessary to ensure continued airworthiness relative to low visibility operations;

2) A procedure to revise and update the maintenance program;

3) A method to identify, record or designate personnel currently assigned responsibility in managing the program, performing the program, maintaining the program, or performing quality assurance for the program;

4) This includes identification of any service provider or sub-contractor organizations, or where applicable, their personnel;

5) Verification should be made of the lower landing minima systems and configuration status for each aircraft brought into the maintenance or lower minimum program.

Unless otherwise accepted by the CAAP, each aircraft should meet relevant criteria specified by the applicable aircraft manufacturer or avionics manufacturer for associated systems and equipment.

6) Identification of modifications, additions, and changes which were made to qualify aircraft systems for the intended operation or minima, if other than as specified in the AFM, TC or STC.

7) Identification of additional maintenance requirements and log entries necessary to change minima status;

8) Any discrepancy reporting procedures that may be unique to the low visibility program. If applicable, such procedures should be compatibly described in maintenance documents and operations documents;

9) Procedures which identify, monitor and report lower minimum system and component discrepancies for the purpose of quality control and analysis;

10) Procedures which define, monitor and report chronic and repetitive discrepancies;

11) Procedures which ensure aircraft remain out of lower minimum status until successful corrective action has been verified for chronic and repetitive discrepancies;

12) Procedures which ensure the aircraft system status is placarded properly and clearly documented in the aircraft log book, in coordination with maintenance control, engineering, flight operations, and dispatch, or equivalent;

13) Procedures to ensure the downgrade of an aircraft low visibility capability status, if applicable, when maintenance has been performed by persons other than those trained, qualified, or authorized to use or approve procedures related to low visibility operations;

14) Procedures for periodic maintenance of systems ground check, and systems flight check, as applicable;

- For example, following a heavy maintenance, suitable checks may need to be performed prior to maintenance release.

15) Provisions for an aircraft to remain in a specific low visibility capability status (e.g., Category II, Category III, Fail-Operational, Fail Passive) or other designated operational status used by the operator

16) Provision should be made for periodic operational sampling of suitable performance.

At least one satisfactory approach should have been accomplished within a specified period approved for that operator, unless a satisfactory systems ground check has been accomplished.

- A recording procedure for both satisfactory and unsatisfactory results should be included.
- Fleet sampling is not generally acceptable in lieu of specific aircraft assessment.
- At least one satisfactory low visibility system operational use, or a satisfactory systems ground check, should be accomplished within 30 days, for an aircraft to remain in Category III status.
- Any extension to an aircraft sampling period limit beyond 30 days, or use of statistical fleet sampling should be consistent with the manufacturer's current sampling recommendations and be based on the demonstrated reliability of that operator's aircraft flight guidance system performance in service.

Failure of an operator to maintain an acceptable reliability record should result in timely and appropriate remedial action, and should lead to reconsideration of suitability of any sampling period extensions or fleet statistical sampling authorizations.

4.3 INITIAL & CONTINUING MAINTENANCE TRAINING

A. Operator and contract maintenance personnel should receive initial and continuing training as necessary for an effective program, including—

1) Mechanics;
2) Maintenance controllers;
3) Avionics technicians;
4) Personnel performing maintenance inspection or quality assurance; and
5) Other engineering personnel if applicable.

B. The training curriculum should include specific aircraft systems and operator policies and procedures applicable to low visibility operations.

4.3.1 CONTINUING TRAINING

A. Continuing training should be accomplished—

The CAAP recommends that the operator provide a special certification of maintenance personnel for AWO duties.

1) At least annually; and
2) When a person has not been involved in the maintenance of the specified aircraft or systems for an extended period of more than 6 months.

B. The training should at least include, as applicable—

1) An initial and recurrent training program for appropriate operator and contract personnel;
2) Personnel considered to be included are maintenance personnel, quality and reliability groups, maintenance control, and incoming inspection and stores, or equivalent organizations.
3) Training should include both classroom and at least some "hands-on" aircraft training for those personnel who are assigned aircraft maintenance duties. Otherwise, training may be performed—
   - In a classroom
   - By computer based training

- In simulators
- in an airplane or in any other effective combination of the above
- consistent with the approved program, and considered acceptable to CAAP.

4) Subject areas for training should include—
   - Operational concepts
   - Aircraft types and systems affected
   - Aircraft variants and differences where applicable
   - Procedures to be used;
   - Manual or technical reference availability and use
   - Processes, tools or test equipment to be used
   - Quality control
   - Methods for testing and maintenance release
   - Sign-offs required
   - Proper Minimum Equipment List (MEL) application
   - General information about where to get technical assistance as necessary,
   - Necessary coordination with other parts of the operator's organization (e.g., flight operations, dispatch), and
   - Any other maintenance program requirements unique to the operator or the aircraft types or variants flown (e.g., human factors considerations, problem reporting)
5) Procedures for the use of outside vendors or vendor's parts that ensures compatibility to program requirements and for establishing measures to control and account for parts overall quality assurance
6) Procedures to ensure tracking and control of components that are "swapped" between systems for trouble shooting when systems discrepancies can not be duplicated.

   These procedures should provide for total system testing and/or removal of aircraft from lower minimum status.
7) Procedures to assess, track and control the accomplishment of changes to components or systems pertinent to low visibility operations
   - For example, ADs, service bulletins, engineering orders, PCAR requirements
8) Procedures to record and report lower minimum operation(s) that are discontinued/ interrupted because of system(s) malfunction
9) Procedures to install, evaluate, control, and test system and component software changes, updates, or periodic updates
10) Procedures related to the MEL remarks section use which identify low visibility related systems and components, specifying limitations, upgrading and downgrading
11) Procedures for identifying low visibility related components and systems as "RII" items, to provide quality assurance whether performed in-house or by contract vendors.

4.4 TEST EQUIPMENT/CALIBRATION STANDARDS

A. Test equipment may require periodic re-evaluation to ensure it has the required accuracy and reliability to return systems and components to service following maintenance.

- It is the operator's responsibility to ensure these standards are adhered to by contract maintenance organizations.
- Traceability to a national standard or the manufacturer's calibration standards should be maintained.

B. A listing of primary and secondary standards used to maintain test equipment which relate to low visibility operations should be maintained.

4.5 MAINTENANCE RELEASE PROCEDURES

A. Procedures should be included to upgrade or downgrade systems status concerning low visibility operations capability.

B. The appropriate level of testing should be specified for each component or system.

The method for controlling operational status of the aircraft should ensure that flight crews, maintenance and inspection departments, dispatch and other administrative personnel as necessary are appropriately aware of aircraft and system status.

C. The manufacturer's recommended maintenance program or maintenance instructions should be considered when determining the role built-in-test-equipment (BITE) should play for return to service (RTS) procedures or for use as a method for low visibility status upgrade or downgrade.

D. Contract facilities or personnel should follow the operator's CAAP-approved maintenance program to approve an aircraft for maintenance release.

The operator is responsible for ensuring that contract organizations and personnel are appropriately trained, qualified, and authorized.

4.6 PERIODIC AIRCRAFT SYSTEM EVALUATIONS

A. The operator should provide a method to continuously assess or periodically evaluate aircraft system performance to ensure satisfactory operation for those systems applicable to Category II or III.

- An acceptable method for assuring satisfactory performance of a low visibility flight guidance system (e.g., autoland or HUD) is to periodically use the system and note satisfactory performance.

Use of the flight guidance/automatic landing system by the flight crews should be encouraged to assist in maintaining its availability and reliability.

B. Periodic flight guidance system/autoland system checks should be conducted in accordance with—

- Procedures recommended by the airframe or avionics manufacturer; or
- An alternate procedure approved by the CAAP.

C. For periodic assessment, a record should be established to show—

1) When and where the flight guidance/autoland system was satisfactorily used, and

2) If performance was not satisfactory, to describe any remedial action taken.

A record of that check such as a logbook entry or computer ACARS record showing satisfactory performance within the previous—

- 6 months for Category II, or
- 30 days for Category III.

4.7 RELIABILITY REPORTING & QUALITY CONTROL

A. For a period of 1 year after an operator has been authorized reduced minima, a monthly summary should be submitted to the CAAP.

B. The following information should be reported—

1) The total number of approaches tracked;l

2) The number of satisfactory approaches tracked, byaircraft/system type, and visibility(RVR), if known or recorded;

This report is mandatory for renewal of the approval.

