

NOTICE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

N 8900.364

National Policy

Effective Date:
5/17/16

Cancellation Date:
5/17/17

SUBJ: OpSpec/MSpec/LOA C055, Alternate Airport IFR Weather Minimums

- 1. Purpose of This Notice.** This document provides notice of a nonmandatory revision to Operations Specification (OpSpec)/Management Specification (MSpec)/Letter of Authorization (LOA) C055, Alternate Airport IFR Weather Minimums, and implementation of guidance for operations under Title 14 of the Code of Federal Regulations (14 CFR) parts 91 subpart K (part 91K), 121, 125 (including the Letter of Deviation Authority (LODA) 125 holders), and 135.
- 2. Audience.** The primary audience for this notice is certificate-holding district offices (CHDO), Flight Standards District Offices (FSDO), certificate management offices (CMO), principal operations inspectors (POI), and aviation safety inspectors (ASI). The secondary audience includes Flight Standards Service (AFS) divisions and branches in the regions and in headquarters (HQ).
- 3. Where You Can Find This Notice.** You can find this notice on the MyFAA employee Web site at https://employees.faa.gov/tools_resources/orders_notices. Inspectors can access this notice through the Flight Standards Information Management System (FSIMS) at <http://fsims.av.faa.gov>. Operators can find this notice on the Federal Aviation Administration's (FAA) Web site at <http://fsims.faa.gov>. This notice is available to the public at http://www.faa.gov/regulations_policies/orders_notices.
- 4. Background.** OpSpec/MSpec/LOA C055 was published to authorize certificate holders/program managers/operators/companies to derive alternate airport instrument flight rules (IFR) weather minimums in those cases that require an alternate airport. These template revisions:
 - Add a procedure to allow parts 121 and 135 certificate holders to file for Global Positioning System (GPS)-based instrument approach procedures (IAP) at an Extended Operations (ETOPS) alternate.
 - Provide clarification that when using international metric weather forecasting standards 700 meters (m) "may" be used instead of "must" be used.
 - Add the clarification that if no authorizations appear in Table 2, GPS-Based IAP Authorizations, GPS-based IAP minimums are not authorized at an alternate airport.
 - Rephrased some of the limitations and provisions based on lessons learned.

5. Guidance. The Flight Technologies and Procedures Division (AFS-400) developed this notice. This notice contains the following:

- The sample OpSpec C055 template in Appendix A applies to part 121.
- The sample OpSpec C055 template in Appendix B applies to part 125.
- The sample OpSpec C055 template in Appendix C applies to part 135.
- The sample OpSpec C055 template in Appendix D applies to part 121/135.
- The sample LOA C055 template in Appendix E applies to part 125 LODA holders.
- The sample MSpec MC055 template in Appendix F applies to part 91K.

6. Action. This is a nonmandatory revision for certificate holders/program managers/operators/companies currently issued C055. No action is required by the POI unless a certificate holder/program manager/operator/company requests a revision to C055, or the POI determines a revision is necessary. Upon request for revision to C055 from a certificate holder/program manager/operator/company, the POI will review the contents of the proposed revision and issue the new template after determining the adequacy of the content. POIs may not reissue or otherwise authorize any nonstandard text (pre-existing or new) into the new template without prior approval from the Air Transportation Division (AFS-200). For information on how to issue new, or reissue existing, nonstandard text into an OpSpec/MSpec/LOA, refer to FAA Order 8900.1, Flight Standards Information Management System (FSIMS), Volume 3, Chapter 18, Section 2, paragraphs 3-712 and 3-713.

7. Disposition. We will incorporate the information in this notice into Order 8900.1 before this notice expires. Direct questions or comments concerning the information in this notice to the Performance-Based Flight Systems Branch (AFS-470) at 202-267-8806 or your regional Next Generation Air Transportation System (NextGen) Branch listed below:

- Alaskan Region (AAL-220) at 907-271-3579.
- Central Region (ACE-220) at 816-329-3280.
- Eastern Region (AEA-220) at 781-238-7207.
- Great Lakes Region (AGL-220) at 847-294-7549.
- Northwest Mountain Region (ANM-220) at 425-227-2644.
- Southern Region (ASO-220) at 404-305-6041.
- Southwest Region (ASW-220) at 817-222-5244.
- Western-Pacific Region (AWP-220) at 310-725-7215.



John Barbagallo
Deputy Director, Flight Standards Service

**Appendix A. Sample OpSpec C055, Alternate Airport IFR Weather Minimums:
14 CFR Part 121**

a. The certificate holder is authorized to derive alternate airport weather minimums from Table 1 below, according to the limitations and provisions of this operations specification.

Table 1 – Alternate Airport IFR Weather Minimums

Approach Facility Configuration	Ceiling	Visibility
For airports with at least one operational navigational facility providing a straight-in nonprecision approach procedure, or CAT I precision approach, or, when applicable, a circling maneuver from an IAP.	Add 400 ft. to MDA or DA/H, as applicable.	Add 1 statute mile (sm) or 1600 m to the landing minimum.
For airports with at least two operational navigational facilities, each providing a straight-in approach procedure to different suitable runways.	Add 200 ft. to higher DA/H or MDA of the two approaches used.	Add ½ sm or 800 m to the higher authorized landing minimum of the two approaches used.

- One usable authorized CAT II ILS IAP. Three hundred feet ¾ statute mile (1200 m) or RVR 4000 feet (1200 m).
- One usable authorized CAT III ILS IAP. Two hundred feet ½ statute mile (800 m) or RVR 1800 feet (550 m).

b. Special Limitations and Provisions.

(1) The certificate holder must not use an alternate airport weather minimum other than any applicable minimum derived from Table 1. The certificate holder must not use any GPS-based IAP unless the certificate holder is authorized to conduct GPS-based IAP and meets the requirements in subparagraph b(8).

(2) In determining alternate airport weather minimums, the certificate holder must not use any published IAP which specifies that alternate airport weather minimums are not authorized.

(3) When determining the suitability of a runway, wind (including gust) must be forecast to be within operating limits (including reduced visibility limits) and should be within the manufacturer’s maximum demonstrated crosswind.

(4) All conditional forecast elements below the lowest applicable operating minimums must be taken into account. Additives are applied only to the height value (H) to determine the required ceiling.

