

ORDERU.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

8260.46B

01/02/03

SUBJ: DEPARTURE PROCEDURE (DP) PROGRAM

- 1. PURPOSE.** This order provides guidance and standardization for initiating, processing, developing, and managing the DP program.
- 2. DISTRIBUTION.** This order is distributed in Washington headquarters to the branch level in the Offices of System Safety; Aviation Policy and Plans; Air Traffic Systems Development; Aviation Research; Communications, Navigation, and Surveillance Systems; and Airport Safety and Standards; to Flight Standards, Air Traffic, and Airway Facilities Services; to the Aeronautical Information Services Division (ATA-100); to the National Flight Procedures Office (NFPO) (AVN-100), to the National Aeronautical Charting Organization (NACO) (AVN-500); to the National Airway Systems Engineering and Regulatory Standards Divisions at the Mike Monroney Aeronautical Center; to the branch level in the regional Flight Standards, Air Traffic, Airway Facilities, and Airports Divisions; to all Flight Inspection Field Offices; to the Flight Standards District Offices (FSDO); to all Air Traffic Field Offices and Facilities; to all Airway Facilities Field Offices; special mailing list ZVN-826; and Special Military and Public Addressees.
- 3. BACKGROUND.** The original order combined into a single product textual, IFR departure procedures that were developed by AVN-100 under the guidance of the Flight Standards Service (AFS), and graphical Standard Instrument Departures (SIDs) that were designed and produced under the guidance of the Air Traffic Service (AAT). This combined product introduced the new acronym, Departure Procedures (DP), to the pilot/controller community and the aforementioned terms of "instrument flight rule (IFR) departure procedure" and "SID" were eliminated. The original order also provided for the graphic publication of IFR departure procedures to facilitate pilot understanding of the procedure as well as all area navigation (RNAV) DPs, both those developed solely for obstruction clearance and those developed for system enhancement. Elimination of the term "SID" created undue confusion in both the domestic and international aviation communities. Therefore, in the interest of international harmonization, the FAA will reintroduce the term "SID" while also utilizing the term "Obstacle Departure Procedures (ODP)" to describe certain procedures. Thus, this order will define two separate types of DPs: SIDs and ODPs. This document establishes development, processing, and management policy for the production of all DPs.
- 4. CANCELLATION.** Order 8260.46A, Departure Procedure (DP) Program, dated October 16, 2000, is canceled.
- 5. EFFECTIVE DATE.** March 3, 2003.

Distribution: A-W(SY/PO/UA/AR/ND/AS/FS/AT/AF)-3; ATA-100 (15 Cys); AVN-100 (150 Cys); AVN-500 (25 Cys); AOS-200 (10 Cys); AMA-200 (80 Cys); A-X(FS/AT/AF/AS)-3; A-FFS-4 (ALL); A-FFS-7 (STD);A-FAT-0 (STD); A-FAF-0 (STD); ZVN-826; Special Military and Public Addressees

Initiated By: AFS-420

6. EXPLANATION OF CHANGES.

a. **Paragraph 3.** Background revised to explain the rationale for introducing the term Standard Instrument Departure (SID).

b. **Paragraph 10a.** Expanded to specify what airports are eligible for a DP. Also added requirement for proponents to accomplish terminal instrument procedures (TERPS) diverse departure obstacle assessment.

c. **Paragraph 10b.** Table 1 expanded to provide guidance when obstacles are both 3 statute miles (SM) or less and more than 3 SM from departure end of runway affect the DP.

d. **Paragraph 10c.** SID is defined.

e. **Paragraph 10e(5).** Added point at which radar services are available as a DP termination point.

f. **Paragraph 10f(3).** Clarified charting of "(OBSTACLE)" to indicate when a DP has been developed solely for obstruction clearance.

g. **Paragraph 10g.** Specified initial climb-out terminology.

h. **Paragraph 12a.** Revised to state that new/modified/cancellation requests for SIDs must be submitted through the Regional Airspace and Procedures Team (RAPT). This ensures consonance with Order 8260.43, Flight Procedures Management Program.

i. **Paragraph 15a.** Explained the use of FAA Form 8260.15C.

j. **Appendix 1.** Updated to reflect new terms, abbreviations, and acronyms.

k. **Appendix 2.** Expanded RNAV DP guidelines for clarification.

l. **Appendix 3.** Changed appendix to apply to graphic DPs, type of DP deleted, frequency requirements added, and worksheet updated.

m. **Appendix 5.** Revised FAA 8260-15 series forms and expanded completion instructions for clarification.

n. **Appendix 6.** Added completion instructions for Forms 8260-15B and 8260-15C for RNAV DPs.

7. DEFINITIONS. As used in this order, *shall or must* means compliance is mandatory. Appendix 1 contains a glossary of additional terms, abbreviations, and acronyms used in this order.

8. FORMS AND REPORTS. Appendices 3, 4, 5, and 6 contain requirements data, applicable forms, and associated instructions.

9. RELATED PUBLICATIONS.

a. **Order 1050.1,** Policies and Procedures for Considering Environmental Impacts.

- b. **Order 7100.9**, Standard Terminal Arrival.
- c. **Order 7400.2**, Procedures for Handling Airspace Matters.
- d. **Order 8260.3**, United States Standard for Terminal Instrument Procedures (TERPS).
- e. **Order 8260.19**, Flight Procedures and Airspace.
- f. **Order 8260.26**, Establishing and Scheduling Standard Instrument Procedure Effective Dates.
- g. **Order 8260.40**, Flight Management System (FMS) Instrument Procedure Development.
- h. **Order 8260.43**, Flight Procedures Management Program.
- i. **Order 8260.44**, Civil Utilization of Area Navigation (RNAV) Departure Procedures.
- j. **RTCA DO-187**, Minimum Operational Performance Standards for Airborne Area Navigation Equipment Using Multi-Sensor Inputs.
- K. ARINC Specification 424**, Navigation System Data Base.
- I. IACC No. 4**, Interagency Air Cartographic Committee Chart Specification for Low Altitude Instrument Approach Procedures.
- m. IACC No. 7**, Interagency Air Cartographic Committee Chart Specification for Standard Instrument Departure Charts.
- n. IACC No. 17**, Interagency Air Cartographic Committee Chart Specification for Terminal Procedures Publications.

10. DEPARTURE PROCEDURE GUIDELINES.

a. General. There are two basic types of DPs; those developed to assist pilots in obstruction avoidance, referred to as "Obstacle DP (ODP)," and those developed to communicate air traffic control clearances, referred to as "Standard Instrument Departure (SID)." DPs and/or takeoff minimums must be established for those airports with approved instrument approach procedures. ODPs are developed by the NFPO at locations where they have instrument procedure development responsibility. ODPs may also be required at private airports where the FAA does not have instrument procedure development responsibility. It is the responsibility of non-FAA proponents to ensure a TERPS Diverse Departure obstacle assessment has been accomplished and an ODP developed, where applicable.

b. Obstacle DPs. An ODP must be developed whenever the application of diverse departure criteria to a runway under Order 8260.3 results in a requirement for higher than standard takeoff minimums, a specific departure route to be followed, and/or climb gradient requirements to ensure obstacle clearance.

Table 1. ODP Development Combinations

SITUATION	ACTION
1) TERPS diverse departure obstacle assessment does not identify any obstacle penetrations.	No further action required – standard takeoff minimums apply.
2) TERPS diverse departure obstacle assessment identifies obstacles within the initial climb area (ICA) that require a CG greater than 200 feet/NM to an altitude 200 feet or less above DER (commonly referred to as “low, close-in obstacles”).	<p>Establish a DP that provides the pilot a NOTE identifying the obstacle(s) type, location relative to the DER, height (AGL), and elevation (MSL).</p> <p><i>NOTE: Raising the OIS origin height <u>does not</u> mitigate the requirement for low, close-in obstacle notes.</i></p>
<p>3) TERPS diverse departure obstacle assessment identifies obstacles that require a CG greater than 200 feet/NM to an altitude greater than 200 ft above DER.</p> <p><i>NOTE: Obstacle location may be within or beyond the ICA.</i></p>	<p>A) Obstacle 3 SM or less from DER: Establish a DP that provides the pilot a NOTE identifying the obstacle(s) type, location relative to the DER, height (AGL), and elevation (MSL), and which specifies: 1) a ceiling and visibility to see and avoid the obstacle; and 2) the option of standard takeoff minimums with a minimum CG to a specified altitude. Alternatively, provide a specific textual or graphic route/sector to avoid the obstacle(s). See NOTE below.</p> <p>B) Obstacles greater than 3 SM from DER: Establish a DP for obstacle avoidance that specifies: 1) standard takeoff minimums with a required CG to a specified altitude; and 2) a ceiling and visibility sufficient to allow a visual climb over the airport (VCOA) to an altitude that will provide obstacle clearance. Alternatively, provide a specific textual or graphic departure route/sector to avoid the obstacle(s). See NOTE below.</p> <p>C) Obstacles both 3 SM or less and greater than 3 SM from DER: Establish a DP for obstacle avoidance that specifies a maximum of three combinations of actions A and B above; e.g., 1) standard minimums with an associated climb gradient; and 2) a ceiling and visibility to see and avoid the obstacle within 3 SM and a required climb gradient for obstacles greater than 3 SM (if the obstacle greater than 3 SM from the DER forces the higher CG, this method cannot be used); and a ceiling and visibility sufficient to allow a visual climb over the airport (VCOA) to an altitude that will provide obstacle clearance. Alternatively, provide a specific textual or graphic departure route/sector to avoid the obstacle(s). See NOTE below.</p> <p><i>NOTE: Where a graphic route/sector is published, include on the chart: takeoff minimums, required CGs, and applicable obstacle data for each runway using the DP.</i></p> <p>D) If none of the above actions are feasible, an IFR departure must not be authorized.</p>
4) TERPS diverse departure obstacle assessment identifies obstacles requiring a CG to 200 feet or less above DER and additional obstacles that require a CG to an altitude greater than 200 feet above DER.	Apply a combination of action items from situations 2) and 3).

(1) Establish only one ODP for a Runway. This will be considered the default, or basic, IFR departure procedure for a given runway and is intended for pilot awareness and use in the absence of ATC radar vectors or SID assignment.

(2) Table 1 is included to provide guidance for allowable development combinations relating to specific obstacle situations.

(3) An ODP may be either textually or graphically depicted within the following guidelines.

(a) Textual ODP. A relatively simple ODP may be published textually unless a graphical depiction is required for clarity. Textual ODPs may include a climb gradient when required for obstruction avoidance; but must not include ATC related climb gradients. Textual ODP instructions must not exceed a maximum of one turn, one altitude change, and one climb gradient.

(b) Graphic ODP. Complex ODPs are those that require a visual presentation to clearly communicate the departure instructions and desired flightpaths. If the ODP is depicted graphically, it must be stipulated on Form 8260-15A in the "TEXTUAL DP" section; e.g. "USE JONES DEPARTURE." The decision to graphically publish ODPs rests within the NFPO. When determining if an ODP requires graphical publication, the NFPO must, in addition to the textual DP restrictions noted in paragraph 10b(3)(a), consider:

1. The number of ground-based NAVAIDs and fixes.
2. Whether graphical depiction will enhance pilot comprehension of the procedure.
3. The proximity and effect of precipitous or significant terrain.

(4) ODPs must be developed with primary emphasis given to using the least onerous route (see appendix 1) to the en route structure or at an altitude that will allow IFR flight, while accommodating commonly used routings out of each airport to the maximum extent practicable. ODPs must be coordinated with ATC to ensure flight safety. ATC altitude restrictions and/or climb gradients must not be included in ODP development.

(5) Naming conventions and computer code assignments for graphic ODPs must follow the guidance specified for SIDs in appendix 2 to ensure controller awareness of route flown. Transitions are not permitted on ODPs.

(6) ODPs must be developed using conventional avionics, RNAV, or dead reckoning guidance wherever possible. At those locations where there is only an RNAV approach procedure available, every effort must first be made to develop a DP that accommodates conventional navigation systems; only if this effort fails, should an RNAV ODP be developed.

c. Standard Instrument Departures (SIDs). SIDs are developed to assist in meeting environmental, capacity, and air traffic control requirements. SIDs may be requested by specific ATC facilities, the military services, or other proponents to enhance operations. SIDs also provide protection from obstacles and are depicted graphically; however, they will not

contain the "(OBSTACLE)" designation following the procedure title on the chart, and may not be flown unless approved by ATC.

d. Equipment Requirements. DPs are also categorized by equipment requirements as follows:

(1) Non-RNAV DP. A DP established for aircraft equipped with conventional avionics using ground-based NAVAIDs; e.g., nondirectional beacon (NDB), very high frequency omnidirectional range (VOR), VHF omnidirectional range/tactical air navigation (VORTAC), localizer (LOC), etc. These DPs may also be designed using dead reckoning navigation.

(2) RNAV DP. A DP established for aircraft equipped with RNAV avionics; e.g., global positioning system (GPS), FMS, etc. See appendix 2 for allowable equipment suffixes and other guidance pertinent to RNAV DPs. Automated vertical navigation must not be required.

e. Design Constraints. The following design constraints apply to all DPs:

(1) DPs must not require a turn prior to reaching 400 feet above the departure end of runway (DER) elevation. See TERPS Volume 4, paragraph 1.6.2, when a turn is required within 2 NM of DER.

(2) DPs requiring a climb gradient (CG) in excess of 500 feet/NM, either for obstacle clearance or air traffic control restrictions, need approval from Flight Standards Service. All approval requests will be assessed by the FAA Flight Technologies and Procedures Division, AFS-400, Procedures Review Board (PRB). Consideration for approval will be based on, but not limited to, potential users/aircraft capability of meeting such a CG, and location of the obstruction along the projected flight track that is causing the CG.

NOTE: When Flight Standards Service will not approve a climb gradient (CG) in excess of 500 ft/NM and the obstacle forcing such a CG is 3 SM or less from DER, a ceiling and visibility may be applied to see and avoid the obstruction(s) as the only option available.

(3) Fan markers must not be used as a fix to designate a turning point.

(4) SIDs must be designed to terminate at a fix/NAVAID depicted on an IFR en route chart, at an altitude that will allow random IFR flight, or at a position and altitude where ATC radar service is provided. When a SID is designed to incorporate radar vectors at the termination point, provide a heading for incorporation into the avionics database in the event ATC instructions are not received prior to or at the termination fix.

(5) Textual and graphic ODPs must be designed to terminate at a fix/NAVAID located within the IFR en route structure or at an altitude that will allow random IFR flight.

f. Charting Constraints. The following charting constraints apply to all DPs:

(1) Charting Minimum Altitudes. Graphic DPs must depict minimum altitudes for obstruction clearance; and, where appropriate, any required minimum ATC altitudes. When different obstacle and ATC altitudes are required, document both values. Enter minimum altitudes to be charted on the appropriate 8260-15 series form (see appendix 5 or 6).

(2) Charting Minimum Climb Gradients. Graphic DPs must depict minimum climb gradient(s) that exceed 200 feet/NM, required for either obstruction clearance or ATC purposes. Only one obstacle climb gradient is permitted by TERPS. Multiple ATC climb gradients are permitted. When both ATC and obstacle climb gradients are required, the ATC climb gradient must not be less than that required for obstruction clearance. Enter minimum climb gradients for charting on the appropriate 8260-15 series form (see appendix 5 or 6).

(3) ODPs that are depicted graphically must have the term "(OBSTACLE)" printed on the graphic (see appendix 5 or 6). This will be indicated by marking the obstacle box on Form 8260-15B. U.S. Government charts will include this immediately following the procedure title; e.g., TETON ONE DEPARTURE (OBSTACLE).

(4) Graphic DPs must include applicable takeoff minimums, climb gradients, and controlling obstacle data on the graphic chart, even if redundant to information published textually.

(5) ODPs developed for RNAV use must be published graphically and contain "(OBSTACLE) (RNAV)" after the procedure title. This will be indicated by marking both the obstacle and RNAV boxes on Form 8260-15B.

g. Terminology. The following terminology should be used for initial climb instructions:

(1) When required, departure instructions should specify the actual heading to be flown after takeoff. Example: "Climb via heading 350..." Some existing procedures specify "Climb runway heading." Over time, these procedures will be updated, changing the terminology to specify the actual heading being flown.

(2) If departure instructions require a specific altitude to climb to after takeoff, do not use the terminology "Climb to (altitude) ..." without including a heading to fly. Example: **"Climb via heading 310 to 1500 ..."**

(3) Do not use the terminology "Climb straight ahead..." or "Maintain runway track..." as there is no guidance or reference definition of this phraseology for the pilot to apply.

(4) A departure procedure may require an immediate turn upon reaching 400' above the departure end of runway elevation. In this case, a specified heading may not be required; e.g., "Climbing right turn direct XYZ VOR..."

11. DEPARTURE PROCEDURE LEVELS. Order 8260.44 provides criteria for development of RNAV DPs. Appendix 2 contains specific guidelines for design of RNAV DPs. Appendix 6 contains 8260 series forms completion instructions for RNAV DPs.

12. RESPONSIBILITIES.

a. General. The following guidance outlines procedures for DP requests, processing, and cancellation.