3) The total number of unsatisfactory approaches;

4) With reasons for unsatisfactory performance, if known, listed by appropriate category;

- Example categories include poor system performance, aircraft equipment problem/failure; ground facility problem, ATS handling, lack of critical area protection.

5) The total number of unscheduled removals of components of the related avionics systems.

C. Reporting after the initial period should be in accordance with the operator's established reliability and reporting requirements prescribed by the CAAP.

4.8 CONFIGURATION CONTROL / SYSTEM MODIFICATIONS

A. The operator should ensure that any modification to systems and components approved for low visibility operations are not adversely affected when incorporating software changes, service bulletins, hardware additions or modifications.

B. Any changes to system components should be consistent with the aircraft manufacturer's, avionics manufacturer's, industry or CAAP accepted criteria or processes

4.9 RECORDS

A. The operator should keep suitable records (e.g., both the operator's own records and access to records of any applicable contract maintenance organization).

These records ensure that both the operator and CAAP can determine the appropriate airworthiness configuration and status of each aircraft intended for Category III operation.

B. Contract maintenance organizations should have appropriate records and instructions for coordination of records with the operator.

SECTION 5 OPERATIONAL PROCEDURES

5.1 OPERATIONAL PROCEDURES

A. Appropriate operational procedures based on the approved operator program should be addressed.

Suitable operational procedures must be used by the operator and be used by flight crews prior to conducting low visibility takeoff or Category III landing operations.

B. Operational procedures should consider the—

1) Pilot qualification and training program;

2) Airplane flight manual;

3) Crew coordination procedures;

4) Monitoring;

5) Appropriate takeoff and landing minima including specification of either a DH or an AH (as applicable) for landing;

6) Crew call-outs, and assurance of appropriate aircraft configurations.

5.1.1 APPLICATION OF AFM PROVISIONS

A. The operator's procedures for low visibility takeoff or Category III landing should be consistent with any AFM provisions specified in the normal or non-normal procedures sections during airworthiness demonstrations.

- Adjustments of procedures consistent with operator requirements are permitted when approved by the POI.

B. Operators should assure that no adjustments to procedures are made which invalidate the applicability of the original airworthiness demonstration.

C. Where navigation performance for a specific RNP can only be achieved by specific system modes (e.g.,coupled flight director or autopilot), the specific modes and associated RNP levels should be applied consistent with the AFM.

If not available in the AFM or Flight Crew Operating Manual (FCOM), RNP operations may be approved on a case by case basis, consistent with “fleet qualification” for RNP criteria.

D. Where operations are based on RNP, suitable flight manual provisions for RNP capability and uses should be provided.

5.1.2 CREW COORDINATION

A. Appropriate procedures for crew coordination should be established so that each flight crew member can carry out their assigned responsibilities.

B. Briefings prior to the applicable takeoff or approach should be specified to assure appropriate and necessary crew communications.

C. Responsibilities and assignment of tasks should be clearly understood by crew members.

5.1.3 MONITORING

A. Operators should establish appropriate monitoring procedures for each low visibility takeoff, approach, landing, and missed approach.

B. Procedures should assure that adequate crew attention can be devoted to—

- Control of aircraft flight path
- Displacements from intended path
- Mode annunciations
- Failure annunciations and warnings
- Adherence to minima associated with DH and AH.

C. Where a "monitored approach" is used, (e.g., where the First Officer is responsible for control of the aircraft flight path by monitoring of the automatic flight system) appropriate procedures should be established for transfer of control to the pilot in command who will be making the decision for continuation of the landing at or prior to DH or AH.

- Monitoring procedures should not require a transfer of responsibility or transfer of control at a time that could interfere with safe landing of the aircraft.

- Procedures for calling out failure conditions should be pre-established, and responsibility for alerting other crew members to a failure condition should be clearly identified.

5.1.4 USE OF THE DECISION HEIGHT OR ALERT HEIGHT

A. Decision heights are normally used for Fail Passive Category III operations.

B. Alert Heights are used for Fail Operational Category III operations.

Certain exceptions are noted elsewhere in this AC (e.g., use of a DH due to specific fail operational aircraft characteristic at a runway with irregular pre-threshold terrain).

C. When DHs are specified, flight crews must be aware of the necessary visual references that must be established by and maintained after passing DH by using procedures including—

1) Setting various reference bugs in the cockpit should be clearly identified;

2) Responsibilities for DH call-outs should be clearly defined; and

3) Visual reference requirements necessary at DH.

D. When Alert Heights are specified, the operator may elect to use an AH at or below 200 ft. HAT as suitable for procedure or procedures identified for use by that operator.

- Procedures should be specified for call-out of the AH and if applicable for conversion of the AH to a DH in the event that the aircraft reverts from Fail Operational to Fail Passive flight control.

5.1.5 RADAR ALTIMETER ANALYSIS

A. The operator should assure that at each runway intended for Category III operations, the radar altimeter systems used to define AH or DH provides consistent, reliable, and appropriate readings for determination of DH or AH in the event of irregular terrain underlying the approach path, or an alternate method should be used.

B. AH or DH may be based on other means (e.g., inner marker) only when specifically approved by CAAP.

Any adjustments to approach minima or procedures made on final approach should be completed at a safe altitude (e.g., above 500ft. HAT).

5.1.6 CALL-OUTS

A. Altitude/Height call-outs should be used for Category III.

B. Callouts may be accomplished by the flight crew or may be automatic (e.g., using synthetic voice call-outs or a tone system).

C. Typical call-outs acceptable for Category III include a combination of the following—

- "1000 ft." above the touchdown zone
- "500 ft." above the touchdown zone
- "Approaching minimums"
- "Minimums"
- Altitudes during flare (e.g., 50, 30, 10) or
- AFGS mode transitions (e.g., flare, rollout), and
- As appropriate, auto spoiler, reverse thrust deployment and autobrake disconnect.

D. Calls made by the flight crew should not conflict with the automatic systems or auto call-outs of the aircraft, and conversely the configuration selected for the aircraft should not conflict with expected call-outs to be made by the flight crew.

Automatic altitude call-outs or tones are recommended for altitude awareness, at least at and after passing DH or AH.

- Compatibility between the automatic call-outs and the crew call-outs must be assured.
- The number of call-outs made, either automatically, by crew, or in combination, should not be so frequent as to interfere with necessary crew communication for abnormal events.

E. Call-outs should be specified to address any—

1) Non-normal configurations, mode switches, failed modes; or

2) Other failures that could affect safe flight, continuation of the landing, or the accomplishment of a safe missed approach.

F. Any use of crew initiated call-outs at altitudes below 100 ft. should assure that the callouts do not require undue concentration of the non-flying pilot on reading of the radar altimeter rather than monitoring the overall configuration of the aircraft, mode switching, and annunciations that might be related to a successful Category III landing.

5.1.6.1 Backup Callouts

A. Operators may make provision for use of crew verbal callouts as a backup, or in lieu of automatic callouts in certain circumstances.

B. Operators should have a policy addressing procedures to be used when an automatic callout system fails or is inoperative regarding making some or all key callouts manually.

C. Examples of when use of verbal crew callouts may be appropriate instead of or to augment automatic callouts include—

1) When an automatic callout system has failed;

2) When automatic callouts are inoperative through an MEL provision; or

3) When a particular automatic callout is not issued or is masked by another cockpit advisory or crew conversation, or is not heard for some other reason.

5.1.7 AIRCRAFT CONFIGURATIONS

A. Operational procedures should accommodate any authorized aircraft configurations that might be required for low visibility takeoff or Category III approaches or missed approaches.

B. Examples of configurations that operational procedures may need to accommodate include—

1) Alternate flap settings approved for Category III;

2) Use of alternate AFGS modes or configurations (e.g., Single Land, LAND2);

3) Inoperative equipment provisions related to the minimum equipment list, such as a

- ♦ Non-availability of certain electrical system components
- ♦ Inoperative radar altimeter
- ♦ Air data computers
- ♦ Hydraulic systems or instrument switching system components

4) Availability and use of alternate electrical power sources (e.g., APU), if required as a standby source.

C. Procedures required to accommodate various aircraft configurations should be readily available to the flight crew and the flight dispatcher to preclude the inadvertent use of an incorrect procedure or configuration.