(5) When dispatching under the provisions of the minimum equipment list (MEL), those MEL limitations affecting instrument approach minimums must be considered in determining alternate minimums.

(6) For operations outside the United States, because of variations in the international metric weather forecasting standards, 700 m may be used in lieu of 800 m.

(7) Credit for alternate minimums based on CAT II or CAT III capability is authorized if the certificate holder is approved for engine inoperative CAT III operations under operations specification C060.

(8) Use of GPS-Based IAP Minimums at an Alternate Airport. The certificate holder may use GPS-based IAP with the airplane make, model, and series (M/M/S) listed in Table 2. If no authorizations appear in Table 2, GPS-based IAP minimums are not authorized at an alternate airport. Examples of GPS-based IAP include GPS, RNAV (GPS), and RNAV (RNP).

Table 2 – GPS-Based IAP Authorizations

Airplane M/M/S	Conditions and Limitations	Remarks

(a) Before the certificate holder is authorized to plan for the lines of minimums specified below, the certificate holder must be approved to conduct GPS-based IAP under Operations Specification C052, Straight-In Non-Precision, APV, and Category I Precision Approach and Landing Minima—All Airports, and if applicable, RNAV RNP IAP if issued Operations Specification C384, Required Navigation Performance Procedures with Authorization Required.

(b) The certificate holder with either a Technical Standard Order (TSO)-C129() or a TSO-C196() navigation system must perform a preflight receiver autonomous integrity monitoring (RAIM) prediction for the airport where the GPS-based IAP will be flown. The certificate holder must also ensure that the conventional approach (at destination) can be flown without reliance on GPS. The certificate holder must check NOTAMs as part of the preflight planning activities.

(c) The certificate holder with either a TSO-C145() or a TSO-C146() navigation system must review appropriate Aeronautical Information Services (AIS) and NOTAMs for wide area augmentation system (WAAS) service outages.

(d) The certificate holder may use suitable RNAV systems for flight planning at an alternate airport, provided planned availability of the substitute means of navigation is confirmed (e.g., NOTAMs and RAIM prediction for use of GPS and NOTAM/AIS checks for use of WAAS). The certificate holder may plan for a conventional approach at the destination and may plan to use a substitute means of navigation based on GPS at the alternate airport, not including substitution for the navigation aid providing lateral guidance on the final approach segment, unless otherwise authorized. For example, the certificate holder may use GPS to substitute for an out-of-service VOR that supports an ILS missed approach procedure at an alternate airport (unless the procedure is NOTAMed “not authorized”).

(e) The certificate holder may use GPS-based IAP with the airplane M/M/S listed in Table 2 according to the conditions and limitations in subparagraphs b(8)(e)(i)-(iv), as indicated in the “Conditions and Limitations” column for each airplane M/M/S.

(i) The certificate holder must have a navigation system, either a TSO-C129() or a TSO-C196(), that includes fault detection and exclusion (FDE) capability to utilize GPS-based IAP at either the destination or an alternate (not both). At the alternate, if not equipped with barometric vertical navigation (baro-VNAV) the certificate holder must only plan to lateral navigation (LNAV) (or circling) minimum descent altitude (MDA).

(ii) The certificate holder must have a navigation system, either a TSO-C129() or a TSO-C196(), that includes FDE capability and is equipped with baro-VNAV to utilize GPS-based IAP at either the destination or an alternate (not both). At the alternate, the certificate holder may plan to LNAV (or circling) MDA or LNAV/VNAV DA if using baro-VNAV. The certificate holder authorized under operations specification C384, utilizing an RNAV (RNP) IAP at the alternate, must plan no lower than an RNP 0.30 DA.

(iii) The certificate holder must have a navigation system, either a TSO-C145() or a TSO-C146() and may utilize GPS-based IAP at both the destination and an alternate. At the alternate, if not equipped with and using baro-VNAV, the certificate holder must only plan to LNAV (or circling) MDA.

(iv) The certificate holder must have a navigation system, either a TSO-C145() or a TSO-C146(), equipped with baro-VNAV, to utilize GPS-based IAP at both the destination and an alternate. At the alternate, the certificate holder may plan for LNAV (or circling) MDA or LNAV/VNAV DA if using baro-VNAV. The certificate holder authorized under operations specification C384, utilizing an RNAV (RNP) IAP at the alternate, must plan no lower than an RNP 0.30 DA.

(9) The certificate holder may not file for GPS-based IAP at a designated Extended Operations (ETOPS) alternate airport unless authorized by the Air Transportation Division (AFS-200).

(10) Option 1: Filing for GPS-based IAP at a designated ETOPS alternate airport may be approved in accordance with the procedures listed below.

(a) The certificate holder is authorized to use GPS-based IAP that meet the requirements in subparagraph b(8) of this operations specification and the alternate airport weather minimums derived from Table 1 to designate an ETOPS alternate airport.

(b) The certificate holder may designate an ETOPS alternate airport that has a GPS-based IAP as the only IAP at that airport if the certificate holder meets the following requirements:

(i) The certificate holder must establish RAIM prediction for any designated ETOPS alternate airport during the entire time from the earliest to the latest time an airplane would arrive at the designated ETOPS alternate airport.

(ii) In the event of a predicted, continuous loss of RAIM (from the earliest time to the latest time the airplane would arrive), the certificate holder must not use the airport as an ETOPS alternate airport.

(iii) In the event of any limited unavailability of RAIM, the certificate holder must:

(A) Notify the flightcrew of any limited unavailability of RAIM at that ETOPS alternate.

(B) Prior to departure, ensure adequate fuel is onboard the airplane to account for the time period of predicted RAIM unavailability at the ETOPS alternate. This fuel must be calculated by adding the fuel required to account for the time of the predicted RAIM unavailability to the fuel required to fly to the affected ETOPS alternate from the Equal Time Point (ETP).

(C) Ensure the time of predicted RAIM unavailability plus the time to and from the ETP to the ETOPS alternate airport does not exceed the time specified for the airplane's most time-limited ETOPS significant system (including cargo fire suppression) minus 15 minutes.

(c) The certificate holder must document and must retain all RAIM predictions and NOTAM reviews as part of the dispatch or flight release in accordance with part 121, § 121.695 or § 121.697, as applicable.

(10) Option 2: Filing GPS-based IAP at a designated ETOPS alternate may be approved in accordance with the procedures listed below.