(1) Procedure Requests. SIDs are normally requested by the ATC facility responsible for departure control at the airport where the procedure is proposed, or by another proponent. All requests for new or amended SIDs must be forwarded to the appropriate RAPT under Order 8260.43.

(2) Requirements. ATC must provide the RAPT detailed operational requirements and restrictions for inclusion in the SID design. AVN must make every effort to meet ATC identified operational requirements and constraints using current criteria and policy. When current criteria and policy will not support a design to meet ATC requirements, AVN, AAT, AFS-420, and other interested parties must work together to find an acceptable solution.

(3) Cancellation. All DP cancellations must be coordinated through the RAPT. AVN-100 has sole responsibility for recommending cancellation of ODPs developed under their purview.

b. Proponent. A proponent's request for a DP must include the information in appendices 2 and 3 and must be made/forwarded to the ATC facility providing departure control service to the airport. The DP request package must include the following:

(1) An outline of the type of procedure and expected benefits.

(2) A proposed ground track, including waypoints and altitudes, or assistance in the development of same.

c. ATC. When assisting a proponent or requesting a SID, the ATC facility providing departure control service must:

(1) Evaluate the proponent's request to ascertain preliminary operational feasibility and to determine/verify that significant benefits (see appendix 1) will be derived.

(2) Assist in designing the procedure by providing the proponent with information pertaining to traffic flow and operational constraints; e.g., routes, minimum IFR altitudes, facility/sector lateral and vertical airspace boundaries, special use airspace, etc.

NOTE: When an ATC facility proposes development of an RNAV SID from an airport whose traffic mix is primarily air carrier traffic, it may attempt to obtain a "lead carrier" to ensure flyability and assist in the proposed procedure's suggested design.

(3) Coordinate with other ATC facilities affected by the procedure.

(4) Act as the focal point for all ATC coordination and provide appropriate assistance in resolving any problems identified during the development process.

(5) Contact ATA-300 for assistance/guidance to conduct a noise screening.

NOTE: Notice 7210.360, Noise Screening Criteria for Certain Air Traffic Actions Above 3,000 Feet, has expired; however, noise screening is still required. The requirement will be re-established in a proposed Air Traffic environment order.

(6) Conduct an environmental review under Order 1050.1 for all DPs (SIDs and ODPs) to ensure that the requirements of the National Environmental Policy Act have been met.

NOTE: The following information is extracted from Order 1050.1 "When an FAA action is requested from the public, there may be particular situations such as issuance of various certificates, approval of airline operating specifications or amendments, establishment of new or revised instrument approaches/DPs affecting noise sensitive areas, etc., which will require the FAA to do an environmental assessment. Whenever this situation occurs, FAA action may be delayed unless the applicant or other interested persons furnish assistance in the development of pertinent environmental data."

(7) Coordinate with the servicing ARTCC to obtain a 5-letter pronounceable name for all fixes in the graphic DP. Complete Form 8260-2 data worksheet for each fix being established, modified, or canceled (see appendix 4). Include the worksheet(s) as part of the graphic DP request package. Existing fixes/NAVAIDs should be used where conveniently located.

(8) Complete the DP requirements data worksheet (see appendix 3).

(9) Forward the requested package to the appropriate RAPT (see Order 8260.43). The package must contain worksheets for all fixes, the DP requirements data worksheet, and a sketch of procedures requiring graphic publication (see appendix 5 or 6).

(10) Review SIDs initiated/forwarded by ATC at least biennially for continued need, and make recommendations to the NFPO for improvement to the NAS (see paragraph 12e(8)).

d. The FPO must:

(1) Review the DP package for completeness.

(2) Review DPs for impact by current or proposed Obstacle Evaluation/Airport Airspace Analysis (OE/AAA), Facilities and Equipment, National Change Proposal (NCP), or other applicable projects.

NOTE: The point-of-contact (POC) and telephone number for the ATC facility is listed on the Graphic DP requirements worksheet. The FPO must contact the POC to resolve any problems in developing the requested procedure and provide appropriate alternatives. The POC must be responsible for additional coordination of changes required for development. The FPO should coordinate with the regional Flight Standards All Weather Operations/Program Manager (AWO/PM) for assistance where necessary.

(3) Facilitate discussion of the procedure at the RAPT.

(4) Forward the DP package to the NFPO.

e. The NFPO must:

(1) Develop and process textual ODPs on Form 8260-15A, Takeoff Minimums and Obstacle Departure Procedures, under applicable directives.

(2) Develop and process graphic ODPs and SIDs on Form 8260-15B, Graphic Departure Procedure.

(3) Develop and process a Form 8260-15C, Departure Data Record, for all RNAV DPs.

(4) Ensure that a DME/DME screening model has been run to determine if the procedure is useable by /E, /F, and /R equipped aircraft, prior to submission for flight inspection.

NOTE: The DME/DME assessment process is contained in separate guidance.

(5) Submit DPs to Flight Inspection Operations Division, AVN 200, for necessary action.

(6) Ensure that textual ODPs submitted “concurrent” with a “proposed” SIAP are flight inspected prior to assigning an effective date for the SIAP via .26 messages.

(7) After satisfactory flight inspection, forward the original Form(s) 8260-2, Radio Fix and Holding Data Record, and original 8260-15 series forms to NFDC and AVN-512 with copies to all affected ATC facilities.

(8) Develop, review, track, and cancel NOTAMs relating to ODPs and SIDs.

(9) Review ODPs periodically for continued need, obstacle clearance, and compliance with current criteria and policy; and coordinate proposed changes with the appropriate ATC facility. When application of new criteria or a new obstacle affect an ODP/SID that requires adjustment to an obstacle-driven CG, all DPs must be evaluated to determine if other CGs require adjustment. If CG adjustments are required, they must be updated simultaneously in the same charting cycle.

(10) Standard Instrument Approach Procedure (SIAP) amendments must accompany all original Form 8260-15A(s). The abbreviated form amendment process may be used if applicable.

(11) When it is necessary to cancel a DP, process the appropriate Form 8260-15 as directed in paragraph 15c.

(12) Procedure amendments are not necessary when a DP is canceled; however, update the SIAP 8260 series forms at the next periodic review.

f. The NFDC must:

(1) Conduct a pre-publication review of submitted forms to ensure compatibility with the National Airspace System Resources, National Database, and compliance with applicable directives relative to form entries.

(2) Assign an effective date and publish textual ODPs in the transmittal letter (TL) authorizing charting agencies to publish the procedure.

(3) Assign an effective date and publish graphic DPs, and associated fixes, in the daily National Flight Data Digest (NFDD) authorizing charting agencies to publish the procedure.

(4) **Monitor and track the status** of concurrent instrument approach procedure (IAP) packages to ensure that the entire package is published with the same effective date.

(5) **Notify the NFPO of delays in publication** if the associated proposed procedures have not been flight checked or the associated docket has not received a final date by the applicable cutoff.

(6) **Resolve data conflicts**, form discrepancies, etc., with the NFPO.

(7) **Review and track FDC NOTAMs** relating to textual ODPs.

(8) **File and maintain the original** signed copy of the forms.

13. ACCURACY VERIFICATION AND RESPONSIBILITIES. Any ATC facility, DOD, proponent, charting agency, procedure user, concerned individual, organization, or office should:

a. **Notify the NFPO** of published errors (including omissions) that affect safety of flight by the fastest means available. The NFPO must take appropriate NOTAM action under Order 8260.19.

b. **Notify the NFDC** whenever pre-publication errors are discovered in the TL or NFDD. NFDC should also be notified of charting errors in published aeronautical products; the NFDC will take appropriate corrective action in concert with the NFPO.

14. MILITARY DEPARTURE PROCEDURES.

a. **Military DPs** are not handled or published in the same manner as civil DPs. Approval authority for DPs at military airports rests with the military. The FAA develops U.S. Army DPs under Order 8260.15, U.S. Army Terminal Instrument Procedures Service. The FAA develops U.S. Air Force DPs at domestic civil airports under Order 8260.32, U.S. Air Force Terminal Instrument Procedures Service. The National Imagery and Mapping Agency (NIMA) publish all military DPs.

NOTE: Military DPs must be named and numbered in accordance with the criteria outlined in this order.

b. **The FAA requires that all military DPs** be coordinated with FAA ATC facilities or regions when such DPs affect the NAS. The applicable ARTCC or regional Air Traffic Divisions must assist the military in coordinating the procedures and in obtaining computer codes to ensure that the procedures are properly interfaced with the NAS. U.S. Air Force and Navy procedures are NOT sent to NFDC.

c. **When military DPs** affect airspace under the jurisdiction of FAA facilities, those affected ATC facilities/ARTCCs must maintain copies of the applicable military or FAA 8260-series forms.

d. **When a military DP** has a climb gradient established to clear obstruction(s) that uses the "DOD Option" provision (see TERPS Volume 4, paragraph 1.4), the procedure must be annotated "NOT FOR CIVIL USE."

15. FAA 8260-15 SERIES FORMS (see appendices 5 and 6).

a. The 8260-15 series forms document and facilitate transmittal of nonstandard takeoff minimums and/or departure procedures. These forms will be the basis for charting agencies to publish non-standard takeoff minimums, departure procedures, and/or to add/delete charting icons used to denote that other than standard takeoff minimums and/or specific obstacle departure procedures are published.

(1) Use Form 8260-15A.

(a) To document nonstandard takeoff minimums and/or higher than standard climb gradients for a runway.

(b) To document textual ODPs.

(c) To document that the ODP for a runway is published graphically.

(d) To document other pertinent textual data for publication; e.g., obstacle data notes, visual climb over airport (VCOA) data, etc.

(2) Use Form 8260-15B.

(a) To document graphically depicted complex obstacle ODPs and SIDs.

(b) To deny lower than standard takeoff minimums. When touchdown and rollout runway visual range (RVR) are available on runways with centerline lights and either RVR is installed on a baseline GREATER than 250 feet, deny takeoff minimums lower than RVR 1200 by adding the following standard NOTE on Form 8260-15:

"RWY 27R, Air Carrier reduction below RVR 1200 NA.

(c) To document other pertinent procedural data; e.g., fixes, NAVAIDs, routes, altitudes, etc. required for charting database development on RNAV DPs.

(3) Use Form 8260-15C to document RNAV DPs in a manner consistent with and which aids in charting and database coding. Specifically use 8260-15C to document:

(a) The RNAV route of flight in terms of a series of segments defined by fix name, positions, waypoint type, leg types, course, and distance.

(b) Altitude and airspeed restrictions associated with fixes.

b. Administratively process the 8260-15 series forms as specified in Order 8260.19, chapter 8.

c. Cancellation of Form 8260-15(s). Cancel specific takeoff minimums for an airport or cancel any textual or graphical DP(s) no longer required, as follows:

(1) Enter the current information from the bottom line of page 1 of the affected form(s) into the corresponding blocks on blank Forms 8260-15A and/or B.

(2) Enter/Overprint "Canceled effective (desired cancellation date or routine)" or "Canceled concurrent with _____" on the Forms 8260-15A and/or B (a stamp may be used for this purpose).

(3) Explain the desired cancellation date beneath the entry in paragraph 15c(2), if other than routine.

d. Government charting agencies will add the "T" symbol to the instrument approach procedure (IAP) charts, based on an original Form 8260-15A.

e. Government charting agencies will delete the "T" symbol from the IAP charts based on Form 8260-15A cancellation(s).

16. INFORMATION UPDATE. For your convenience, FAA Form 1320-19, Directive Feedback Information, is included at the end of this order to note any deficiencies found, clarifications needed, or suggested improvements regarding the contents of this order. When forwarding your comments to the originating office for consideration, please provide a complete explanation of why the suggested change is necessary

James J. Ballough
Director, Flight Standards
Service

APPENDIX 1. ABBREVIATIONS, TERMS, AND DEFINITIONS

Approach End of Runway (AER).

Air Route Traffic Control Center (ARTCC).

Air Traffic Control (ATC).

Climb Gradient (CG). A climb requirement expressed in ft/NM (gradient greater than 200 ft/NM).

Controller Chart. An aeronautical chart developed for internal air traffic controller reference in specific ATC facilities. These charts may also be used to design instrument procedures to support ATC operations.

Departure End of Runway (DER). The end of the runway that is opposite the landing threshold. It is sometimes referred to as the stop end of the runway.

Department of Defense (DOD).

Departure Procedure (DP). A preplanned instrument flight rule (IFR) departure procedure published for pilot use, in graphic or textual format, that provides obstruction clearance from the terminal area to the en route structure. There are two types of DP - Obstacle Departure Procedures (ODP) printed either textually or graphically, and Standard Instrument Departures (SID) which is always printed graphically.

Electronic Transmission. Transmittal via electronic mail (e-mail) or facsimile (FAX).

Fix. A generic term used to define a predetermined geographical position used for route definition. A fix may be a ground-based NAVAID, a waypoint, or defined by reference to one or more radio NAVAIDs.

Fly-By Waypoint. A fly-by waypoint requires the use of turn anticipation to avoid overshoot of the next flight segment.

Fly-Over Waypoint. A fly-over waypoint precludes any turn until the waypoint is overflown and is followed either by an intercept maneuver of the next flight segment or direct flight to the next waypoint.

Flight Procedures Office (FPO). An element of the National Flight Procedures Office, AVN-100, geographically located at each FAA regional headquarters.

Initial Climb Area (ICA). An area beginning at the departure end of runway (DER) to provide unrestricted climb to at least 400 feet above DER elevation.

Lead Carrier. An air carrier or operator that has agreed to serve as the focal point for the development of DPs at a specific airport. The lead carrier agrees to help develop the DP and ensure flyability by all RNAV-equipped aircraft expected to use the DP.

Least Onerous Route. The obstacle DP route established over terrain or other obstacles which result in the lowest possible climb gradient for that runway.

Navigational Aid (NAVAID). See Aeronautical Information Manual (AIM). Any visual or electronics device airborne or on the surface which provides point-to-point guidance information or position data to aircraft in flight.

National Flight Data Center (NFDC), ATA-110. The FAA office responsible for the collection, validation, and dissemination of all aeronautical information relating to the NAS.

National Flight Data Digest (NFDD). A daily publication, prepared by the NFDC to promulgate non-regulatory changes to the NAS.

National Flight Procedures Office (NFPO), AVN-100. The FAA office responsible for the development, maintenance, quality control, technical approval, and cancellation of public use instrument procedures.

Non-RNAV DP. A DP whose ground track is based on ground-based NAVAIDs and/or dead reckoning navigation.

Obstacle Departure Procedure (ODP). A preplanned instrument flight rule (IFR) departure procedure printed for pilot use in textual or graphic form to provide obstruction clearance via the least onerous route from the terminal area to the appropriate en route structure. ODPs provide obstruction clearance and may be flown without ATC clearance unless an alternate departure procedure (SID or radar vector) has been specifically assigned by ATC.

Obstacle Identification Surface (OIS).

Proponent. The originator of a DP requirement. This may include an individual user group, ATC, NFPO, or other appropriate government agency.

Regional Airspace and Procedures Team (RAPT). A team established at each FAA Region for the purpose of coordinating and processing requests for new or modified flight procedures and related airspace matters (see Order 8260.43).

Area Navigation (RNAV). A system of enhanced navigational capability that can compute aircraft position, actual track and ground speed, and then provide meaningful information relative to the route of flight selected by the pilot.

RNAV DP. A DP developed for RNAV-equipped aircraft whose ground track is based on satellite or DME/DME navigation systems.

Required Navigation Performance (RNP). A statement of the navigational performance accuracy necessary for operation within defined airspace. See the AIM for current definition.

Runway Heading. The magnetic direction that corresponds with the runway centerline extended, not the painted runway numbers on the runway. Pilots cleared to "fly or maintain runway heading" are expected to fly or maintain the heading that corresponds with the extended centerline of the departure runway (until otherwise instructed by ATC), and are not to apply drift correction; e.g., RWY 4, actual magnetic heading of the runway centerline 044°, fly 044°.

Standard Instrument Departure (SID). A preplanned IFR ATC departure procedure printed in graphic form for pilot/controller use to provide obstacle clearance and a transition from the terminal area to the appropriate en route structure. SIDs are primarily designed for system enhancement to expedite traffic flow and to reduce pilot/controller workload. ATC clearance must be received prior to flying a SID.

SID Transition. A published segment used to connect the basic SID to one or several en route airways/jet routes.

Significant Benefits. Tangible or intangible advantages resulting from the implementation of a DP such as fuel savings from reduced flight tracks and time, reduced inter-/intra-facility coordination, reduced communications between ATC and pilots, increased flexibility of airspace management and sectorization due to more predictable ground tracks, or other similar benefits to users or providers.

Terminal Area Route Generation Evaluation and Traffic Simulation (TARGETS). An air traffic tool for RNAV DP design.

TERPS. Order 8260.3, United States Standard for Terminal Instrument Procedures.

Transmittal Letter (TL). A biweekly publication, prepared by the NFDC, used as the medium to promulgate instrument approach procedures and textual ODPs and their effective dates for publication.

Visual Climb over the Airport (VCOA). Option to allow an aircraft to climb over the airport with visual reference to obstacles to attain a suitable altitude from which to proceed with an IFR departure.

