

NOTICE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

N 8900.28

National Policy

Effective Date:
1/15/08

Cancellation Date:
1/15/09

SUBJ: Special Area Navigation (RNAV) Visual Flight Procedures

- 1. Purpose of This Notice.** This notice provides guidance and standardization for the development and administration of special area navigation (RNAV) visual flight procedures (RVFP). Specifically, these criteria are designed to allow a lead operator, in cooperation with a local Air Traffic Control (ATC) facility, to develop RVFP.
- 2. Audience.** The primary audience for this notice is Certificate Management Office (CMO) and Flight Standards District Office (FSDO) aviation safety inspectors, who have certificate management oversight responsibilities of Part 121 and 135 operators.
- 3. Where You Can Find This Notice.** Inspectors can access this notice through the Flight Standards Information Management System (FSIMS) at <http://fsims.avs.faa.gov>. Operators may find this information on the Federal Aviation Administration's (FAA) Web site at <http://fsims.faa.gov/>.
- 4. Background.** Flight Operational Quality Assurance (FOQA) and Aviation Safety Action Program (ASAP) reports indicate flight crews at certain locations sometimes exceed normal flight profiles by descending at excessive rates, resulting in unstabilized approaches. A large percentage of these reports come from flight crews transitioning to and conducting visual approaches to runways not served by vertically guided approach procedures. However, this situation can also exist at airports with vertically guided approaches when ATC is conducting visual approach operations, which require altitude restrictions that interfere with the flight crews' ability to establish a stabilized approach. Many of the aircraft involved in such operations are equipped with RNAV systems capable of being programmed to provide lateral, vertical, and airspeed guidance/reference. Procedures such as RVFP, which capitalize on the capabilities of these RNAV systems, are beneficial in that they may reduce air traffic communications, promote flight path repeatability, and enhance safety. The design and implementation of RVFP differ from that of Charted Visual Flight Procedures (CVFP) in a number of regards. First, RVFP developed under this guidance are for use only by pilots of aircraft equipped with Instrument Flight Rules (IFR)-approved RNAV systems. Second, these procedures are not "public" in nature and are approved via a process similar to that of "special" instrument approach procedures (IAPs), although RVFP are not "special IAPs" by definition. Third, RVFP are designed by a lead operator, with additional acceptance and oversight by the FAA Flight Standards Service.

5. Definitions. The following terms are defined for the purposes of this notice.

a. Operator. A commercial operator, who holds a certificate issued in accordance with 14 CFR part 121 or 135.

b. Lead Operator. An operator, who acts as a proponent for the development, coordination, and implementation of RVFP.

c. RNAV Visual Flight Procedure. A procedure that capitalizes on RNAV system technology to promote stabilized visual approaches to a designated runway.

d. Accepted Procedure. An RVFP developed and agreed upon by the lead operator and respective ATC facility.

6. Applicability. Inspectors will provide these criteria to operators for the development, processing, and operation of RVFP.

7. Related Publications. A list of related publications follows.

a. Advisory Circular (AC) 20-129, Airworthiness Approval of Vertical Navigation (VNAV) Systems for use in the U.S. National Airspace System (NAS) and Alaska.

b. AC 20-130A, Airworthiness Approval of Navigation or Flight Management Systems Integrating Multiple Navigation Sensors.

c. AC 25-15, Approval of Flight Management Systems in Transport Category Airplanes.

d. AC 90-97, Use of Barometric Vertical Navigation (VNAV) for Instrument Approach Operations Using Decision Altitude.

e. AC 90-100A, U.S. Terminal and En Route Area Navigation (RNAV) Operations.

f. Order 1050.1E, Policies and Procedures for Considering Environmental Impacts.

g. Order 7100.9D, Standard Terminal Arrival (STAR).

h. Order 7110.79D, Charted Visual Flight Procedures (CVFP).

i. Order 7400.2E, Procedures for Handling Airspace Matters.

j. Order 8260.3B, United States Standard for Terminal Instrument Procedures (TERPS).

k. Order 8260.19C, Flight Procedures and Airspace.

l. Order 8260.43A, Flight Procedures Management Program.

m. Order 7110.65, Air Traffic Control.

8. Development and Publication Instructions.

a. Design Considerations.

(1) Prior to designing an RVFP, consider the potential application of other type procedures designed in accordance with current or draft FAA criteria. Also, consider anticipated safety benefits and participation levels during the development of RVFP.