(a) The certificate holder is authorized to use GPS-based IAP that meet the requirements in subparagraph b(8) of this operations specification and the alternate airport weather minimums derived from Table 1 to designate an ETOPS alternate airport.

(b) The certificate holder may designate an ETOPS alternate airport that has a GPS-based IAP as the only IAP at that airport if the certificate holder meets the following requirements:

(i) The certificate holder must establish RAIM prediction for any designated ETOPS alternate airport during the entire time from the earliest to the latest time an airplane would arrive at the designated ETOPS alternate airport.

(ii) In the event of any predicted loss of RAIM, limited or continuous, (at any time during the period from the earliest time to the latest time the airplane would arrive) the certificate holder must not use the airport as an ETOPS alternate airport.

(c) The certificate holder must document and must retain all RAIM predictions and NOTAM reviews as part of the dispatch or flight release in accordance with § 121.695 or § 121.697, as applicable.

**Appendix B. Sample OpSpec C055, Alternate Airport IFR Weather Minimums:
14 CFR Part 125**

a. The certificate holder is authorized to derive alternate airport weather minimums from Table 1 below, according to the limitations and provisions of this operations specification.

Table 1 – Alternate Airport IFR Weather Minimums

Approach Facility Configuration	Ceiling	Visibility
For airports with at least one operational navigational facility providing a straight-in nonprecision approach procedure, or CAT I precision approach, or, when applicable, a circling maneuver from an IAP.	Add 400 ft. to MDA or DA/H, as applicable.	Add 1 statute mile (sm) or 1600 m to the landing minimum.
For airports with at least two operational navigational facilities, each providing a straight-in approach procedure to different suitable runways.	Add 200 ft. to higher DA/H or MDA of the two approaches used.	Add ½ sm or 800 m to the higher authorized landing minimum of the two approaches used.

- One usable authorized CAT II ILS IAP. Three hundred feet ¾ statute mile (1200 m) or RVR 4000 feet (1200 m).
- One usable authorized CAT III ILS IAP. Two hundred feet ½ statute mile (800 m) or RVR 1800 feet (550 m).

b. Special Limitations and Provisions.

(1) The certificate holder must not use an alternate airport weather minimum other than any applicable minimum derived from Table 1. The certificate holder must not use any GPS-based IAP unless the certificate holder is authorized to conduct GPS-based IAP and meets the requirements in subparagraph b(8).

(2) In determining alternate airport weather minimums, the certificate holder must not use any published IAP which specifies that alternate airport weather minimums are not authorized.

(3) When determining the suitability of a runway, wind (including gust) must be forecast to be within operating limits (including reduced visibility limits) and should be within the manufacturer’s maximum demonstrated crosswind.

(4) All conditional forecast elements below the lowest applicable operating minimums must be taken into account. Additives are applied only to the height value (H) to determine the required ceiling.

(5) When releasing a flight under the provisions of the minimum equipment list (MEL), those MEL limitations affecting instrument approach minimums must be considered in determining alternate minimums.

(6) For operations outside the United States, because of variations in the international metric weather forecasting standards, 700 m may be used in lieu of 800 m.

(7) Credit for alternate minimums based on CAT II or CAT III capability is authorized if the certificate holder is approved for engine inoperative CAT III operations under operations specification C060.

(8) Use of GPS-Based IAP Minimums at an Alternate Airport. The certificate holder may use GPS-based IAP with the airplane make, model, and series (M/M/S) listed in Table 2. If no authorizations appear in Table 2, GPS-based IAP minimums are not authorized at an alternate airport. Examples of GPS-based IAP include GPS, RNAV (GPS), and RNAV (RNP).

Table 2 – GPS-Based IAP Authorizations

Airplane M/M/S	Conditions and Limitations	Remarks

(a) Before the certificate holder is authorized to plan for the lines of minimums specified below, the certificate holder must be approved to conduct GPS-based IAP under Operations Specification C052, Straight-In Non-Precision, APV, and Category I Precision Approach and Landing Minima—All Airports, and if applicable, RNAV RNP IAP if issued Operations Specification C384, Required Navigation Performance Procedures with Authorization Required.

(b) The certificate holder with either a Technical Standard Order (TSO)-C129() or a TSO-C196() navigation system must perform a preflight receiver autonomous integrity monitoring (RAIM) prediction for the airport where the GPS-based IAP will be flown. The certificate holder must also ensure that the conventional approach (at destination) can be flown without reliance on GPS. The certificate holder must check NOTAMs as part of the preflight planning activities.

(c) The certificate holder with either a TSO-C145() or a TSO-C146() navigation system must review appropriate Aeronautical Information Services (AIS) and NOTAMs for wide area augmentation system (WAAS) service outages.

(d) The certificate holder may use suitable RNAV systems for flight planning at an alternate airport, provided planned availability of the substitute means of navigation is confirmed (e.g., NOTAMs and RAIM prediction for use of GPS and NOTAM/AIS checks for use of WAAS). The certificate holder may plan for a conventional approach at the destination and may plan to use a substitute means of navigation based on GPS at the alternate airport, not including substitution for the navigation aid providing lateral guidance on the final approach segment, unless otherwise authorized. For example, the certificate holder may use GPS to substitute for an out-of-service VOR that supports an ILS missed approach procedure at an alternate airport (unless the procedure is NOTAMed “not authorized”).

(e) The certificate holder may use GPS-based IAP with the airplane M/M/S listed in Table 2 according to the conditions and limitations in subparagraphs b(8)(e)(i)-(iv), as indicated in the “Conditions and Limitations” column for each airplane M/M/S.

(i) The certificate holder must have a navigation system, either a TSO-C129() or a TSO-C196(), that includes fault detection and exclusion (FDE) capability to utilize GPS-based IAP at either the destination or an alternate (not both). At the alternate, if not equipped with barometric vertical navigation (baro-VNAV) the certificate holder must only plan to lateral navigation (LNAV) (or circling) minimum descent altitude (MDA).

(ii) The certificate holder must have a navigation system, either a TSO-C129() or a TSO-C196(), that includes FDE capability and is equipped with baro-VNAV to utilize GPS-based IAP at either the destination or an alternate (not both). At the alternate, the certificate holder may plan to LNAV (or circling) MDA or LNAV/VNAV DA if using baro-VNAV. The certificate holder authorized under operations specification C384, utilizing an RNAV (RNP) IAP at the alternate, must plan no lower than an RNP 0.30 DA.