Waypoint (WP). A predetermined geographical position used for route definition and/or progress reporting purposes defined by latitude/longitude and may include elevation.

APPENDIX 2. GUIDELINES FOR THE DESIGN OF GRAPHIC INSTRUMENT DEPARTURE PROCEDURES (DPs)

1. GENERAL.

a. **Safety is a primary concern** and DPs must be designed so that they provide obstacle clearance, least onerous routing (where possible), and can be confidently and consistently flown by all aircraft expected to use the procedure.

b. **A SID should provide** for a significant user/system benefit.

c. **A SID should reduce** pilot/controller communications and workload.

d. **A DP should be** relatively simple and easily understood.

e. **A DP should use** only the minimum number of fixes, turns, or altitude changes necessary to depict the route.

f. **A DP must be developed** to accommodate as many different types of aircraft as possible.

g. **A SID must be designed** to terminate at a fix/NAVAID depicted on an IFR en route chart, at an altitude that will allow random IFR flight, or at a position where ATC radar service is provided.

h. **Textual and graphic ODPs** must be designed to terminate at a fix/NAVAID located within the IFR en route structure or at an altitude that will allow random IFR flight.

i. **DPs should not contain** more than one airspeed restriction.

j. **A DP should avoid the use** of distance measuring equipment (DME) arcs.

k. **Speed.**

(1) **Avoid Speed Restrictions Whenever Possible.** Specify aircraft speed restrictions and/or ambient wind conditions only when necessary to achieve an operational advantage. Annotate the DP accordingly; e.g., "Do not exceed 200 KIAS until passing ALPHA WP" or "DP NA when tailwind component exceeds 10 kts." Speed restrictions should be limited to one restriction per specific DP route.

(2) **The AVN-100 procedure specialist** may recommend or impose a speed restriction to ensure obstacle clearance or airspace efficiency during turns. Refer to applicable DP criteria directives.

l. **Altitude.**

(1) **Keep Altitude Restrictions to a Minimum.**

(2) **Avoid "at" and "at-or-below" altitudes** whenever possible.

(3) Procedure designers should use good judgement and common sense, coupled with operational input where available, to restrict procedural altitudes due to precipitous terrain.

m. Climb Gradient (CG). DPs are designed assuming a minimum standard CG of 200 feet per nautical mile (feet/NM) to ensure required obstacle clearance is achieved. Higher CGs must be published when required for obstruction clearance and ATC altitude requirements.

2. NAMING OF DPs (see pages 5, 6, and 7 for examples).

a. Textual ODPs are not named, while all graphic ODPs and SIDs must be named as described in this section.

b. SIDs designed using radar vectors as the primary navigation source are normally named to correspond with the terminal control facility name. For example, the SID from Tampa International Airport is named the TAMPA THREE; the SID from Greater Cincinnati Airport is named the CINCINNATI EIGHT. If the terminal control facility name is already in use, use a fix, city, airport, or geographical area name in that order.

c. DPs designed using conventional or RNAV guidance must be named to correspond with the en route fix/NAVAID name where the basic DP ends. For example, a DP from Altoona-Blair County Airport that ends at the TATES fix is named the TATES TWO. If the DP is an RNAV procedure, the "(RNAV)" must be included in the name; for example, TATES TWO (RNAV).

d. If two or more DPs end at the same fix/NAVAID, the second and subsequent procedures must be named for the city, airport, or geographical area in that order. For example, a SID from Greater Cincinnati Airport that ends at the REDSS fix is named the REDSS FOUR. A SID from Cincinnati-Lunken Airport that also ends at the REDSS fix is called the LUNKEN SEVEN.

e. Number Each Original DP "ONE." Number subsequent revisions in numerical sequence through NINE and then start over with ONE. Renumber ODPs/SIDs whenever a revised FAA 8260-series form is required.

3. TRANSITION NAMING. DP transition names must always correspond with the fix/NAVAID where the transition ends. For example, the FORT LAUDERDALE SEVEN DEPARTURE termination fix is the Fort Lauderdale VORTAC (FLL) and it has a transition to the ZAPPA intersection; the transition name is ZAPPA. The REDSS FOUR DEPARTURE terminates at the REDSS fix and it has a transition to the Johnstown VORTAC (JTS); the transition name is JOHNSTOWN.

4. COMPUTER CODES (see pages 5, 6, and 7 for examples).

a. Textual ODPs will not receive a computer code, while all graphic DPs must receive a computer code as described in this section.

b. Basic Instrument Departure Procedure. Computer codes are assigned to graphic DPs (including radar vector DPs) by using the abbreviated name of the DP; e.g., a NAVAID **3-letter** identifier, a **5-letter** fix name, or other **5-letter** code, followed by the current DP number, then a dot, followed by the fix/NAVAID identifier where the basic DP ends. For example, the CINCINNATI EIGHT DEPARTURE in paragraph 2a is coded “CVG8.CVG;” the FORT LAUDERDALE SEVEN DEPARTURE in paragraph 3 is coded “FLL7.FLL;” and the “TATES TWO DEPARTURE in paragraph 2c is coded “TATES2.TATES.”

c. SID Transition. SID transition computer codes are assigned by using the basic SID identifier and number as noted in paragraph 4b, followed by a dot, followed by the identifier of the en route fix where the transition ends. Using the Fort Lauderdale example in paragraph 3, the ZAPPA transition is coded “FLL7.ZAPPA.” Using the REDSS example, the Johnstown transition is coded “REDSS4.JTS.”

5. RNAV DPs. The following general criteria and guidelines apply only to DPs designed for exclusive use by certain RNAV-equipped aircraft. See Order 8260.44 for specific guidance and criteria.

a. Waypoints. Specify all waypoints as either fly-by or fly-over.

(1) **Use fly-by waypoints** whenever possible.

(2) **Use fly-over waypoints** only when operationally necessary or for obstacle clearance.

(3) **Design procedures** using the fewest number of waypoints.

b. Leg Types. The following table shows permissible leg types for use with RNAV DPs. See Order 8260.44 for leg type definitions and examples.

FROM	VIA (leg type)	TO
AER	VA ¹	ALT
AER	VM ⁶	HDG
ALT	CF ² , DF ³	FB/FO
AER	CF ² , DF ³	FB/FO
FB	TF ⁴	FB/FO
FO	DF ³ , TF ⁴	FB/FO
IF ⁴	DF ³ , TF ⁴	FB/FO
FO	VM ⁶	HDG

1. VA (Heading-to-an-altitude) may only be used as the first leg of a departure and must be followed by either a CF or DF leg.

2. CF (Course-to-fix) may only be used as the first leg of a departure or as the leg following a departure VA leg.

3. DF (Direct-to-fix) may be used as the first leg of a departure, the leg following a departure VA leg, and for any leg thereafter preceded by a FO WP only.

4. TF (Track-to-fix) is not used as the first leg of a departure. TF is the preferred leg after the first leg of a departure.

5. IF (initial fix) is used to designate the first fix of a departure transition, i.e., the IF is coincident with the basic DP termination fix.

6. VM legs are only to be used when positive ATC radar control is available.

(NOTE: AER - approach end of runway, ALT - altitude, FB/FO – fly-by fix/fly-over fix.)

c. Leg Length.

(1) **Use the Longest Legs possible.** The designer must consider speed and course changes when determining minimum leg length. See Order 8260.44 for specific minima.

(2) **There is no maximum leg length** for straight-line paths. Exception: Do not develop leg lengths in the en route environment exceeding 260 miles to ensure the geodesic path does not exceed the protected airspace for a great circle path.

d. Levels of Criteria. Order 8260.44 contains two levels of criteria, Level 1 and Level 2, corresponding to two levels of aircraft performance. Use of the various levels is described below.

(1) **Level 2 criteria** are the standard for RNAV DP development and correspond to an en route level of aircraft performance. The following RNAV aircraft equipment suffixes from the AIM are capable of Level 2 departure procedures:

(a) /E - Dual Flight Management System (FMS) equipped aircraft.

(b) /F - Single Flight Management System (FMS) equipped aircraft w/o a moving map display.

(c) /G - GPS equipped aircraft.

(d) /R (RNP 2.0) - aircraft approved for Required Navigation Performance operations of RNP 2.0 or less.

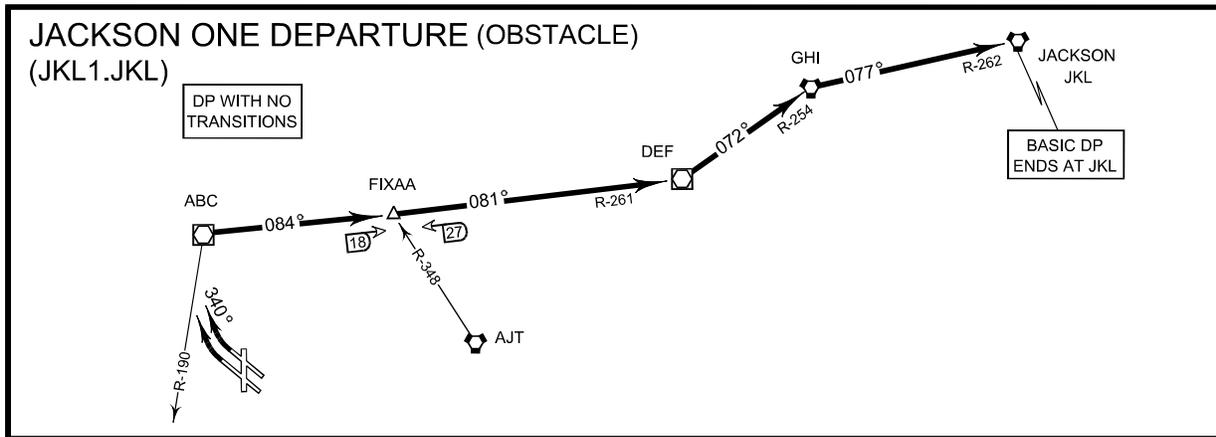
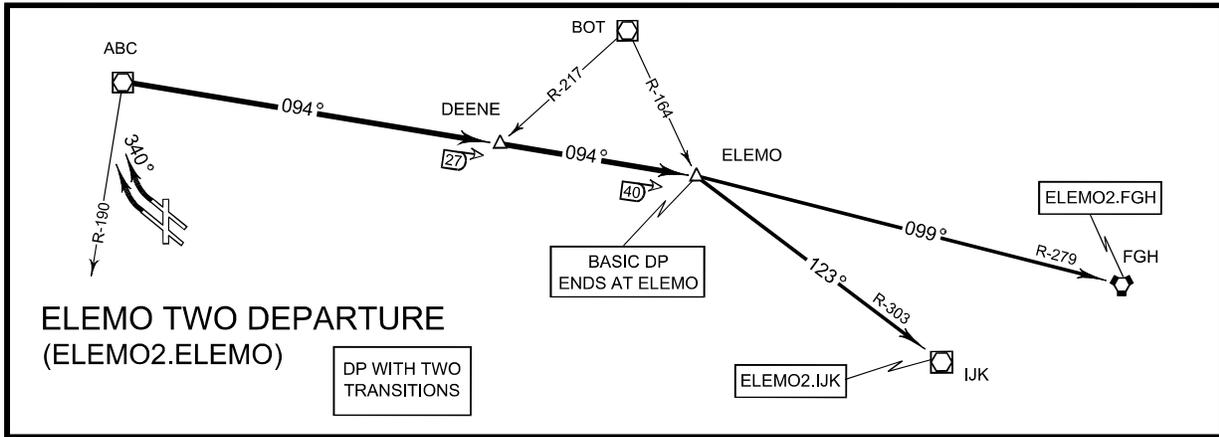
(2) **Level 1 criteria** apply narrower obstacle clearance areas than Level 2 and correspond to a terminal level of aircraft performance. Level 1 criteria is used only under one of the following conditions:

(a) The proponent can show that environmental conditions or obstacles require the use of more stringent criteria than Level 2.

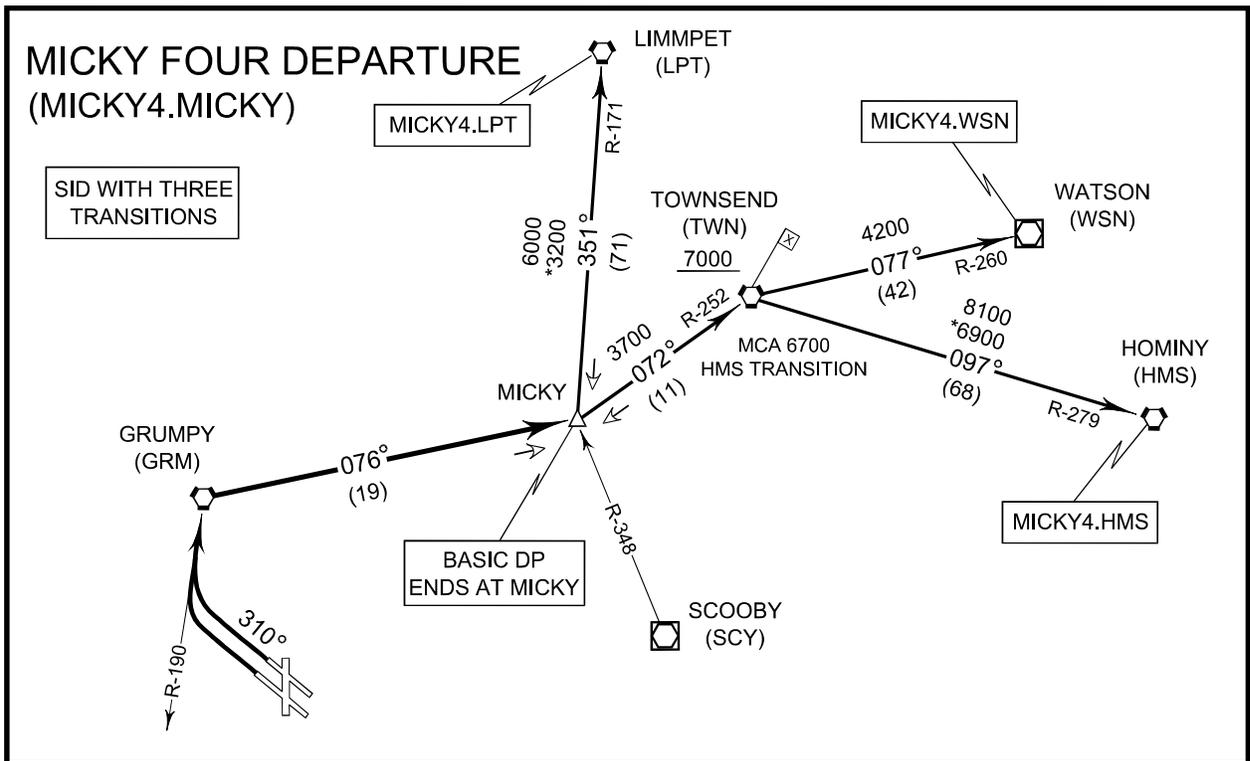
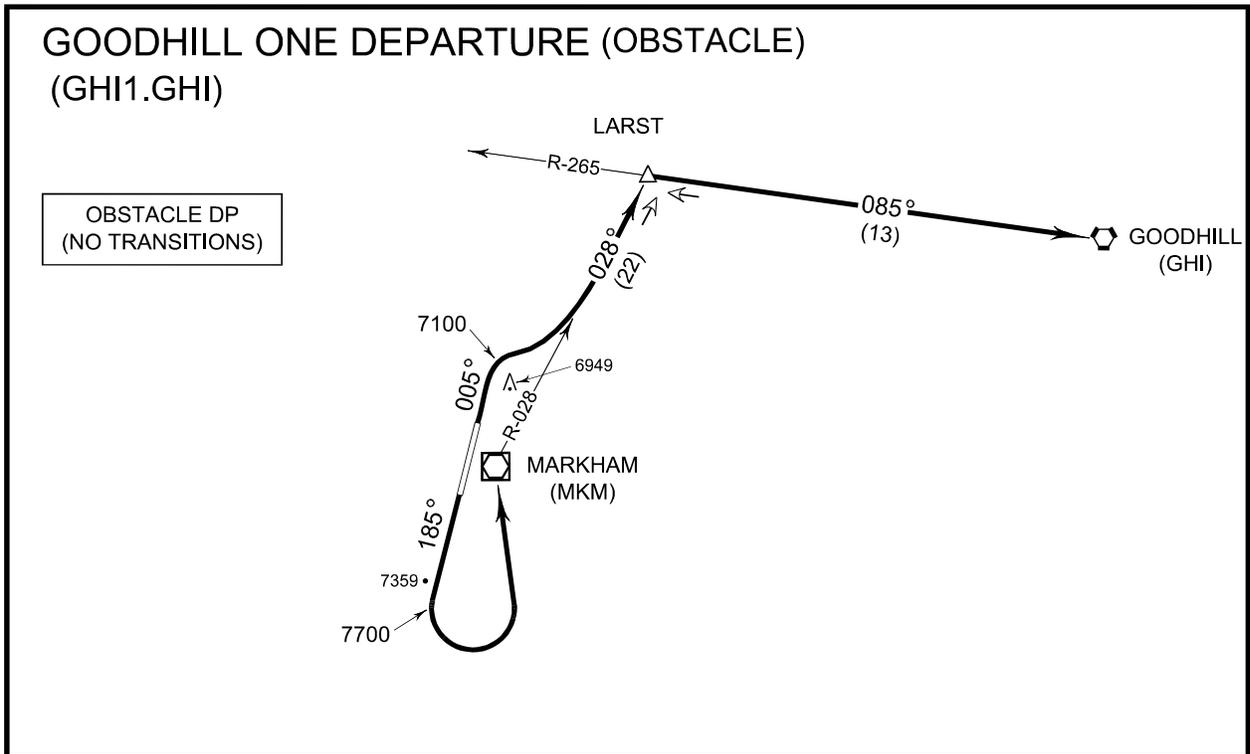
(b) As missed approach criteria for RNAV instrument approach procedures developed in accordance with Order 8260.3.

