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1. Objective

- 1.1. This section contains concepts, direction, and guidance to be used by inspectors for evaluating and approving or denying requests for authorization to conduct Category II (CAT II) all-weather terminal area (AWTA) operations and special authorization CAT II operations.
- 1.2. This section contains an amplification of the general concepts, policies, direction, and guidance given in previous sections of this chapter. Specific standards are provided for evaluating CAT II AWTA operations with airborne and ground-based equipment, such as instrument landing systems (ILS), that have well understood operational characteristics and limitations.
- 1.3. This is a common directive for Airworthiness and Operations.
 - 1.3.1. Close coordination between AW and OPS inspectors executing this directive is required.
 - 1.3.2. The OI will be the lead inspector in executing this directive.
 - 1.3.3. Any amendments to this directive must be made to both AW Inspector Handbook and OPS Inspector Handbook.

2. General

2.1. Regulatory Requirements.

- 2.1.1. ANR.Ops 115A,
- 2.1.2. ANR.Ops 115B (not applicable for Chap. 13 operators),
- 2.1.3. ANR.Ops 115C,
- 2.1.4. ANR.Ops Att 5 Sec 2(1)(i)(dd)(ee)

2.2. Approval to Conduct CAT II AWTA Operations.

All requests for approval to conduct CAT II AWTA operations using equipment, concepts, or procedures not addressed by these standards (such as microwave landing systems (MLS) or performance-based systems), and requests for policy, guidance, and direction must be forwarded through the POI to the CAAI. The guidance contained herein applies to all ILS-based CAT II authorizations.

2.3. Definition of CAT II AWTA Operations.

CAT II AWTA operations are defined, for the purpose of this

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order, as all approach and landing operations conducted under instrument flight rules (IFR) weather conditions in accordance with (IAW) an instrument approach procedure (IAP) using CAT II operating minima. Most CAT II operating minima are those minima that specify a decision height (DH) lower than the equivalent of 200 feet (60 meters) above the touchdown zone but not lower than 100 feet (30 meters) above this elevation, and a controlling RVR below RVR 1800 (550 meters) and below RVR 1600 (450 meters) for helicopters , but not less than RVR 1200 (350 meters). This section also includes information for special authorization CAT II operations at specifically approved facilities and some lower than standard CAT II operations authorized with a DH of 100 feet and RVR 1,000 feet (300 meters). These approvals are based on U.S. CAT III ILS facilities or foreign CAT II or CAT III facilities and the use of Autoland or HGS systems. All other IFR AWTA operations with operating minima less than DH 100 (or no DH) and/or a controlling RVR below RVR 1200 are CAT III operations.

2.4. **Types of CAT II Operations.**

The only types of CAT II operations that can be authorized for use by an Israeli operators are ILS-based operations or special authorization for certain CAT II operations at specifically approved facilities.

2.5. **Objective of CAT II Operations.**

The essential difference between CAT II and CAT I operations is that a CAT II operation places greater reliance on the guidance provided by the airborne and ground-based equipment. This equipment must be capable of delivering the aircraft to a position from which the flightcrew can accomplish a transition from instrument to visual flight at a height above touchdown (HAT) of 100 feet and complete the landing in the reduced (CAT II) seeing-conditions. The primary objective of CAT II operations is to provide a level of safety equivalent to CAT I precision instrument approach operations, even though the seeing-conditions in CAT II operations can be much worse than those encountered in CAT I operations. This objective (the equivalent level of safety) is achieved by the following:

- Enhanced reliability and precision in the airborne and ground-based equipment to increase the precision of flightpath control,
- Enhanced flightcrew training and qualifications to increase the precision of flightpath control,
- Additional airport visual aids to enhance seeing-conditions,
- Additional criteria to ensure obstacle and terrain clearance,

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- Additional criteria to ensure ILS signal protection,
- Special operational procedures, and
- Special air traffic control (ATC) procedures, limitations, or both.

2.5.1. IAPs that ensure a safe and orderly transition from the en route phase of flight to a point on final approach at a HAT of 100 feet from which a visual landing can be made, or a missed approach can be safely executed with a transition through the missed approach segment back to the en route environment.