(iii) The certificate holder must have a navigation system, either a TSO-C145() or a TSO-C146() and may utilize GPS-based IAP at both the destination and an alternate. At the alternate, if not equipped with and using baro-VNAV, the certificate holder must only plan to LNAV (or circling) MDA.

(iv) The certificate holder must have a navigation system, either a TSO-C145() or a TSO-C146(), equipped with baro-VNAV, to utilize GPS-based IAP at both the destination and an alternate. At the alternate, the certificate holder may plan for LNAV (or circling) MDA or LNAV/VNAV DA if using baro-VNAV. The certificate holder authorized under operations specification C384, utilizing an RNAV (RNP) IAP at the alternate, must plan no lower than an RNP 0.30 DA.

**Appendix C. Sample OpSpec C055, Alternate Airport IFR Weather Minimums:
14 CFR Part 135**

a. The certificate holder is authorized to derive alternate airport weather minimums from Table 1 below, according to the limitations and provisions of this operations specification.

Table 1 – Alternate Airport IFR Weather Minimums

Approach Facility Configuration	Ceiling	Visibility
For airports with at least one operational navigational facility providing a straight-in nonprecision approach procedure, or CAT I precision approach, or, when applicable, a circling maneuver from an IAP.	Add 400 ft. to MDA or DA/H, as applicable.	Add 1 statute mile (sm) or 1600 m to the landing minimum.
For airports with at least two operational navigational facilities, each providing a straight-in approach procedure to different suitable runways.	Add 200 ft. to higher DA/H or MDA of the two approaches used.	Add ½ sm or 800 m to the higher authorized landing minimum of the two approaches used.

- One usable authorized CAT II ILS IAP. Three hundred feet ¾ statute mile (1200 m) or RVR 4000 feet (1200 m).
- One usable authorized CAT III ILS IAP. Two hundred feet ½ statute mile (800 m) or RVR 1800 feet (550 m).

b. Special Limitations and Provisions.

(1) The certificate holder must not use an alternate airport weather minimum other than any applicable minimum derived from Table 1. The certificate holder must not use any GPS-based IAP unless the certificate holder is authorized to conduct GPS-based IAP and meets the requirements in subparagraph b(8).

(2) In determining alternate airport weather minimums, the certificate holder must not use any published IAP which specifies that alternate airport weather minimums are not authorized.

(3) When determining the suitability of a runway, wind (including gust) must be forecast to be within operating limits (including reduced visibility limits) and should be within the manufacturer’s maximum demonstrated crosswind.

(4) All conditional forecast elements below the lowest applicable operating minimums must be taken into account. Additives are applied only to the height value (H) to determine the required ceiling.

(5) When dispatching under the provisions of the minimum equipment list (MEL), those MEL limitations affecting instrument approach minimums must be considered in determining alternate minimums.

(6) For operations outside the United States, because of variations in the international metric weather forecasting standards, 700 m may be used in lieu of 800 m.

(7) Credit for alternate minimums based on CAT II or CAT III capability is authorized if the certificate holder is approved for engine inoperative CAT III operations under operations specification C060.

(8) Use of GPS-Based IAP Minimums at an Alternate Airport. The certificate holder may use GPS-based IAP with the airplane make, model, and series (M/M/S) listed in Table 2. If no authorizations appear in Table 2, GPS-based IAP minimums are not authorized at an alternate airport. Examples of GPS-based IAP include GPS, RNAV (GPS), and RNAV (RNP).

Table 2 – GPS-Based IAP Authorizations

Airplane M/M/S	Conditions and Limitations	Remarks

(a) Before the certificate holder is authorized to plan for the lines of minimums specified below, the certificate holder must be approved to conduct GPS-based IAP under Operations Specification C052, Straight-In Non-Precision, APV, and Category I Precision Approach and Landing Minima—All Airports, and if applicable, RNAV RNP IAP if issued Operations Specification C384, Required Navigation Performance Procedures with Authorization Required.

(b) The certificate holder with either a Technical Standard Order (TSO)-C129() or a TSO-C196() navigation system must perform a preflight receiver autonomous integrity monitoring (RAIM) prediction for the airport where the GPS-based IAP will be flown. The certificate holder must also ensure that the conventional approach (at destination) can be flown without reliance on GPS. The certificate holder must check NOTAMs as part of the preflight planning activities.

(c) The certificate holder with either a TSO-C145() or a TSO-C146() navigation system must review appropriate Aeronautical Information Services (AIS) and NOTAMs for wide area augmentation system (WAAS) service outages.

(d) The certificate holder may use suitable RNAV systems for flight planning at an alternate airport, provided planned availability of the substitute means of navigation is confirmed (e.g., NOTAMs and RAIM prediction for use of GPS and NOTAM/AIS checks for use of WAAS). The certificate holder may plan for a conventional approach at the destination and may plan to use a substitute means of navigation based on GPS at the alternate airport, not including substitution for the navigation aid providing lateral guidance on the final approach segment, unless otherwise authorized. For example, the certificate holder may use GPS to substitute for an out-of-service VOR that supports an ILS missed approach procedure at an alternate airport (unless the procedure is NOTAMed “not authorized”).

(e) The certificate holder may use GPS-based IAP with the airplane M/M/S listed in Table 2 according to the conditions and limitations in subparagraphs b(8)(e)(i)-(iv), as indicated in the “Conditions and Limitations” column for each airplane M/M/S.

(i) The certificate holder must have a navigation system, either a TSO-C129() or a TSO-C196(), that includes fault detection and exclusion (FDE) capability to utilize GPS-based IAP at either the destination or an alternate (not both). At the alternate, if not equipped with barometric vertical navigation (baro-VNAV) the certificate holder must only plan to lateral navigation (LNAV) (or circling) minimum descent altitude (MDA).

(ii) The certificate holder must have a navigation system, either a TSO-C129() or a TSO-C196(), that includes FDE capability and is equipped with baro-VNAV to utilize GPS-based IAP at either the destination or an alternate (not both). At the alternate, the certificate holder may plan to LNAV (or circling) MDA or LNAV/VNAV DA if using baro-VNAV. The certificate holder authorized under operations specification C384, utilizing an RNAV (RNP) IAP at the alternate, must plan no lower than an RNP 0.30 DA.