D. Acceptable configurations for that operator and aircraft type should be clearly identified so that the pilots can easily determine whether the aircraft is or is not in a configuration to initiate a low visibility takeoff or Category III approach.

Configuration provisions must be consistent with, but are not limited to, those provided in the operations specifications for that operator.

5.1.8 COMPATIBILITY WITH CATEGORY I & CATEGORY II PROCEDURES

A. The operator should assure that to the greatest extent possible, procedures for Category III are consistent with the procedures for that operator for Category II and Category I to minimize confusion about which procedure should be used or to preclude procedural errors due to pilots reverting to familiar procedures accomplished more frequently such as for Category I.

B. The operator should to the extent practical, minimize the number of procedures that the crew needs to be familiar with for low visibility operations so that, regardless of the landing category necessary for an approach, the correct procedures can be used consistently and reliably.

5.1.9 FLIGHT CREW RESPONSE TO NON-NORMAL EVENTS

A. Takeoff and landing weather minimums are intended for normal operations.

- When non-normal events occur, flight crews and flight dispatchers are expected to take the safest course of action to assure safe completion of the flight.
- Using emergency authority, pilots can deviate from rules or polices, to the extent necessary, to minimize the risk of continued flight to a safe landing.

B. In some instances, guidelines are established for particular failure situations, such as failure of required aircraft systems prior to reaching AH.

Configuration provisions must be consistent with, but are not limited to, those provided in the operations specifications for that operator.

- When procedures or configurations have not been specified, pilots and flight dispatchers are expected to use good judgment in making the determination of appropriate configurations or situations to conduct safe Category III operations.

C. The decision to continue an approach or to discontinue an approach must be made considering all relevant factors, including the—

- Status of the aircraft
- Fuel on board
- Seriousness of the emergency
- Distance away of other available aerodromes; and
- Likelihood of changing weather conditions

This guidance is general and does not attempt to define guidelines for circumstances such as in-flight fire, minimum fuel reserves, or other situations requiring complex judgments of skilled crew members.

D. In the case of certain well-defined situations that can be addressed before departure, such as contingency planning in the event of an engine failure, guidelines should provided to assist pilots in making safe and consistent judgments about available alternative courses of action.

- Specific guidelines for initiation for a Category III approach with an inoperative engine must be provided if requested by the operator.
- Guidelines for other configuration situations may be provided by the normal or non-normal procedure section of the aircraft flight manual or by the operator.

E. Pilots and flight dispatchers are expected to be familiar with these guidelines and apply them to the extent practical but may deviate as necessary from those guidelines, to the extent that they consider necessary to assure safe flight and landing.

If doubt exists as to the advisability of continuation of an approach or diversion, it is the flight crews responsibility to exercise their emergency authority to the extent necessary to assure a safe flight.

5.2 CATEGORY III INSTRUMENT APPROACH PROCEDURES & LOW VISIBILITY TAKEOFF

5.2.1 TAKEOFF GUIDANCE SYSTEM PROCEDURES

A. When takeoff minima are predicated on use of a takeoff guidance system meeting the criteria of PCAR Part 7, procedures for use of the takeoff guidance system should be identified consistent with the approved AFM, or applicable operational authorization.

B. Procedures should address at least the following items or factors—

1) Setup, test, and initialization of the guidance system and NAVAIDs, as applicable;

2) Roles and responsibilities of the PF and PNF;

3) Suitable alignment with and tracking of the runway centerline;

4) Suitable transfer of control between pilots for failures or incapacitation, as applicable;

5) Suitable response to failures—

- ♦ Engine failure before and after V1
- ♦ Electrical failure
- ♦ Guidance system alerts, warnings, and failures as applicable.

5.2.2 ACCEPTABLE PROCEDURES FOR CATEGORY III APPROACH

Instrument Approach Procedures for Category III may be conducted in accordance with—

1) Published instrument approach procedures, or

2) Approved operations specifications for special procedures, or

3) Published foreign or military procedures approved by the CAAP, or

4) Foreign or military procedures accepted by CAAP for specific foreign aerodromes and runways.

- Standard criteria based on ICAO PANS OPS may be used where found to be acceptable to the CAAP
- Category II and III procedures developed using criteria other than PANS OPS are normally issued through operations specifications as special procedures.

5.2.3 SPECIAL OBSTACLE CRITERIA

In certain instances standard obstacle criteria as specified for international flight procedures development may not be appropriate for particular Category III procedures.

- In such instances alternate criteria acceptable to the CAAP may be used as specified in operations specifications. (e.g., RNP criteria)

5.2.4 IRREGULAR TERRAIN AERODROMES

A. Irregular terrain aerodromes must be evaluated in accordance with CAAP approved procedures prior to incorporation in operations specifications for use by airlines operating to Category III minima.

B. Irregular terrain aerodrome special evaluations should consider each particular aircraft type, the particular flight control system, and may include consideration of particular system elements such as the type of radar altimeters installed or other equipment.

5.2.5 AERODROME SURFACE DEPICTION FOR CATEGORY III OPERATIONS

A. A suitable aerodrome surface depiction (e.g., aerodrome diagrams) should be available to flight crews to assure appropriate identification of visual landmarks or lighting to safely accomplish taxing in Category III conditions from the gate to the runway and from the runway to the gate.

B. The aerodrome depiction should use an appropriate scale with suitable detailed information on—

- Gate locations
- Parking locations
- Holding locations
- Critical areas
- Obstacle free zones
- Taxi way identifications
- Runway identifications
- Any applicable taxi way markings for designated holding spots or holding areas.

C. Standard depictions provided by commercial charting services are acceptable if they provide sufficient detail to identify suitable routes of taxi to and from the runway and gate positions for departure or arrival.

5.2.6 CONTINUING CATEGORY III APPROACHES IN DETERIORATING WEATHER CONDITIONS

A. The following procedures are considered acceptable in the event that weather conditions are reported to drop below the applicable Category III minima after an aircraft has passed the final approach point or final approach fix, as applicable.

- Operations based on a DA(H) may continue to the DA(H) and then land, if the specified visual reference is subsequently established by the pilot no later than the DA(H).
- Operations based on an AH (AH) may continue to the AH and then land, if weather is reported to be at or above minima before passing the AH, or if suitable visual reference has been established by the pilot.
- Operations based on an AH may continue to land regardless of reported weather conditions if equipped with a fail operational rollout system which did not indicate a malfunction prior to passing AH, and the pilot considers continuation a safe course of action.

B. Operators requesting amended operations specifications reflecting the procedures described above may have their current operations specifications amended by making application in accordance with this AC.

C. New Category III operators should have operations specifications issued reflecting these provisions in accordance with revised operations specifications.

5.2.6.1 Wind Constraints

A. When wind constraints apply to Category III procedures (e.g., a 15 knot crosswind component limit in the operator's operations specifications) the limit is considered to apply to the point of touchdown.

B. If a report of a crosswind component value greater than the limit is received while on approach, an aircraft may continue an approach, but a subsequent wind report indicating

winds are within limits or a pilot determination that actual winds are within limits must be made prior to touchdown.

C. Acceptable methods for such a determination may include—

1) ATS reports

2) Reports of other aircraft with reliable means of wind determination (e.g., IRS)

3) Pilot use of on board IRS or FMS wind readout capability

4) Data link of recent winds

5) Pilot confirmation of an acceptable visual indication of winds on the surface by a wind sock, wind indicator or equivalent wind indicating device.

D. When an AFM or other manufacturer's FCOM references "maximum wind component speeds when landing weather minima are predicated on autoland operations" (or an equivalent statement), an operator or flight crew may consider those wind values to apply to "steady state" wind components.

E. Any gust values which exceed the steady state wind limit need not be addressed if the flight crew determines the gust exceedance can be considered—

1) Insignificant in magnitude

2) Variable in direction

3) Occasional, or otherwise not applicable

Obviously outdated gust report, winds and gusts reported at a location considered far from the runway or touchdown zone and not applicable, or gusts considered not pertinent during the period of touchdown or rollout).

5.2.7 LOW VISIBILITY TAXI PROCEDURES

A. Low visibility taxi procedures should be adopted for each aerodrome having such procedures. The procedures should be available to pilots in chart form and used.

B. In addition to published SMSGS aerodrome diagrams and information, the operator should provide—

1) Any necessary specific gate identification information to find gates, ramp areas, or lead in vehicles

2) Any necessary information about identification of critical area protection zones or areas

3) Any necessary emergency response information for takeoff, landing, or other emergencies that are different for low visibility operations.

