OpSpecs/MSpecs/LOAs
LESSON 22 OUTLINE

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   B. Objectives

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III. Key Components of the OpSpec(s) for each SAO

IV. Common OpSpecs Errors

V. Letters of Authorization (LOA)
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   B. OpSpec B046 RVSM
   C. OpSpec B036 Multiple Long Range Navigation System
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VI. Equipment Specified for an OpSpec/MSpec/LOA
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   A. Review
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Overview

- OpSpecs for each SAO
- Key components of the OpSpec(s) for each SAO
- Common OpSpecs errors
- Letters of Authorization (LOAs)
- Equipment specified for an OpSpec/MSpec/LOA

Objectives

- Identify the OpsSpec(s) for each SAO
- Identify the key components of the OpSpec(s) for each SAO
- Identify the common errors in the OpSpec(s) for each SAO
Objectives, cont.

- Identify the SAOs which require an LOA
- Identify equipment to be specified in an OpSpec/MSpec/LOA

OpSpecs for Each SAO

<table>
<thead>
<tr>
<th>Special Areas of Operation (SAOs)</th>
<th>Registered OpSpecs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Air Traffic Services (ATS)</td>
<td>Special Area Services (SAS)</td>
</tr>
<tr>
<td>Air Traffic Control (ATC)</td>
<td>Special Area Operations (SAO)</td>
</tr>
<tr>
<td>Air Traffic Flow Management (ATFM)</td>
<td>Critical Areas of Operations (CAOs)</td>
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</table>
| Air Traffic Flow Management (ATFM) | Critical Areas of Operations (CAO
## OpSpec for each SAO

<table>
<thead>
<tr>
<th>Special Areas of Operation (SAOs)</th>
<th>Required OpSpec</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Basic Area Navigation/Precision Area Navigation</strong></td>
<td><strong>B034</strong> IFR Class I Terminal and En Route Navigation Using Area Navigation Systems</td>
</tr>
<tr>
<td><strong>Oceanic and Remote Continental (formerly Class II)</strong></td>
<td><strong>B036</strong> Oceanic and Remote Continental Navigation Using Multiple Long-Range Navigation Systems (M-LRNS)</td>
</tr>
<tr>
<td><strong>Central East Pacific (CEP)</strong></td>
<td><strong>B037</strong> Operations in Central East Pacific (CEP) Airspace</td>
</tr>
<tr>
<td><strong>North Pacific (NOPAC)</strong></td>
<td><strong>B038</strong> Operations in North Pacific (NOPAC) Airspace</td>
</tr>
<tr>
<td><strong>North Atlantic (NAT)</strong></td>
<td><strong>B039</strong> Operations in North Atlantic Minimum Navigation Performance Specifications (NAT/MNPS) Airspace</td>
</tr>
<tr>
<td><strong>Magnetic Unreliability (AMU)</strong></td>
<td><strong>B040</strong> Operations in Areas of Magnetic Unreliability</td>
</tr>
<tr>
<td><strong>North Atlantic Non ETOPS</strong></td>
<td><strong>B041</strong> North Atlantic Operations With Two Engine Airplanes Under part 121</td>
</tr>
<tr>
<td><strong>Single Communication</strong></td>
<td><strong>B045</strong> Extended Overwater Operations Using Single Long-Range Communication System (S-LRCS)</td>
</tr>
<tr>
<td><strong>RVSM</strong></td>
<td><strong>B046</strong> Operations in Reduced Vertical Separation Minimum (RVSM) Airspace</td>
</tr>
<tr>
<td><strong>WATRS</strong></td>
<td><strong>B050</strong> Sensitive International Areas</td>
</tr>
<tr>
<td><strong>Russia and China</strong></td>
<td><strong>B050</strong> Sensitive International Areas (B450)</td>
</tr>
<tr>
<td><strong>Gulf of Mexico/Caribbean</strong></td>
<td><strong>B050</strong> Sensitive International Areas (B450)</td>
</tr>
<tr>
<td><strong>North Polar</strong></td>
<td><strong>B055</strong> North Polar Operations</td>
</tr>
<tr>
<td><strong>Canadian MNPS (C-MNPS) (applies to 135 operators only)</strong></td>
<td><strong>B059</strong> Canadian MNPS Airspace</td>
</tr>
</tbody>
</table>
Key Components of the OpSpec(s)
for each SAO

- Identify the airspace
- Identify the specific aircraft type
- Identify the specific CNS system requirements

Common OpSpecs Errors

- OpSpecs errors have been noted during national reviews, including but not limited to:
  - SAOs issued without proper validation or coordination with Regional NextGen Oceanic specialists
  - A number of B054 (Single LRNS) OpSpecs have been issued for part 135 operators without validation flights in the relevant Oceanic/Remote airspace
  - OpSpec B050 (Authorized Areas) reviews have revealed numerous omissions or incorrect reference paragraphs
  - AMU and North Polar Region OpSpecs errors stemming from incorrect equipment and inadequate training
Common OpSpecs Errors, cont.

- Some operators could not meet the requirements of the OpSpec
- Range-limited aircraft have erroneously been authorized for remote oceanic operations, without adequate fuel reserves
- Some aircraft did not have the required number of Long Range Navigation Systems (LRNS) or Long-range Communication Systems (LRCS) for the geographic area noted

Letters of Authorization (LOAs)

Q. LOAs for “B” paragraphs are issued to what operators and for what type operations?

Letters of Authorization (LOAs), cont.

- OpSpec B039 NAT HLA (14 CFR Part 91.705)
- OpSpec B046 RVSM (14 CFR Part 91.706)
- OpSpec B054 S-LRNS
- OpSpec B034 BRNAV(RNP 5)/PRNAV (RNP 1) - AC 90-96
Equipment Specified for OpSpec/MSpec/LOA

- Operators requesting SAOs are required to meet the CNS requirements of the airspace and have the appropriate equipment installed.