2.5.2. IAPs, operational flight procedures, and ATC procedures that ensure protection from obstacles near the landing surface (either fixed or mobile) and that also permit safe go-arounds from any point in the approach and landing before touchdown.

3. Reference Material, Forms & Job-Aids

3.1. Reference Material

3.1.1. AP 1.1.052

3.1.2. FAA Advisory Circular [\(AC\) 91-16](#), Category II Operations-General Aviation Airplanes;

3.1.3. FAA [AC 97-1](#), Runway Visual Range (RVR);

3.1.4. FAA [AC 120-29](#), latest edition, Criteria for Approval of Category I and Category II Weather Minima for Approach;

4. Process

4.1. CAT II OPERATIONAL CONCEPTS.

The weather conditions in a CAT II operation restrict seeing-conditions so that the external visual references necessary to manually control the aircraft are not acquired until the aircraft reaches a very low altitude (typically 100 to 200 feet above ground level (AGL)). Therefore, the flightcrew must operate and control the aircraft by referring to instruments throughout most of the approach and to a combination of instrument and external visual information during the final stages of the approach, flare (deceleration for helicopters), and landing. Because of the reduced maneuvering capability resulting from CAT II seeing-conditions, the precision of the flight guidance system and the overall precision of flightpath control must ensure that the aircraft can be flown to a position that is closely aligned with the runway centerline, and the desired glidepath. The increased reliability

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and precision required of the airborne and ground-based equipment is necessary to ensure that when the aircraft arrives at DH, it is on a flightpath that permits the pilot to complete the landing without any significant runway alignment maneuvers. All CAT II operations are conducted IAW the DH and RVR concepts used in CAT I operations. Because of the limited seeing-conditions available in CAT II weather conditions, however, the additional requirements outlined under the objective of CAT II operations are necessary to ensure that an adequate level of safety is maintained when an aircraft is being operated in these conditions. However, technologies such as Head-Up Guidance Systems (HGS) and automatic landing systems have resulted in additional operational capability of airborne avionics systems and the potential for additional landing minima credit. These airborne systems, coupled with modern reliable ILS and more restrictive performance requirements associated with procedures developed for low visibility operations, CAT II or lower-than-standard CAT I operations can now be authorized to approved runways that were originally programmed to just support basic CAT I operations.

4.1.1. Function of Visual Reference.

Because of the limitations in the airborne equipment used in CAT II operations and the available instrument guidance, the pilot must have sufficient visual references to manually control and maneuver the aircraft from the DH to a full stop on the runway. These external visual references are required below DH for the pilot to control and maneuver the aircraft, align the aircraft with the runway centerline (CL), touch down within the touchdown zone (TDZ), and then roll out on the runway.

4.1.2. Decision Region.

The decision region is that portion of the approach between 300 feet AGL and DH where the tracking performance must be critically evaluated to determine whether the overall system performance is sufficient for the aircraft to continue to DH. As previously discussed, the visual scene normally expands as the aircraft descends because of geometric and slant range effects. The pilot must integrate the instrument information with the visual cues, as they become available, and decide before passing DH to either continue the approach by visual reference or to execute a go-around. This information must be integrated and evaluated in the decision region and the pilot must make a definitive decision before the aircraft passes DH. While in the decision region, the flightcrew should be especially aware of the maximum permissible excursions of the raw, ILS indications (deviations) from which a landing can be safely

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completed. The tracking performance parameters normally used within the decision region are $\pm 1/3$ dot localizer displacement (maximum) and $\pm 1/2$ dot glideslope displacement (maximum), with no sustained oscillations about the localizer or glideslope. If the tracking performance is outside of these parameters while within the decision region, a go-around should be executed because the overall tracking performance is not sufficient to ensure that the aircraft will arrive at the DH on a flightpath that permits the landing to be safely completed.

