U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
Air Traffic Organization Policy

ORDER 7110.113E

Effective Date:
April 10, 2015

SUBJ: Procedures for Issuing Automated Clearances

1. Purpose of This Order. This order prescribes procedures for issuing departure clearances using the pre-departure clearance (PDC) function of the Tower Data Link System (TDLS) automated data link between airport traffic control towers (ATCT) and authorized users.

2. Audience. This change applies to all Air Traffic Organization (ATO) personnel and anyone using ATO directives.

3. Where Can I Find This Order? This order is available on the MyFAA employee website at https://employees.faa.gov/tools_resources/orders_notices/ and on the FAA website at http://www.faa.gov/regulations_policies/orders_notices/.

4. Cancellation. FAA Order 7110.113D, Procedures for Issuing Automated Clearances, dated April 3, 2014, is cancelled.

5. Explanation of Policy Changes. This order is revised to provide standardization of PDC clearances across the FAA. The Background paragraph contains detailed information. This order also includes revised procedures for the use of CPDLC.

6. Action. Air traffic managers at facilities using the Version 12 DCL Application in TDLS (Tower Data Link Services) issuing pre-departure clearances (PDC) and Controller Pilot Data Link Communications (CPDLC) between airport traffic control towers (ATCT) and authorized users must utilize the procedures outlined in Appendix A of this order.

7. Procedures.

a. General.

(1) All clearances must be reviewed for accuracy and route integrity. Action must be taken to ensure all information is complete and understandable to the recipient, and the route of flight is continuous.

(2) The PDC does not permit amended or revised flight plans to be transmitted. Revised or amended flight plans require the clearance to be verbally issued to the flight crew.

NOTE-
A flight plan that initially generates in the Tower, with a route assigned by automation, is not considered revised or amended and may be transmitted.

(3) Improvised or controller generated text must not contain ATC instructions. Additional information such as traffic management messages may be included. All improvised text must be clear, concise, and serve an ATC purpose.

(4) The Air Traffic Manager (ATM) must determine the mode of PDC operation. Prior to use of the "AUTO" mode, facilities must establish positive procedures to immediately detect and promptly correct any data transmitted in error.

(5) For a minimum of 60 days following the commissioning of a PDC/TDLS, the facility Automatic Terminal Information Service (ATIS) must broadcast that PDC is available.

(6) A notice to airmen (NOTAM) outlining the services being provided by PDC must be issued for a minimum of 2 years following commissioning of the system. The NOTAM must direct applicants who request to participate to contact:

Federal Aviation Administration
Mission Support, Air Traffic Procedures, AJV-8
800 Independence Ave., SW.
Washington, DC 20591

(7) Technical Operations personnel must be notified when an outage or problem occurs with any element of the TDLS.

b. Local Directive. The ATM must establish a facility directive for transmitting automated clearances. The directive must contain local procedures and responsibilities for processing clearances and must include the following:

(1) Procedures to review clearances for accuracy and route integrity. Include positive procedures for correcting information prior to transmitting and/or to verbally correct information that has changed or been transmitted in error.

(2) Procedures for issuing Departure Procedures (DPs), Standard Instrument Departures (SIDs), altitude information, departure frequencies, and other air traffic control information in accordance with this directive.

(3) Responsible positions and procedures to ensure that all applicable clearance information, in accordance with FAA Order JO 7110.65, Air Traffic Control, is conveyed to the pilot either via Option Fields or verbal communication.

(4) Procedures for local use of Option Fields in accordance with this directive. Include types of additional information and improvised text that may be used.

(5) Procedures for operating in "AUTO" mode, when applicable. To facilitate continued use of AUTO mode, facilities may populate Option Fields 1 and 2 as follows:

(a) Use Option Field 1 for DEP Instructions for RNAV ACFT.

(b) Use Option Field for 2 Instructions for NON-RNAV ACFT.

EXAMPLE (RNAV Aircraft):
(Option Field 1) RNAV ACFT CLEARED VIA ASSIGNED DEP.

EXAMPLE (Non- RNAV Aircraft):
(Option Field 2) NON-RNAV ACFT CLEARED ATL6 DEP.

(6) Procedures for monitoring and reporting routes which are routinely generated by automation that differ from the filed route (indicated with plus signs on flight progress strip) to the facility TDLS Application Specialist (TAS), who will report to the appropriate Air Route Traffic Control Center (ARTCC) PDC focal as necessary.

c. PDC Option Fields. The route of flight, as displayed on the flight progress strip, is transmitted to the pilot in a PDC clearance. PDC provides up to six Option Fields for the tower controller to enter

all other clearance information. Each Option Field may contain up to 20 different line selections, with a maximum of 39 characters per line, based upon local facility adaptation. For Standardization facilities must use PDC Option fields as follows:

(1) Option Field 1 is reserved for an aircraft cleared via a Departure Procedure (DP) or Standard Instrument Departure (SID) procedure. Option Field 1 must contain the DP/SID and transition if applicable unless the DP/SID and transition is adapted in HOST/ERAM and the ATCT has verified it is included in the route of flight.