This information should include markings or other ways to easily find and identify explosive holding areas in low visibility).

4) Information on any known characteristics of the aerodrome where aircraft ground vehicle traffic conflicts, taxi speed, or aircraft wing tip clearance pose unusual difficulty

5) Any other information necessary to facilitate safe operations in very low visibility.

Certain visual references that may be used for operations when standard markings may not be visible due to construction, snow cover.

C. Provision should be made for both day and night operation, unless operations are only conducted during either night or daylight hours.

5.2.8 NAVIGATION REFERENCE DATUM COMPATIBILITY

A. I is important for operators using FMS, GPS and RNAV to be aware of, and where necessary, take precautions to address potential differences in the Navigation Data Base

(NDB) "reference datum" used by their aircraft's navigation system, and the datum used en route and at destination or alternate aerodromes.

B. Some States specify aeronautical data (e.g., NAVAID locations, runway locations, waypoint locations), including data for instrument procedures, using a reference datum other than the standard WGS-84 datum, or equivalent.

C. Addressing this difference can be important to preclude significant navigation errors.

If not appropriately addressed, aircraft actual position may significantly differ from indicated position when flying in these areas.

D. If FMS position is based on updates from NAVAID(s) referenced to a local datum inconsistent with that of the aircraft's navigation data base, an aircraft may experience navigation difficulty including—

- Incorrect FMS position updating
- Incorrect navigation to a waypoint, NAVAID, runway, or other geographic location
- Violation of airspace or obstacle clearance during approach or missed approach
- Displacement from the desired flight path, or
- runway misalignment following completion of an instrument approach, or
- Significant map shift

E. This issue can be important when flying with FMS using a WGS-84 referenced navigation database with "GPS updating capability" installed, but not operative.

- For example, an FMS MEL dispatch with GPS inoperative, GPS updating inoperative; or GPS updating inhibited).

F. For Category III procedures, the issue of use of an appropriate Navigation "Reference Datum" principally applies to flying RNAV initial or intermediate approach segments, or missed approach segments.

- Final approach segments of ILS or MLS procedures are not adversely affected by a difference in reference datum because of direct use of the localizer course.

G. GLS or RNP procedures, while depending on specification of an appropriate reference datum for final approach, are otherwise protected from this datum difference through other criteria which assures consistent datum use for procedure development.

- Information about the navigation reference datum used in particular locations outside of the United States is typically available on the Internet.
- An example of a commercial web site containing this information may be found at: http://www.jeppesen.com/wgs84.html.

H. When WGS-84 is not used locally as the reference datum for NAVAIDs or procedures, or a reference datum equivalent to WGS-84 is not used, operators should take suitable precautions.

I. These precautions apply to any RNAV segments flown as part of any instrument approach procedure or missed approach procedure (including Category III procedures, if applicable) for—

- FMS equipped aircraft capable of GPS updating, or
- GPS "stand alone" equipped aircraft, or
- FMS equipped aircraft.

5.2.9 PRECAUTIONS WHEN LOCAL DATUM IS NOT WGS-84

For operations where the local datum is not WGS-84, or WGS-84 equivalent, or where the operator is uncertain as to whether the local datum is significantly different than WGS-84, the operator should take one or more of the following precautions, as necessary—

1) Verify that the datum is WGS-84, or equivalent,

2) Conduct an assessment of the difference in the datum used, to determine that any difference is not significant for the procedures to be flown,

- The reference datum for GLS or RNP procedures or procedure segments is consistent with WGS-84 by procedure design,.
- Operators of aircraft using GPS updating of FMS, or "GPS StandAlone" systems for RNAV need not apply these special precautions, unless otherwise advised (e.g., by NOTAM, or equivalent).

3) Develop and use special RNAV procedure segments or aeronautical data referenced to WGS-84 or equivalent, as necessary,

4) Manually inhibit GPS updating of the FMS while flying the approach, or segments of the approach affected by the difference in reference datum,

5) Only use FMS or GPS Stand Alone systems to fly pertinent RNAV segments of the approach where it is possible to use other NAVAID raw data to confirm correct aircraft position along the flight path,

6) Conduct simulation verification, or in-flight verification or confirmation of suitable navigation performance,

7) Preclude FMS or GPS use on segments of the approach affected by the difference in reference datum, or

8) Use any other method proposed by the operator, and found acceptable to CAAP, to assure that a difference in the NDB Reference Datum from the local datum does not cause loss of navigation integrity.

5.2.10 FMS EQUIPPED AIRCRAFT THAT DO NOT HAVE GPS UPDATING CAPABILITY

A. FMS equipped aircraft that do not have GPS updating capability may be less likely to experience this particular datum reference difference issue.

GPS navigation data bases, local NAVAIDs, and local instrument procedures normally address and resolve datum issues consistently on a local basis, and in a consistent manner within the locally used coordinate frame of reference.).

B. Even though the datum difference issue may be less likely, operators should consider the use of the precautions for each aerodrome, if there is significant doubt as to Navigation Data Base datum differences.

C. GPS updating of FMS can significantly increase both navigation accuracy and integrity, and reduce the risk of other types of navigation errors, including map shifts, yielding a significant safety increase.

SECTION 6 TRAINING & CREW QUALIFICATION

A. Training and crew qualification programs pertinent to Category III should include provisions for appropriate—

1) Ground training

2) Flight training

3) Initial qualification

4) Recurrent qualification

5) Recency of experience, and

6) Re-qualification.

B. The operator's program should provide appropriate training and qualification for each pilot in command, second in command and any other crew member expected to have knowledge of or perform duties related to Category III landing or low visibility takeoff operations (e.g., flight engineer).

C. Pilots in command are expected to have—

1) A comprehensive level of knowledge with respect to each of the ground training subjects;

2) Performed each of the specified maneuvers and procedures; and

3) Demonstrated skill in accomplishing each of the tasks specified for flight training.

D. Second in command pilots should have a comprehensive knowledge of the subjects specified in the ground training program, and are expected to perform those relevant procedures or maneuvers applicable to the second in command is assigned duties during Category III landing operations or for low visibility takeoff.

E. Other crew members are expected to have the knowledge required and the demonstrated skills to perform their assigned duties.

6.1 GROUND TRAINING

6.1.1 GROUND SYSTEM & NAVAIDS FOR CATEGORY III

A. Ground systems and NAVAIDs are considered to include characteristics of the aerodrome, electronic navigation aids, lighting, marking and other systems (e.g., RVR) and any other relevant information necessary for safe Category III landing or low visibility takeoff operations.

B. The training and qualification program should appropriately address the operational characteristics, capabilities and limitations of at least each of the following—

6.1.1.1 NAVAIDS

A. The navigation systems to be used, such as the instrument landing system with its associated critical area protection criteria, marker beacons, distance measuring equipment, compass locators or other relevant systems should be addressed to the extent necessary for safe operations.

B. As applicable, operationally relevant characteristics of NAVAID types to be used should be addressed.

- For example for ILS or MLS, any characteristics of beam bends, overflight disturbances, beam switchover to secondary transmitters or power sources, flare of the glide slope signal at low altitudes may need to be explained or addressed depending on the characteristics of the particular flight guidance system used.

C. If non ground based systems (e.g., GNSS) are used, any characteristics or constraints regarding that method of navigation must be addressed, including—

1) Proper procedure waypoint selection and use;

2) Integrity assurance;

3) Coping with space vehicle (SV) loss of availability or failure; AND

4) SV terrain masking.).

6.1.1.2 Visual Aids

A. Visual aids include approach lighting system, touchdown zone, centerline lighting, runway edge lighting, taxiway lighting, standby power for lighting and any other lighting systems that might be relevant to a Category III environment, such as the coding of the center line lighting for distance remaining, and lighting for displaced thresholds, stop ways, or other relevant configurations should be addressed.

6.1.1.3 Runway & Taxiways & SMGCS Plans

A. The runway and taxiway characteristics concerning width, safety areas, obstacle free zones, markings, hold lines, signs, holding spots, or taxi way position markings, runway distance remaining markings and runway distance remaining signs should be addressed.

B. The SMGCS plan use should be addressed as applicable. This should include any necessary briefings to be conducted and crew coordination, particularly for crash and rescue, evacuation or other non-normal events, if different for low visibility situations.