(iii) The certificate holder must have a navigation system, either a TSO-C145() or a TSO-C146() and may utilize GPS-based IAP at both the destination and an alternate. At the alternate, if not equipped with and using baro-VNAV, the certificate holder must only plan to LNAV (or circling) MDA.

(iv) The certificate holder must have a navigation system, either a TSO-C145() or a TSO-C146(), equipped with baro-VNAV, to utilize GPS-based IAP at both the destination and an alternate. At the alternate, the certificate holder may plan for LNAV (or circling) MDA or LNAV/VNAV DA if using baro-VNAV. The certificate holder authorized under operations specification C384, utilizing an RNAV (RNP) IAP at the alternate, must plan no lower than an RNP 0.30 DA.

(9) The certificate holder may not file for GPS-based IAP at a designated Extended Operations (ETOPS) alternate airport unless authorized by the Air Transportation Division (AFS-200).

(10) Option 1: Filing for GPS-based IAP at a designated ETOPS alternate airport may be approved in accordance with the procedures listed below.

(a) The certificate holder is authorized to use GPS-based IAP that meet the requirements in subparagraph b(8) of this operations specification and the alternate airport weather minimums derived from Table 1 to designate an ETOPS alternate airport.

(b) The certificate holder may designate an ETOPS alternate airport that has a GPS-based IAP as the only IAP at that airport if the certificate holder meets the following requirements:

(i) The certificate holder must establish RAIM prediction for any designated ETOPS alternate airport during the entire time from the earliest to the latest time an airplane would arrive at the designated ETOPS alternate airport.

(ii) In the event of a predicted, continuous loss of RAIM (from the earliest time to the latest time the airplane would arrive), the certificate holder must not use the airport as an ETOPS alternate airport.

(iii) In the event of any limited unavailability of RAIM, the certificate holder must:

(A) Notify the flightcrew of any limited unavailability of RAIM at that ETOPS alternate,

(B) Prior to departure, ensure adequate fuel is onboard the airplane to account for the time period of predicted RAIM unavailability at the ETOPS alternate. This fuel must be calculated by adding the fuel required to account for the time of the predicted RAIM unavailability to the fuel required to fly to the affected ETOPS alternate from the Equal Time Point (ETP), and

(C) Ensure the time of predicted RAIM unavailability plus the time to and from the ETP to the ETOPS alternate airport does not exceed the time specified for the airplane's most time-limited ETOPS significant system (including cargo fire suppression) minus 15 minutes.

(c) The certificate holder must document all RAIM predictions and NOTAM reviews.

(10) Option 2: Filing GPS-based IAP at an ETOPS alternate may be approved in accordance with the procedures listed below.

(a) The certificate holder is authorized to use GPS-based IAP that meet the requirements in subparagraph b(8) of this operations specification and the alternate airport weather minimums derived from Table 1 to designate an ETOPS alternate airport.

(b) The certificate holder may designate an ETOPS alternate airport that has a GPS-based IAP as the only IAP at that airport if the certificate holder meets the following requirements:

(i) The certificate holder must establish RAIM prediction for any designated ETOPS alternate airport during the entire time from the earliest to the latest time an airplane would arrive at the designated ETOPS alternate airport.

(ii) In the event of any predicted loss of RAIM, limited or continuous, (at any time during the period from the earliest time to the latest time the airplane would arrive) the certificate holder must not use the airport as an ETOPS alternate airport.

(c) The certificate holder must document all RAIM predictions and NOTAM reviews.

**Appendix D. Sample OpSpec C055, Alternate Airport IFR Weather Minimums:
14 CFR Part 121/135**

a. The certificate holder is authorized to derive alternate airport weather minimums from Table 1 below, according to the limitations and provisions of this operations specification.

Table 1 – Alternate Airport IFR Weather Minimums

Approach Facility Configuration	Ceiling	Visibility
For airports with at least one operational navigational facility providing a straight-in nonprecision approach procedure, or CAT I precision approach, or, when applicable, a circling maneuver from an IAP.	Add 400 ft. to MDA or DA/H, as applicable.	Add 1 statute mile (sm) or 1600 m to the landing minimum.
For airports with at least two operational navigational facilities, each providing a straight-in approach procedure to different suitable runways.	Add 200 ft. to higher DA/H or MDA of the two approaches used.	Add ½ sm or 800 m to the higher authorized landing minimum of the two approaches used.

- One usable authorized CAT II ILS IAP. Three hundred feet ¾ statute mile (1200 m) or RVR 4000 feet (1200 m).
- One usable authorized CAT III ILS IAP. Two hundred feet ½ statute mile (800 m) or RVR 1800 feet (550 m).

b. Special Limitations and Provisions.

(1) The certificate holder must not use an alternate airport weather minimum other than any applicable minimum derived from Table 1. The certificate holder must not use any GPS-based IAP unless the certificate holder is authorized to conduct GPS-based IAP and meets the requirements in subparagraph b(8).

(2) In determining alternate airport weather minimums, the certificate holder must not use any published IAP which specifies that alternate airport weather minimums are not authorized.

(3) When determining the suitability of a runway, wind (including gust) must be forecast to be within operating limits (including reduced visibility limits) and should be within the manufacturer’s maximum demonstrated crosswind.

(4) All conditional forecast elements below the lowest applicable operating minimums must be taken into account. Additives are applied only to the height value (H) to determine the required ceiling.

(5) When dispatching under the provisions of the minimum equipment list (MEL), those MEL limitations affecting instrument approach minimums must be considered in determining alternate minimums.

(6) For operations outside the United States, because of variations in the international metric weather forecasting standards, 700 m may be used in lieu of 800 m.

(7) Credit for alternate minimums based on CAT II or CAT III capability is authorized if the certificate holder is approved for engine inoperative CAT III operations under operations specification C060.

(8) Use of GPS-Based IAP Minimums at an Alternate Airport. The certificate holder may use GPS-based IAP with the airplane make, model, and series (M/M/S) listed in Table 2. If no authorizations appear in Table 2, GPS-based IAP minimums are not authorized at an alternate airport. Examples of GPS-based IAP include GPS, RNAV (GPS), and RNAV (RNP).