4.1.3. **CAT II DH.**

The DH is the lowest height to which the approach can be conducted by instrument reference alone. The DH is the minimum height at which the flightcrew must decide to either continue a CAT II approach by visual reference or to go-around. It is not the point at which the evaluation and decision process is begun. The evaluation and decision process must continue after passing the CAT II DH to ensure that sufficient visual references are maintained to manually control and maneuver the aircraft and to ensure that the aircraft remains aligned with the runway centerline and will safely touch down within the touchdown zone. The flightcrew must immediately execute a missed approach if the required visual references are not maintained, or when the pilot cannot determine that a safe landing will be accomplished.

4.1.4. **Purpose of CAT II Operating Minima.**

CAT II operating procedures and minima have been established to ensure that the desired level of safety is achieved when CAT II seeing-conditions exist. These operating minima are based on the DH and RVR concepts. The established operating minima (DH and RVR) determine the minimum safe heights for instrument flight and the minimum RVR at which the landing can be safely completed by external visual reference in a particular aircraft. These operating minima are based on established CAT II operational concepts and on the required CAT II airborne equipment, ground-based visual and electronic equipment, operating procedures, and pilot training and qualification. These operating minima, when combined with other CAT II requirements, ensure that the combination of information available from external visual sources and the aircraft instruments and equipment are sufficient to enable properly qualified pilots to safely operate the aircraft along the desired flightpath. As the quality and quantity of external visual information decreases due to reduced seeing-conditions (when operating minima are reduced), the quality

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and quantity of the instrument information and the proficiency of the flightcrew must be increased to maintain the desired level of safety.

4.1.5. Establishing Operating Minima.

- 4.1.5.1 The operating minima (DH and RVR) for CAT II operations are usually determined by the tasks the pilot will be required to perform to complete the landing after passing the DH. When establishing operating minima, consideration is given to the degree of precision in flightpath control provided by the required electronic equipment and the enhanced seeing-conditions provided by the required visual aids.
- 4.1.5.2 Generally, the minimum required seeing condition (RVR) is higher-than-standard (e.g., RVR 1600 (450 meters)) when the pilot is required to establish visual reference at a higher altitude (e.g., HAT 150) because of obstacles or limitations in the ground-based guidance. The RVR minimum is also higher if the pilot has to establish better seeing-conditions because of the complexity or difficulty of piloting tasks required to safely complete the landing (e.g., factors related to the design or handling characteristics of a particular aircraft).
- 4.1.5.3 Several sets of operating minima are established for CAT II operations. For Standard CAT II operations, minima are DH 150/RVR 1600(450 m), DH 100/RVR 1600(450 m), and DH 100/RVR 1200(350 m). For operations based on Autoland or HGS, minima can be as low as DH 100/RVR 1000 ((300 m)), and a special authorization for CAT II operations can be approved for RVR 1200(350 m) at specially approved ILS facilities that do not meet ICAO standards for Approach Lighting System with Sequenced Flashing Lights (ALSF)/TDZ/CL lighting systems. Most runways that support CAT II operations permit the use of DH 100/ RVR 1200(350 m) operating minima. Operating minima at some runways, however, are restricted to DH 150/RVR 1600(450 m) because of limitations in the ground equipment (such as a single RVR reporting system), localizer signal reliability, limitations imposed by the pre-threshold terrain (radar altimeter not authorized) and/or obstacle clearance limitations in the final approach surface, the approach light surface, the touchdown area, and the missed approach area.
- 4.1.5.4 For an approved facility, there will be a CAT II procedure developed to conform to the standard Terminal Instrument Procedures (TERPS) CAT II development criteria and published in the IAP (SIAP). In addition to the standard note, CAT II SPECIAL AIRCREW AND

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AIRCRAFT AUTHORIZATION REQUIRED, that appears on the chart, an additional note will be included (if required) : This CAT II does not meet ICAO standard for ALSF/TDZ/CL light systems. The CAT II operating minima for individual operators and specific aircraft are established IAW the criteria in FAA [AC 120-29](#) (latest edition) and this handbook.