6.1.1.4 Weather Reporting

Weather reporting and transmissometer systems, including RVR locations, readout increments, sensitivity to lighting levels set for the runway edge lights, variation in the significance of reported values during international operations, controlling and advisory status of readouts, and requirements when transmissometers become inoperative should be addressed.

6.1.1.5 Facility Status

Facility status, proper interpretation of outage reports for lighting components, standby power, or other factors and proper application of NOTAMs regarding the initiation of Category III approaches or initiation of a low visibility takeoff should be addressed.

6.1.1.6 Airborne System

The training and qualification program should address the characteristics, capabilities, limitations, and proper use of each appropriate airborne system element applicable to Category III landing or low visibility takeoff including the following—

6.1.1.7 Flight Guidance

A. The flight control system, flight guidance system, instruments and displays and annunciation systems including any associated flight director, landing system and roll out system, or takeoff systems, if applicable.

B. For automatic or manual systems which require crew input for parameters such as inbound course or automatic or manually tuned navigation frequencies, the crew should be aware of the importance of checking that proper selections have been made to assure appropriate system performance.

6.1.2 SPEED MANAGEMENT

The training should address the use of the automatic throttle, FMC or other speed management system, if applicable.

6.1.3 INSTRUMENTS

The training should address situation information displays, as applicable.

6.1.4 SUPPORTING SYSTEMS

The training should address other associated instrumentation and displays, as applicable, including any monitoring displays, status displays, mode annunciation displays, failure or warning annunciations and associated system status displays that may be relevant.

6.1.5 AIRCRAFT CHARACTERISTICS

A. Any aircraft characteristics that may be relevant to Category III, such as cockpit visibility cutoff angles and the effect on cockpit visibility of proper eye height, seat position or instrument lighting intensities related to transition through areas of varying brightness visual conditions change.

B. Pilots should be aware of the effects on flight visibility related to use of different flap settings, approach speeds, use of various landing or taxi lights and proper procedures for use of windshield wipers and rain repellent.

C. If windshield defog, anti-ice, or de-icing systems affect forward visibility, pilots should be aware of those effects and be familiar with proper settings for use of that equipment related to low visibility landing.

6.2 FLIGHT PROCEDURES & ASSOCIATED INFORMATION

6.2.1 OPERATIONS SPECIFICATIONS

Pilots and flight dispatchers should be familiar with, and properly able to apply, operations specifications applicable to Category III landing or low visibility takeoff.

6.2.2 NORMAL & NON-NORMAL PROCEDURES

Pilots should be familiar with appropriate normal and non-normal procedures including—

1) Crew duties;

2) Monitoring assignments;

3) Transfer of control during normal operations using a "monitored approach;"

4) Appropriate automatic or crew initiated call-outs to be used;

5) Proper use of standard instrument approach procedures;

6) Special instrument approach procedures; and

7) Applicable minima for normal configurations or for alternate or failure configurations and reversion to higher minima in the event of failures.

6.2.3 WEATHER & RVR

Pilots and flight dispatchers should be familiar with weather associated with Category III and proper application of runway visual range, including—

1) Its use and limitations;

2) The determination of controlling RVR and advisory RVR;

3) Required RVR equipment;

4) Appropriate light settings for correct RVR readouts; and

5) Proper determination of RVR values reported at foreign facilities.

6.2.4 USE OF DA(H) OR AH

Pilots should be familiar with the proper application of DH or AH, as applicable, including—

1) Proper use and setting of radar altimeter bugs;

2) Use of the inner marker where authorized or required due to irregular underlying terrain; and

3) Appropriate altimeter setting procedures for the barometric altimeter consistent with the operators practice of using either QNH or QFE.

6.2.5 USE OF VISUAL REFERENCE

A. Pilots should be familiar with the availability and limitations of visual reference encountered for taxi, takeoff, and approach.

B. Approach visual reference limitation information should at least address—

1) Aircraft geometry limitations on visual reference;

2) Actions to take with loss or partial loss of visual reference;

3) Risks of inappropriate use of visual reference; and

4) Necessary visual references for continuation after DH, if a Decision Height is applicable.

C. Procedures for continuation or discontinuation of an approach in deteriorating weather conditions should be comprehensively addressed.

D. Pilots should be familiar with procedures for an unexpected deterioration of conditions to less than the minimum visibility specified for the procedure during an approach, flare or roll out including—

1) The proper response to a loss of visual reference; or

2) A reduction of visual reference below the specified values when using a DH and prior to the time that the aircraft touches down.

E. The operator should provide some means of demonstrating the—

1) Expected minimum visual references that occur on approach when the weather is at acceptable minimum conditions; and

This demonstration may be done using simulation, video presentation of simulated landings or actual landings, slides or pictures showing expected visual references, computer based reproductions of expected visual references, or other means acceptable to the CAAP.

2) Expected sequence of visual ques during an approach in which the visibility is at or above the specified landing minimums.

F. When an AH is used, pilots should be familiar with the expected visual references sequence likely to be encountered during an approach, even though a specific regulatory visual reference is not established when using an AH.

G. When a synthetic reference system such as "synthetic vision" or EVS or independent landing monitors are used, pilots should be familiar and current with the—

1) Interpretation of the displays to assure proper identification of the runway; and

2) Proper positioning of the aircraft relative to continuation of the approach to a landing.

H. Pilots should be briefed on the limitations of these systems for use in various weather conditions and specific information may need to be provided on a site-specific basis to assure that mis-identification of runways, taxiways or other adjacent runways does not occur when using such systems.

I. For takeoff, pilots should be aware of the operators policy for responding to loss of suitable visual reference during takeoff, in the low and high speed regime, both before and after V1.

6.2.6 TRANSFER OF CONTROL

A. Procedures should be addressed for transfer of control and transition from non-visual to visual flight for both the pilot in command, second in command, as well as the pilot flying and pilot not flying during the approach.

B. For systems which include EVS monitoring displays, procedures for transition from those monitoring displays to external visual references should be addressed.

6.2.7 ACCEPTABLE FLIGHT PATH DEVIATIONS

A. Pilots should be familiar with the recognition of the limits of acceptable aircraft position and flight path tracking during approach, flare and if applicable roll out.

B. This should be addressed using appropriate displays or annunciations for either automatic landing systems or for manual landing systems or when using electronic monitoring systems such as an independent landing monitor.

6.2.8 WIND LIMITATIONS

A. Environmental effects should be addressed. Environmental effects include appropriate constraints for head winds, tail winds, cross winds, and the effect of vertical and horizontal wind shear on automatic systems, flight directors, or other system (e.g., synthetic vision) performance.

B. For systems such as head-up displays which have a limited field of view or synthetic reference systems, pilots should be familiar with the display limitations of these systems and expected pilot actions in the event that the aircraft reaches or exceeds a display limit capability.

6.2.9 CONTAMINATED RUNWAYS

A. Pilots and flight dispatchers should be familiar with the operator's policies and procedures concerning constraints applicable to Category III landings or low visibility takeoffs, on contaminated or cluttered runways.

B. Limits should be noted for use of slippery or icy runways as far as directional control or stopping performance is concerned, and crews should be familiar with appropriate constraints related to braking friction reports.

C. Pilots and aircraft dispatchers should be familiar with the method of providing braking friction reports applicable to each aerodrome having Category III landing operations or low visibility takeoff operations.

6.2.10 AIRBORNE SYSTEM FAILURES

A. Pilots should be familiar with the recognition and proper reaction to significant airborne system failures experienced—

1) Prior to and after reaching the final approach fix; and

2) Experienced prior to and after reaching AH or DH, as applicable.

B. Expected pilot response to failure after touchdown should be addressed, particularly for Category III operations.

C. Engine-inoperative Category III provisions should be addressed, if applicable, including—

1) Identification of acceptable aircraft and system configurations;

2) Assurance of adequate obstacle clearance and missed approach performance; and

3) Appropriate use of alternate aerodromes.

D. If applicable, provisions for "engine in-operative Category III" should be addressed.

6.2.11 GO-AROUND PROVISIONS

A. Pilots are expected to appropriately recognize and react to ground or navigation system faults, failures or abnormalities at any point during the approach, before and after passing AH or DH and in the event an abnormality or failure which occurs after touchdown.