Exercises: OpSpec/MSpec/LOA

- SL-12-OML
- SL-13-OML
Exercise: OpSpec/MSpec/LOA
Scenario #1

**Purpose:** This activity requires participants to use the OpSpec for each SAO page in the participant guide to answer questions about OpSpecs.

**Directions:** Answer the questions on the four scenarios based on the respective sanitized OpSpecs provided.

**Scenario #1:** This is a part 135 operator with FAA authorizations to fly an LR-55 type aircraft throughout most of North and South America and the Caribbean Sea.

1. Does this description of the LRNSs adequately identify what is installed in the aircraft in OpSpec B036?

2. What additional information is required in Table 1?

3. What RNP type is required?

4. In B050, please identify where:
   a. B036 is authorized.
   b. B046 (RVSM) is authorized since the B046 OpSpec has been issued.
   c. B450 (Sensitive International Areas) applies.

5. Are there any other reference paragraphs in B050 that appear to be missing?
Exercise: OpSpec/MSpec/LOA, cont.
Scenario #2

Scenario #2: This is a part 121 supplemental operator with FAA authorizations to fly a B-727 and a B-767 type aircraft throughout most of the world. Please note that this operator has not been issued OpSpecs B039 (NAT-HLA) or B032 (ETOPS).

1. In B036, what is unique about the B-767 LRNS?

2. In B050, where is the operator approved to fly in RVSM airspace since the OpSpec B046 has been issued?

3. In B050, how does this operator get to Africa or New Zealand, legally?

4. What do you notice about OpSpec B037 in geographic areas since this OpSpec is for CEP routes between North America and Hawaii?

5. Various geographic areas have OpSpec B044 Redispatch/Rerelease, which is a specialized authorization. Who should the POI consult before issuing this OpSpec?
Exercise: OpSpec/MSpec/LOA, cont.
Scenario #3

Scenario #3: This is a part 135 operator with FAA authorizations to fly an AMD-50 type aircraft throughout most of North and South America and the Caribbean Sea.

1. B039 for NAT HLA has been authorized, where is this geographic area listed in OpSpec B050?

2. Since B050(b) states that oceanic/remote navigation (B036) is only authorized for a HS-125 aircraft, and B036 is only approved for an AMD-50 aircraft, is this operator approved for oceanic/remote navigation in any of the authorized areas identified in B050?
Scenario #4: This is a part 135 operator with FAA authorizations to fly a BAE-125, a BE-200, and a NA-265 type aircraft throughout most of North and South America, the Caribbean Islands, and the Gulf of Mexico.

1. Where is NAT HLA (formerly NAT MNPS) authorized in OpSpec B050?

2. B046 has been issued to the operator. Are there any geographical areas in B050 not showing RVSM?

3. The operator has authorization for B036 (multiple LRNS). Where in Central and South America is oceanic/remote (formerly Class II) navigation required?
Exercise: OpSpec/MSpec/LOA, cont.
Scenario #1: OpSpec B036

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**Federal Aviation Administration**

**Operations Specifications**


HQ Control: 01/25/2010
HQ Revision: 05a

a. The certificate holder is authorized to conduct Class II navigation using multiple long-range navigation systems (LRNS) only within the areas of en route operation where this paragraph is referenced in paragraph B050 of these operations specifications. Unless specifically authorized elsewhere in these operations specifications, the certificate holder shall not conduct Class II navigation operations within Central East Pacific (CEPAC) Composite Airspace, North Pacific (NOPAC) Airspace, North Atlantic Minimum Navigation Performance Specifications (NAT/MNPS) Airspace, or Areas of Magnetic Unreliability. The certificate holder shall conduct all Class II navigation operations using multiple LRNS in accordance with the provisions of this paragraph.

b. **Authorized Aircraft and Equipment.**

(1) The certificate holder is authorized to conduct Class II navigation using the following aircraft with multiple LRNS.

<table>
<thead>
<tr>
<th>Aircraft M/M/S</th>
<th>Long-Range Navigation Systems Manufacturer</th>
<th>Model</th>
<th>RNP Type</th>
<th>RNP Time Limit</th>
<th>Limitations and Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>LR-55-55</td>
<td></td>
<td></td>
<td></td>
<td>n/a</td>
<td></td>
</tr>
</tbody>
</table>

Table 1 - Authorized Aircraft and Equipment

c. **Special Limitations and Provisions.** The certificate holder shall conduct all operations using multiple LRNS in accordance with the following limitations and provisions:

(1) The certificate holder shall conduct all Class II navigation operations so the aircraft is continuously navigated to the degree of accuracy or required navigation performance (RNP) type required for air traffic control. For areas where these accuracy and navigation performance standards have not been formally established, the long-range navigation system must be used to continuously navigate the aircraft so that the crosstrack and/or the alongetracks errors will not exceed 25 nautical miles at any point along the flight plan route specified in the ATC clearance.

(2) The navigation system shall be operational as required by operations specifications paragraph B037 (CEPAC), B038 (NOPAC), B039 (NAT/MNPS), or B040 (Areas of Magnetic Unreliability), as applicable.

(3) Except when navigation is being performed under the supervision of a check airman properly qualified for Class II navigation, the flightcrew must be qualified on the system being used in accordance with the certificate holder's approved training program. The flightcrew performing under the supervision of a check airman shall have satisfactorily completed the ground school portion of that training program.

(4) Prior to entering any airspace requiring the use of a long-range navigation system, the aircraft position shall be accurately fixed using airways navigation facilities or ATC radar. After exiting this airspace, the aircraft position shall be accurately fixed and the long-range navigation
Exercise: OpSpec/MSpec/LOA, cont.
Scenario #1: OpSpec B036, cont.