(3) **Annotate the chart** with the aircraft equipment suffixes eligible for the DP. Use standard Note: **"For use by /E, /F, /G and /R (RNP 2.0) equipped aircraft only."** **"For use by /E, /G and /R (RNP 1.0) equipped aircraft only."** In addition, for Level 1 RNAV DPs chart the following standard note: **"/G aircraft with selectable course deviation indicator (CDI) must set CDI to 1 NM terminal sensitivity. Aircraft without selectable CDI must use flight director."**

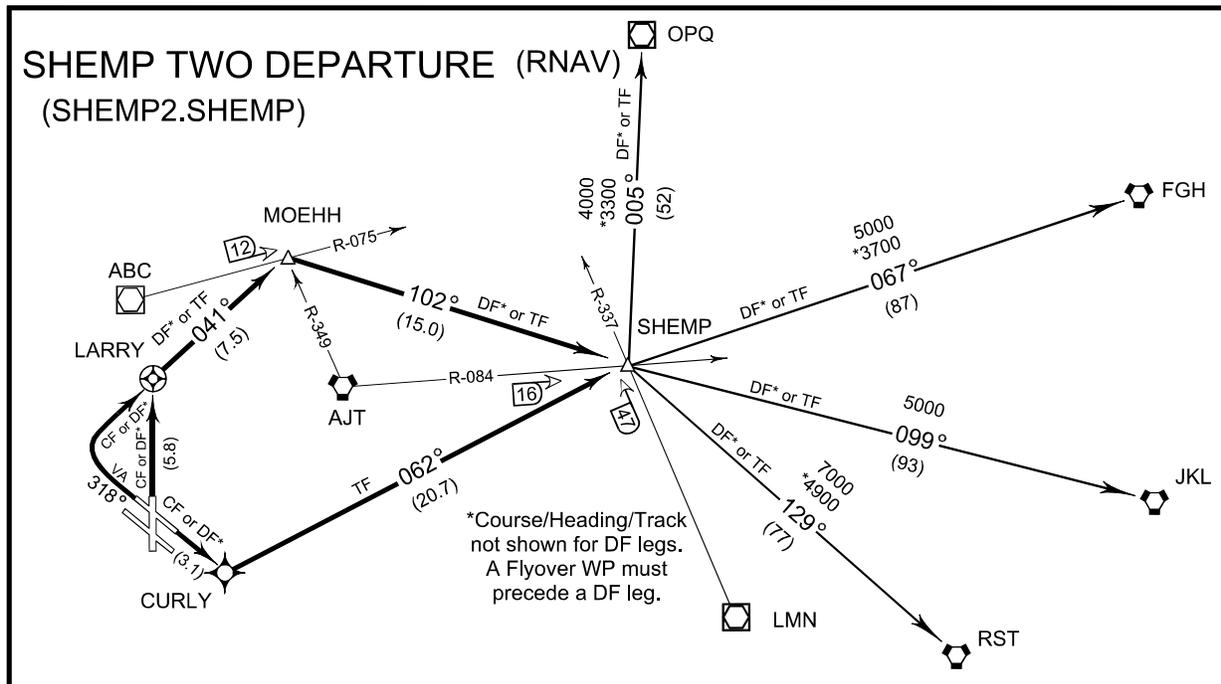
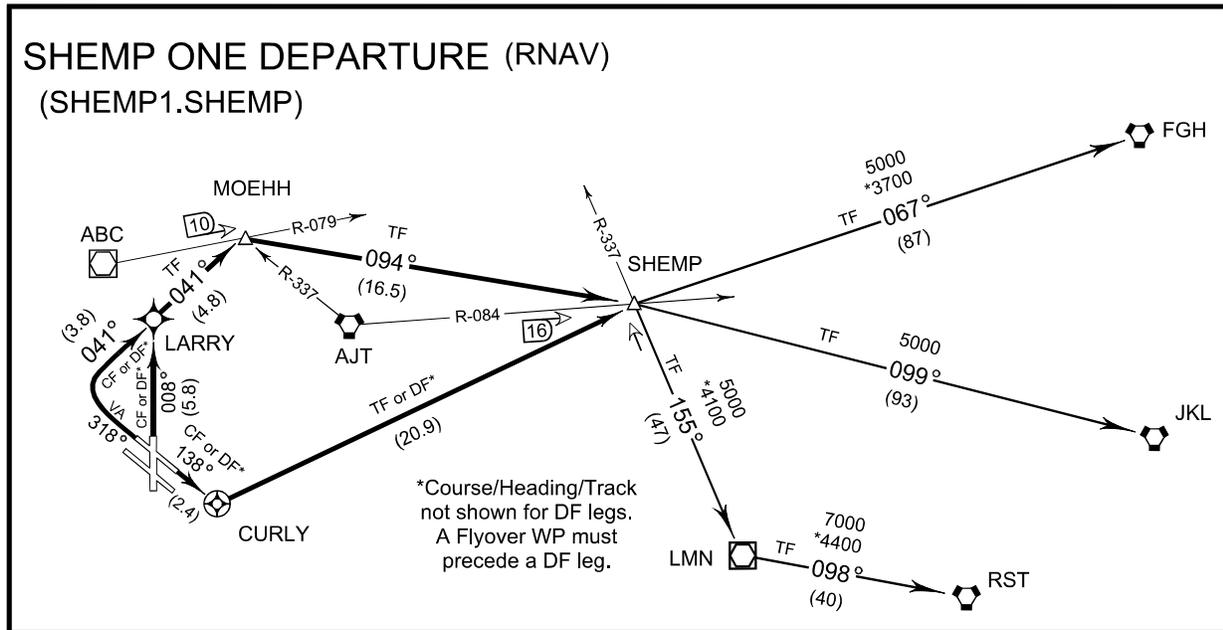
EXAMPLES:



EXAMPLES (Continued):



EXAMPLES (Continued):



**APPENDIX 3. GRAPHIC DEPARTURE PROCEDURE (DP)
REQUIREMENTS WORKSHEET**

Instructions for completing the graphic DP requirements worksheet by other than NFPO personnel.

Note: Proponents with the capability may use electronically generated 8260-15 series forms instead of the graphic DP Requirements Worksheet.

This worksheet may be used to process changes to existing DPs. In such cases, only complete those BLOCKS needed to convey the request/recommendation.

BLOCK 1. AIRPORT(S). Enter the name(s) of the airport(s) and the ICAO identifier(s) of each.

BLOCK 2. CITY AND STATE. Self-explanatory.

BLOCK 3. DP NAME AND COMPUTER CODES. Enter the proposed name of the DP and computer code. Use the naming and computer code conventions as outlined in appendix 2. Coordinate the proposed name(s) and code(s) with the servicing ARTCC to ensure there are no duplications.

BLOCK 4. ACTION REQUIRED. Indicate whether a new procedure is being established or modifying an existing DP.

BLOCK 5. COMMUNICATIONS. Indicate the communications functions to be charted; e.g., ATIS, AWOS/ASOS, CTAF, clearance delivery, departure control, etc. List frequency(ies) only if different than what is currently published for the facility or unique to the procedure. Coordinate with ATC as necessary.

BLOCK 6. ROUTE:

6.1. RUNWAY(S)/HELIPADS/VERTIPOINTS. Indicate the runway number(s) or helipads/vertiports the DP will serve.

6.2. INITIAL ROUTE FROM RUNWAY. Where specifically required by ATC, enter the initial routing from the runway end.

6.3. ATC REQUESTED ROUTING/OPERATIONAL PARAMETERS. Enter any information that would assist the procedure developer by providing flexibility in ground tracks. For example, if ATC needs the departure track to go generally south and join a route at a specified point and the exact ground track is not important, so state. Conversely, if there is flexibility to the east but there is an operational constraint to the west, that should be indicated. In extraordinary cases, when exact ground track is the primary concern in RNAV DPs, specify desired routing. ATC should specify the routing based on ATC needs.

6.4. FIX(ES). Enter each fix in the order flown. Enter coordinates to the nearest 0.01 arc second when known. The TARGETS distribution package will satisfy this requirement. If used, enter the statement "See attached (DP name) TARGETS distribution package dated (date)."

6.5. ATC REQUIRED ALTITUDES. Enter any altitude restrictions associated with each fix.

BLOCK 7. TRANSITIONS: (NA for Obstacle Departure Procedures (ODPs))

7.1 IDENTIFICATION. Enter the proposed name and computer code of each transition (see BLOCK 3).

7.2. TRANSITION FIX(ES). See BLOCK 6.4.

7.3. ATC REQUIRED ALTITUDES. See BLOCK 6.5.

7.4. ATC OPERATIONAL PARAMETERS. See BLOCK 6.3.

BLOCK 8. LOST COMMUNICATIONS. List specific lost communications instructions if other than 14 CFR Part 91.185 (standard).

BLOCK 9. GRAPHIC DEPICTION. Provide a basic sketch of the procedure. The sketch may be hand drawn, computer generated, or overlaid on the appropriate portion of a controller chart. It is not necessary for the sketch to be to an exact scale. The intent here is to provide the procedure developer with a visual correlation of the textual route description.

BLOCK 10. REQUESTED PUBLICATION DATE OR AIRSPACE DOCKET NUMBER. Enter the desired effective date that coincides with the charting cycle. If the DP effective date is to be concurrent with an airspace action, enter the docket number, which may be obtained from the regional Airspace Branch (AXX-520). See Order 8260.26, appendix 1 for chart dates and lead-time for submission.

BLOCK 11. REMARKS.

11.1. Indicate that the environmental review under Order 1050.1 and the noise screening have been accomplished.

NOTE: Notice 7210.360, Noise Screening Criteria for Certain Air Traffic Actions Above 3,000 Feet, has expired; however, the noise screening is still required. The requirement will be re-established in a proposed Air Traffic environment order.

11.2. Enter appropriate information to clarify a data entry; e.g., airspeed restriction for air traffic, maximum altitude for aircraft performance, etc.

11.3. If the proposed DP does not meet the criteria requirements in paragraph 10 of the basic order, a statement of justification is necessary to explain why a DP is required. Avoid publication of unnecessary DPs.

BLOCK 12. POINT-OF-CONTACT (POC): Self-explanatory.

GRAPHIC DP REQUIREMENTS WORKSHEET

1. AIRPORT(S) _____

2. CITY AND STATE _____

3. DP NAME _____ COMPUTER CODE _____

4. ACTION REQUIRED: ESTABLISH _____ AMEND _____

5. COMMUNICATIONS: Enter an X in the space provided next to the communications function listed. Enter the frequency when a nonstandard frequency has been specified.

ATIS _____ AWOS/ASOS _____ CLEARANCE DELIVERY _____ GROUND _____

TOWER _____ CTAF _____ DEPARTURE CONTROL _____ ARTCC _____

6. ROUTE:

6.1. RUNWAY(S) _____ HELIPADS/VERTIPOINTS _____

6.2. INITIAL ROUTE FROM RUNWAY _____

6.3. ATC REQUESTED ROUTING/OPERATIONAL PARAMETERS _____

6.4. FIX(ES):

NAME _____ NAVAID _____ LAT/LONG _____ ALT _____

6.5. ATC REQUIRED ALTITUDES: _____

GRAPHIC DP REQUIREMENTS WORKSHEET (Continued)

7. TRANSITIONS: (NA for Obstacle Departure Procedures (ODPs))

7.1 IDENTIFICATION:

NAME _____ COMPUTER CODE _____

7.2 TRANSITION FIX(ES): *NOTE: If fix/NAVAID is currently published on an en route chart, enter only the fix name and/or facility ID, and required altitude.*

NAME _____ NAV AID _____ LAT/LONG _____ ALT _____

NAME _____ NAV AID _____ LAT/LONG _____ ALT _____

NAME _____ NAV AID _____ LAT/LONG _____ ALT _____

NAME _____ NAV AID _____ LAT/LONG _____ ALT _____

NAME _____ NAV AID _____ LAT/LONG _____ ALT _____

NAME _____ NAV AID _____ LAT/LONG _____ ALT _____

NAME _____ NAV AID _____ LAT/LONG _____ ALT _____

7.3. ATC REQUIRED ALTITUDES: _____

7.4. ATC OPERATIONAL PARAMETERS: _____

8. LOST COMMUNICATIONS: _____

GRAPHIC DP REQUIREMENTS WORKSHEET (Continued)

9. GRAPHIC DEPICTION: *(NOTE: Depiction should clearly portray intended routing, fixes, NAVAIDs, and altitudes to be used in the DP. A separate sheet may be used.)*

10. REQUESTED PUBLICATION DATE OR AIRSPACE DOCKET NUMBER_____

11. REMARKS:

12. POINT-OF-CONTACT:_____

ATC Facility Name.

POC's Name.

Telephone Number.

FAX Number.

E-Mail Address.

APPENDIX 4. 8260-2, DATA WORKSHEET

Instructions for completing 8260-2, Data Worksheet, for proponents OTHER than the NFPO.

BLOCK 1. REQUESTED PUBLICATION DATE. Enter the desired effective date that coincides with the charting cycle (see Order 8260.26, appendix 1). If the Form 8260-2 request is to be in conjunction with an airspace action, obtain the docket number from the regional Airspace Branch (AXX-520). For Form 8260-2 requests associated with a DP request, allow at least 20 weeks lead-time from the desired effective date.

BLOCK 2. FIX NAME. Enter the 5-character pronounceable name obtained from ARTCC. Do not include "WP" as part of the name.

BLOCK 3. FIX TYPE. Indicate the type of fix; e.g. radar, WP (a geographical position), DME (fixes made up of a single radial/bearing and DME, or multiple DMEs), VHF (fixes made up of 2 VOR radials), VHF/LF (fixes made up of a VOR radial and an NDB bearing). Indicate all combinations that make up the fix.

BLOCK 4. LOCATION. Latitude and longitude accurate to the hundredth of a second; e.g., 09.25 sec. NAVAID radial/bearing/distance values must also be entered to the appropriate hundredth value; e.g., 347.23°; 08.37NM.

BLOCK 5. TYPE OF ACTION REQUIRED. Check applicable box to Establish, Modify, or Cancel the fix.

BLOCK 6. HOLDING. List holding patterns required at fix. Include minimum and maximum altitude required. Include speed if other than standard.

BLOCK 7. CHARTING. Indicate required charting; i.e., terminal or en route.

BLOCK 8. REMARKS. Other airports/procedures associated with fix (if known). Justify the requirement for other than routine processing and charting. Include any other information that may assist in developing the fix.

BLOCK 9. POINT-OF-CONTACT (POC). Self explanatory.

Form 8260-2, DATA Worksheet

- 1. REQUESTED PUBLICATION DATE: _____
- 2. FIX NAME: _____
- 3. FIX TYPE: _____
- 4. LOCATION: _____
- 5. TYPE OF ACTION REQUIRED: Establish Modify Cancel
- 6. HOLDING: _____
- 7. CHARTING: _____
- 8. REMARKS (Use additional paper if required):

9. POINT OF CONTACT (POC):

ATC Facility Name.

POC's Name.

Telephone Number.

FAX Number.

E-Mail Address.

APPENDIX 5

**USE AND COMPLETION OF FAA FORM 8260-15A,
TAKEOFF MINIMUMS AND TEXTUAL DEPARTURE PROCEDURES (DP)**

**USE AND COMPLETION OF FAA FORM 8260-15B,
GRAPHIC DEPARTURE PROCEDURE (DP)
(Non-RNAV Departure Procedures)**

**INSTRUCTIONS FOR COMPLETING
FAA FORM 8260-15A
TAKEOFF MINIMUMS AND TEXTUAL DEPARTURE PROCEDURES (DP s)**

PAGE 1.

NOTE: Develop a Form 8260-15A for only one airport; however, it may encompass any or all runways for that airport.

BLOCK (1). TAKEOFF MINIMUMS.

1. List runways authorized standard takeoff minimums; e.g., RWY 11, 27, 35 Standard. Do not list Take-off Minimums for the runway(s) served by a graphic default Obstacle DP as described in BLOCK 2(1d) instructions.