B. Pilots should be familiar with appropriate go-around techniques, systems to be used either automatically or manually, consequences of failures on go-around systems which may be

used, the expected height loss during a manual or automatic go around considering various initiation altitudes, and appropriate consideration for obstacle clearance in the event that a missed approach must be initiated below AH or DH.

6.2.12 REPORTING ANOMALIES

Pilots should be familiar with the need to report navigation system anomalies or discrepancies, or failures of approach lights, runway lights, touchdown zone lights, centerline lights or any other discrepancies which could be pertinent to subsequent Category III operations.

6.3 FLIGHT TRAINING (AIRCRAFT OR SIMULATOR)

A. Flight training (normally using a simulator) should address the following maneuvers and procedures and may be done—

1) Individually as Category III maneuvers, or

2) Accomplished in appropriate combinations with Category I or Category II maneuvers.

B. When pilots are authorized to use minima for Category I or Category II, as well as Category III, maneuvers may be appropriately combined and done in conjunction with other required approaches necessary for Category I or Category II training and qualification when such combinations are appropriate (e.g., engine-inoperative missed approach).

C. During each of the specified maneuvers or procedures, crew members are expected to perform their respective assignments or duties as applicable.In situations where crew members are being qualified

Where two pilots in command are being qualified, it will be necessary to assure that each candidate completes the required maneuvers or procedures involving manual control of the aircraft or other demonstration of proficiency when such demonstration is required for a PIC.

D. Flight training (normally using a simulator) for Category III approach and landing should address at least the following maneuvers—

1) Normal landings at the lowest applicable Category III minima

2) A missed approach from the AH or DH (may be combined with other maneuvers)

3) A missed approach from a low altitude that could result in a touchdown during go-around (rejected landing)

4) Appropriate aircraft and ground system failures (may be combined with other maneuvers)

5) Engine failure prior to or during approach (if specific flight characteristics of the aircraft or operational authorizations require this maneuver)

6) Except for aircraft using an automatic Fail Operational roll out system, manual roll out in low visibility at applicable minima (may be combined)

7) Landings at the limiting environmental conditions authorized for Category III for that operator with respect to wind, cross wind components, and runway surface friction characteristics (may be combined).

6.3.1 LOW VISIBILITY TAKEOFF

A. Flight training (normally using a simulator) for low visibility takeoff (e.g., RVR less than RVR500 ft./150m), where a flight guidance system is required, should address the following maneuvers and procedures—

1) Normal takeoff

2) Rejected takeoff from a point prior to V1 (including an engine failure)

3) Continued takeoff following failures including engine failure, and any critical failures for the aircraft type which could lead to lateral asymmetry during the takeoff, or

- The conditions under which these normal and rejected takeoffs should be demonstrated include appropriate limiting cross winds, winds, gusts and runway surface friction levels authorized.
- A demonstration should be done at weights or on runways that represent a critical field length.

4) Rejected takeoff which involve transfer of control from the first officer to the pilot in command, if first officers are authorized to make takeoffs under the specified low visibility conditions (if applicable).

B. If the flight guidance devices used have not been shown to have failure characteristics which are extremely improbable, a takeoff and rejected takeoff should be demonstrated with failure of the flight guidance device at a critical point of the takeoff.

6.3.2 LOW VISIBILITY TAXI

A. Training for low visibility taxi and ground operations (e.g., during simulator training, LOFT or other scenarios) are recommended to be conducted to the extent practical and beneficial.

Where conducted, they should address at least conditions at typical aerodromes.

B. Alternately, the operator may elect to use aerodromes—

- Frequently experiencing low visibility conditions
- Complex aerodromes on the operator's route system
- Aerodromes with particular low visibility ground movement difficulties, or
- Rarely used but significant contingency aerodromes (e.g., ETOPS or EROPS diversion.

Where conducted, they should address at least conditions at typical aerodromes.

C. The aerodromes and conditions experienced in that operator's route system, aircraft types should be appropriate for the training cycle, LOFT scenarios used, and typical line issues.

6.4 INITIAL QUALIFICATION

6.4.1 GROUND TRAINING

Initial ground training should cover the subjects specified in paragraph 6.2 and 6.3 for each pilot in command and second in command and subjects from relevant to other crew members when they have assigned responsibilities for Category III landing or low visibility takeoff.

6.4.2 FLIGHT TRAINING

A. Flight training should be conducted using an approved simulator capable of performing the appropriate maneuvers specified, and which can appropriately represent the limiting visual conditions related to the minima which are applicable.

B. Where simulation is not available, an aircraft with suitable view limiting device may be used if authorized by the assigned POI.

C. While the number of simulator periods, training flights, or length of simulator periods is not specified by regulation or in this AC, the operator is expected to specify the minimum sessions of training to assure that crew members can competently perform each of the maneuvers or procedures specified in paragraph 7.3 to an acceptable degree of proficiency.

D. When Category III minima are based on manual operations using systems like head-up displays or flight directors, the training program should specify a number of repetitions of the maneuvers necessary to assure that each of the required maneuvers can be properly and reliably performed.

6.5 CHECKING OR EVALUATIONS

6.5.1 PROFICIENCY CHECKS

For both initial qualification and recurrent qualification, crew members should demonstrate proper use of aircraft systems and correct procedures as follows, unless otherwise specified by the CAAP—

1) For automatic systems, for landing at least—

   (a) One automatic landing to a full stop; and

   (b) One go-around from a low approach at, or after, decision or AH.

The automatic landing to a full stop may be waived for recurrent qualification if the crew member has accomplished an automatic landing within a period for autoland currency for that operation and aircraft type.

2) For manual systems, at least—

   (a) One landing to a complete stop at the lowest applicable minima; and

   (b) One go-around from low altitude below AH or DH; and

   (c) One response to a failure condition during the approach to a landing or a missed approach should be demonstrated.

3) For takeoff below RVR500, pilots should successfully demonstrate—

   (a) One takeoff in the event of an engine failure at, or after, V1; and

   (b) One rejected takeoff with an engine failure or other appropriate failure near but prior to, V1.

6.5.2 EXPERIENCE WITH LINE LANDINGS

When a qualification program has been completed using only a simulator program, at least the following experience should be required before initiating Category III operations, unless otherwise approved by the CAAP—

1) For automatic systems at least one line landing using the auto flight system approved for Category III minima should be accomplished in weather conditions at or better than Category II, unless a pilot's qualification has been completed in a Level C or D simulator found acceptable for that autoland system.

2) For manual systems such as head-up flight guidance system, the pilot in command must have completed at least ten line landings, using the approved flight guidance system in the configuration specified for Category III and at suitable facilities (e.g., facilities having appropriate ground facilities for the lowest minima authorized, or equivalent).

6.5.3 LINE CHECKS

Operators should include assessments of Category III procedures and practices as necessary during line checks when operations are conducted at facilities appropriate for Category III or at facilities appropriate for simulating Category III operations.

6.6 RECENCY OF EXPERIENCE

A. Recency of experience requirements specified by PCAR Part 14 normally provide an assurance of the necessary level of experience for Category III landing or low visibility takeoff operations.

B. In the event that special circumstances exist where crew members may not have exposure to the automatic landing system or manual systems such as head-up flight guidance for long periods of time beyond that permitted by PCAR Part 14, then the operator should assure that the necessary recency of experience is addressed prior to pilots conducting Category III landings, or low visibility takeoff operations below RVR 500.

C. For automatic landing systems, as a minimum, pilots should be exposed to automatic landing system operation and procedures during training or checking in either the aircraft or in a simulator at least annually, if the crew has not otherwise conducted line landings using an automatic system within the previous 12 months.

D. For manual flight guidance landing or takeoff systems the pilot flying (PF) should be exposed to system operation, procedures, and use during training or checking at least once each 90 days, if the pilot has not otherwise conducted line landings using the manual flight guidance system within the previous 90 days.

6.7 RECURRENT QUALIFICATION

6.7.1 RECURRENT GROUND TRAINING

A. Recurrent ground training should provide any necessary review of topics specified in paragraph 7.2 to assure continued familiarity with those topics.

B. Emphasis should be place on any program modifications, changes to aircraft equipment or procedures, review of any occurrences or incidents that may be pertinent, and finally emphasis may be placed on re-familiarization with topics such as mode annunciations for failure conditions or other information which the pilots may not routinely see during normal line operations.

C. Topics to be addressed for each pilot in command, second in command other crew member or flight dispatchers are those topics necessary for the performance of the assigned duties for each respective crew member.