Table 2 – GPS-Based IAP Authorizations

Airplane M/M/S	Conditions and Limitations	Remarks

(a) Before the certificate holder is authorized to plan for the lines of minimums specified below, the certificate holder must be approved to conduct GPS-based IAP under Operations Specification C052, Straight-In Non-Precision, APV, and Category I Precision Approach and Landing Minima—All Airports, and if applicable, RNAV RNP IAP if issued Operations Specification C384, Required Navigation Performance Procedures with Authorization Required.

(b) The certificate holder with either a Technical Standard Order (TSO)-C129() or a TSO-C196() navigation system must perform a preflight receiver autonomous integrity monitoring (RAIM) prediction for the airport where the GPS-based IAP will be flown. The certificate holder must also ensure that the conventional approach (at destination) can be flown without reliance on GPS. The certificate holder must check NOTAMs as part of the preflight planning activities.

(c) The certificate holder with either a TSO-C145() or a TSO-C146() navigation system must review appropriate Aeronautical Information Services (AIS) and NOTAMs for wide area augmentation system (WAAS) service outages.

(d) The certificate holder may use suitable RNAV systems for flight planning at an alternate airport, provided planned availability of the substitute means of navigation is confirmed (e.g., NOTAMs and RAIM prediction for use of GPS and NOTAM/AIS checks for use of WAAS). The certificate holder may plan for a conventional approach at the destination and may plan to use a substitute means of navigation based on GPS at the alternate airport, not including substitution for the navigation aid providing lateral guidance on the final approach segment, unless otherwise authorized. For example, the certificate holder may use GPS to substitute for an out-of-service VOR that supports an ILS missed approach procedure at an alternate airport (unless the procedure is NOTAMed “not authorized”).

(e) The certificate holder may use GPS-based IAP with the airplane M/M/S listed in Table 2 according to the conditions and limitations in subparagraphs b(8)(e)(i)-(iv), as indicated in the “Conditions and Limitations” column for each airplane M/M/S.

(i) The certificate holder must have a navigation system, either a TSO-C129() or a TSO-C196(), that includes fault detection and exclusion (FDE) capability to utilize GPS-based IAP at either the destination or an alternate (not both). At the alternate, if not equipped with barometric vertical navigation (baro-VNAV) the certificate holder must only plan to lateral navigation (LNAV) (or circling) minimum descent altitude (MDA).

(ii) The certificate holder must have a navigation system, either a TSO-C129() or a TSO-C196(), that includes FDE capability and is equipped with baro-VNAV to utilize GPS-based IAP at either the destination or an alternate (not both). At the alternate, the certificate holder may plan to LNAV (or circling) MDA or LNAV/VNAV DA if using baro-VNAV. The certificate holder authorized under operations specification C384, utilizing an RNAV (RNP) IAP at the alternate, must plan no lower than an RNP 0.30 DA.

(iii) The certificate holder must have a navigation system, either a TSO-C145() or a TSO-C146() and may utilize GPS-based IAP at both the destination and an alternate. At the alternate, if not equipped with and using baro-VNAV, the certificate holder must only plan to LNAV (or circling) MDA.

(iv) The certificate holder must have a navigation system, either a TSO-C145() or a TSO-C146(), equipped with baro-VNAV, to utilize GPS-based IAP at both the destination and an alternate. At the alternate, the certificate holder may plan for LNAV (or circling) MDA or LNAV/VNAV DA if using baro-VNAV. The certificate holder authorized under operations specification C384, utilizing an RNAV (RNP) IAP at the alternate, must plan no lower than an RNP 0.30 DA.

(9) The certificate holder may not file for GPS-based IAP at a designated Extended Operations (ETOPS) alternate airport unless authorized by the Air Transportation Division (AFS-200).

(10) Option 1: Filing for GPS-based IAP at a designated ETOPS alternate airport may be approved in accordance with the procedures listed below.

(a) The certificate holder is authorized to use GPS-based IAP that meet the requirements in subparagraph b(8) of this operations specification and the alternate airport weather minimums derived from Table 1 to designate an ETOPS alternate airport.

(b) The certificate holder may designate an ETOPS alternate airport that has a GPS-based IAP as the only IAP at that airport if the certificate holder meets the following requirements:

(i) The certificate holder must establish RAIM prediction for any designated ETOPS alternate airport during the entire time from the earliest to the latest time an airplane would arrive at the designated ETOPS alternate airport.

(ii) In the event of a predicted, continuous loss of RAIM (from the earliest time to the latest time the airplane would arrive), the certificate holder must not use the airport as an ETOPS alternate airport.

(iii) In the event of any limited unavailability of RAIM, the certificate holder must:

(A) Notify the flightcrew of any limited unavailability of RAIM at that ETOPS alternate.

(B) Prior to departure, ensure adequate fuel is onboard the airplane to account for the time period of predicted RAIM unavailability at the ETOPS alternate. This fuel must be calculated by adding the fuel required to account for the time of the predicted RAIM unavailability to the fuel required to fly to the affected ETOPS alternate from the Equal Time Point (ETP).

(C) Ensure the time of predicted RAIM unavailability plus the time to and from the ETP to the ETOPS alternate airport does not exceed the time specified for the airplane's most time-limited ETOPS significant system (including cargo fire suppression) minus 15 minutes.

(c) The certificate holder must document all RAIM predictions and NOTAM reviews; additionally, for operations conducted under part 121, the certificate holder must retain this documentation as part of the dispatch or flight release in accordance with part 121, § 121.695 or, § 121.697, as applicable.

(10) Option 2: Filing GPS-based IAP at an ETOPS alternate may be approved in accordance with the procedures listed below.

(a) The certificate holder is authorized to use GPS-based IAP that meet the requirements in subparagraph b(8) of this operations specification and the alternate airport weather minimums derived from Table 1 to designate an ETOPS alternate airport.

(b) The certificate holder may designate an ETOPS alternate airport that has a GPS-based IAP as the only IAP at that airport if the certificate holder meets the following requirements:

(i) The certificate holder must establish RAIM prediction for any designated ETOPS alternate airport during the entire time from the earliest to the latest time an airplane would arrive at the designated ETOPS alternate airport.

(ii) In the event of any predicted loss of RAIM, limited or continuous, (at any time during the period from the earliest time to the latest time the airplane would arrive) the certificate holder must not use the airport as an ETOPS alternate airport.