4.2. **STANDARD CAT II OPERATIONS.**

Standard CAT II operating minima (DH 100/RVR 1200(350 m)) are based on the building block approach. The building block approach is based on CAT I operations, including standard CAT I requirements, and includes the special aeronautical knowledge, experience, skill, training, and qualifications as well as the special airborne and ground-based equipment specified in FAA [AC 120-29](#) (latest edition). The assumptions and criteria used in aircraft certification and CAT II IAP design must be compatible with the operational concepts in this order. These assumptions and criteria ensure that flightcrews and aircraft that meet the requirements of this order and FAA [AC 120-29](#) (latest edition) can be used to safely conduct CAT II operations using standard CAT II minima. Any special equipment or procedures necessary for the safe conduct of CAT II operations must be specified in the airworthiness certification basis of the aircraft (type certificate or supplemental type certificate) and in the CAAI-approved AFM. Any aircraft that cannot be safely operated to standard CAT II operating minima using flightcrews that meet the minimum requirements of this order and FAA [AC 120-29](#) (latest edition) shall not be certificated or otherwise approved for CAT II operations. The OpSpecs establish the lowest operating minima that can be used in any CAT II operation, even if the established IAP specifies minima lower than those values. Special airborne equipment, special ground-based equipment and special flightcrew training required for CAT II operations are specified in this handbook, FAA [AC 120-29](#) (latest edition), and the CAAI-approved AFM.

4.2.1. **Standard CAT II Operating Minima.**

The standard CAT II operating minima for all aircraft are DH 100 and RVR 1200(350 M). The DH must be based on the use of either the inner marker or radio (radar) altimetry. Usually the CAT II DH is based on the use of radio (radar) altimetry. Barometric altimetry is not an acceptable means of establishing the DH for CAT II operations using the standard CAT II minima (DH 100).

4.2.2. **Higher-Than-Standard CAT II Operating Minima.**

The higher-than-standard CAT II minima for all aircraft are DH 100 and RVR 1600(450 m). These minima are usually

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applied as interim minima (restricted to higher-than-standard CAT II minima) for a 6-month demonstration period for operators/program managers new to CAT II operations. The first 6 months are used to validate the effectiveness of the operator's maintenance program and operational procedures in order to support issuance of the standard CAT II minima. These minima are also applied when there are transmissometer limitations (only one installed), irregular underlying terrain, obstacle clearance requirements, or pre-threshold terrain limitations (radio (radar) altimeter not authorized—RA NA), which preclude the use of standard CAT II minima. DH 100 and RVR 1600(450 m) are also the lowest minima that can be approved when the DH is based on barometric altimetry and has the note RA NA.

4.2.3. **Operational Approval Basis.**

CAT II operations are approved for an operator by the issuance of OpSpecs that authorize the conduct of CAT II IAPs at specified airports. The basis for this approval depends on the operating rules applicable to the operation (ANR.OPS. Chap. 13 , 12 or 8), the complexity of aircraft (turbine-powered, reciprocating, or helicopter), the passenger capacity of the aircraft, and/or the size of the aircraft (large or small). The airman and aircraft certification, evaluation, and approval process for reduced visibility flight operations, including Category II/III operations are covered in depth in section 8 of this chapter.

- 4.2.3.1 All CAT II operations conducted under ANR.OPS. Chap.13 and 12 are approved IAW this order, [AC 120-29](#) (latest edition).
- 4.2.3.2 All CAT II operations conducted under ANR.OPS. Chap 12 using helicopters are approved IAW this order. Guidance for helicopter CAT II/III can be found in the paragraphs above and in FSIMS Volume 2, Section 8 .
- 4.2.3.3 ANR.OPS. Chap 8 Operations. CAT II airplane operations conducted under ANR.OPS. Chap 8 are approved and conducted IAW the guidance in this handbook, [AC 120-29](#) (latest edition).