6.7.2 RECURRENT FLIGHT TRAINING

A. Recurrent flight training should be conducted using an approved simulator with an appropriate visual system.

In the event that simulation is not available, recurrent flight training may be accomplished in the aircraft using suitable view limiting devices, if approved by the POI.

B. Recurrent flight training should include—

1) At least one Category III approach to a landing if the pilot has not had recent Category III or simulated Category III experience; and

2) One approach requiring a go-around from a low altitude below AH or DH prior to touchdown.

C. When takeoff minimums below RVR 500 are approved, recurrent flight training must include at least one rejected takeoff at the lowest approvable minima, with an engine failure near but prior to V1.

D. For both Category III landings and low visibility takeoffs, sufficient training should be provided to assure competency in each of the maneuvers or procedures listed in paragraph 6.4.

E. Recurrent flight training maneuvers may be accomplished individually or may be integrated with other maneuvers required during proficiency training or during proficiency checking.

If minima are authorized using several methods of flight control such as both automatic landing and head-up display, then the training program should assure an appropriate level of proficiency using each authorized mode or system.

F. Where Category III minima are based on manual control using flight guidance such as provided by a head-up flight guidance system, appropriate emphasis should be placed on failure conditions which a pilot does not normally experience in line operations.

6.8 RE-QUALIFICATION

A. Credit for previous Category III qualification in a different aircraft type or variant, or previous qualification in the same type or variant at an earlier time may be considered in determining the type of program, length of program, required maneuvers to be completed or the repetition of maneuvers for re-qualification for Category III operations.

B. Any re-qualification program should assure that the pilots have the necessary knowledge of the topics specified in paragraph 6.2 and are able to perform their assigned duties for Category III or low visibility takeoff considering the maneuvers or procedures identified in paragraph 6.4.

- For programs which credit previous Category III qualification in a different type aircraft, the transition program should assure that any subtle differences between aircraft types which could lead to pilot misunderstanding of appropriate characteristics or procedures in the new type must be suitably addressed.

6.9 SPECIAL CONSIDERATIONS

6.9.1 CREW RECORDS

The operator should assure that records suitably identify initial and continued eligibility of pilots for Category III operations. Records should note the appropriate completion of training for both ground qualification, flight qualification, and initial training, recurrent training, or re-qualification training, as applicable.

6.9.2 COCKPIT OR AIRCRAFT SYSTEM DIFFERENCES

For Category III programs using aircraft which have several variants, training programs should assure that pilots are aware of any differences which exist and appropriately understand the consequences of those differences.

6.9.3 CATEGORY III OPERATIONS WITH AN INOPERATIVE ENGINE

A. For airlines authorized to initiate a Category III approach with an inoperative engine either through Category III dispatch or equivalent procedures or for engine failures which occur en route, appropriate training should be completed to assure that pilots and fight dispatchers can properly apply the special provisions.

B. For airlines that do not authorize the initiation of a Category III approach with an engine inoperative as an approved procedure, pilots should at least be familiar with the provisions for regarding an engine failure after passing the final approach fix.

Pilots also should be made aware of the engine inoperative capabilities of the aircraft by reference to the AFM.

6.9.4 SINGLE VISIT TRAINING?

Appropriate re-qualification or recurrent qualification programs may be adjusted as necessary when incorporated in single visit training programs.

With such programs, each of the areas of knowledge specified in Section 7 of this AC must be assured.

6.9.5 CREDIT FOR "HIGH LIMIT PILOT IN COMMANDS"

When authorized by the CAAP, credit for high landing weather minimum limits and required turbojet experience may be authorized consistent with provisions of exemptions authorized for Category III qualification credit.

6.9.6 ENHANCED OR SYNTHETIC VISION SYSTEMS (INDEPENDENT LANDING MONITOR)

Training required for enhanced or synthetic vision systems may be as specified by CAAP based on successful completion of proof of concept testing.

6.9.7 DUAL QUALIFICATION

A. Additional requirements apply when a pilot is dual qualified either as pilot in command or first officer for checking and performing the duties of the second in command or for crew members dual qualified between several aircraft types or variants.l

- A pilot serving as second in command must be expressly restricted from performing the duties of the pilot in command during Category III approaches or low visibility takeoffs below RVR500.
- Without these restrictions, that pilot must satisfactorily complete the requirements for a pilot in command regarding maneuvers and procedures.

B. Appropriate training and qualification must be completed to assure that each crew member can perform the assigned duties for each seat position and each aircraft type or variant.

C. For programs involving dual qualification, the CAAP may approve the particular operators program considering the degree of differences involved in the Category III aircraft systems, the assigned duties for each crew position and criteria related to differences.

SECTION 7 AERODROMES, NAVIGATION FACILITIES & METEOROLOGICAL CRITERIA

7.1 USE OF STANDARD NAVIGATION FACILITIES

The Standard Navigation Facilities that meet the ICAO criteria (ICAO Annex 10, ICAO Manual of All Weather Operations, DOC 9365/AN910) and which are promulgated for use for Category III by the State of the Aerodrome are generally acceptable to the CAAP.

7.2 LIGHTING SYSTEMS

Lighting used for Category III must include the ICAO equivalent lighting systems, unless approved by CAAP.

7.3 MARKING & SIGNS

A. aerodromes approved for Category III operations must include ICAO equivalent runway and taxiway markings and aerodrome surface signs, unless approved by the CAAP.

B. Markings or signs found in an unacceptable condition by an operator should be reported to the appropriate aerodrome authority and the CAAP.

C. Operators should discontinue Category II use of those areas of aerodrome facilities or runways where unsafe conditions are known to exist due to markings or signs being inadequate, until remedial actions are taken by the aerodrome authority,

- Examples of unsafe conditions include snow removal, rubber deposit removal on runway touchdown zone markings or centerline markings, critical area hold line or runway centerline marking repainting, runway hold line sign snow removal).

7.4 LOW VISIBILITY SURFACE MOVEMENT GUIDANCE & CONTROL (SMGC) PLANS

A. ICAO conducting takeoff or landing operations below RVR1200 are required to develop a Surface Movement Guidance and Control System (SMGCS) plan.

B. Specific low visibility taxi routes are provided on a separate SMGCS aerodrome chart.

- SMGCS operations also facilitate the safety of vehicle movements that directly support aircraft operations, such as aircraft rescue and fire fighting (ARFF) and follow-me services, towing and marshaling.

SMGCS operations facilitate low visibility take-offs and landings and surface traffic movement by providing procedures and visual aids for taxiing aircraft between the runway(s) and apron(s).

An operator intending authorization for Category III operations should coordinate with the aerodrome authority regarding their SMGCS plan.

7.5 METEOROLOGICAL SERVICES & RVR AVAILABILITY & USE

7.5.1 METEOROLOGICAL SERVICES

A. Appropriate meteorological service (e.g., RVR, Altitude Settings, METARs, TAFs, Braking Action, NOTAMs, reports) are necessary for each aerodrome and runway intended for use by an operator for Category III.

B. These services should meet criteria of ICAO Doc 9365/AN910. This information must be readily available to both the crew and the flight dispatcher.

7.5.2 RVR AVAILABILITY & USE

7.5.2.1 RVR Availability

A. RVR availability for touchdown zone (TDZ), mid runway (MID), and ROLLOUT RVR (or a corresponding international equivalent location) are as follows—

- RVR should be provided for any runway over 8000 ft. in length.
- TDZ and Rollout RVR should be provided for runways less than 8000 ft.
- Exceptions to this availability for at international locations may be approved on a case by case basis, by the CAAP, if equivalent safety can be established.

B. Factors considered due to local circumstances at aerodrome may include such issues as—

- Minima requested
- Characteristics of prevailing local weather conditions
- Location of RVR sites or RVR calibration
- Availability of other supporting weather reports on nearby runways, etc.

7.5.2.2 RVR Use

A. RVR use by operators and pilots is as specified in operations specifications.

B. However, when approved as an exception in operations specifications, aircraft capable of certificated landing or takeoff distance of less than 4000 ft. may be approved to use a single

TDZ, MID, or ROLLOUT transmissiometer as applicable to the part of the runway used (e.g., "Relevant" RVR).

C. For such operations, transmissiometers not used are considered to be optional and advisory, unless the aircraft operation is planned to take place at a speed above safe taxi speed on the part of the runway where the MID or ROLLOUT transmissiometer is located.