2. Immediately below, list by runway any deviations from standard minimums and/or restrictions; e.g. RWY 9, 1000-2 or standard with minimum climb of 280 feet per NM to 1,600. RWY 17, 29, NA.

a. When obstacles in the initial climb area (ICA) cause a climb gradient to 200 feet or less above DER, do not publish takeoff minimums or a climb gradient. Instead, identify the obstacle data by note for publication in the TAKEOFF OBSTACLE NOTES BLOCK (see BLOCK 3 for example).

b. When obstacles 3 SM or less from DER preclude standard takeoff minimums (NOTE: the obstacle may be within or beyond ICA):

(1) Provide a NOTE identifying the obstacle(s) in the TAKEOFF OBSTACLE NOTES BLOCK (see BLOCK 3 for example).

(2) Provide higher than standard takeoff minimums followed by the alternative of standard minimums with a specified climb gradient. Use standard NOTE in paragraph 2.

(3) Identify the obstacle data in the CONTROLLING OBSTACLES BLOCK (see BLOCK 4 for example).

c. When obstacles beyond 3 SM of DER preclude standard takeoff minimums:

(1) Provide standard takeoff minimums with minimum climb gradient requirements. Use standard NOTE in paragraph 2.

(2) Provide higher than standard takeoff minimums to allow a visual climb over the airport (VCOA). Use standard NOTE in the following format: RWY XX (CIG/VSBY). "Climb in visual conditions to cross (reference point) (direction of flight) (minimum climb-to altitude), (route)." Examples:

(a) RWY 9, 1100-2½ . Climb in visual conditions to cross DER westbound at or above 1,200 MSL before proceeding on course.

(b) RWY 27, 4100-2½ . Climb in visual conditions to cross XYZ VOR southeast bound at or above 4,200 MSL then proceed via XYZ R-150 to HAMET.

(3) If neither of these actions is feasible, or if another reason(s) precludes DP development (noise abatement, environmental, etc.), an IFR departure must not be authorized. Use standard NOTE:

RWY 27, NA - Obstacles.
RWY 35, NA - Environmental.
RWY 17, NA - Obstacles and noise abatement.

BLOCK (2). DEPARTURE PROCEDURE.

1. When a specific departure route is necessary, provide the complete text, by runway, for required DPs.

a. When a DP routing is required and VOR or TACAN is used to define the route, use the format: **RWY 9 - CLIMBING LEFT TURN VIA ABC VORTAC R-310 TO 6000 BEFORE PROCEEDING ON COURSE;** or **RWY 35 - CLIMBING LEFT TURN VIA ABC VORTAC R-310 TO 6000, THEN CLIMBING RIGHT TURN TO 8000 DIRECT ABC VORTAC....**

b. When a DP routing is required and NDB is used to define the route, use course to or bearing from the NDB; e.g., **RWY 35 - CLIMB VIA HEADING 350..., THEN CLIMBING RIGHT TURN VIA 020 BEARING FROM ABC NDB TO 6000 BEFORE PROCEEDING ON COURSE;** or **RWY 35 - CLIMB VIA HEADING 030..., THEN VIA 015 BEARING FROM ABC NDB TO 4000, THEN CLIMBING LEFT TURN TO 8000 VIA 160 COURSE TO ABC NDB CLIMB IN ABC NDB HOLDING PATTERN TO 12000 BEFORE PROCEEDING ON COURSE.**

c. When a DP routing is required and a localizer course is used to define the route, use direction of localizer course to be flown; e.g., **"RWY 5 - CLIMB NE ON LOCALIZER COURSE TO 3000 BEFORE TURNING."**

d. When the departure instructions must be graphically depicted, inform the pilot of the name of the default Obstacle DP, and submit an accompanying Form 8260-15B; e.g., Use standard NOTE: **"USE JONES DEPARTURE"** when the graphic obstacle DP serves all runways or use **"RWY 27 – USE SMITH DEPARTURE"** when the graphic obstacle DP serves only a specific runway.

2. It is not appropriate to use the wording **"Comply with DP or..."** This could be confusing and cause the pilot to use a different routing than was expected by ATC.

3. Do not use the phrase **"...or comply with ATC instructions."** The pilot is aware that ATC instructions are to be complied with, when possible, and safety of flight is not compromised.

4. Specify a single obstacle DP. Do not provide an option to use a SID as the default ODP. For example, do not use **"Climb runway heading to 1200 before turning or use Manchester Departure."**

BLOCK (3). TAKEOFF OBSTACLE NOTES. Identify controlling obstacles.

1. **Enter a NOTE regarding obstacles** found as a result of applying Table 1, Situation 2 action and Situation 3, action "A." Do not list Take-off Obstacle Notes for the runway(s) served by a graphic default Obstacle DP as described in BLOCK 2(1d) instructions.

2. **The NOTE must include the runway affected**, and inform the pilot of the obstacle(s) type and location relative to the DER, and height (AGL/elevation (MSL)). When there are obstacles on both sides of the runway centerline extended, note the most significant obstacles left and right of the runway centerline. Phrases such as "multiple antennas, numerous trees, etc." are acceptable. Specify distances in the nearest .1 NM increments (specify distances less than 1 NM in feet). Use standard NOTE:

"NOTE: RWY 35, trees 1280 feet from DER, 120 feet left of centerline, 50 feet AGL/1,527 feet MSL."

"NOTE: RWY 35, Building 2.1 NM from DER, 160 feet left of centerline, 350 feet AGL/1,927 feet MSL."

"NOTE: RWY 17, multiple buildings 500 feet from DER, 350 feet right of centerline, 50 feet AGL/1,107 feet MSL. Antenna 6,000 feet from DER, 1,235 feet left of centerline, 200 feet AGL/1,257 feet MSL."

"NOTE: RWY 27, multiple trees and antennas beginning 500 feet from DER, 350 feet right of centerline, up to 110 feet AGL/1,307 feet MSL."

3. **These obstacle NOTES must be published by charting agents.**

BLOCK (4). CONTROLLING OBSTACLES. Identify the location of obstacles.

1. **Document all obstacles referred to in BLOCK (3).** Do not list Controlling Obstacles for the runway(s) served by a graphic default Obstacle DP as described in BLOCK 2(1d) instructions.

2. **Document the controlling obstacle(s)** when development of a departure routing is required and/or when the OIS is raised (up to 35 feet) above DER elevation to account for an existing obstacle. When the OIS is raised, document the OIS height used to avoid or reduce the CG required to clear the obstacle. This information **WILL NOT** be charted on the procedure. This documentation must include those (avoided) obstacles that forced the development of a departure route.

3. **Use the following format** to list the runway affected, elevation and type of obstacle, the coordinates to the nearest 0.01 second, and if applicable, OIS height above DER elevation; e.g., "RWY 32: 2,049 MSL Terrain 341548.01/862101.05" or "RWY 32: 2,049 MSL Terrain 341548.01/862101.05 - OIS 14' above DER ELEVATION."

BLOCK (5). CITY AND STATE. Complete this BLOCK with the same location data as on the associated approach procedure(s).

BLOCK (6). AIRPORT. Complete this BLOCK with the same airport name data as on the associated approach procedure(s).

BLOCK (7). EFFECTIVE DATE. Leave blank. The effective date will normally be added by NFDC. Enter an effective date only when a specific effective date is required; e.g., Mag Var rotation. A concurrent date may only be used for a **textual ODP** when it is necessary to support a proposed SIAP.

BLOCK 8. AMDT NO. Enter standard entry as on SIAPs.

PAGE 2.

BLOCK (9). CHANGES. List changes relating to data entries on page 1.

BLOCK (10). REASONS. List reasons for changes relating to data entries on page 1.

BLOCK (11). COORDINATED WITH. Enter “X” in the appropriate boxes. Specify other required coordination. DP coordination must be identical with the approach procedure coordination as outlined in Order 8260.19, Chapter 8.

BLOCK (12). REQUIRED EFFECTIVE DATE.

1. **Enter the effective date** as noted in Order 8260.19, paragraph 837c, except that “Proposed” dates may not be used for DPs. Optimally, submit as routine.

NOTE: If the obstacle DP is “complex” and must be depicted graphically, en route data submission cutoff dates apply.

2. **If the Form 8260-15A represents a concurrent action**, place an attention symbol (* for example) in the effective date space and enter the following standard NOTE in the body of the form:

***Concurrent with (IAP name and amendment number).**

BLOCK 13. FLIGHT INSPECTED BY. Enter the name of the airspace system inspection pilot who conducted the flight inspection, and the date.

BLOCK 14. DEVELOPED BY. Enter the name of the procedure specialist developing the data, and the NFPO branch. This individual must sign in the “developed by” space, and enter the date signed.

BLOCK (15). APPROVED BY. Enter the name of the AVN-100 Manager, or his/her delegated representative. This individual must sign in the “approved by” space, and enter the date signed.

TAKEOFF MINIMUMS AND TEXTUAL DEPARTURE PROCEDURES (DP)

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

Bearings, headings, courses, tracks, and radials are magnetic. Elevations and altitudes are in feet, MSL. Altitudes are minimum altitudes unless otherwise indicated. Ceilings are in feet above airport elevation. Distances are in nautical miles. Visibilities are in statute miles or feet RVR unless otherwise indicated.

(1) TAKEOFF MINIMUMS:

RWY 1, N/A - OBSTACLES

RWY 32 STANDARD

RWY 14, 500-1 1/2 or STANDARD WITH MINIMUM CLIMB OF 330 FEET PER NM TO 1200.

RWY 19, STANDARD WITH MINIMUM CLIMB OF 310 FEET PER NM TO 1400, OR 1100-2 1/2 FOR CLIMB IN VISUAL CONDITIONS.

(2) DEPARTURE PROCEDURE:

RWY 19 - FOR CLIMB IN VISUAL CONDITIONS: CROSS HICKORY REGIONAL AIRPORT AT OR ABOVE 1500.

RWY 32 - CLIMB VIA HEADING 317.66 TO 1200 BEFORE TURNING LEFT.

(3) TAKEOFF OBSTACLE NOTES:

NOTE: RWY 14, BUILDING 1.96 NM FROM DER, ON RWY CENTERLINE, 478 FEET AGL/974 FEET MSL.

NOTE: RWY 32, TREES 143 FEET LEFT OF DER, 21 FEET AGL/498 FEET MSL.

(4) CONTROLLING OBSTACLES:

RWY 14: 974 MSL BUILDING 324911.09/964838.62

RWY 19: 1121 MSL TOWER, 324748.00/965137.00

RWY 32: 1049 MSL TOWER, 325216.19/965523.02

(5) City, State

DANVILLE, TX

(6) Airport

HICKORY REGIONAL

(7) Effective Date

(8) Amdt. No.

8

<p>(9) Changes:</p> <ol style="list-style-type: none"> 1. ADDED TEXTUAL DP FOR RWY 32. 2. ADDED VISUAL CLIMB OVER AIRPORT (VCOA) FOR RWY 19. 	<p>(12) Required Effective Date: ROUTINE</p>												
<p>(10) Reasons:</p> <ol style="list-style-type: none"> 1. TO RETAIN STANDARD TAKEOFF MINIMUMS RESULTANT FROM OE STUDY 01-ASW-0477 (STATE CODE PENDING), 1049 TOWER 325216.19/965523.02. 2. TERPS INSTRUCTION LETTER (TIL) 02-035, DATED 20 MAY 02. 	<p>(11) Coordinated With:</p> <table style="width:100%; border: none;"> <tr> <td style="text-align: center;">ATA <input checked="" type="checkbox"/></td> <td style="text-align: center;">ALPA <input checked="" type="checkbox"/></td> <td style="text-align: center;">APA <input checked="" type="checkbox"/></td> <td style="text-align: center;">AOPA <input checked="" type="checkbox"/></td> <td style="text-align: center;">NBA <input checked="" type="checkbox"/></td> <td style="text-align: center;">OTHER (specify) <input checked="" type="checkbox"/></td> </tr> <tr> <td colspan="6" style="text-align: center;">AMGR, FCR ATCT, ZFW</td> </tr> </table>	ATA <input checked="" type="checkbox"/>	ALPA <input checked="" type="checkbox"/>	APA <input checked="" type="checkbox"/>	AOPA <input checked="" type="checkbox"/>	NBA <input checked="" type="checkbox"/>	OTHER (specify) <input checked="" type="checkbox"/>	AMGR, FCR ATCT, ZFW					
ATA <input checked="" type="checkbox"/>	ALPA <input checked="" type="checkbox"/>	APA <input checked="" type="checkbox"/>	AOPA <input checked="" type="checkbox"/>	NBA <input checked="" type="checkbox"/>	OTHER (specify) <input checked="" type="checkbox"/>								
AMGR, FCR ATCT, ZFW													
<p>(13) Name: _____</p>	<p>(14) Signature: _____</p>	<p>(15) Signature: _____</p>	<p>Date: _____</p>	<p>Date: _____</p>	<p>Date: _____</p>								
<p>FLIGHT INSPECTED BY</p>		<p>DEVELOPED BY</p>		<p>APPROVED BY</p>									

U.S. DEPARTMENT of TRANSPORTATION FEDERAL AVIATION ADMINISTRATION		TAKEOFF MINIMUMS AND TEXTUAL DEPARTURE PROCEDURES (DP)	
Bearings, headings, courses, tracks, and radials are magnetic. Elevations and altitudes are in feet, MSL. Altitudes are minimum altitudes unless otherwise indicated. Ceilings are in feet above airport elevation. Distances are in nautical miles. Visibilities are in statute miles or feet RVR unless otherwise indicated.			
<u>(1) TAKEOFF MINIMUMS:</u>			
<u>(2) DEPARTURE PROCEDURE:</u> USE GOODHILL DEPARTURE.			
<u>(3) TAKEOFF OBSTACLE NOTES:</u>			
<u>(4) CONTROLLING OBSTACLES:</u>			
(5) City, State LASKY, WY	(6) Airport LASKY REGIONAL	(7) Effective Date	(8) Amdt. No. ORIG

**INSTRUCTIONS FOR COMPLETING FAA FORM 8260-15B
GRAPHIC DEPARTURE PROCEDURE (DP)
(Non-RNAV Departure Procedures)**

PAGE 1.

NOTE: Attach an up-to-date, clear graphic depiction of the procedure. DO NOT include a textual description of transitions or departure route text.

TITLE LINE: Check "OBSTACLE" when the procedure is the default obstacle departure procedure (see paragraph 10b) **or** check "SID" when the procedure is initiated by ATC (see paragraph 10c).

BLOCK (1). DP ROUTE DESCRIPTION. Provide the initial climb out instructions for each runway and a textual description of the departure route to the basic DP termination fix. Include only information pertinent to the departure procedure.

BLOCK (2). TRANSITION ROUTES. (N/A for ODP)

(a) Transition Name. Name each transition according to the name of the fix, or NAVAID 3-letter ID, at the transition termination point entered in BLOCK 3(d). Do not include the word "TRANSITION."

(b) Transition Computer Codes. Enter computer code furnished by ATC (see appendix 2).

(c) From FIX/NAVAID. Fix/NAVAID where each transition begins (normally, the en route fix where the basic DP ends); e.g., **DANNY INT, BICKR WP.**

(d) To FIX/NAVAID. En route fix/NAVAID where each transition ends; e.g., **DANNY INT, BICKR WP.**

NOTE: If a transition has multiple segments, enter one line for each segment.

(e) Course/Distance. Specify the course and distance for each transition segment. Enter the actual magnetic to the hundredth of a degree, and distance to the hundredth of a mile (see Order 8260.19, chapter 8). NACO will round for publication.

(f) MEA/MOCA. Enter MEA/MOCA along transition route. By definition, the MEA also encompasses the MRA. To reduce chart clutter, MOCAs less than 500 below MEAs should not be published. If transitions share a common segment, make sure the MEA for that segment is the same for each transition.

(g) Crossing Altitudes/Fixes. DPs must accommodate ATC and obstacle clearance requirements with regard to minimum fix crossing altitudes and climb gradients. Document the ATC altitude, followed by the altitude required for obstacle clearance; e.g., **BECKY at/above 9000/6500.** Charting agencies must depict the obstacle clearance altitude as a minimum crossing altitude (MCA). ATC and obstacle altitude values must be charted regardless of separation.

NOTE: To determine the MCA, assume 200 feet/NM aircraft climb capability until reaching an altitude suitable for en route flight (refer to 14 CFR Part 91.177); then apply the provisions of TERPS Volume 1, paragraph 1730.

BLOCK (3). PROCEDURAL DATA NOTES/TAKEOFF MINIMUMS. For each runway, depict all takeoff minimums (**even if standard**) to include nonstandard climb gradients (both obstacle and ATC), affecting the charted DP. Enter any information that is to appear in note form on the graphic depiction; e.g., DME required, minimum climb rate information, etc. Also, depict all restrictions and performance requirements to fly the procedure. Annotate runway(s) where IFR DPs are not authorized, followed by the reason(s); e.g., obstacles, noise abatement, environmental. Use standard NOTE:

RWY 27, NA - Obstacles.

RWY 35, NA - Environmental.

RWY 17, NA - Obstacles and noise abatement.

BLOCK (4). TAKEOFF OBSTACLE NOTES. Identify controlling obstacles.

1. Enter a **NOTE** regarding obstacles found as a result of applying Table 1, Situation 2 action and Situation 3, action "A".