4.2.4. **CAT II Flight Guidance and Control Systems.**

Standard CAT II operations are based on the use of special airborne and ground-based equipment that have capability, reliability, and redundancy superior to the equipment required for CAT I operations (see [AC 120-29](#) (latest edition)). Although CAT II airborne equipment provides increased capability, reliability, and redundancy, the flight control guidance systems used in these operations are not necessarily capable of automatically detecting all potential

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failures that could significantly disturb the aircraft's flightpath (e.g., single channel flight control systems). If such failures occur, the flightcrew must be able to quickly detect the failure and to intervene manually to continue safely to the approach and landing or execute a missed approach. In other words, standard CAT II operations are based on the use of single channel flight directors, or single channel autopilots, or combinations of both. Even though some CAT II operations are based on dual independent flight directors, each of these systems is usually a single channel system that is not capable of detecting all potential failures. Therefore, even with dual independent flight directors, the flightcrew must be able to detect failures and manually intervene in certain cases. Standard CAT II operations are also based on the use of: Type II (redundant) ILS ground equipment; dual ILS airborne equipment; radio altimeters (to identify DH); instrument failure detection and warning systems; special missed approach guidance equipment; and rain removal equipment. Special authorization CAT II operations are based on procedures developed for use on specific approved facilities and that the aircraft are certified for CAT III operations, i.e., autoland or HGS to touchdown.

4.2.5. **Airworthiness of CAT II Airborne Equipment.**

4.2.5.1 Throughout the history of CAT II operations, two processes have existed for showing that the airborne equipment of the aircraft is airworthy for CAT II operations. One process is the type design approval process in which approval is obtained during aircraft certification testing (recommended method). The other is the operational demonstration and approval process in which approval is obtained after the operator demonstrates satisfactory airworthiness of the equipment in actual flight operations. Currently, the most prevalent process is the type design approval process in which approval is contained in the FAA-approved AFM. Aircraft that have CAT II type design approval are not required to undergo an operational airworthiness demonstration. The operator is responsible for providing official written FAA documentation that the aircraft is CAT II certified.

4.2.5.2 For aircraft that do not have CAT II type design approval, however, an operational demonstration of CAT II airworthiness IAW [AC 120-29](#) (latest edition) is required. Generally, this operational demonstration program includes a requirement that the operator conduct at least 300 approaches to 100 feet in CAT I or better weather conditions using the proposed CAT II system.

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4.2.5.3 Special design requirements and special maintenance programs are necessary to achieve the airborne system reliability required for the conduct of CAT II operations. The special maintenance programs necessary for CAT II operations are extensive and expensive and are usually the largest factors affecting an operator's decision of whether to conduct these operations. When an operator requests authorization to conduct operations with aircraft equipped with standard CAT II equipment, and that operator is new to CAT II operations, CAT II operations are usually restricted (for at least 6 months) to higher-than-standard operating minima (DH 100 and RVR 1600(450 m)). This restriction must remain in place until the operator has successfully validated its maintenance program IAW [AC 120-29](#) (latest edition) and the lower landing minima (LLM) maintenance program outlined in section 7 of this chapter. However, if an aircraft has a type design approval for CAT III operations, it may be possible for the operator to be initially authorized for standard CAT II minima (DH 100 and RVR 1200(350 m)) with those aircraft if certain equipment restrictions and operating procedures are specified in the operator's OpSpecs.

4.2.6. CAT II Airports and Runways.

4.2.6.1 All standard CAT II operations are restricted to airports and runways that meet the special safety requirements necessary for CAT II operations. Approval of CAT II in the OpSpec authorize the operator for CAT II operations at all countries and airports for the particular aircraft.

4.2.7. Review and Concurrence.

4.2.7.1 All initial approvals for CAT II operations that are based on ILS facilities for each type of aircraft operated by an operator require review and concurrence by the CAAI before OpSpecs may be issued for that operation. Unless specified otherwise in the CAAI review and concurrence, subsequent reductions in CAT II operating minima for each aircraft type do not require CAAI concurrence before the revised OpSpecs authorizing the lower minima can be issued to the operator.

4.3. SPECIAL CAT II OPERATIONS.

Special CAT II operations are those operations that require special airborne or ground-based equipment, or space-based equipment, and/or special procedures. Special CAT II operations include operations that are granted operational credit for the use of special airborne equipment capabilities, such as autoland or

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HGS. Special CAT II operations also include those operations that require special ground-based equipment, or space-based equipment and special procedures to conduct CAT II operations that could not safely be conducted with conventional aircraft using standard airborne equipment and procedures, or autoland or HGS engaged to touchdown, or performance-based operations.