(2) Design RVFP with one or more RNAV segment(s) to emulate existing visual approach flight paths. These procedures should include all normal operational and/or desired altitude and speed restrictions. Proper coordination between representatives of a lead operator, a local ATC facility, and the FAA Flight Standards Service will ensure procedural design requirements are satisfied. It is the responsibility of the lead operator to ensure procedure coding accurately defines the desired flight paths, altitudes, and speed restrictions. Use of a design tool, such as Terminal Area Route Generation Evaluation and Traffic Simulation (TARGETS), is recommended in the design process.

(3) Descent Gradients, Turn Angles, and Vertical Guidance. The lead operator will determine descent gradients and turn angles with concurrence of the ATC facility. Adhere to current or draft FAA RNAV design criteria, where practicable. A runway to which an RVFP is published should be served by a visual or electronic vertical guidance system, for example, a Visual Approach Slope Indicator (VASI) or Instrument Landing System (ILS). The vertical path provided in the final segment of the RVFP must be coincident or steeper than either the guidance provided by the visual or electronic systems.

b. RNAV Equipment Requirements and Procedure Flyability. Only RNAV systems compliant with the specifications of AC 90-100A, U.S. Terminal and En Route Area Navigation (RNAV) Operations, using Distance Measuring Equipment (DME)/DME/Inertial Reference Unit (IRU) and/or Global Positioning System (GPS) sensor inputs, may be used for guidance on RVFP. It is the operator's responsibility to determine to the satisfaction of the respective principal operations inspector (POI) and ATC facility that all the maneuvers required to emulate desired flight paths (lateral and vertical) are flyable with the intended equipment. Simulators should be used to validate the procedure design.

c. Weather Requirements. The ceiling and visibility values required to conduct these procedures must equal or exceed the requirements for visual approach operations, as determined by ATC standards (reference Order 7110.65, Section 7-4) and any local ATC facility policies. In addition, the required visibility must be equal to or exceed the straight-line distance from the initial procedure waypoint and the airport environment.

d. Flight Inspection. As the procedures emulate existing visual approach paths and are conducted in visual meteorological conditions (VMC), flight inspection is not required.

e. Naming Convention. So that RVFP are not confused with other current procedures or criteria, the naming convention is based on the type of procedure and runway served e.g., "RNAV VISUAL RWY 29". The name of each procedure as displayed by different avionics systems may vary but should not conflict with other RNAV procedures to the same runway end.

f. Charting. Each operator is responsible for providing a graphical depiction of the procedure to its pilots. See Appendix A for charting requirements.

9. Processing and Operational Acceptance. Use one of the following processes, as applicable, for procedure development and operational acceptance. Operators must have authorization to operate on U.S. RNAV Standard Terminal Arrivals (STAR), in accordance with AC 90-100A and applicable operations specifications, in order to conduct RVFP operations.

a. Process for the Lead Operator.

(1) The lead operator will contact the respective ATC facility for initial acceptance and POI for initial concurrence with the prospective RVFP.

(2) When the lead operator has finalized the RVFP design and it is accepted by the local ATC facility and POI, the ATC facility manager will provide written acceptance of the proposed procedure to the respective Flight Standards Region All Weather Operations Program Manager (AWO), the Air Traffic Service Area office for terminal operations, and lead operator. The lead operator, with the assistance of the regional AWO and the Air Traffic Organization (ATO) RNAV and Required Navigation Performance (RNP) group, will assess the available DME infrastructure to support all segments of the procedure via use of RNAV-Pro. Procedures that do not have the necessary infrastructure to support DME/DME/IRU operations will be charted as “GPS required”. The lead operator will document the RVFP procedure on FAA Form 8260-7 with an amended title of *RNAV Visual*.

(3) The lead operator will submit the procedure package to the regional AWO via the respective POI. The procedure package will include the ATC facility manager’s written acceptance of the procedure, completed FAA Form 8260-7, TARGETS documentation if applicable, a prototype chart, and a statement of the POI’s initial concurrence. The regional AWO will forward the procedure package with any comments to Flight Standards Service, Flight Technologies and Procedures Division, AFS-400, for final review at a Procedures Review Board (PRB).

(4) If the procedure package is approved at the PRB, any special aircraft, operational, and/or training requirements will be documented on FAA Form 8260-10 by AFS-470, Performance Based Flight Systems Branch. AFS-400 will then forward the procedure package with any associated 8260-10 forms to the regional AWO. The regional AWO will coordinate with the respective POI and lead operator upon receipt of the approved procedure package, including any associated 8260-10 forms.

(a) The operator will ensure aircraft equipage, operating procedures, and training are in place as applicable and required.