2. The note must include the runway affected, and inform the pilot of the obstacle(s) type and location relative to the DER, and height (AGL/elevation (MSL)). When there are obstacles on both sides of the runway centerline extended, note the most significant obstacles left and right of the runway centerline. Phrases such as "multiple antennas, numerous trees, etc." are acceptable. Specify distances in the nearest .1 NM increments (specify distances less than 1 NM in feet). Use standard NOTE:

"NOTE: RWY 35, trees 1,280 feet from DER, 120 feet left of centerline, 50 feet AGL/1,527 feet MSL."

"NOTE: RWY 35, Building 2.1 NM from DER, 160 feet left of centerline, 350 feet AGL/1,927 feet MSL."

"NOTE: RWY 17, multiple buildings 500 feet from DER 350 feet right of centerline, 50 feet AGL/1,107 feet MSL. Antenna 6,000 feet from DER, 1,235 feet left of centerline, 200 feet AGL/1,257 feet MSL."

"NOTE: RWY 27, multiple trees and antennas beginning 500 feet from DER, 350 feet right of centerline, up to 110 feet AGL/1,307 feet MSL."

3. These obstacle NOTES must be published by charting agents.

BLOCK (5). CONTROLLING OBSTACLES. Identify the location of obstacles.

1. Document all obstacles referred to in **BLOCK (4)**.

2. Document the controlling obstacle(s) when development of a departure routing is required and/or when the OIS is raised (up to 35 feet) above DER elevation to account for an existing obstacle. When the OIS is raised, document the OIS height used to avoid or reduce

the CG required to clear the obstacle. This information **WILL NOT** be charted on the procedure. This documentation must include those (avoided) obstacles that forced the development of a departure route.

3. Use the following format to list the runway affected, elevation and type of obstacle, the coordinates to the nearest 0.01 second; e.g., "**RWY 32: 2,049 MSL Terrain 341548.01/862101.05**" or "**RWY 32: 2,049 MSL Terrain 341548.01/862101.05.**"

BLOCK (6). FIXES AND/OR NAVAIDS. Enter only those fixes and/or NAVAIDs for which charting are requested but are not included in the DP route description of the departure or transition routes.

BLOCK (7). DP NAME. Enter name of departure procedure. For example: the CATHEDRAL SEVEN DEPARTURE is entered as CATHEDRAL.

BLOCK (8). NUMBER. Enter departure procedure number (spelled out); e.g. EIGHT.

BLOCK (9). DP COMPUTER CODE. Enter computer identification code furnished by ATC (see appendix 2).

BLOCK (10). SUPERSEDED NUMBER. Departure procedure number (spelled out) superseded by this procedure.

BLOCK (11). DATED. Date of superseded procedure. Format: DD MMM YY.

BLOCK (12). EFFECTIVE DATE. Leave blank. The effective date will normally be added by NFDC. Enter an effective date only when a specific effective date is required; e.g., Mag Var rotation.

PAGE 2.

BLOCK (13). AIRPORTS SERVED. List all airports, city, and 2-letter state code served by the departure procedure.

NOTE: An obstacle DP may only serve one airport.

BLOCK (14). LOST COMMUNICATIONS PROCEDURES. ATC is responsible for determining the need and content of lost communications instructions. Leave blank when procedures are the same as in 14 CFR Part 91.185 (standard).

BLOCK (15). COMMUNICATIONS. Enter name of radio communications to be charted; e.g., ATIS, CTAF, Clearance Delivery, Departure Control, etc. Specify frequency only if different than what is currently published for the facility, or unique to the procedure.

BLOCK (16). ADDITIONAL FLIGHT DATA. List any additional charting instructions, items essential to clarify charting or information a specialist has determined needs charting as other than a NOTE. Examples of data may include: terrain features, airports, Military Operating Areas (MOA), holding patterns, or takeoff and departure obstacles; e.g., **Chart _____ MOA; Chart holding pattern at (location).** Ensure that the accompanying Form 8260-2

Contains the appropriate charting instructions for holding patterns supporting the departure procedure.

BLOCK (17). CONTINUATION. Use this area of the sheet to complete any data BLOCKS from previous pages. Indicate BLOCK number and title being contained.

PAGE 3.

BLOCK (18). REMARKS. List information/data that is NOT to be charted; e.g., administrative data or notes for controller information (requested by ATC). These items will not be seen in the TL/NFDD.

BLOCK (19). CHANGES. List changes relating to data entries.

BLOCK (20). REASONS. List reasons for changes relating to data entries.

BLOCK (21). COORDINATED WITH. Enter "X" in the appropriate boxes. Specify other required coordination. DP coordination must be identical with the approach procedure coordination as outlined in Order 8260.19, chapter 8.

BLOCK (22). REQUIRED EFFECTIVE DATE.

1. Enter the effective data as noted in Order 8260.19, chapter 8, except that "Proposed" dates may not be used for DPs. Optimally, submit as "routine." En route data submission cutoff dates must apply for graphic DPs.

2. If the Form 8260-15A represents a concurrent action, place an attention symbol (* for example) in the effective date space and enter the following standard NOTE in the body of the form:

***Concurrent with (SIAP name and amendment number).**

BLOCK (23). FLIGHT INSPECTED BY. Enter the name of the airspace system inspection pilot who conducted the flight inspection, and date.

BLOCK (24). DEVELOPED BY. Enter the name of the procedure specialist developing the data, and the NFPO branch. This individual must sign in the "developed by" space, and enter the date signed.

BLOCK (25). APPROVED BY. Enter the name of the AVN-100 Manager, or his/her delegated representative. This individual must sign in the "approved by" space and enter the date signed.

US Department of Transportation
Federal Aviation Administration

GRAPHIC DEPARTURE PROCEDURE (DP)

OBSTACLE SID RNAV

1. Bearings, headings, courses, tracks, and radials are magnetic.
 2. Distances are in nautical miles.
 3. Altitudes are minimum altitudes unless otherwise indicated.
 4. Graphic depiction attached.

(1) DP Route Description:
TAKEOFF RWY 18: CLIMB VIA 185.22 HEADING TO 7700, THEN CLIMBING LEFT TURN DIRECT MKM VOR/DME, THEN VIA MKM R-028 TO LARST, THENCE... OR, CLIMB IN VISUAL CONDITIONS TO CROSS MKM VOR/DME NORTHEASTBOUND AT OR ABOVE 9000, THEN VIA MKM R-028 TO LARST, THENCE...
TAKEOFF RWY 36: CLIMB VIA 005.22 HEADING TO 7100, THEN CLIMBING RIGHT TURN VIA MKM R-028 TO LARST, THENCE...
 ...RIGHT TURN VIA GHI R-265 TO GHI VORTAC. CROSS GHI VORTAC AT OR ABOVE MEAMCA FOR ASSIGNED ROUTE OF FLIGHT.

(2) Transition Routes (Graphic Depiction Only)

(a) Transition Name	(b) Transition Computer Codes	(c) From FIX/NAVAID	(d) To FIX/NAVAID	(e) Course / Distance	(f) MEA / MOCA	(g) Crossing Altitudes/Fixes

(3) Procedural Data Notes / Takeoff Minimums:
TAKEOFF MINIMUMS: RWY 36, STANDARD. RWY 18, STANDARD WITH MINIMUM CLIMB OF 380 FEET PER NM TO 7700, OR 2600-3 FOR CLIMB IN VISUAL CONDITIONS.

(4) Takeoff Obstacle Notes:

(5) Controlling Obstacles: RWY 18: 7359 MSL TREES, 433303.44/1104648.03 RWY 36: 6949 MSL TOWER, 433801.40/1104220.06

(6) Fixes and/or NAVAID'S :

(7) DP Name	(8) Number	(9) DP Computer Code	(10) Superseded Number	(11) Dated	(12) Effective Date
GOODHILL	ONE	GHI1.GHI	NONE		

(13) Airports Served					
Airport Name	LASKY REGIONAL	City/State	LASKY, WY	(11) Dated	(12) Effective Date
Airport Name		City/State			
Airport Name		City/State			
Airport Name		City/State			
Airport Name		City/State			
Airport Name		City/State			
Airport Name		City/State			
(14) Lost Communications Procedures:					
(15) Communications: ATIS, GRN CON, TWR, ZLC					
(16) Additional Flight Data:					
(17) Continuation:					
(7) DP Name	GOODHILL	(8) Number	ONE	(9) DP Computer Code	GHI1.GHI
		(10) Superseded Number	NONE	(11) Dated	(12) Effective Date

<p>(18) Remarks:</p>							
<p>(19) Changes:</p>							
<p>(20) Reasons:</p>							
<p>(21) Coordinated with:</p>	ATA <input checked="" type="checkbox"/>	ALPA <input checked="" type="checkbox"/>	APA <input checked="" type="checkbox"/>	AOPA <input checked="" type="checkbox"/>	NBA <input checked="" type="checkbox"/>	OTHER (specify) <input checked="" type="checkbox"/> AMGR, LSK ATCT, ZLC	<p>(22) Required Effective Date: ROUTINE</p>
<p>(23) Name:</p>	<p>FLIGHT INSPECTED BY</p>		<p>DEVELOPED BY</p>		<p>APPROVED BY</p>		
<p>Date:</p>	<p>Signature:</p>		<p>Signature:</p>		<p>Signature:</p>		<p>Date:</p>
<p>(7) DP Name</p>	<p>(8) Number</p>	<p>(9) DP Computer Code</p>	<p>(10) Superseded Number</p>	<p>(11) Dated</p>	<p>(12) Effective Date</p>		
<p>GOODHILL</p>	<p>ONE</p>	<p>GHI1.GHI</p>	<p>NONE</p>				

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GRAPHIC DEPARTURE PROCEDURE (DP)

US Department of Transportation
Federal Aviation Administration

OBSTACLE SID RNAV

1. Bearings, headings, courses, tracks, and radials are magnetic.
 2. Distances are in nautical miles.
 3. Altitudes are minimum altitudes unless otherwise indicated.
 4. Graphic depiction attached.

(1) DP Route Description: **TAKEOFF RWYS 31L/R:** CLIMB VIA HEADING 309.71 AND GRM R-190 TO CROSS GRM VORTAC AT OR ABOVE 2000, THEN RIGHT TURN VIA GRM R-076 TO MICKY, MAINTAIN 9000, EXPECT CLEARANCE TO FILED ALTITUDE AT MICKY INT.

(2) Transition Routes (Graphic Depiction Only)

(a) Transition Name	(b) Transition Computer Codes	(c) From FIX/NAVAID	(d) To FIX/NAVAID	(e) Course / Distance	(f) MEA / MOCA	(g) Crossing Altitudes/Fixes
HMS	MICKY4,HMS	MICKY TWN VORTAC	TWN VORTAC HMS VORTAC	071.64/10.89 (TWN R-072) 097.22 & 098.33/68.47 (TWN R-097 & HMS R-279)	3700 8100/6900	TWN AT/ABOVE 7000 (ATC)/6700 (MCA)
LPT	MICKY4,LPT	MICKY	LPT VORTAC	351.19/70.98 (LPT R-171)	6000/3200	
WSN	MICKY4,WSN	MICKY TWN VORTAC	TWN VORTAC WSN VORTAC	071.64/26.89 (TWN R-072) 076.56 & 080.47/41.61 (TWN R-077 & WSN R-260)	3700 4200	TWN AT/ABOVE 7000 (ATC)

(3) Procedural Data Notes / Takeoff Minimums:
NOTE: THIS DP TO BE USED ONLY UPON ASSIGNMENT BY METRO TOWER, NORMALLY BETWEEN THE HOURS OF 2100-0600 LOCAL TIME.

TAKEOFF MINIMUMS: RWYS 31L/31R, STANDARD WITH THE FOLLOWING MINIMUM CLIMB REQUIREMENTS:
RWY 31L: OBSTACLE CLIMB OF 290 FT PER NM TO 1300, ATC CLIMB OF 310 FT PER NM TO 2000.
RWY 31R: OBSTACLE CLIMB OF 260 FT PER NM TO 1000, ATC CLIMB OF 310 FT PER NM TO 2000.
ALL OTHER RWYS, NA FOR THIS DP - NOISE ABATEMENT.

(4) Takeoff Obstacle Notes:

(5) Controlling Obstacles: **RWY 31L:** 1049 MSL TOWER 325132.777/965951.23 **RWY 31R:** 849 MSL BUILDING, 325245.677/965221.00

(6) Fixes and/or NAVAID'S : SCY VORDME

(7) DP Name	(8) Number	(9) DP Computer Code	(10) Superseded Number	(11) Dated	(12) Effective Date
MICKY	FOUR	MICKY4,MICKY	THREE	18 Apr 02	

(13) Airports Served			
Airport Name	METRO JETPORT	City/State	DALLAS, TX
Airport Name		City/State	
(14) Lost Communications Procedures:			
(15) Communications: ATIS, CLNC DEL, GND CON, TWR, DEP CON			
(16) Additional Flight Data:			
(17) Continuation:			
(7) DP Name	MICKY	(8) Number	FOUR
(9) DP Computer Code	MICKY4.MICKY	(10) Superseded Number	THREE
(11) Dated	18 Apr 02	(12) Effective Date	

(18) Remarks:		
(19) Changes: ADDED HMS TRANSITION.		
(20) Reasons: RAPT REQUEST.		
(21) Coordinated with: ATA <input checked="" type="checkbox"/> ALPA <input checked="" type="checkbox"/> APA <input checked="" type="checkbox"/> AOPA <input checked="" type="checkbox"/> NBAA <input checked="" type="checkbox"/> OTHER (specify) <input checked="" type="checkbox"/> AMGR, MET ATCT, REG ATCT, ZFW		
(22) Required Effective Date: ROUTINE		
(23) FLIGHT INSPECTED BY (24) DEVELOPED BY (25) APPROVED BY		
Name:	Signature:	Date:
(7) DP Name MICKY		(8) Number FOUR
(9) DP Computer Code MICKY4.MICKY		(10) Superseded Number THREE
(11) Dated 18 Apr 02		(12) Effective Date

APPENDIX 6

USE AND COMPLETION OF FAA FORM 8260-15B,
GRAPHIC DEPARTURE PROCEDURE (DP)
(RNAV Departure Procedures)

USE AND COMPLETION OF FAA FORM 8260-15C,
DEPARTURE (DATA RECORD)
(RNAV Departure Procedures)

**INSTRUCTIONS FOR COMPLETING FAA FORM 8260-15B
GRAPHIC DEPARTURE PROCEDURE (DP)
(RNAV Departure Procedures)**

PAGE 1.

NOTE: Attach an up-to-date, clear graphic depiction of the procedure. DO NOT include a textual description of transitions or departure route text.

TITLE LINE: Check the "RNAV" box. Additionally, check "OBSTACLE" when the procedure is the default obstacle departure procedure (see paragraph 10b), **or** check "SID" when the procedure is initiated by ATC (see paragraph 10c).

BLOCK (1). DP ROUTE DESCRIPTION. Provide the initial climb out instructions for each runway and a textual description of the departure route to the basic DP termination fix. Include only information pertinent to the departure procedure.

See Table 1 for specific wording and required information. Specify the turn direction as either "Left/Right" as follows: 1. DF legs: For all course changes. 2. CF and TF legs: For all courses changes exceeding 90 degrees.

NOTE: If the basic DP route becomes a series of consecutive TF legs with turns less than or equal to 90°, a complete textual description from that point is not necessary. Simply state, "...then via depicted route." (See example, "TAKEOFF RWY 1").

Document all courses, headings, tracks and distances to the nearest hundredth unit of measurement.

NOTE: BLOCK (1) entries will be published verbatim on the NACO chart, with the exception of courses, headings, and tracks, which will be rounded by NACO to the nearest whole degree.

When using a VA or VM leg, specify the actual heading to be flown (e.g., do not use "climb via runway heading"). Ensure courses, tracks, headings, and distances entered on Form 8260-15B match the equivalent true values and distances entered on Form 8260-15C as appropriate.

Table 1. Leg Type Wording and Required Information

8260-15C Leg type	8260.15B Wording	8260.15B Required Information
VA	"heading"	heading/altitude
DF	"direct"	turn direction*/distance**
CF	"course"	course/distance/turn direction***
TF	"track"	course/distance/turn direction***
VM	"heading"	Heading/altitude

* Do not specify turn direction when a DF leg is used as the first leg of a DP.

** Do not specify distance when part of a VA-DF leg combination.

***Only specify turn direction for CF or TF legs when amount of turn exceeds 90°.

Examples:

VA leg followed by DF leg – "Takeoff RWY 32R: Climb via 317.66 heading to 1000', then right turn direct LARRY WP."

VA leg followed by CF leg – "Takeoff RWY 32R: Climb via 317.66 heading to at or above 1000', then via 041.20 course to LARRY WP."

NOTE: Unlike VA/DF, the VA/CF combination requires the climb-to altitude to be stated as an "at or above" altitude. This is a design requirement exclusive to the VA/CF combination.

CF leg - "Takeoff RWY 1: Climb via 007.52 course to LARRY WP, thence..."

DF leg - "Takeoff RWY 14L: Climb direct CURLY WP, thence..."