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Federal Aviation Administration

Operations Specifications

System error shall be determined and logged in accordance with the operator's approved procedures.

(5) A long-range navigation system fix may be substituted for a required en route ground facility when that facility is temporarily out of service, provided the approved navigation system has sufficient capability to navigate the aircraft to the degree of accuracy or RNP type required for air traffic control over that portion of the flight.

(6) At dispatch, at least one of the navigation system configurations listed below must be installed and operational:

(a) At least two independent inertial navigation systems (INS).
(b) At least two flight management system/navigation sensor combinations (or equivalent).
(c) At least two independent approved GPS navigation systems acceptable for primary means of Class II navigation in oceanic and remote areas;
(d) Inertial navigation systems that use a mixed position solution (e.g., triple mix) or
(e) At least two approved independent LRNS from the list below:
   • Inertial navigation system.
   • Flight management system/navigation sensor combination (or equivalent).
   • GPS navigation system approved for Class II navigation in oceanic and remote areas.

\[\text{d. Operation on routes or in areas where an RNP type is specified.:} \]

Operations in areas or on routes where an RNP type is specified must be conducted in accordance with the following limitations or provisions:

(1) At dispatch, one of the navigation system configurations listed in subparagraph c(6) above must be installed, operational and (as listed in subparagraph b) approved for the specified RNP type (or better).

(2) The certificate holder must ensure that the aircraft navigation system will provide the specified RNP type for the planned flight time in the airspace and, if applicable, that the aircraft will be operated in the RNP area of operation established using the RNP time limit listed in subparagraph b above.

(3) The ICAO flight plan filed with the Air Traffic Service provider must show that the airplane and operator are approved for the specified RNP (or better).

\[\text{e. Deviations to RNP requirements. The administrator may authorize a certificate holder to deviate from RNP requirements in subparagraph d for a specific individual flight in airspace where an RNP type is specified if the Air Traffic Service provider determined that the airplane will not interfere with, or impose a burden on other operators. Operations conducted under such authority will be conducted in accordance with the following limitations and provisions:} \]

(1) If fuel planning is predicated on en route climb to flight levels where RNP is normally required, an appropriate request must be coordinated in advance of the flight with the Air Traffic Service provider.

(2) The appropriate information blocks in the ICAO flight plan filed with the Air Traffic Service provider must show that the airplane is not approved for the specified RNP type.
Exercise: OpSpec/MSpec/LOA, cont.
Scenario #1: OpSpec B036, cont.

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Federal Aviation Administration

Operations Specifications

(3) At dispatch, at least one of the navigation system configurations listed in subparagraph c (6) above must be installed and operational.

1. Issued by the Federal Aviation Administration.
2. Support information reference:
3. These Operations Specifications are approved by direction of the Administrator.

4. Date Approval is effective: 12/13/2010
5. I hereby accept and receive the Operations Specifications in this paragraph.

Amendment Number: 0

Date: 12/13/2010
Exercise: OpSpec/MSpec/LOA, cont.
Scenario #1: OpSpec B050

U.S. Department of Transportation
Federal Aviation Administration

Operations Specifications

HQ Control: 09/12/1997
HQ Revision: 020

a. The certificate holder is authorized to conduct en route operations in the areas of en route operation specified in this paragraph. The certificate holder shall conduct all en route operations in accordance with the provisions of the paragraphs referenced for each area of en route operation. The certificate holder shall not conduct any en route operation under these operations specifications unless those operations are conducted within the areas of en route operation authorized by this paragraph.

<table>
<thead>
<tr>
<th>Authorized Areas of En Route Operation</th>
<th>Reference Paragraphs</th>
<th>Note Reference #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canada - Excluding Canadian MNPS airspace</td>
<td>B031</td>
<td></td>
</tr>
<tr>
<td>Caribbean Sea - Including the islands/nations, but excluding the Havana FIR</td>
<td>B031</td>
<td></td>
</tr>
<tr>
<td>Central America</td>
<td>B031, B450</td>
<td></td>
</tr>
<tr>
<td>South America</td>
<td>B031, B032, B036, B450</td>
<td></td>
</tr>
<tr>
<td>USA - The 48 contiguous United States and the District of Columbia</td>
<td>B031, B032</td>
<td></td>
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<tr>
<td>USA - The State of Alaska</td>
<td>B031, B032</td>
<td></td>
</tr>
</tbody>
</table>

b. The certificate holder shall conduct all en route operations in accordance with the following limitations, provisions, and special requirements referenced numerically for each area of en route operation listed in subparagraph a. above.

<table>
<thead>
<tr>
<th>Note Reference #</th>
<th>Limitations Provisions and Special Requirements</th>
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</thead>
<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
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</table>

Print Date: 12/6/2010
B050-1
Certificate No.
Exercise: OpSpec/MSpec/LOA, cont.
Scenario #2: OpSpec B036

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Federal Aviation Administration

Operations Specifications


The certificate holder is authorized to conduct Class II navigation using multiple long-range navigation systems (LRNS) only within the areas of en route operation where this paragraph is referenced in paragraph B050 of these operations specifications. Unless specifically authorized elsewhere in these operations specifications, the certificate holder shall not conduct Class II navigation operations within Central East Pacific (CEPAC) Composite Airspace, North Pacific (NOPAC) Airspace, North Atlantic Minimum Navigation Performance Specifications (NAT/MNPS) Airspace, or Areas of Magnetic Unreliability. The certificate holder shall conduct all Class II navigation operations using multiple LRNS in accordance with the provisions of this paragraph.

a. Authorized Aircraft and Equipment.

(1) The certificate holder is authorized to conduct Class II navigation using the following aircraft with multiple LRNS.