(c) The certificate holder must document all RAIM predictions and NOTAM reviews; additionally, for operations conducted under part 121, the certificate holder must retain this documentation as part of the dispatch or flight release in accordance with part 121, § 121.695 or § 121.697, as applicable.

**Appendix E. Sample LOA C055, Alternate Airport IFR Weather Minimums:
14 CFR Part 125 (LODA)**

Letter of Authorization

Alternate Airport IFR Weather Minimums

1. The Operator/Company, authorized to conduct operations in accordance with the Letter of Deviation Authority (A125 LODA), is authorized to derive alternate airport weather minimums from Table 1 below.

Table 1 – Alternate Airport IFR Weather Minimums

Approach Facility Configuration	Ceiling	Visibility
For airports with at least one operational navigational facility providing a straight-in nonprecision approach procedure, or CAT I precision approach, or, when applicable, a circling maneuver from an IAP.	Add 400 ft. to MDA or DA/H, as applicable.	Add 1 statute mile (sm) or 1600 m to the landing minimum.
For airports with at least two operational navigational facilities, each providing a straight-in approach procedure to different suitable runways.	Add 200 ft. to higher DA/H or MDA of the two approaches used.	Add ½ sm or 800 m to the higher authorized landing minimum of the two approaches used.

- One usable authorized CAT II ILS IAP. Three hundred feet ¾ statute mile (1200 m) or RVR 4000 feet (1200 m).
- One usable authorized CAT III ILS IAP. Two hundred feet ½ statute mile (800 m) or RVR 1800 feet (550 m).

2. Special Limitations and Provisions.

a. The Operator/Company must not use an alternate airport weather minimum other than any applicable minimum derived from Table 1. The Operator/Company must not use any GPS-based IAP unless the Operator/Company is authorized to conduct GPS-based IAP and meets the requirements in subparagraph 2h.

b. In determining alternate airport weather minimums, the Operator/Company must not use any published IAP which specifies that alternate airport weather minimums are not authorized.

c. When determining the suitability of a runway, wind (including gust) must be forecast to be within operating limits (including reduced visibility limits) and should be within the manufacturer’s maximum demonstrated crosswind.

d. All conditional forecast elements below the lowest applicable operating minimums must be taken into account. Additives are applied only to the height value (H) to determine the required ceiling.

e. When releasing a flight under the provisions of the minimum equipment list (MEL), those MEL limitations affecting instrument approach minimums must be considered in determining alternate minimums.

f. For operations outside the United States, because of variations in the international metric weather forecasting standards, 700 m may be used in lieu of 800 m.

g. Credit for alternate minimums based on CAT II or CAT III capability is authorized if the Operator/Company is approved for engine inoperative CAT III operations under letter of authorization (LOA) C060.

h. Use of GPS-Based IAP Minimums at an Alternate Airport. The Operator/Company may use GPS-based IAP with the airplane make, model, and series (M/M/S) listed in Table 2. If no authorizations appear in Table 2, GPS-based IAP minimums are not authorized at an alternate airport. Examples of GPS-based IAP include GPS, RNAV (GPS), and RNAV (RNP).

Table 2 – GPS-Based IAP Authorizations

Airplane M/M/S	Conditions and Limitations	Remarks

(1) Before the Operator/Company is authorized to plan for the lines of minimums specified below, the Operator/Company must be approved to conduct GPS-based IAP under LOA C052, Straight-In Non-Precision, APV, and Category I Precision Approach and Landing Minima—All Airports, and if applicable, RNAV RNP IAP if they have LOA C384, Required Navigation Performance Procedures with Authorization Required.

(2) The Operator/Company with either a Technical Standard Order (TSO)-C129() or a TSO-C196() navigation system must perform a preflight receiver autonomous integrity monitoring (RAIM) prediction for the airport where the GPS-based IAP will be flown. The Operator/Company must also ensure that the conventional approach (at destination) can be flown without reliance on GPS. The Operator/Company must check NOTAMs as part of the preflight planning activities.

(3) The Operator/Company with either a TSO-C145() or a TSO-C146() navigation system must review appropriate Aeronautical Information Services (AIS) and NOTAMs for wide area augmentation system (WAAS) service outages.

(4) The Operator/Company may use suitable RNAV systems for flight planning at an alternate airport, provided planned availability of the substitute means of navigation is confirmed (e.g., NOTAMs and RAIM prediction for use of GPS and NOTAM/AIS checks for use of WAAS). The Operator/Company may plan for a conventional approach at the destination and may plan to use a substitute means of navigation based on GPS at the alternate airport, not including substitution for the navigation aid providing lateral guidance on the final approach segment, unless otherwise authorized. For example, the Operator/Company may use GPS to substitute for an out-of-service VOR that supports an ILS missed approach procedure at an alternate airport (unless the procedure is NOTAMed “not authorized”).

(5) The Operator/Company may use GPS-based IAP with the airplane M/M/S listed in Table 2 according to the conditions and limitations in subparagraphs 2h(5)(A) - D, as indicated in the “Conditions and Limitations” column for each airplane M/M/S.

(A) The Operator/Company must have a navigation system, either a TSO-C129() or a TSO-C196(), that includes fault detection and exclusion (FDE) capability to utilize GPS based-IAP at either the destination or an alternate (not both). At the alternate, if not equipped with barometric vertical navigation (baro-VNAV) the Operator/Company must only plan to lateral navigation (LNAV) (or circling) minimum descent altitude (MDA).

(B) The Operator/Company must have a navigation system, either a TSO-C129() or a TSO-C196(), that includes FDE capability and is equipped with baro-VNAV to utilize GPS-based IAP at either the destination or an alternate (not both). At the alternate, the Operator/Company may plan to LNAV (or circling) MDA or LNAV/VNAV DA if using baro-VNAV. The Operator/Company authorized under LOA C384, utilizing an RNAV (RNP) IAP at the alternate, must plan no lower than an RNP 0.30 DA.

(C) The Operator/Company must have a navigation system, either a TSO-C145() or a TSO-C146() and may utilize GPS-based IAP at both the destination and an alternate. At the alternate, if not equipped with and using baro-VNAV, the Operator/Company must only plan to LNAV (or circling) MDA.

(D) The Operator/Company must have a navigation system, either a TSO-C145() or a TSO-C146(), equipped with baro-VNAV, to utilize GPS-based IAP at both the destination and an alternate. At the alternate, the Operator/Company may plan for LNAV (or circling) MDA or LNAV/VNAV DA if using baro-VNAV. The Operator/Company authorized under LOA C384, utilizing an RNAV (RNP) IAP at the alternate, must plan no lower than an RNP 0.30 DA.