D. For most operations, RVR must be instrumentally derived. At some aerodromes, RVR reports that are not instrumentally derived may be used if their basis is determined to be reliable and accurate by the operator and CAAP.

> Operators and pilots should be familiar with any application and unique use of RVR at the aerodromes to be used.

- Other differences could include non-standard reporting, calibration, or RVR readings related to lighting step settings used, and any conversions necessary to be made (e.g., meteorological visibility to RVR conversion).

E. For meteorological visibility to RVR conversion, when operating at aerodromes where the landing minimums are specified only in RVR, and meteorological visibility is provided, the operator or pilot should convert meteorological visibility to RVR by multiplying the reported visibility by an appropriate factor.

> The conversion of reported Meteorological Visibility to RVR should not be used for takeoff minima or Category III minima, or when a reported RVR is available.

7.5.3 PILOT ASSESSMENT OF TAKEOFF VISIBILITY EQUIVALENT TO RVR

A. In special circumstances, provision may be made for pilot assessment of takeoff visibility equivalent to RVR to determine compliance with takeoff minima.

> Authorization for pilot assessment will be considered by the CAAP when a satisfactory procedure is provided to the flight crew.

B. A pilot may assess visibility at the take off position in lieu of reported TDZ RVR (or equivalent) in accordance with the following—

1) TDZ RVR is inoperative, or is not reported (e.g., ATS facility is closed), or

2) Local visibility conditions as determined by the pilot indicate that a significantly different visibility exists than the reported RVR (e.g., patchy fog, blowing snow, RVR believed to be inaccurate due to snow cover or ice), and

3) Pertinent markings, lighting, and electronic aids are clearly visible and in service (e.g., no obscuring clutter), and

4) Pilot assessment is made using an accepted method regarding identification of an appropriate number of centerline lights, or markings, of known spacing visible to the pilot when viewed from the flight deck when the aircraft is at the take-off point, and

5) Pilot assessment of visibility as a substitute for TDZ (takeoff) RVR is approved for the operator, and observed visibility is determined to be greater than the equivalent of RVR300 (75m), and

6) A report of the pilot's determination of visibility (PIREP) is forwarded to a suitable ATS facility and if applicable, dispatch facility prior to departure (e.g., if an ATS facility or dispatch facility is applicable, available, pertinent, and is providing services relevant to the pilot report).

> A report of pilot visibility is intended to provide information for other operations.

7.5.4 CRITICAL AREA PROTECTION

A. Aerodromes and runways used for Category II or III must have suitable NAVAID (e.g., ILS) critical area protection, as applicable to the ground and aircraft systems used.

B. Procedures consistent with ICAO DOC 9365/AN910 are acceptable for most facilities.

Where uncertainty regarding acceptability of procedures at an aerodrome is a factor, operators should contact the CAAP.

7.5.5 OPERATIONAL FACILITIES, OUTAGES, AERODROME CONSTRUCTION & NOTAMS

A. For operations to be initially authorized, operations to continue to be authorized, for an aircraft to be dispatched with the intention of using a facility described above, or for an aircraft to continue to its destination or an alternate with the intent of completing a Category III instrument approach procedure, each of the applicable necessary components or services must be operating, available or normal as intended for Category III (e.g., NAVAIDs, standby power, lighting systems) except as specified below.

1) Outer, Middle, or Inner Marker beacons may be inoperative unless a Category III operation is predicated on their use.

   - Such as an AH is predicated on use of an Inner Marker due to irregular terrain, or the aircraft system requires use of a marker beacon for proper flight guidance function.

2) Lighting systems are in normal status except that isolated lights of an approach light, or runway light system may be inoperative; approach light components not necessary for the particular operation (such as REIL, VASI, RAIL, or SFL) may be inoperative;

   - Lights may not be completely obscured by snow or other such contaminants if necessary for the operation (e.g., night);

3) Taxiway, ramp, and gate area lighting components may be inoperative if not essential for the operation to be conducted.

   - Ground facility standby power capability for the landing aerodrome or alternate (if applicable) must be operative at the time of the aircraft's departure to a Category III destination or alternate.

4) Category III operations may be continued at aerodromes at which construction projects affect runways, taxiways, signs, markings, lighting, or ramp areas only if the operator has determined that low visibility operations may be safely conducted with the altered or temporary facilities that are provided.

5) In the event of uncertainty as to the suitability of facilities, the operator should consult with the CAAP.

   - Operators may make the determination as to the suitability of the above facilities regarding unusual weather or failure conditions unless otherwise specified by the aerodrome authority or the CAAP.

6) NOTAMs for NAVAIDs, facilities, lighting, marking, or other capabilities must be appropriately considered for both dispatch, and for continued flight operations intending to use a Category III procedure.

   - Operators, flight dispatchers, and pilots must appropriately respond to NOTAMs potentially adversely affecting the aircraft system operation, or the availability or suitability of Category III procedures at the aerodrome of landing, or any alternate aerodrome intended for Category III.

7) An operator may make the determination that a NOTAM does not apply to the aircraft system and procedures being used for a particular flight if the safety of the operation can be ensured, considering the NOTAM and situation.

- ♦ An example would be a NOTAM specifying Category III Not Available due to the ALS inoperative, for an aircraft that had previously been dispatched based on a Category III ETOPS or EROPS alternate aerodrome flight plan, and no other suitable aerodrome facility is available).
- ♦ In such instances, pilots must be advised of any relevant information to the decision and any precautions to be taken.

7.6 ETOPS OR EROPS ALTERNATES: SPECIAL PROVISIONS FOR FACILITIES

- ETOPS operations are extended range operations with twin-engine aircraft, conducted over oceanic or remote areas.
- EROPS operations are those "extended range operations" conducted in oceanic or remote areas, regardless of the number of installed engines.

A. An aerodrome used as an ETOPS or EROPS alternate based on having available Category III engine-inoperative capability should meet at least the following criteria—

1) Sufficient information about pre-threshold terrain, missed approach path terrain, and obstructions should be available so that an operator can assure that—

(a) A safe Category III landing can be completed; and

(b) An engine-inoperative missed approach can be completed from AH or DH as applicable; or

(c) At any time after passing the AH or DH at least to a point at the end of the landing touchdown zone (TDZ).

2) Sufficient meteorological and facility status information should be available so that a diverting flight crew and the supporting flight dispatcher can receive timely status updates on—

(a) Facility capability;

(b) Weather/RVR;

(c) Wind components; and

(d) Braking action reports (if applicable).

(e) if conditions could or would adversely affect a planned Category III landing during the period of a diversion.

B. For any alternate aerodromes not routinely used by that operator as a regular destination aerodrome, sufficient information should be provided for flight dispatchers and pilots to be familiar with relevant low visibility and adverse weather characteristics of that aerodrome that might have relevance to an engine-inoperative operation

- This will include unique lighting or markings, any nearby obstructions or frequently encountered local wind shear or turbulence characteristics, meteorological reports, braking reports, and NOTAM interpretation, appropriate ground taxi route and gate location information, emergency services available).

7.7 ALTERNATE MINIMA

The use of alternate aerodrome minima is specified in PCAR Part 8.

7.8 AERODROME WEATHER CONDITIONS BELOW LANDING MINIMA

A. In certain instances an operator may flight release (dispatch) an aircraft to a destination aerodrome even though current weather is reported to be below, or may be forecast to be below landing minima.

- This is to permit aircraft to begin a flight if there is a reasonable expectation that at or near the expected time of arrival at the destination aerodrome, weather conditions are expected to permit a landing at or above landing minima.

B. Flight Planning (e.g., dispatch) to such aerodromes typically is considered acceptable if the following conditions are met—

1) All requirements are met to use the landing minima at the destination and at each alternate aerodrome on which the flight plan (e.g., dispatch) is predicated (e.g., aircraft, crew, aerodrome facilities, NAVAIDs).

2) If alternate minima credit is applied based on availability of Category III capability, or engine inoperative Category III capability, then each of the airborne systems otherwise applicable to use of that capability must be available at the time of flight planning

   ♦ This includes the flight guidance system, anti skid, thrust reverse capability, as applicable to the aircraft type and Category III authorization for that operator.

End of Advisory Circular

RAMON S. GUTIERREZ
Director General

Date of Issue : **23 September 2011**