4.3.1. **Operational Credit for CAT III Equipment.**

4.3.1.1 The installation of CAT III airborne equipment in large aircraft is becoming common. As a result, in certain cases an operator can obtain operational credit in CAT II operations when these more capable systems are used. Airborne equipment that is type design approved for CAT III operations has special design features that increase the safety of operations in CAT II seeing-conditions. For example, the flightpath of the aircraft is not normally disturbed when failures occur in the flight guidance and control system. This is because the increased redundancy, reliability, and integrity built into the CAT III systems cause the system either to disconnect passively or to remain fully operational for the landing.

4.3.1.2 Due to these improvements in redundancy, reliability, and integrity, operational credit for the use of CAT III airborne systems may be granted to an operator by authorizing operating minima of DH 100 and RVR 1200(350 m) for initial CAT II operations (first 6 months) with these aircraft. In this case, certain restrictions must be specified in the operator's or program manager's OpSpecs. This operational credit eliminates the requirement to conduct the initial operations using DH 100 and RVR 1600(450 m) and permits the operator to use standard CAT II minima (DH 100 and RVR 1200(350 m)) at least 6 months earlier than usual. Additional operational credit for the use of CAT III airborne systems may also be granted to an operator by authorizing operating minima of DH 100 and RVR 1000(300 m) for CAT II operations ILS Type III facilities.

4.3.2. **Basis for Eliminating the 6-Month Restriction (RVR 1600(450 m)).**

In standard CAT II operations, the objective of the requirement for an operator to validate the CAT II maintenance program for at least 6 months with minima restricted to DH 100 and RVR 1600(450 m) is to ensure that the required level of airborne equipment reliability is achieved. This is to ensure that frequent malfunctions will not occur in standard CAT II operations (DH 100 and RVR 1200(350 m)). The design features of CAT III airborne

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equipment significantly reduce the potential for failures that could adversely affect standard CAT II operations. As a result, validation of the CAT II maintenance program before conducting operations to DH 100/RVR 1200(350 m) is not necessary if these operations are conducted under a restriction that requires the airborne equipment to operate to CAT III standards (e.g., fail passive or fail operational automatic landing). This permits the operator to conduct operations with standard CAT II minima during the 6-month period used to validate its maintenance program.

4.3.3. Requirements for Eliminating the Restriction.

4.3.3.1 If the operator requests to eliminate the 6 months restriction (DH 100 and RVR 1600(450 m)) based on operational credit for the use of CAT III systems to conduct CAT II operations, the operator's OpSpecs must include a limitation that specifies all CAT II operations using DH 100 and RVR 1200(350 m) for U.S. ILS Type II facilities and DH 100 and RVR 1000(300 m) at ILS Type III facilities must be conducted with the airborne equipment operating to CAT III standards. This limitation should read, fail passive autoland only, or fail passive/fail operational autoland only, as appropriate, for aircraft equipped with CAT III automatic landing systems, or fail passive HGS only for aircraft equipped with CAT III HGSs. For DH 100 and RVR 1200(350 m) operations, these restrictions must remain in the operator's OpSpecs until the CAT II maintenance program for that aircraft is successfully validated. These restrictions must remain in the OpSpecs for DH 100 and RVR 1000(300 m) operations at ILS Type III facilities, even after the maintenance program is validated.

4.3.3.2 When the operator has successfully validated its maintenance program, the restriction that requires the airborne equipment to be operated to CAT III standards can be removed by amending the operator's OpSpecs to authorize the use of DH 100/RVR 1200(350 m) minima with standard CAT II equipment (e.g., single channel autopilot, or manually flown (HGS) operations). The CAT III equipment would still be required to conduct any operations with operating minima of DH 100 and RVR 1000(300 m) for CAT II operations at ILS Type III facilities.