(b) If satisfied with the operator’s equipage, procedures, and training, the POI will issue final approval with the procedure to the lead operator in writing.

(c) The operator will forward final versions of the procedure chart, when available, to the respective ATC facility and AWO.

(5) If the procedure package is disapproved, AFS-400 will either request changes to the procedure or return the procedure package to the lead operator via the regional AWO and respective POI.

Note: Significant changes to the design of an approved RVFP will require review via the process outline in paragraph 9.a.

b. Approval Process for Other than the Lead Operator.

(1) Submit request to use the accepted procedure to the regional AWO via the respective POI.

(2) The regional AWO will provide to the operator, via the POI, all applicable procedure documentation.

(3) The operator will ensure aircraft equipage, operating procedures, and training are in place as applicable and required.

(4) If satisfied with the operator's equipage, procedures, and training, the POI will issue final concurrence with the procedure to the operator in writing.

10. ATC Use of RVFP. ATC may use RVFP only when visual approaches are in use, at the discretion of the local facility, and upon request by participating flight crews. ATC may suspend RVFP operations at any time. Appendix B contains example phraseology and procedures for use with RVFP.

11. Roles and Responsibilities.

a. Operator and Pilot.

(1) Pilots must be adequately trained on the procedure. This training must include RVFP phraseology, procedures, and requirements specified on any associated 8260-10 forms.

(2) The RVFP must be coded in the aircraft RNAV system database and retrievable by name (i.e., line-selectable). Pilots are not authorized to build these procedures manually.

(3) Pilots planning to execute an RVFP must request the procedure from the controlling agency on initial contact.

(4) Pilots must report the airport or preceding traffic in sight in order to be cleared for an RVFP.

(5) Pilots cleared for an RVFP must fly the published route and, unless otherwise cleared by ATC, comply with charted mandatory altitudes and speeds.

(6) During operation on the procedure, pilots must comply with the visibility, cloud clearance, and all other requirements of a visual approach clearance. By accepting an RVFP clearance, pilots also accept the responsibilities associated with a visual approach clearance.

b. Local ATC.

(1) Controllers must be trained on these procedures. This training must include the following subjects.

(a) RVFP phraseology.

(b) Intervention policies and procedures.

(c) Actions to be taken if a pilot has not reported the airport or preceding traffic in sight by the beginning of the procedure.

(2) The controlling facility must radar monitor, as defined in the Pilot/Controller glossary, aircraft operating on any portion of an RVFP.

ORIGINAL SIGNED by

James J. Ballough
Director, Flight Standards Service

Appendix A. Charting Requirements for RVFP

1. The procedure must be charted and available to pilots using the procedure. The following items must be included on the chart:

- a. Procedure name, for example, *RNAV Visual RWY 29*.
- b. A note describing procedure naming in the aircraft RNAV system.
- c. A note: “RADAR REQUIRED.”
- d. Either of the following notes: “DME/DME/IRU or GPS required” or “GPS required.”
- e. A depiction of segments to be flown as dashed lines. Other waypoints commonly used by ATC during RVFP operations but not part of the actual procedure may be charted to aid pilot awareness.
- f. For procedures with radius-to-fix (RF) path terminators, a note: “RF Required” (either for the whole procedure or individual portions, as appropriate).
- g. Weather requirements for the procedure in terms of ceiling and visibility.
- h. All altitude and speed restrictions.
- i. A statement that pilots planning to execute an RVFP must request the procedure from the controlling agency on initial contact.
- j. A statement to advise ATC as soon as possible that the airport or preceding traffic is in sight.

2. Charts should adhere as closely as possible to standard charting conventions but may be tailored as necessary to meet user needs.

Appendix B. Example Phraseology and Procedures Notional Scenario for a Pilot Requesting RNAV Visual Runway 29 at Newark Liberty International Airport (EWR)

Aircraft is arriving from northwest of EWR.

Pilot: On initial contact with the final approach control include, "REQUEST RNAV VISUAL RUNWAY TWO NINE."

Approach controller: "EXPECT RNAV VISUAL RUNWAY TWO NINE, REPORT AIRPORT [OR PRECEDING TRAFFIC] IN SIGHT."

Pilot: "AIRPORT IN SIGHT."

Approach controller: "PROCEED DIRECT GIMEE, CROSS GIMEE AT TWO THOUSAND FIVE HUNDRED, CLEARED FOR RNAV VISUAL RUNWAY TWO NINE." Other instructions may be included in this clearance per Air Traffic Control Order 7110.65, Section 7-4.

Pilot executes the GIMEE RVFP in accordance with all charted routes, altitudes, and speeds.