CF leg followed by TF legs (less than 90 degree course changes) – "Takeoff RWY 1: Climb via 007.52 course to LARRY WP, then via depicted route to SHEMP WP, thence..."

CF leg followed by DF leg – "Takeoff RWY 14L: Climb via 137.64 course to cross CURLY WP at or above 1000, then left turn direct SHEMP WP, thence..."

VM leg – "Takeoff RWY 35C: Climb via 350.11 heading or as assigned by ATC to 3000, expect vectors to AIMEE WP, thence..."

BLOCK (2). TRANSITION ROUTES. (NA for ODP)

(a) Transition Name. Name each transition according to the name of the fix, or NAVAID 3-letter ID, at the transition termination point entered in BLOCK 2(d). Do not include the word "TRANSITION."

(b) Transition Computer Codes. Enter computer code furnished by ATC (see appendix 2).

(c) From FIX/NAVAID. Fix/NAVAID where each transition begins (normally, the en route fix where the basic DP ends); e.g., **DANNY INT, BICKR WP.**

(d) To FIX/NAVAID. En route fix/NAVAID where each transition ends; e.g., **DANNY INT, BICKR WP.** If a transition has multiple segments, enter one line for each segment.

(e) Course/Distance. Specify the course and distance for each transition segment. Enter the actual magnetic to the hundredth of a degree, and distance to the hundredth of a mile (see Order 8260.19, chapter 8). NACO will round for publication.

(f) MEA/MOCA. Enter MEA/MOCA along transition route. By definition, the MEA also encompasses the MRA. To reduce chart clutter, MOCAs less than 500 below MEAs should not be published. If transitions share a common segment, make sure the MEA for that segment is the same for each transition.

(g) Crossing Altitudes/Fixes. DPs must accommodate ATC and obstacle clearance requirements with regard to minimum waypoint/fix crossing altitudes and climb gradients.

Document the ATC altitude, followed by the altitude required for obstacle clearance; e.g., **BECKY at/above 9000/6500**. Charting agencies must depict the obstacle clearance altitude as a minimum crossing altitude (MCA). ATC and obstacle altitude values must be charted regardless of separation. Information in this BLOCK should match the corresponding information in BLOCK (8) of 8260-15C.

NOTE: To determine the MCA, assume 200 feet/NM aircraft climb capability until reaching an altitude suitable for en route flight (refer to 14 CFR Part 91.177); then apply the provisions of TERPS Volume 1, paragraph 1730.

Examples:

NOTE: The VA leg, when used, will be used only on the first leg of a departure and as such a VA leg should not appear in the transition route.

DF leg – "Right turn direct", "Left turn direct" - include distance.

CF leg – Not used for transition routing.

TF leg – "Track course 067.11/87.24" or "Right turn, track course 154.94/47.23."

BLOCK (3). PROCEDURAL DATA NOTES/TAKEOFF MINIMUMS. For each runway, depict all takeoff minimums (**even if standard**) to include nonstandard climb gradients (both obstacle and ATC), affecting the charted DP. Enter any information that is to appear in note form on the graphic depiction; e.g., DME required, minimum climb rate information, etc. Any altitude/airspeed restrictions not associated with a particular waypoint/fix should be shown here. Also, depict all restrictions and performance requirements to fly the procedure. Annotate runway(s) where IFR DPs are not authorized, followed by the reason(s); e.g., obstacles, noise abatement, environmental, etc. Procedures intended for use by /E, /F and/or /R aircraft, regardless of RNP accuracy, must include the note **"GPS Required"** unless a satisfactory DME/DME assessment is completed and documented in BLOCK (16). Use standard NOTE:

RWY 27, NA - Obstacles.

RWY 35, NA - Environmental.

RWY 17, NA - Obstacles and noise abatement.

GPS Required

NOTE: If the satisfactory DME/DME assessment was accomplished but identified critical DME facilities, in place of "GPS Required" use standard note:

DME/DME RNP-0.3 Authorized; ABC and XYZ Must Be Operational.

BLOCK (4). TAKEOFF OBSTACLE NOTES. Identify controlling obstacles.

1. Enter a NOTE regarding obstacles found as a result of applying Table 1, Situation 2 action and Situation 3, action "A".

2. The note must include the runway affected and inform the pilot of the obstacle(s) type and location relative to the DER, and height (AGL/elevation (MSL)). When there are obstacles on both sides of the runway centerline extended, note the most significant obstacles left and

right of the runway centerline. Phrases such as “multiple antennas, numerous trees, etc.” are acceptable. Specify distances in the nearest .1 NM increments (specify distances less than 1 NM in feet). Use standard NOTE:

“NOTE: RWY 35, trees 1280 feet from DER, 120 feet left of centerline, 50 feet AGL/1,527 feet MSL.”

“NOTE: RWY 35, Building 2.1 NM from DER, 160 feet left of centerline, 350 feet AGL/1,927 feet MSL.”

“NOTE: RWY 17, multiple buildings 500 feet from DER 350 feet right of centerline, 50 feet AGL/1,107 feet MSL. Antenna 6,000 feet from DER, 1,235 feet left of centerline, 200 feet AGL/1,257 feet MSL.”

“NOTE: RWY 27, multiple trees and antennas beginning 500 feet from DER, 350 feet right of centerline, up to 110 feet AGL/1,307 feet MSL.”

3. These obstacle NOTES must be published by charting agents.

BLOCK (5). CONTROLLING OBSTACLES. Identify the location of obstacles.

1. Document all obstacles referred to in BLOCK (4).

2. Document the controlling obstacle(s) when development of a departure routing is required and/or when the OIS is raised (up to 35 feet) above DER elevation to account for an existing obstacle. When the OIS is raised, document the OIS height used to avoid or reduce the CG required to clear the obstacle. This information **WILL NOT** be charted on the procedure. This documentation must include those (avoided) obstacles that forced the development of a departure route.

3. Use the following format to list the runway affected, elevation and type of obstacle, the coordinates to the nearest 0.01 second, and if applicable, OIS height above DER elevation; e.g., "RWY 32: 2,049 MSL Terrain 341548.01/862101.05" or "RWY 32: 2,049 MSL Terrain 341548.01/862101.05 - OIS 14' above DER ELEVATION."

BLOCK (6). FIXES AND/OR NAVAIDS. Enter only those fixes and/or NAVAIDs for which charting is requested but are not included in the textual description of the departure or entered in the transition route data.

BLOCK (7). DP NAME. Enter name of departure procedure. For example: the CATHEDRAL SEVEN DEPARTURE is entered as CATHEDRAL; the JONES SIX DEPARTURE (RNAV) is entered as JONES.

BLOCK (8). NUMBER. Enter departure procedure number (spelled out); e.g. EIGHT.

BLOCK (9). DP COMPUTER CODE. Enter computer identification code furnished by ATC (see appendix 2).

BLOCK (10). SUPERSEDED NUMBER. Departure procedure number (spelled out) superseded by this procedure.

BLOCK (11). DATED. Date of superseded procedure. Format: DD MMM YY.

BLOCK (12). EFFECTIVE DATE. Leave blank. The effective date will normally be added by NFDC. Enter an effective date only when a specific effective date is required; e.g., Mag Var rotation.

PAGE 2.

BLOCK (13). AIRPORTS SERVED. RNAV DPs may only serve one airport. List the airport, city, and 2-letter state code served by the departure procedure.

BLOCK (14). LOST COMMUNICATIONS PROCEDURES. ATC is responsible for determining the need and content of lost communications instructions. Leave blank when procedures are the same as in 14 CFR Part 91.185 (standard).

BLOCK (15). COMMUNICATIONS. Enter name of radio communications to be charted; e.g., ATIS, CTAF, Clearance Delivery, Departure Control, etc. Specify frequency only if different than what is currently published for the facility, or unique to the procedure.

BLOCK (16). ADDITIONAL FLIGHT DATA. List any additional charting instructions, items essential to clarify charting or information a specialist has determined needs charting as other than a NOTE. Examples of data may include: terrain features, airports, Military Operating Areas (MOA), holding patterns, or takeoff and departure obstacles; e.g., **Chart _____ MOA; Chart holding pattern at (location).** Ensure that the accompanying Form 8260-2 contains the appropriate charting instructions for holding patterns supporting the departure procedure. Place the reference (departure airport) magnetic variation of record used to develop the procedure in this BLOCK. Include the point of reference and the epoch year. Example: "REFERENCE MAG VAR: KFCR 2W EPOCH YR:00"

DME assessment (Enter one of the following):

1. "DME/DME Assessment: SAT (RNP 1.0 or 2.0 as appropriate)". Indicates a successful assessment to the RNP value specified.
2. "DME/DME Assessment: UNSAT (RNP 1.0), SAT (RNP 2.0)". Indicates an unsuccessful assessment to RNP 1.0, but returned a successful assessment to RNP 2.0.
3. "DME/DME Assessment: UNSAT". Indicates an unsuccessful assessment to RNP 2.0.
4. "DME/DME Assessment: NOT CONDUCTED".

If the DME/DME assessment indicates "UNSAT" or "NOT CONDUCTED", the note "GPS Required" must be entered in BLOCK (3).

NOTE: The DME/DME assessment process is covered in separate guidance.

BLOCK (17). CONTINUATION. Use this area of the sheet to complete any data BLOCKS from previous pages. Indicate BLOCK number and title being contained.

PAGE 3.

BLOCK (18). REMARKS. List information/data which is NOT to be charted; e.g., administrative data or notes for controller information (requested by ATC). These items will not be seen in the TL/NFDD.

BLOCK (19). CHANGES. List changes relating to data entries.

BLOCK (20). REASONS. List reasons for changes relating to data entries.

BLOCK (21). COORDINATED WITH. Enter "X" in the appropriate boxes. Specify other required coordination. DP coordination must be identical with the approach procedure coordination as outlined in Order 8260.19, chapter 8.

BLOCK (22). REQUIRED EFFECTIVE DATE.

1. Enter the effective data as noted in Order 8260.19, chapter 8, except that "Proposed" dates may not be used for DPs. Optimally, submit as "routine." En route data submission cutoff dates must apply for graphic DPs.

2. If the Form 8260-15A represents a concurrent action, place an attention symbol (* for example) in the effective date space and enter the following standard NOTE in the body of the form:

***Concurrent with (SIAP name and amendment number).**

BLOCK (23). FLIGHT INSPECTED BY. Enter the name of the airspace system inspection pilot who conducted the flight inspection, and date.

BLOCK (24). DEVELOPED BY. Enter the name of the procedure specialist developing the data, and the NFPO branch. This individual must sign in the "developed by" space, and enter the date signed.

BLOCK (25). APPROVED BY. Enter the name of the AVN-100 Manager, or his/her delegated representative. This individual must sign in the "approved by" space and enter the date signed.

GRAPHIC DEPARTURE PROCEDURE (DP)

US Department of Transportation
Federal Aviation Administration

OBSTACLE SID RNAV

1. Bearings, headings, courses, tracks, and radials are magnetic.
2. Distances are in nautical miles.
3. Altitudes are minimum altitudes unless otherwise indicated.
4. Graphic depiction attached.

(1) DP Route Description: **TAKEOFF RWY 1:** CLIMB VIA 007.52 COURSE TO LARRY, THEN VIA DEPICTED ROUTE TO SHEMP, THENCE...
TAKEOFF RWY 14L: CLIMB VIA 137.64 COURSE TO CROSS CURLY AT OR ABOVE 1000, THEN LEFT TURN DIRECT SHEMP, THENCE...
TAKEOFF RWY 32R: CLIMB VIA 317.66 HEADING TO AT OR ABOVE 1000, THEN VIA 041.20 COURSE TO LARRY, THEN VIA DEPICTED ROUTE TO SHEMP, THENCE...
 ...VIA (TRANSITION). MAINTAIN 5000, EXPECT FILED ALTITUDE 10 MINUTES AFTER DEPARTURE.

(2) Transition Routes (Graphic Depiction Only)

(a) Transition Name	(b) Transition Computer Codes	(c) From FIX/NAVAID	(d) To FIX/NAVAID	(e) Course / Distance	(f) MEA / MOCA	(g) Crossing Altitudes/Fixes
FGH	SHEMP1.FGH	SHEMP	FGH VORTAC	067.11 TRACK/87.24	5000/3700	
JKL	SHEMP1.JKL	SHEMP	JKL VORTAC	098.77 TRACK/92.51	5000	
LMN	SHEMP1.LMN	SHEMP	LMN VOR/DME	RIGHT TURN 154.94 TRACK/47.23	5000/4100	
RST	SHEMP1.RST	SHEMP	LMN VOR/DME RST VORTAC	RIGHT TURN 154.94 TRACK/47.23 098.38 TRACK/39.79	5000/4100 7000/4400	

(3) Procedural Data Notes / Takeoff Minimums:

TAKEOFF MINIMUMS: RWY 1, 32R STANDARD. RWY 14L 500 - 2 1/2 OR STANDARD WITH MINIMUM CLIMB OF 330 FEET PER NM TO 1200. RWY 14R, 19, 32L NA - AIR TRAFFIC.
NOTE: GPS REQUIRED. FOR USE BY /E, /F, /R (RNP 2.0), AND /G-EQUIPPED AIRCRAFT.
NOTE: AIRCRAFT FILING OVER ABC, UVW, AND HIJ, FILE FGH TRANSITION.

(4) Takeoff Obstacle Notes:

NOTE: RWY 1, OBSTRUCTION LIGHT 1022 FEET FROM DER, 672 FEET RIGHT OF CENTERLINE, 73 FEET AGL/543 FEET MSL.
NOTE: RWY 14L, BUILDING 1.96 NM FROM DER, 575 FEET RIGHT OF CENTERLINE, 478 FEET AGL/974 FEET MSL.
NOTE: RWY 32R, TREES 143 FEET LEFT OF DER, 21 FEET AGL/498 FEET MSL.

(5) Controlling Obstacles:

RWY 1: 543 MSL OBSTRUCTION LIGHT, 325141.44/965102.87 **RWY 14L:** 974 MSL BUILDING 324911.09/964838.62
RWY 32R: 1049 MSL TOWER, 325216.19/965523.02. 498 MSL TREES, 325125.20/965125.68

(6) Fixes and/or NAVAID'S :

(7) DP Name	(8) Number	(9) DP Computer Code	(10) Superseded Number	(11) Dated	(12) Effective Date
SHEMP	ONE	SHEMP1.SHEMP	NONE		

(13) Airports Served			
Airport Name	FOURCLOWNS REGIONAL	City/State	VICTORVECTORVILLE, TX
Airport Name		City/State	
(14) Lost Communications Procedures:			
(15) Communications: ATIS, CLNC DEL, GND CON, TWR, ARCON DEP CON			
(16) Additional Flight Data: REFERENCE MAG VAR: KFCR 2W EPOCH YR: 00 DME/DME ASSESSMENT: UNSAT			
(17) Continuation:			
(7) DP Name	(8) Number	(9) DP Computer Code	(10) Superseded Number
SHEMP	ONE	SHEMP1.SHEMP	NONE
			(11) Dated
			(12) Effective Date

<p>(18) Remarks:</p>																								
<p>(19) Changes:</p>																								
<p>(20) Reasons:</p>																								
<p>(21) Coordinated with:</p> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 15%; border: none;">ATA</td> <td style="width: 15%; border: none;"><input checked="" type="checkbox"/></td> <td style="width: 15%; border: none;">ALPA</td> <td style="width: 15%; border: none;"><input checked="" type="checkbox"/></td> <td style="width: 15%; border: none;">APA</td> <td style="width: 15%; border: none;"><input checked="" type="checkbox"/></td> <td style="width: 15%; border: none;">AOPA</td> <td style="width: 15%; border: none;"><input checked="" type="checkbox"/></td> <td style="width: 15%; border: none;">NBAA</td> <td style="width: 15%; border: none;"><input checked="" type="checkbox"/></td> <td style="width: 15%; border: none;">OTHER (specify)</td> <td style="width: 15%; border: none;"><input checked="" type="checkbox"/></td> </tr> <tr> <td colspan="11" style="border: none; padding-left: 20px;">ARPT MGR, FCR ATCT, ZFW</td> </tr> </table>	ATA	<input checked="" type="checkbox"/>	ALPA	<input checked="" type="checkbox"/>	APA	<input checked="" type="checkbox"/>	AOPA	<input checked="" type="checkbox"/>	NBAA	<input checked="" type="checkbox"/>	OTHER (specify)	<input checked="" type="checkbox"/>	ARPT MGR, FCR ATCT, ZFW											<p>(22) Required Effective Date: ROUTINE</p>
ATA	<input checked="" type="checkbox"/>	ALPA	<input checked="" type="checkbox"/>	APA	<input checked="" type="checkbox"/>	AOPA	<input checked="" type="checkbox"/>	NBAA	<input checked="" type="checkbox"/>	OTHER (specify)	<input checked="" type="checkbox"/>													
ARPT MGR, FCR ATCT, ZFW																								
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<p>(7) DP Name</p>	<p>(8) Number</p>	<p>(9) DP Computer Code</p>	<p>(10) Superseded Number</p>	<p>(11) Dated</p>	<p>(12) Effective Date</p>																			
<p>SHEMP</p>	<p>ONE</p>	<p>SHEMP1.SHEMP</p>	<p>NONE</p>																					

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US Department of Transportation
Federal Aviation Administration

GRAPHIC DEPARTURE PROCEDURE (DP)

OBSTACLE SID RNAV

1. Bearings, headings, courses, tracks, and radials are magnetic.
 2. Distances are in nautical miles.
 3. Altitudes are minimum altitudes unless otherwise indicated.
 4. Graphic depiction attached.