4.3.4. Authorizing DH 100 and RVR 1000(300 m) for Certain CAT II Operations.

CAT II operations with DH of 100 feet and RVR 1000(300 m) can only be authorized at specific airports and at ILS Type III facilities. These operations can only be authorized when conducting an autoland approach or using an HGS to touchdown. The limitation in the OpSpecs should read, fail

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passive autoland only, or fail passive/fail operational autoland only, as appropriate, for aircraft equipped with CAT III automatic landing systems, or fail passive HGS only for aircraft equipped with CAT III HGSs.

4.3.5. **Operations Requiring Special Airborne Capabilities.**

Certain aircraft with unique handling characteristics or unique design features may be required to have special airborne capabilities to permit CAT II operations to be safely conducted. These special airborne capabilities are used to enhance handling characteristics during manual flight (stability augmentation systems), to enhance flightpath control during flare and touchdown (automatic landing systems), and to enhance flightpath control during automatic flight (auto-deceleration and hover systems). Stability augmentation systems are frequently necessary in helicopters to enhance low speed handling characteristics in CAT II seeing-conditions. Autodeceleration and hover systems may be used in the future for certain helicopters. Currently, the B-747 is the only airplane that must have autoland capability to conduct standard CAT II operations (DH 100 and RVR 1200(350 m)). All CAT II operations with the B-747 using operating minima below DH 100/RVR 1600(450 m) must be predicated on the use of the automatic landing system. Either manually flown or autocoupled CAT II operations can be conducted with the B-747 using higher-than-standard operating minima (DH 100/RVR 1600(450 m)). The airplane and its automatic flight control guidance system or manually flown guidance system must be approved for approach and landing operations as specified by OpSpec. Pilots must be trained in the use of the autoland system or HGS as applicable and demonstrate proficiency in ILS approaches to minima using this equipment on checks conducted to satisfy ANR.OPS. 461 or 320.

4.4. **CAT II TERMINAL INSTRUMENT APPROACH PROCEDURES**

4.4.1. **CAT II Operation.**

All CAT II operations must be conducted in accordance with the operator's CAT II OpSpecs. .

4.4.2. **CAT II Approach and Landing Minima.**

The OpSpecs and OM authorisations are used to specify the CAT II IAPs, airports and runways, CAT II approach and landing minima, and the aircraft that a particular operator is authorized to use in CAT II operations. These paragraphs also specify the CAT II airborne equipment, RVR equipment, pilot qualifications, missed approach

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requirements, and the operating limitations that apply to that operator's CAT II operations. If the flightcrew is properly trained and qualified, and the aircraft is properly equipped and maintained, an operator can be authorized to conduct CAT II operations to airports and runways where the CAT II IAP is prescribed by any of the following:

- OpSpecs
- Prescribed or approved by the government of an ICAO contracting state,

4.4.3. Amended Criteria.

The criteria in AP 1.1.052 (latest edition), FAA [AC 120-29](#) (latest edition) and this handbook establish the lowest approach and landing minima that can be authorized for CAT II operations. The CAT II approach and landing minima authorized for a particular operator are specified in the OpSpecs. Inspectors shall not authorize an operator to use approach and landing minima lower than these values. Additionally, inspectors shall not authorize CAT II approach and landing minima at foreign airports unless the provisions of this handbook and are met.

4.5. FOREIGN CAT II IAPS.

4.5.1. Degree of Equivalence.

The CAT II ground-based systems and approach procedures may not exactly match the standards. As a result, it is critical that the information and functions necessary for CAT II operations (as provided by the ground-based systems and approval procedures at the foreign airports) are consistent with the intent of CAAI CAT II standards. The major factor considered and controlling when approving airports and runways for CAT II operations by Israeli operators/program managers is the degree of equivalence with the CAT II standards. When determining whether a CAT II operation is sufficiently equivalent to the standards to permit approval for use by Israeli operators/program managers, the following for the degree of equivalence:

High intensity approach lights (Sequenced flashing lights are required only at U.S. airports),

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- High intensity runway edge lights,
- TDZ and CL lights,
- Runway markings,
- Quality and integrity of the approach and landing ground-based guidance systems,
- RVR reporting capabilities and procedures,
- ILS critical area protection,
- Obstacle clearance protection in the approach and missed approach, including the obstacle-free zone,
- Airport surface traffic control,
- Terminal area air traffic control, and
- Weather reporting.