**Appendix F. Sample MSpec MC055, Alternate Airport IFR Weather Minimums:
14 CFR Part 91 Subpart K**

a. The program manager is authorized to derive alternate airport weather minimums from Table 1 below, according to the limitations and provisions of this management specification.

Table 1 – Alternate Airport IFR Weather Minimums

Approach Facility Configuration	Ceiling	Visibility
For airports with at least one operational navigational facility providing a straight-in nonprecision approach procedure, or CAT I precision approach, or, when applicable, a circling maneuver from an IAP.	Add 400 ft. to MDA or DA/H, as applicable.	Add 1 statute mile (sm) or 1600 m to the landing minimum.
For airports with at least two operational navigational facilities, each providing a straight-in approach procedure to different suitable runways.	Add 200 ft. to higher DA/H or MDA of the two approaches used.	Add ½ sm or 800 m to the higher authorized landing minimum of the two approaches used.

- One usable authorized CAT II ILS IAP. Three hundred feet ¾ statute mile (1200 m) or RVR 4000 feet(1200 m).
- One usable authorized CAT III ILS IAP. Two hundred feet ½ statute mile (800 m) or RVR 1800 feet (550 m).

b. Special Limitations and Provisions.

(1) The program manager must not use an alternate airport weather minimum other than any applicable minimum derived from Table 1. The program manager must not use any GPS-based IAP unless the program manager is authorized to conduct GPS-based IAP and meets the requirements in subparagraph b(8).

(2) In determining alternate airport weather minimums, the program manager must not use any published IAP which specifies that alternate airport weather minimums are not authorized.

(3) When determining the suitability of a runway, wind (including gust) must be forecast to be within operating limits (including reduced visibility limits) and should be within the manufacturer’s maximum demonstrated crosswind.

(4) All conditional forecast elements below the lowest applicable operating minimums must be taken into account. Additives are applied only to the height value (H) to determine the required ceiling.

(5) When releasing a flight under the provisions of the minimum equipment list (MEL), those MEL limitations affecting instrument approach minimums must be considered in determining alternate minimums.

(6) For operations outside the United States, because of variations in the international metric weather forecasting standards, 700 m may be used in lieu of 800 m.

(7) Credit for alternate minimums based on CAT II or CAT III capability is authorized if the program manager is approved for engine inoperative CAT III operations under management specification MC060.

(8) Use of GPS-Based IAP Minimums at an Alternate Airport. The program manager may use GPS-based IAP with the airplane make, model, and series (M/M/S) listed in Table 2. If no authorizations appear in Table 2, GPS-based IAP minimums are not authorized at an alternate airport. Examples of GPS-based IAP include GPS, RNAV (GPS), and RNAV (RNP).

Table 2 – GPS-Based IAP Authorizations

Airplane M/M/S	Conditions and Limitations	Remarks

(a) Before the program manager is authorized to plan for the lines of minimums specified below, the program manager must be approved to conduct GPS-based IAP under Management Specification MC052, Straight-In Non-Precision, APV, and Category I Precision Approach and Landing Minima—All Airports, and if applicable, RNAV RNP IAP if issued Management Specification MC384, Required Navigation Performance Procedures with Authorization Required.

(b) The program manager with either a Technical Standard Order (TSO)-C129() or a TSO-C196() navigation system must perform a preflight receiver autonomous integrity monitoring (RAIM) prediction for the airport where the GPS-based IAP will be flown. The program manager must also ensure that the conventional approach (at destination) can be flown without reliance on GPS. The program manager must check NOTAMs as part of the preflight planning activities.

(c) The program manager with either a TSO-C145() or a TSO-C146() navigation system must review appropriate Aeronautical Information Services (AIS) and NOTAMs for wide area augmentation system (WAAS) service outages.

(d) The program manager may use suitable RNAV systems for flight planning at an alternate airport, provided planned availability of the substitute means of navigation is confirmed (e.g., NOTAMs and RAIM prediction for use of GPS and NOTAM/AIS checks for use of WAAS). The program manager may plan for a conventional approach at the destination and may plan to use a substitute means of navigation based on GPS at the alternate airport, not including substitution for the navigation aid providing lateral guidance on the final approach segment, unless otherwise authorized. For example, the program manager may use GPS to substitute for an out-of-service VOR that supports an ILS missed approach procedure at an alternate airport (unless the procedure is NOTAMed “not authorized”).

(e) The program manager may use GPS-based IAP with the airplane M/M/S listed in Table 2 according to the conditions and limitations in subparagraphs b(8)(e)(i)-(iv), as indicated in the “Conditions and Limitations” column for each airplane M/M/S.

(i) The program manager must have a navigation system, either a TSO-C129() or a TSO-C196(), that includes fault detection and exclusion (FDE) capability to utilize GPS-based IAP at either the destination or an alternate (not both). At the alternate, if not equipped with barometric vertical navigation (baro-VNAV) the program manager must only plan to lateral navigation (LNAV) (or circling) minimum descent altitude (MDA).

(ii) The program manager must have a navigation system, either a TSO-C129() or a TSO-C196(), that includes FDE capability and is equipped with baro-VNAV to utilize GPS-based IAP at either the destination or an alternate (not both). At the alternate, the program manager may plan to LNAV (or circling) MDA or LNAV/VNAV DA if using baro-VNAV. The program manager authorized under management specification C384, utilizing an RNAV (RNP) IAP at the alternate, must plan no lower than an RNP 0.30 DA.

(iii) The program manager must have a navigation system, either a TSO-C145() or a TSO-C146() and may utilize GPS-based IAP at both the destination and an alternate. At the alternate, if not equipped with and using baro-VNAV, the program manager must only plan to LNAV (or circling) MDA.

(iv) The program manager must have a navigation system, either a TSO-C145() or a TSO-C146(), equipped with baro-VNAV, to utilize GPS-based IAP at both the destination and an alternate. At the alternate, the program manager may plan for LNAV (or circling) MDA or LNAV/VNAV DA if using baro-VNAV. The program manager authorized under management specification C384, utilizing an RNAV (RNP) IAP at the alternate, must plan no lower than an RNP 0.30 DA.