<table>
<thead>
<tr>
<th>Aircraft M/M/S</th>
<th>Long-Range Navigation Systems Manufacturer</th>
<th>Model</th>
<th>RNP Type</th>
<th>RNP Time Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>B-727-219</td>
<td>HONEYWELL GPS ITT9100 DUAL SYSTEM INSTALLED</td>
<td></td>
<td>RNP-10</td>
<td>NA</td>
</tr>
<tr>
<td>B-727-212</td>
<td>HONEYWELL GPS HT9100 DUAL SYSTEM INSTALLED</td>
<td></td>
<td>RNP-10</td>
<td>NA</td>
</tr>
<tr>
<td>B-767-232</td>
<td>HONEYWELL 4052500-962</td>
<td></td>
<td>RNP-10</td>
<td>6 Hours</td>
</tr>
</tbody>
</table>

b. Special Limitations and Provisions. The certificate holder shall conduct all operations using multiple LRNS in accordance with the following limitations and provisions:

(1) The certificate holder shall conduct all Class II navigation operations so the aircraft is continuously navigated to the degree of accuracy or required navigation performance (RNP) type required for air traffic control. For areas where these accuracy and navigation performance standards have not been formally established, the long-range navigation system must be used to continuously navigate the aircraft so that the crosstrack and/or the alongtrack errors will not exceed 25 nautical miles at any point along the flight plan route specified in the ATC clearance.

(2) The navigation system shall be operational as required by operations specifications paragraph B037 (CEPAC), B038 (NOPAC), B039 (NAT/MNPS), or B040 (Areas of Magnetic Unreliability), as applicable.

(3) Except when navigation is being performed under the supervision of a check airman properly qualified for Class II navigation, the flightcrew must be qualified on the system being used in accordance with the certificate holder's approved training program. The flightcrew performing under the supervision of a check airman shall have satisfactorily completed the ground school portion of that training program.
Exercise: OpSpec/MSpec/LOA, cont.
Scenario #2: OpSpec B036, cont.

(4) Prior to entering any airspace requiring the use of a long-range navigation system, the aircraft position shall be accurately fixed using airways navigation facilities or ATC radar. After exiting this airspace, the aircraft position shall be accurately fixed and the long-range navigation system error shall be determined and logged in accordance with the operator's approved procedures.

(5) A long-range navigation system fix may be substituted for a required en route ground facility when that facility is temporarily out of service, provided the approved navigation system has sufficient capability to navigate the aircraft to the degree of accuracy or RNP type required for air traffic control over that portion of the flight.

(6) At dispatch, at least one of the navigation system configurations listed below must be installed and operational:

a. At least two independent inertial navigation systems (INS).
b. At least two flight management system/navigation sensor combinations (or equivalent).
c. At least two independent approved GPS navigation systems acceptable for primary means of Class II navigation in oceanic and remote areas;
d. Inertial navigation systems that use a mixed position solution (e.g., triple mix) or
c. At least two approved independent LRNS from the list below:
   • Inertial navigation system.
   • Flight management system/navigation sensor combination (or equivalent).
   • GPS navigation system approved for Class II navigation in oceanic and remote areas.

c. Operation on routes or in areas where an RNP type is specified. Operations in areas or on routes where an RNP type is specified must be conducted in accordance with the following limitations or provisions:

(1) At dispatch, one of the navigation system configurations listed in subparagraph b(6) above must be installed, operational and (as listed in subparagraph a) approved for the specified RNP type (or better).

(2) The certificate holder must ensure that the aircraft navigation system will provide the specified RNP type for the planned flight time in the airspace and, if applicable, that the aircraft will be operated in the RNP area of operation established using the RNP time limit listed in subparagraph a above.

(3) The ICAO flight plan filed with the Air Traffic Service provider must show that the airplane and operator are approved for the specified RNP (or better).

d. Deviations to RNP requirements. The administrator may authorize a certificate holder to deviate from RNP requirements in subparagraph c for a specific individual flight in airspace where an RNP type is specified if the Air Traffic Service provider determined that the airplane will not interfere with, or impose a burden on other operators. Operations conducted under such authority will be conducted in accordance with the following limitations and provisions:

(1) If fuel planning is predicated on en route climb to flight levels where RNP is normally required, an appropriate request must be coordinated in advance of the flight with the Air Traffic Service provider.

(2) The appropriate information blocks in the ICAO flight plan filed with the Air Traffic Service provider must show that the airplane is not approved for the specified RNP type.
(3) At dispatch, at least one of the navigation system configurations listed in subparagraph b(6) above must be installed and operational.
Exercise: OpSpec/MSpec/LOA, cont.
Scenario #2: OpSpec B036, cont.

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Federal Aviation Administration

Operations Specifications

1. Issued by the Federal Aviation Administration.
2. Support information reference:
3. These Operations Specifications are approved by direction of the Administrator.

4. Date Approval is effective:

Amendment Number: 4
5. I hereby accept and receive the Operations Specifications in this paragraph.