(a) The name of the DP/SID must be preceded by the words “CLEARED”.

(b) The name of the DP/SID must be followed by the abbreviation “DEP” for DEPARTURE.

(c) The name of the transition must be followed by the abbreviation “TRSN” for TRANSITION.

EXAMPLE (DP/SID Transition):
CLEARED EWR1 DEP ACK TRSN (NOT NEWARK ONE) (NOT NANTUCKET)

CLEARED BETTE3 DEP VALLY TRSN

(d) The name of the DP/SID/TRSN must use the associated codified identifier.

(e) Once a clearance is transmitted, if the DP/SID or transition assigned or entered in Option Field 1 is changed, or is not the DP/SID or transition to be flown, the revised or intended DP/SID or transition must be issued verbally.

(f) If an aircraft is not cleared via a DP/SID, Option Field 1 should be left blank.

(2) Option Field 2 is reserved for associated climb-out or initial heading instructions. If the initial heading to be flown is different from the published heading in the assigned DP/SID, the heading must be issued verbally.

EXAMPLE (Associated climb-out instructions, or initial heading):
CANARSIE CLIMB

INITIAL HEADING 155

(3) Option Field 3 must contain altitude guidance.

(a) If NO SID is assigned or the assigned DP/SID does not contain an initial altitude or vertical guidance then Option Field 3 must contain the instruction “MAINTAIN (assigned altitude)”.

EXAMPLE 1 (Initial Altitude):
(Option Field 1): Blank (NO SID)
(Option Field 2):
(Option Field 3): MAINTAIN 5,000
(Option Field 4): EXPECT FL 230 AT EWC

EXAMPLE 2 (Initial Altitude):
(Option Field 1): CLEARED KING7 DEP GTH TRSN (DP/SID contains no Altitude information for Jets)
(Option Field 2):
(Option Field 3): MAINTAIN 5,000
(Option Field 4): EXPECT FILED ALT 10 MINUTES AFTER DEPARTURE (if not contained in DP/ SID)

(b) If the assigned DP/SID contains vertical guidance from take-off to climb-to an altitude to maintain, or contains a top altitude, and it is intended that an aircraft vertically navigate in accordance with the DP/SID assigned or entered in Option Field 1, then Option Field 3 must contain the instruction "CLIMB VIA SID".

EXAMPLE (Climb Via):
(Option Field 1): CLEARED CPTAL8 DEP (DP/SID contains Top Altitude or Initial Altitude)
(Option Field 2):
(Option Field 3): CLIMB VIA SID
(Option Field 4): EXPECT FILED ALT 10 MINUTES AFTER DEP (Required if not contained in DP/SID)

(c) If the assigned DP/SID does not have an initial altitude to maintain or a top altitude, but contains vertical guidance, and it is intended that an aircraft vertically navigate in accordance with the DP/SID assigned or entered in Option Field 1, then Option Field 3 must contain the instruction "CLIMB VIA SID EXCEPT MAINTAIN (ALT)".

EXAMPLE (Climb Via Except Maintain):
(Option Field 1): CLEARED HAROB4 DEP ERAVE TRSN. (DP/SID does not contain Top Altitude or Initial Altitude but contains Crossing Restrictions).
(Option Field 2):
(Option Field 3): CLIMB VIA SID, EXCEPT MAINTAIN (ALTITUDE).
(Option Field 4): EXPECT FILED ALT 15 NM FROM SEA VORTAC (Required if not contained in DP/SID).

(d) If the assigned altitude is different from the published altitude in the DP/SID, the altitude must be issued verbally.

(4) Option Field 4 must contain the expected altitude with directions unless included in the assigned DP/SID.

EXAMPLE (Expect Altitude):
EXPECT FILED ALT 10 MIN AFTER DEP.
EXPECT FILED ALT 15 NM FROM SEA VORTAC

(5) Option Field 5 must contain the departure control frequency unless the departure frequency is contained in the DP/SID.

(6) Additional use of Option Fields 4 and 5 (if not required) and Option Field 6 may also be defined in a facility directive. Unless specifically prohibited by this order, remaining and unassigned Option Fields must be used in accordance with a facility directive. Only include information that is not contrary to that in an assigned DP/SID and if it is necessary for a facility or specific operation. Use Option Fields in a sequence consistent with Departure Clearance in FAA Order JO 7110.65.

(7) Table 1 lists all six Option Fields and the allowable data entered into each.