4.5.2. **Authorizing Foreign Airports/Runways.** FAA [AC 120-29](#) (latest edition), and this handbook, establish the conditions that must be met for all CAT II operations at foreign airports and runways. These documents contain the policies, criteria, procedures, and general requirements that must be used to authorize, restrict, or deny the use of foreign CAT II IAPs. This includes all foreign CAT II IAPs developed by the following types of foreign countries:

- ICAO contracting states (ICAO members),
- Non-ICAO countries (non-ICAO members)

4.5.3. **Approved Foreign CAT II Airports and Runways.**
A list of approved foreign CAT II airports and runways can be found using the Internet or by contacting the relevant CAA.

4.6. **CAT II EVALUATION AND APPROVAL PROCESS.**

The approval process for ILS-based CAT II AWTA operations is generally the same as the general process for approval or acceptance described in this handbook. This paragraph outlines specific criteria related to the evaluation and approval of CAT II operations.

4.6.1. **General Criteria.**

Before authorizing an operator to conduct CAT II operations, inspectors must evaluate the operator's/program manager's proposed operations and determine that the operator is competent to safely conduct these operations. Inspectors must also determine that the operator has specified the conditions necessary for the safe conduct of the proposed operations and that those conditions ensure that the following criteria are met:

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- Operations are restricted to those aircraft properly equipped and airworthy for the CAT II operations being conducted;
- Compliance with regulatory requirements for the operations;
- Compliance with the requirements of the OpSpecs;
- Compliance with the airworthiness and maintenance requirements for LLM-equipped aircraft;
- Compliance with the requirements of this handbook;
- Compliance with the CAT II criteria of FAA [AC 120-29](#) (latest edition),
- Accepted, safe operating practices are provided;
- The use of the concepts of stabilized approach and decision region in all CAT II operations is required;
- CAT II operations are restricted to those pilots who are properly trained, experienced, qualified, and proficient for CAT II operations;
- CAT II operations are restricted to those airports and runways that meet CAT II requirements; and
- CAT II operations are authorized and/or restricted at foreign.

4.6.2. **Airport, Runway, and Ground-Based Equipment Requirements.**

The suitability of the airport and runway for the type of aircraft and the operation being conducted is an integral part of an evaluation and approval of CAT II operations. The basic requirements for standard CAT I operations and the performance requirements in the applicable operating rules address the majority of the criteria required for CAT II operations. In the operating concepts and criteria for CAT II operations, however, it is required that certain other factors be considered. The principal inspectors must ensure that the operator fully understands CAT II operational requirements and that the company manuals, maintenance programs, and training programs provide the policy, guidance, maintenance, training, and procedures necessary to ensure that these other factors are adequately addressed. When evaluating an operator's/program manager's overall CAT II operations program, the POI must consider whether the program accounts for the following factors when designating airports to support CAT II operations:

- Suitability of the runways, runway field lengths, taxiways, and other maneuvering areas on the airport, considering the restricted seeing-conditions associated with CAT II operations;

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- CAT II IAPs and NAVAIDs to be used;
- Procedures for CAT II protection of the runway safety areas, obstacle-free zones, and ILS critical areas, as well as runway and taxiway incursion prevention procedures in CAT II weather conditions;
- ATC facilities and services required for CAT II operations;
- Required safety facilities and services (such as crash, fire, and rescue) and any special procedures needed for the CAT II operations;
- RVR reporting and weather reporting and forecasting services;
- Aeronautical information services related to these operations (such as Notices to Airmen (NOTAM) and Automatic Terminal Information Service (ATIS));
- Adequacy of lighting, marking, and other visual aids necessary to support CAT II operations; and
- Necessity for prohibiting CAT II operations at airports and runways that are not approved for CAT II operations.

5. Task Outcomes

5.1. Approval Method.

- 5.1.1. An ANR.OPS. Chap. 8 operator is issued a CAT II Letter of Authorization (LOA) .
- 5.1.2. An ANR.OPS. Chap. 12 or 13 operator is issued an OpSpec for CAT II authorization.