Date:

Print Date: 4/6/2010
B036-4
Certificate No.
Exercise: OpSpec/MSpec/LOA, cont.
Scenario #2: OpSpec B050

<table>
<thead>
<tr>
<th>Authorized Areas of En Route Operation</th>
<th>Reference Paragraphs</th>
<th>Note Reference #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa - excluding Nigeria, Somalia, and Angola</td>
<td>B031, B032, B034, B036, B044</td>
<td>0</td>
</tr>
<tr>
<td>Atlantic - The North Atlantic Ocean, excluding NAT/MNPS airspace</td>
<td>B031, B032, B036, B044, B054</td>
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<tr>
<td>Atlantic - The South Atlantic Control Areas</td>
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<tr>
<td>Australia</td>
<td>B031, B032, B036</td>
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</tr>
<tr>
<td>Bermuda - The island of Bermuda</td>
<td>B031, B032, B036, B044, B054</td>
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</tr>
<tr>
<td>Canada - excluding Canadian MNPS airspace and the Area of Magnetic Unreliability as established in the Canadian AIP</td>
<td>B031, B032, B034, B036, B044</td>
<td>0</td>
</tr>
<tr>
<td>Caribbean - Cuba, including the Havana FIR/UR</td>
<td>B031, B032, B036</td>
<td>0</td>
</tr>
<tr>
<td>Caribbean - Islands and Countries of the Caribbean Sea in the Eastern Caribbean (Lesser Antilles) area</td>
<td>B031, B032, B034, B036, B044, B054</td>
<td>0</td>
</tr>
<tr>
<td>Caribbean - Islands and Countries of the Caribbean Sea in the Greater Antilles area</td>
<td>B031, B032, B034, B036, B044, B054</td>
<td>0</td>
</tr>
<tr>
<td>Caribbean - Islands and Countries of the Caribbean Sea in the Northern Caribbean area</td>
<td>B031, B032, B034, B036, B044, B054</td>
<td>0</td>
</tr>
<tr>
<td>Caribbean - Islands and Countries of the Caribbean Sea in the Southern Caribbean area</td>
<td>B031, B032, B034, B036, B044, B054</td>
<td>0</td>
</tr>
<tr>
<td>Central America</td>
<td>B031, B032, B034, B036, B044</td>
<td>0</td>
</tr>
<tr>
<td>East Asia - The Countries of East Asia and the Pacific including China, but excluding North Korea, Vietnam, and Cambodia</td>
<td>B031, B032, B036, B037, B044</td>
<td>0</td>
</tr>
<tr>
<td>Europe and the Mediterranean Sea, including Azerbaijan, Armenia, Belarus, Kazakhstan, Kyrgyz Republic, Moldova, Russian Federation, Tajikistan, Uzbekistan, Ukraine, and Russia</td>
<td>B031, B032, B036, B044</td>
<td>0</td>
</tr>
<tr>
<td>Japan</td>
<td>B031, B032, B036, B037, B044</td>
<td>0</td>
</tr>
<tr>
<td>Mexico, including the Gulf of Mexico</td>
<td>B031, B032, B034, B036, B044, B054</td>
<td>0</td>
</tr>
<tr>
<td>Near East - The countries of the Near East excluding Libya</td>
<td>B031, B032, B034, B036, B044</td>
<td>3, 4</td>
</tr>
<tr>
<td>New Zealand</td>
<td>B031, B032, B036, B037, B044</td>
<td>0</td>
</tr>
<tr>
<td>Pacific - The Pacific Ocean excluding CEPAC composite and NOPAC airspace</td>
<td>B031, B032, B036, B044</td>
<td>0</td>
</tr>
<tr>
<td>South America</td>
<td>B031, B032, B034, B036, B044</td>
<td>0</td>
</tr>
<tr>
<td>South Asia - The Countries of South Asia and the Indian Ocean including Afghanistan</td>
<td>B031, B032, B036, B044</td>
<td>2</td>
</tr>
<tr>
<td>USA - The 48 contiguous United States and the</td>
<td>B031, B032, B034, B035, B046</td>
<td>0</td>
</tr>
</tbody>
</table>
Exercise: OpSpec/MSpec/LOA, cont.
Scenario #2: OpSpec B050, cont.

Authorized Areas of En Route Operation | Reference Paragraphs | Note Reference #
-------------------------------------|----------------------|-------------------
District of Columbia | B031, B032, B034, B035, B036, B044 | 0
USA - The State of Alaska | | |
USA - The State of Hawaii | B031, B032 | |

b. The certificate holder shall conduct all en route operations in accordance with the following limitations, provisions, and special requirements referenced numerically for each area of en route operation listed in subparagraph a. above.

<table>
<thead>
<tr>
<th>Note Reference #</th>
<th>Limitations, Provisions, and Special Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Operations into Afghanistan permitted with RNP 10, with permission of the Regional Air Movement Control Center (RAMCC) and the Ministry of Civil Aviation and Tourism (MCAT) or (MOCAT). See NOTAMs.</td>
</tr>
<tr>
<td>3</td>
<td>Operations in Iranian airspace limited to overflight only. All Iranian operations must be in compliance with any currently effective NOTAMs. Intercept procedures must be immediately available to flight crewmembers while conducting these operations.</td>
</tr>
<tr>
<td>4</td>
<td>Operations in the airspace of Iraq limited to overflight only. Overflight of Iraq must be conducted above flight level FL200 subject to the approval of, and in accordance with, the conditions established by the appropriate authorities of Iraq. Flights departing from countries adjacent whose climb performance will not permit operations above FL200 prior to entering Iraqi airspace may operate at altitudes below FL200 to the extent necessary to permit climb above FL200, subject to the approval of, and in accordance with, the conditions established by the appropriate authorities of Iraq.</td>
</tr>
</tbody>
</table>

1. The Certificate Holder applies for the Operations in this paragraph.
2. Support information reference:
3. These Operations Specifications are approved by direction of the Administrator.
4. Date Approval is effective: Amendment Number: 22
5. I hereby accept and receive the Operations Specifications in this paragraph.