(1) DP Route Description: **TAKEOFF RWY 1:** CLIMB DIRECT LARRY, THEN VIA DEPICTED ROUTE TO SHEMP, THENCE...
TAKEOFF RWY 14L: CLIMB DIRECT CURLY, THEN VIA 061.62 TRACK TO SHEMP, THENCE...
TAKEOFF RWY 32R: CLIMB VIA 317.66 HEADING TO AT OR ABOVE 1000, THEN RIGHT TURN DIRECT LARRY, THEN VIA DEPICTED ROUTE TO SHEMP, THENCE...
 ...VIA (TRANSITION). MAINTAIN 5000, EXPECT FILED ALTITUDE 10 MINUTES AFTER DEPARTURE.

(2) Transition Routes (Graphic Depiction Only)

(a) Transition Name	(b) Transition Computer Codes	(c) From FIX/NAVAID	(d) To FIX/NAVAID	(e) Course / Distance	(f) MEA / MOCA	(g) Crossing Altitudes/Fixes
FGH	SHEMP2.FGH	SHEMP	FGH VORTAC	067.11 TRACK/87.24	5000/3700	
JKL	SHEMP2.JKL	SHEMP	JKL VORTAC	098.77 TRACK/92.51	5000	
OPQ	SHEMP2.OPQ	SHEMP	OPQ VOR/DME	LEFT TURN 005.19 TRACK/52.21	4000/3300	
RST	SHEMP2.RST	SHEMP	RST VORTAC	129.19 TRACK/76.63	7000/4900	

(3) Procedural Data Notes / Takeoff Minimums:
TAKEOFF MINIMUMS: RWY 1, 32R STANDARD. RWY 14L 500 - 2 1/2 OR STANDARD WITH MINIMUM CLIMB OF 330 FEET PER NM TO 1200. RWY 14R, 19, 32L NA - AIR TRAFFIC.
NOTE: FOR USE BY /E, /F, /R (RNP 2.0), AND /G-EQUIPPED AIRCRAFT.
NOTE: AIRCRAFT FILING OVER ABC, UVW, AND HIJ, FILE FGH TRANSITION.
TAKEOFF RWY 1, 32R: DO NOT EXCEED 220 KTS UNTIL MOEHH.

(4) Takeoff Obstacle Notes: **NOTE:** RWY 1, OBSTRUCTION LIGHT 1022 FEET FROM DER, 672 FEET RIGHT OF CENTERLINE, 73 FEET AGL/543 FEET MSL.
NOTE: RWY 14L, BUILDING 1.96 NM FROM DER, 575 FEET RIGHT OF CENTERLINE, 478 FEET AGL/974 FEET MSL.
NOTE: RWY 32R, TREES 143 FEET LEFT OF DER, 21 FEET AGL/498 FEET MSL.

(5) Controlling Obstacles: **RWY 1:** 543 MSL OBSTRUCTION LIGHT, 325141.44/965102.87 **RWY 14L:** 974 MSL BUILDING 324911.09/964838.62
RWY 32R: 1049 MSL TOWER, 325216.19/965523.02. 498 MSL TREES, 325125.20/965125.68

(6) Fixes and/or NAVAIID'S :

(7) DP Name	(8) Number	(9) DP Computer Code	(10) Superseded Number	(11) Dated	(12) Effective Date
SHEMP	TWO	SHEMP2.SHEMP	ONE	18 Apr 02	

(13) Airports Served			
Airport Name	FOURCLOWNS REGIONAL	City/State	VICTORVECTORVILLE, TX
Airport Name		City/State	
(14) Lost Communications Procedures:			
(15) Communications: ATIS, CLNC DEL, GND CON, TWR, ARCON DEP CON			
(16) Additional Flight Data: REFERENCE MAG VAR: KFCR 2W EPOCH YR: 00 DME/DME ASSESSMENT: SAT (RNP 2.0)			
(17) Continuation:			
(7) DP Name	SHEMP	(8) Number	TWO
(9) DP Computer Code	SHEMP2.SHEMP	(10) Superseded Number	ONE
(11) Dated	18 Apr 02	(12) Effective Date	

(18) Remarks:

(19) Changes:
 1. ADDED OPQ TRANSITION.
 2. REMOVED LMN VOR/DME FROM RST TRANSITION.
 3. RELOCATED MOEHH AND ADDED SPEED RESTRICTION.

(20) Reasons:
 1-3. RAPT REQUEST.

(21) Coordinated with:
 ATA ALPA APA AOPA NBAA OTHER (specify) ARPT MGR, FCR ATCT, ZFW

(22) Required Effective Date:
 ROUTINE

(23) FLIGHT INSPECTED BY (24) DEVELOPED BY (25) APPROVED BY
 Name: Date: Signature: Date: Signature: Date:
 (7) DP Name: SHEMP (8) Number: TWO (9) DP Computer Code: SHEMP2.SHEMP (10) Superseded Number: ONE (11) Dated: 18 Apr 02 (12) Effective Date:

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**INSTRUCTIONS FOR COMPLETING
FAA FORM 8260-15C**

1. Basic instructions for completing Form 8260-15C. Detailed instructions are contained in paragraphs 2 through 5. Enter a dash (e.g., “-”) in BLOCKS 4-7 when they are intentionally left blank.

BLOCK (1). FIX/NAVAID. Enter the name of the fix/NAVAID in one of the following formats: (5-letter pronounceable name; (NAVAID) 3-letter facility ID and type (e.g., ABC VORTAC).

BLOCK (2). LAT/LONG. Enter the latitude and longitude, separated by a "slant(/)" to the nearest hundredth of a second.

BLOCK (3). C (Chart). Enter a Y (yes) if a fix is to be charted. Enter an N (no) if a fix does not require charting. Any fix where a change in altitude, course, or speed, including WPs where turns or transitions begin and end, require charting.

BLOCK (4). FO/FB. Enter the FO (Fly-over) or FB (Fly-by) as appropriate to indicate desired use. FB is the normal designation. Determination is based on operational or obstacle requirements.

BLOCK (5). LEG TYPE. Enter the two-letter ARINC-24 code for leg-type; e.g., IF, TF, RF, etc.

BLOCK (6). TC. Enter the true course (TC) to the nearest hundredth of a degree. The charting agency will apply magnetic variation, if necessary, and round for publication.

BLOCK (7). DIST. Enter the distance to the nearest hundredth of a NM. The charting agency will round for publication.

BLOCK (8). ALTITUDE. Enter the minimum, mandatory, or maximum altitude in 100-foot increments (or Flight Levels in 1,000-foot increments) and label each altitude/flight level as "at/above," "at," or "at/below."

BLOCK (9). SPEED. Enter the minimum, mandatory, or maximum airspeed(s) in KIAS. Optionally, the airspeed may be entered as ground speed (GS). Label airspeed restrictions as "at/above," "at," or "at/below," as appropriate. Following the numerical value, add "K" for KIAS, or "G" for ground speed. Enter restrictions only where necessary for procedural containment, or for traffic flow requirements.

BLOCK (10). REMARKS. Enter any pertinent information that would clarify a data entry; e.g., airspeed restriction for turn radius. Additionally, such items as CG restrictions, displaced threshold information, transition computer code, etc, are also placed in this BLOCK.

2. The departure routing from each authorized runway to the basic DP fix (i.e., the DP termination fix) is documented first, followed by the routing from the basic DP fix to each transition fix as appropriate.

3. Departure Routing to Basic DP Fix (see examples). The initial departure routing represents the most complex portion of documenting the RNAV DP. The first three lines of the 8260-15C are typically the most problematic, largely due to the variables associated with

permissible leg types and waypoint sequencing. The following line-by-line explanation used in conjunction with guidance in appendix 2, paragraph 5b, outlines the departure sequence element (i.e., from AER to DP fix) beginning at the AER*, with each succeeding line representing a permissible option until reaching the DP fix. BLOCKS (1) thru (7) are required entries except as noted. BLOCKS (8) & (9): Enter restrictions associated with BLOCK (1) as appropriate.

**Note: WP placement is computed from DER as outlined in Order 8260.44; AER is a required coding element used for course/heading and distance computations.*

4. For each authorized runway:

a. First line (of each element):

BLOCK (1): Enter the AER. Example: "RW14L (AER)".

BLOCK (2): Enter the AER lat/long. If the runway threshold is displaced, enter the displaced AER lat/long and note the amount of displacement in BLOCK (10). Example: "RW 14L (AER)*, 325117.19/965114.05*, *Displ thld (1273)."

BLOCK (3): Enter "N".

BLOCKS (4) thru (9): Leave blank.

b. Second line options:

(1) **CF leg** from AER to FB/FO: **BLOCKS (6) & (7):** Enter true course/distance from AER to the next fix (see example SHEMP ONE, RW01).

(2) **DF leg** from AER to FB/FO: **BLOCK (6):** Leave blank. **BLOCK (7):** Enter distance from AER to the next fix (see example SHEMP TWO, RW01).

(3) **VA to CF leg** (See third line options for required **CF** entries): **BLOCK (1):** Enter the climb-to MSL altitude. **BLOCK (2):** Enter the computed lat/long of the VA/CF intersect point. **BLOCKS (3) & (4):** Leave blank. **BLOCK (6):** Enter the true heading to be flown as computed from AER to VA/CF intersect point. **BLOCK (7):** Enter distance from AER to VA/CF intersect point. **BLOCKS (8) and (9):** Leave blank. (See example SHEMP ONE, RW32R.)

(4) **VA to DF leg** (See third line options for required **DF** entries): **BLOCK (1):** Enter the climb-to MSL altitude. **BLOCKS (2) thru (4):** Leave blank. **BLOCK (6):** Enter the true azimuth of the takeoff runway. **BLOCKS (7) thru (9):** Leave blank. (See example for SHEMP TWO, RW32R.)

c. Third line options (if required; third line required for VA combinations):

(1) **DF leg** (preceded by FO WP): **BLOCK (6):** Leave blank. **BLOCK (7):** Enter the distance between the plotted position of fixes. **BLOCK (10):** Specify turn direction as either "Left/Right Turn" (see example SHEMP ONE, RW14L).

(2) TF leg: BLOCKS (6) & (7): Enter the true course and distance between the plotted position of fixes. **BLOCK (10):** Specify turn direction as described above only if course change exceeds 90 degrees.

(3) CF leg (VA/CF combination): BLOCKS (6) & (7): Enter the true course and distance from the VA/CF intersect point to the next fix (CF termination fix). **BLOCK (10):** Specify turn direction as described above only if course change exceeds 90 degrees (see example SHEMP ONE, RW32R).

(4) DF leg (VA/DF combination): BLOCKS (6) & (7): Leave blank. **BLOCK (10):** Specify turn direction as either "Left/Right Turn" (see example SHEMP TWO, RW32R).

d. Fourth and subsequent lines (DF or TF only):

Same as third line (1) & (2) entries.

e. The basic DP routing concludes with the basic DP fix data entered on the last line of each routing element. Repeat this process until all authorized runways have been entered.

5. Transition Routing (see examples).

a. For each transition:

(1) First line (of each element):

BLOCKS (1) & (2): Enter the basic DP fix name and lat/long.

BLOCK (3): Enter "Y".

BLOCK (4): Leave blank.

BLOCK (5): Enter "IF".

BLOCKS (6) thru (9): Leave blank.

BLOCK (10): Enter the transition computer code.

(2) Second and subsequent lines (DF or TF only): Same as departure routing element third line (1) and (2) entries. Enter the transition fix data on the last line of the transition routing element.

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DEPARTURE (Data Record)

(1) FIX/NAVAID	(2) LAT/LONG	(3) C	(4) FO/FB	(5) LEG TYPE	(6) TC	(7) DIST (NM)	(8) ALTITUDE	(9) SPEED	(10) REMARKS
RW01 (AER)	325030.65/965118.52	N	-	-	-	-			
LARRY	325615.86/965038.96	Y	FB	CF	005.52	5.77			
MOEHH	330002.41/964701.80	Y	FB	TF	038.92	4.84			
SHEMP	325932.61/962728.24	Y	FB	TF	091.64	16.46			
RW14L (AER)*	325117.19/965114.05*	N	-	-	-	-			*DISPL THLD (1273 FT)
CURLY	324935.46/964916.24	Y	FO	CF	135.64	2.37	AT/ABOVE 1000		CG 330 FT/NM TO 1200
SHEMP	325932.61/962728.24	Y	FB	DF	-	20.87			LEFT TURN
RW32R (AER)	325031.35/965020.95	N	-	-	-	-			
1000 MSL	325316.57/965332.39	-	-	VA	315.66	3.84	AT/ABOVE 1000		
LARRY	325615.86/965038.96	Y	FB	CF	039.20	3.84			
MOEHH	330002.41/964701.80	Y	FB	TF	038.92	4.84			
SHEMP	325932.61/962728.24	Y	FB	TF	091.64	16.46			
SHEMP	325932.61/962728.24	Y	-	IF	-	-			SHEMP1.FGH
FGH VORTAC	333543.94/945243.79	Y	FB	TF	065.11	87.24			
SHEMP	325932.61/962728.24	Y	-	IF	-	-			SHEMP1.JKL
JKL VORTAC	324749.41/943828.97	Y	FB	TF	096.77	92.52			
SHEMP	325932.61/962728.24	Y	-	IF	-	-			SHEMP1.LMN
LMN VOR/DME	321721.40/960207.48	Y	FB	TF	152.94	47.23			
DP Name	SHEMP RNAV	Number	ONE	DP Computer Code	SHEMP1.SHEMP	Superseded Number	NONE	Dated	Effective Date

DEPARTURE (Data Record)

(1) FIX/NAVAID	(2) LAT/LONG	(3) C	(4) FO/FB	(5) LEG TYPE	(6) TC	(7) DIST (NM)	(8) ALTITUDE	(9) SPEED	(10) REMARKS	
RW01 (AER)	325030.65/965118.52	N	-	-	-	-	-	-	-	
LARRY	325615.86/965038.96	Y	FO	DF	-	5.77	-	-	-	
MOEHH	330205.91/964502.64	Y	FO	TF	038.97	7.49	-	AT/BELOW 220K	-	
SHEMP	325932.61/962728.24	Y	FO	TF	099.71	15.00	-	-	-	
RW14L (AER)*	325117.19/965114.05*	N	-	-	-	-	-	-	*DISPL THLD (1273 FT)	
CURLY	324905.36/964841.41	Y	FB	DF	-	3.07	-	-	CG 330 FT/NM TO 1200	
SHEMP	325932.61/962728.24	Y	FO	TF	059.62	20.69	-	-	-	
RW32R (AER)	325031.35/965020.95	N	-	-	-	-	-	-	-	
1000 MSL		-	-	VA	315.66	-	AT/ABOVE 1000	-	-	
LARRY	325615.86/965038.96	Y	FO	DF	-	-	-	-	RIGHT TURN	
MOEHH	330205.91/964502.64	Y	FO	TF	038.97	7.49	-	AT/BELOW 220K	-	
SHEMP	325932.61/962728.24	Y	FO	TF	099.71	15.00	-	-	-	
SHEMP	325932.61/962728.24	Y	-	IF	-	-	-	-	SHEMP2.FGH	
FGH VORTAC	333543.94/945243.79	Y	FB	TF	065.11	87.24	-	-	-	
SHEMP	325932.61/962728.24	Y	-	IF	-	-	-	-	SHEMP2.JKL	
JKL VORTAC	324749.41/943828.97	Y	FB	TF	096.77	92.51	-	-	-	
SHEMP	325932.61/962728.24	Y	-	IF	-	-	-	-	SHEMP2.OPQ	
OPQ VOR/DME	334641.06/965429.57	Y	FB	TF	003.19	52.21	-	-	LEFT TURN	
DP Name	SHEMP RNAV	Number	TWO	DP Computer Code	SHEMP2.SHEMP	Superseded Number	ONE	Dated	18 APR 02	Effective Date



U.S. Department
of Transportation

**Federal Aviation
Administration**

Directive Feedback Information

Please submit any written comments or recommendations for improving this directive, or suggest new items or subjects to be added to it. Also, if you find an error, please tell us about it.

Subject Order 8260.46B, Departure Procedure (DP) Program

To: DOT/FAA
Flight Procedure Standards Branch, AFS-420
P.O. Box 25082
Oklahoma City, OK 73125

(Please check all appropriate line items)

An error (procedural or typographical) has been noted in paragraph _____ on page _____.

Recommend paragraph _____ on page _____ be changed as follows:
(attach separate sheet if necessary)

In a future change to this directive, please include coverage on the following subject:
(briefly describe what you want added):

Other comments:

I would like to discuss the above. Please contact me.

Submitted by: _____ Date: _____

FTS Telephone Number: _____ Routing Symbol: _____