TBL 1
Allowable Data

FIELD	
1	*"CLEARED (DP/SID to be flown) DEP "(TRANSITION to be flown) TRSN"* or *DEP Instruction to RNAV ACFT* or *no entry* (if no SID is assigned)
2	*Associated climb-out instructions or initial heading* or *DEP Instruction to NON RNAV ACFT* or *no entry*
3	*"MAINTAIN (Initial Altitude)"* or *"CLIMB VIA SID"* or *"CLIMB VIA SID, EXCEPT MAINTAIN (Altitude)"*
4	Expected Altitude in the event of lost communications *(if not contained in SID)* or In accordance with facility directive
5	*"DEP CONTROL (FREQUENCY)" (if not contained in SID)* or In accordance with facility directive
6	In accordance with facility directive

(8) Once transmitted, if any clearance information changes or if it is contrary to that in an assigned SID, that information must be issued verbally.

(9) DO NOT imply or use terms such as "Cleared as filed" or "As filed" in an automated clearance.

(10) Only standard contractions found in FAA Order 7340.2 must be used in populating Option Fields.

d. TDLS APPLICATION SPECIALIST (TAS). The ATM must designate a facility TAS. The TAS must:

(1) Configure air traffic components of TDLS, incorporate air traffic operational data, monitor data and configurations to ensure accuracy and currency, make adjustments to TDLS as required, and maintain the TDLS for optimum usability.

(2) Share responsibility and coordinate with the Technical Operations TDLS System Administrator(s) as necessary.

(3) Receive reports and monitor PDC's for routes which are routinely generated by automation that differ from the filed route (indicated with plus signs on flight progress strip). Investigate likely causes of multiple, repeated occurrences. Report the findings to appropriate ARTCC PDC focal.

e. Coordination. All matters pertaining to the PDC/TDLS of system-wide interest, including notification of new participants, must be coordinated through the headquarters air traffic PDC/TDLS coordinator in Air Traffic Procedures, Mission Support, AJV-8.

8. Distribution. This order is distributed to the following ATO service units: Terminal, En Route and Oceanic, Technical Operations, System Operations, and Mission Support; the ATO Office of Safety and Technical Training; the Air Traffic Safety Oversight Service; the William J. Hughes Technical Center; and the Mike Monroney Aeronautical Center.

9. Background. The automated PDC/TDLS is a data link between the ATCT Flight Data Input/Output System (FDIO) and specially equipped aircraft, or the User Flight Planning Computer System. The data is presented to the clearance delivery (CD) position on a terminal display in the form of a tabular list and flight plan display area. A CD specialist may append the flight plan by including approved information before relaying the clearance. The resulting departure clearance is then transmitted to the participant network computer via a data communication transfer. The PDC process virtually eliminates the need for verbal communications with participating aircraft and reduces the amount of frequency congestion, especially during peak traffic periods.

The FAA and user community identified several unique characteristics of issuing automated clearances that potentially lead to lack of consistency in clearance composition across the FAA, varied understanding or misunderstanding of clearance content by the recipient, contradictory information within a clearance, and inadequate local monitoring of air traffic TDLS adaptations.

The Tower Data Link Services system currently deployed at select airports throughout the NAS is being upgraded to include delivering DCL (departure clearances) to equipped aircraft using Controller Pilot Data Link Communications (CPDLC). The new service will be called CPDLC. The software upgrade to accommodate CPDLC will change the display and adaptation of the legacy PDC service and will be a major change for the clearance delivery controller and the TDLS Application Specialist (TAS) of the TDLS system. Each TDLS system will be declared 'in service" by the ATM when all system and training requirements have been met.

The primary difference between the PDC function and the new CPDLC service is the PDC service depends on the Airlines/Flight Operations Center or other third party to deliver the pre-departure clearance to the aircraft, while the CPDLC service is a direct connection from the tower automation to the flight deck avionics. The direct connection between the tower automation and the flight deck allows for revised data to be delivered to the aircraft up to the point of departure. The PDC function is still prohibited from delivering revised clearances.

The pre-departure clearance data from the EAS is presented to the clearance delivery (CD) position on a terminal display in the pick list and flight plan display area. The pick list will indicate which flights will receive a CPDLC clearance and which flights will receive a PDC clearance. The presentation of departure clearances to the controller will remain virtually the same, with a few minor changes for the CPDLC clearances. The CD specialist may append the flight plan by including approved information before sending the clearance. The resulting DCL is then transmitted to the participant network computer

for PDC clearances, or to the flight deck avionics for CPDLC clearances, via a data communication transfer.

Indications of revised flight data from the EAS will be presented to the controller in the pick list. CPDLC clearances will be selected and displayed in the flight plan display area. Flight data that has been revised by the EAS or by the CD specialist will be highlighted, and the CD specialist may append the flight plan by including approved information prior to up linking the revised data.