Print Date: 5/19/2009 B050-2 Certificate No.
Exercise: OpSpec/MSpec/LOA, cont.
Scenario #3: OpSpec B036

U.S. Department of Transportation
Federal Aviation Administration

Operations Specifications

B036 - Class II Navigation Using Multiple Long-Range
Navigation Systems (LRNS)

a. The certificate holder is authorized to conduct Class II navigation using multiple long-range navigation systems (LRNS) only within the areas of en route operation where this paragraph is referenced in paragraph B050 of these operations specifications. Unless specifically authorized elsewhere in these operations specifications, the certificate holder shall not conduct Class II navigation operations within Central East Pacific (CEPAC) Composite Airspace, North Pacific (NOPAC) Airspace, North Atlantic Minimum Navigation Performance Specifications (NAT/MNPS) Airspace, or Areas of Magnetic Unreliability. The certificate holder shall conduct all Class II navigation operations using multiple LRNS in accordance with the provisions of this paragraph.

b. Authorized Aircraft and Equipment.

(1) The certificate holder is authorized to conduct Class II navigation using the following aircraft with multiple LRNS.

<table>
<thead>
<tr>
<th>Aircraft</th>
<th>Long-Range Navigation Systems Manufacturer</th>
<th>Model</th>
<th>RNP Type</th>
<th>RNP Time Limit</th>
<th>Limitations and Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMD-50-50</td>
<td>(2)Universal</td>
<td>UNS-1C+</td>
<td>RNP-4</td>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>

c. Special Limitations and Provisions. The certificate holder shall conduct all operations using multiple LRNS in accordance with the following limitations and provisions:

(1) The certificate holder shall conduct all Class II navigation operations so the aircraft is continuously navigated to the degree of accuracy or required navigation performance (RNP) type required for air traffic control. For areas where these accuracy and navigation performance standards have not been formally established, the long-range navigation system must be used to continuously navigate the aircraft so that the crosstrack and/or the alongtrack errors will not exceed 25 nautical miles at any point along the flight plan route specified in the ATC clearance.

(2) The navigation system shall be operational as required by operations specifications paragraph B037 (CEPAC), B038 (NOPAC), B039 (NAT/MNPS), or B040 (Areas of Magnetic Unreliability), as applicable.

(3) Except when navigation is being performed under the supervision of a check airman properly qualified for Class II navigation, the flightcrew must be qualified on the system being used in accordance with the certificate holder’s approved training program. The flightcrew performing under the supervision of a check airman shall have satisfactorily completed the ground school portion of that training program.

(4) Prior to entering any airspace requiring the use of a long-range navigation system, the aircraft position shall be accurately fixed using airways navigation facilities or ATC radar. After exiting this airspace, the aircraft position shall be accurately fixed and the long-range navigation
Exercise: OpSpec/MSpec/LOA, cont.
Scenario #3: OpSpec B036, cont.

system error shall be determined and logged in accordance with the operator's approved procedures.

(5) A long-range navigation system fix may be substituted for a required en route ground facility when that facility is temporarily out of service, provided the approved navigation system has sufficient capability to navigate the aircraft to the degree of accuracy or RNP type required for air traffic control over that portion of the flight.

(6) At dispatch, at least one of the navigation system configurations listed below must be installed and operational:

(a) At least two independent inertial navigation systems (INS).
(b) At least two flight management system/navigation sensor combinations (or equivalent).
(c) At least two independent approved GPS navigation systems acceptable for primary means of Class II navigation in oceanic and remote areas;
(d) Inertial navigation systems that use a mixed position solution (e.g., triple mix) or
(e) At least two approved independent LRNS from the list below:
   - Inertial navigation system.
   - Flight management system/navigation sensor combination (or equivalent).
   - GPS navigation system approved for Class II navigation in oceanic and remote areas.

   d. **Operation on routes or in areas where an RNP type is specified.** Operations in areas or on routes where an RNP type is specified must be conducted in accordance with the following limitations or provisions:

   (1) At dispatch, one of the navigation system configurations listed in subparagraph (6) above must be installed, operational and (as listed in subparagraph b) approved for the specified RNP type (or better).

   (2) The certificate holder must ensure that the aircraft navigation system will provide the specified RNP type for the planned flight time in the airspace and, if applicable, that the aircraft will be operated in the RNP area of operation established using the RNP time limit listed in subparagraph b above.

   (3) The ICAO flight plan filed with the Air Traffic Service provider must show that the airplane and operator are approved for the specified RNP (or better).

c. **Deviations to RNP requirements.** The administrator may authorize a certificate holder to deviate from RNP requirements in subparagraph d for a specific individual flight in airspace where an RNP type is specified if the Air Traffic Service provider determined that the airplane will not interfere with, or impose a burden on other operators. Operations conducted under such authority will be conducted in accordance with the following limitations and provisions:

   (1) If fuel planning is predicated on en route climb to flight levels where RNP is normally required, an appropriate request must be coordinated in advance of the flight with the Air Traffic Service provider.

   (2) The appropriate information blocks in the ICAO flight plan filed with the Air Traffic Service provider must show that the airplane is **not** approved for the specified RNP type.
(3) At dispatch, at least one of the navigation system configurations listed in subparagraph c (6) above must be installed and operational.

1. Issued by the Federal Aviation Administration.
2. Support information reference:
3. These Operations Specifications are approved by direction of the Administrator.

4. Date Approval is effective: 
   Amendment Number: 0
5. I hereby accept and receive the Operations Specifications in this paragraph.

   Date: 

Print Date: 4/21/2011   B036-3   Certificate No.: 
Exercise: OpSpec/MSpec/LOA, cont.
Scenario #3: OpSpec B050

Authorized Areas of En Route Operation

<table>
<thead>
<tr>
<th>Authorized Areas of En Route Operation</th>
<th>Reference Paragraphs</th>
<th>Note Reference #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atlantic - The North Atlantic Ocean west of the western boundary of NAT/MNPS airspace and west of a line from 27 degrees N/60 degrees W to 10 degrees N/55 degrees W</td>
<td>B031, B032, B036, B046</td>
<td>1, 2</td>
</tr>
<tr>
<td>Bermuda - The island of Bermuda</td>
<td>B031, B032, B036, B046</td>
<td>1, 2</td>
</tr>
<tr>
<td>Canada - excluding Canadian MNPS airspace and the Area of Magnetic Unreliability as established in the Canadian AIP</td>
<td>B031, B032, B046</td>
<td>1</td>
</tr>
<tr>
<td>Caribbean - Cuba, including the Havana FIR/UIR</td>
<td>B031, B032, B036, B046</td>
<td>1, 2</td>
</tr>
<tr>
<td>Caribbean - Islands and Countries of the Caribbean Sea in the Eastern Caribbean (Lesser Antilles) area</td>
<td>B031, B032, B036, B046</td>
<td>1, 2</td>
</tr>
<tr>
<td>Caribbean - Islands and Countries of the Caribbean Sea in the Greater Antilles area</td>
<td>B031, B032, B036, B046</td>
<td>1, 2</td>
</tr>
<tr>
<td>Caribbean - Islands and Countries of the Caribbean Sea in the Northern Caribbean area</td>
<td>B031, B032, B036, B046</td>
<td>1, 2</td>
</tr>
<tr>
<td>Caribbean - Islands and Countries of the Caribbean Sea in the Southern Caribbean area</td>
<td>B031, B032, B036, B046</td>
<td>1, 2</td>
</tr>
<tr>
<td>Central America</td>
<td>B031, B032, B036, B046</td>
<td>1, 2</td>
</tr>
<tr>
<td>Mexico, including the Gulf of Mexico</td>
<td>B031, B032, B036, B046</td>
<td>1, 2</td>
</tr>
<tr>
<td>South America</td>
<td>B031, B032, B036, B046</td>
<td>1, 2</td>
</tr>
<tr>
<td>USA - The 48 contiguous United States and the District of Columbia</td>
<td>B031, B032, B046</td>
<td>1</td>
</tr>
<tr>
<td>USA - The State of Alaska</td>
<td>B031, B032, B046</td>
<td>1</td>
</tr>
</tbody>
</table>

b. The certificate holder shall conduct all en route operations in accordance with the following limitations, provisions, and special requirements referenced numerically for each area of en route operation listed in subparagraph a. above.

<table>
<thead>
<tr>
<th>Note Reference #</th>
<th>Limitations, Provisions, and Special Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Provisions of B046 authorized for AMD-10 and HS125-800 only.</td>
</tr>
<tr>
<td>2</td>
<td>Provisions of B036 authorized for HS125-800 only.</td>
</tr>
</tbody>
</table>

Print Date: 1/26/2009
Certificate No.: B050-1
Exercise: OpSpec/MSpec/LOA, cont.
Scenario #3: OpSpec B050, cont.
Exercise: OpSpec/MSpec/LOA, cont.
Scenario #4: OpSpec B036

B036. **Class II Navigation Using Multiple Long-Range Navigation Systems (LRNS)**

a. The certificate holder is authorized to conduct Class II navigation using multiple long-range navigation systems (LRNS) only within the areas of en route operation where this paragraph is referenced in paragraph B050 of these operations specifications. Unless specifically authorized elsewhere in these operations specifications, the certificate holder shall not conduct Class II navigation operations within Central East Pacific (CEPAC) Composite Airspace, North Pacific (NOPAC) Airspace, North Atlantic Minimum Navigation Performance Specifications (NAT/MNPS) Airspace, or Areas of Magnetic Unreliability. The certificate holder shall conduct all Class II navigation operations using multiple LRNS in accordance with the provisions of this paragraph.

b. **Authorized Aircraft and Equipment.**

(1) The certificate holder is authorized to conduct Class II navigation using the following aircraft with multiple LRNS.

<table>
<thead>
<tr>
<th>Aircraft M/M/Ś</th>
<th>Long-Range Navigation Systems</th>
<th>RNP Type</th>
<th>RNP Time Limit</th>
<th>Limitations and Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAE-125-800Á</td>
<td>Universal</td>
<td>RNP-10</td>
<td>Unlimited</td>
<td>N/A</td>
</tr>
<tr>
<td>BE-200-200</td>
<td>Garmin</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>NA-265-65</td>
<td>Allied Signal</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>NA-265-65</td>
<td>Allied Signal</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

(2) The certificate holder shall conduct all Class II navigation operations so the aircraft is continuously navigated to the degree of accuracy or required navigation performance (RNP) type required for air traffic control. For areas where these accuracy and navigation performance standards have not been formally established, the long-range navigation system must be used to continuously navigate the aircraft so that the crosstrack and/or the alongtrack errors will not exceed 25 nautical miles at any point along the flight plan route specified in the ATC clearance.

(3) Except when navigation is being performed under the supervision of a check airman properly qualified for Class II navigation, the flightcrew must be qualified on the system being used in accordance with the certificate holder's approved training program. The flightcrew performing under the supervision of a check airman shall have satisfactorily completed the ground school portion of that training program.
Exercise: OpSpec/MSpec/LOA, cont.
Scenario #4: OpSpec B036, cont.

U.S. Department of Transportation
Federal Aviation Administration

Operations Specifications

(4) Prior to entering any airspace requiring the use of a long-range navigation system, the aircraft position shall be accurately fixed using airways navigation facilities or ATC radar. After exiting this airspace, the aircraft position shall be accurately fixed and the long-range navigation system error shall be determined and logged in accordance with the operator's approved procedures.

(5) A long-range navigation system fix may be substituted for a required en route ground facility when that facility is temporarily out of service, provided the approved navigation system has sufficient capability to navigate the aircraft to the degree of accuracy or RNP type required for air traffic control over that portion of the flight.

(6) At dispatch, at least one of the navigation system configurations listed below must be installed and operational:

(a) At least two independent inertial navigation systems (INS).
(b) At least two flight management system/navigation sensor combinations (or equivalent).
(c) At least two independent approved GPS navigation systems acceptable for primary means of Class II navigation in oceanic and remote areas;
(d) Inertial navigation systems that use a mixed position solution (e.g., triple mix) or
(e) At least two approved independent LRNS from the list below:
   • Inertial navigation system.
   • Flight management system/navigation sensor combination (or equivalent).
   • GPS navigation system approved for Class II navigation in oceanic and remote areas.

   d. Operation on routes or in areas where an RNP type is specified. Operations in areas or on routes where an RNP type is specified must be conducted in accordance with the following limitations or provisions:

   (1) At dispatch, one of the navigation system configurations listed in subparagraph c(6) above must be installed, operational and (as listed in subparagraph b) approved for the specified RNP type (or better).

   (2) The certificate holder must ensure that the aircraft navigation system will provide the specified RNP type for the planned flight time in the airspace and, if applicable, that the aircraft will be operated in the RNP area of operation established using the RNP time limit listed in subparagraph b above.

   (3) The ICAO flight plan filed with the Air Traffic Service provider must show that the airplane and operator are approved for the specified RNP (or better).

e. Deviations to RNP requirements. The administrator may authorize a certificate holder to deviate from RNP requirements in subparagraph d for a specific individual flight in airspace where an RNP type is specified if the Air Traffic Service provider determined that the airplane will not interfere with, or impose a burden on other operators. Operations conducted under such authority will be conducted in accordance with the following limitations and provisions:

   (1) If fuel planning is predicated on en route climb to flight levels where RNP is normally required, an appropriate request must be coordinated in advance of the flight with the Air Traffic Service provider.
Exercise: OpSpec/MSpec/LOA, cont.
Scenario #4: OpSpec B036, cont.

U.S. Department of Transportation
Federal Aviation Administration

Operations Specifications

(2) The appropriate information blocks in the ICAO flight plan filed with the Air Traffic Service provider must show that the airplane is not approved for the specified RNP type.

(3) At dispatch, at least one of the navigation system configurations listed in subparagraph c (6) above must be installed and operational.

1. Issued by the Federal Aviation Administration.
2. Support information reference:
3. These Operations Specifications are approved by direction of the Administrator.

4. Date Approval is effective: [Redacted]
Amendment Number: 14
5. I hereby accept and receive the Operations Specifications in this paragraph.

Date: [Redacted]

Print Date: 5/3/2011  B036-3  Certificate No. [Redacted]
Exercise: OpSpec/MSpec/LOA, cont.
Scenario #4: OpSpec B050

**Authorized Areas of En Route Operations, Limitations, and Provisions**

**U.S. Department of Transportation**
**Federal Aviation Administration**

**HQ Control:** 09/12/1997
**HQ Revision:** 020

a. The certificate holder is authorized to conduct en route operations in the areas of en route operation specified in this paragraph. The certificate holder shall conduct all en route operations in accordance with the provisions of the paragraphs referenced for each area of en route operation. The certificate holder shall not conduct any en route operation under these operations specifications unless those operations are conducted within the areas of en route operation authorized by this paragraph.

<table>
<thead>
<tr>
<th>Authorized Areas of En Route Operation</th>
<th>Reference Paragraphs</th>
<th>Note Reference #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bermuda - Island of Bermuda</td>
<td>B031, B032, B036, B045, B046, B054</td>
<td></td>
</tr>
<tr>
<td>Canada</td>
<td>B031, B032, B046</td>
<td></td>
</tr>
<tr>
<td>Caribbean Islands</td>
<td>B031, B032, B034, B046</td>
<td></td>
</tr>
<tr>
<td>Central America</td>
<td>B031, B032, B034, B036, B046, B054, B450</td>
<td></td>
</tr>
<tr>
<td>Mexico</td>
<td>B031, B450</td>
<td></td>
</tr>
<tr>
<td>Mexico - Gulf of Mexico</td>
<td>B031, B450</td>
<td></td>
</tr>
<tr>
<td>South America</td>
<td>B031, B032, B034, B036, B046, B054, B450</td>
<td></td>
</tr>
<tr>
<td>USA - The 48 contiguous United States and the District of Columbia</td>
<td>B031, B032, B034, B035, B046</td>
<td></td>
</tr>
<tr>
<td>USA - The State of Alaska</td>
<td>B031, B032, B034, B035, B046</td>
<td></td>
</tr>
</tbody>
</table>

b. The certificate holder shall conduct all en route operations in accordance with the following limitations, provisions, and special requirements referenced numerically for each area of en route operation listed in subparagraph a. above.

<table>
<thead>
<tr>
<th>Note Reference #</th>
<th>Limitations Provisions and Special Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Print Date:** 11/19/2009

**Certificate No:** B050-1
Exercise: OpSpec/MSpec/LOA, cont.
Scenario #4: OpSpec B050, cont.

1. Issued by the Federal Aviation Administration.
2. Support information reference:
3. These Operations Specifications are approved by direction of the Administrator.

4. Date Approval is effective:  
Amendment Number: 13

5. I hereby accept and receive the Operations Specifications in this paragraph.

Date:  

Print Date: 11/19/2009  
B050-2  
Certificate No.
Review

- OpSpecs for each SAO
- Key components of the OpSpec(s) for each SAO
- Common OpSpecs Errors
- Letters of Authorization (LOAs)
- Equipment specified for an OpSpec/MSpec/LOA

Objectives

- Identify the OpsSpec(s) for each SAO
- Identify the key components of the OpSpec(s) for each SAO
- Identify the common errors in the OpSpec(s) for each SAO

Objectives, cont.

- Identify the SAOs which require an LOA
- Identify equipment to be specified in an OpSpec/MSpec/LOA
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