Responses from the flight deck (WILCO, UNABLE, STANDBY) and responses from the system (TIMEOUT, ERROR) to CPDLC clearance messages will be available for display to the controller. The PDC acknowledgments will remain the same.

Modifications to local procedures will be necessary to support CPDLC clearances (i.e. strip marking, strip posting, etc.) since CPDLC enables additional departure clearance capabilities.

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Air Traffic Organization

4-9-15
Date Signed

Appendix A.
Procedures for Using the Version 12 DCL Application in TDLS (Tower Data Link Services)

a. PDC

1. General.

(a) All clearances must be reviewed for accuracy and route integrity. Action must be taken to ensure all information is complete and understandable to the recipient, and the route of flight is continuous.

(b) PDC does not permit amended or revised flight plans to be transmitted. Revised or amended flight plans require the clearance to be verbally issued to the flight crew.

***NOTE**-A flight plan that initially generates in the Tower, with a route assigned by automation,(eg:ADR) is not considered revised or amended and may be transmitted.*

(c) PDC clearance information must be operational in nature. All selectable fields will be predefined by the TAS and available from a drop down menu.

(d) The Air Traffic Manager (ATM) must determine the mode of PDC operation. Prior to use of the "AUTO" mode, facilities must establish procedures to immediately detect and promptly correct any data transmitted in error.

(e) For a minimum of 60 days following the commissioning of a TDLS system, the facility Automatic Terminal Information Service (ATIS) must broadcast that PDC is available.

(f) Technical Operations personnel must be notified when an outage or problem occurs with any element of the TDLS.

2. Local Directive. The ATM must establish a facility directive for transmitting automated clearances. The directive must contain local procedures and responsibilities for processing clearances and must include the following:

(a) Procedures to review clearances for accuracy and route integrity. Include procedures for correcting information prior to transmitting and/or to verbally correct information that has changed or been transmitted in error.

(b) Procedures for issuing Departure Procedures (DPs), Standard Instrument Departures (SIDs), climb-out procedures, altitude information, departure frequencies, and other air traffic control information in accordance with this directive.

(c) Responsible positions and procedures to ensure that all applicable clearance information, in accordance with FAA Order JO 7110.65, Air Traffic Control, is conveyed to the pilot either via Selectable Fields or verbal communication.

(d) Local procedures for use of Selectable Fields in accordance with this directive.

(e) Procedures for monitoring and reporting routes which are routinely generated by automation that differ from the filed route (indicated with plus signs on flight progress strip) to the facility TDLS Application Specialist (TAS), who will report to the appropriate Air Route Traffic Control Center (ARTCC) focal as necessary.

(f) Only include information that is not contrary to that in an assigned SID and necessary for a facility specific operation. Once transmitted, if any clearance information changes or if it is contrary to that in an assigned SID, that information must be issued verbally.

(g) DO NOT imply or use terms such as "Cleared as filed" or "As filed" in a PDC automated clearance.

(h) Only standard contractions found in FAA Order 7340.2 must be used in populating Selectable Fields.

b. CPDLC Procedures

1. General.

(a) All clearances must be reviewed for accuracy and route integrity. Action must be taken to ensure all information is complete and understandable to the recipient, and the route of flight is continuous.

(b) CPDLC permits amended or revised flight plans to be transmitted. Revised or amended flight plans that cannot be delivered using CPDLC must be verbally issued to the flight crew.

(c) CPDLC clearance information must be operational in nature. All selectable fields will be pre-defined by the TAS and available from a drop down menu.

(d) The Air Traffic Manager (ATM) must determine the mode of CPDLC operation. Prior to use of the "AUTO" mode, facilities must establish procedures to immediately detect and promptly correct any data transmitted in error.

(e) For a minimum of 60 days following the commissioning of a CPDLC capability, the facility Automatic Terminal Information Service (ATIS) must broadcast that CPDLC is available.

(f) Technical Operations (TO) personnel shall be notified when an outage or problem occurs with any element of the TDLS.

2. Local Directive. The ATM must establish a facility directive for transmitting automated clearances. The directive must contain local procedures and responsibilities for processing clearances and must include the following:

(a) Procedures to review all clearances; initial and revised for accuracy and route integrity.

(b) Procedures for correcting errors via voice if unable to use CPDLC. Phraseology: "(aircraft ID) DISREGARD CPDLC MESSAGE".

(c) Procedures for issuing Departure Procedures (DPs), Standard Instrument Departures (SIDs), climb-out procedures, altitude information, departure frequencies, and other air traffic control information in accordance with this directive.

(d) Procedures for accomplishing coordination prior to transmitting revised clearances.

(e) Procedures for ensuring acknowledgment of Wilco, Unable, and Standby for revised clearances.

(f) Procedures for handling all flight deck responses.

(g) Procedures for handling controller alerts, errors, and timeouts.

(h) Responsible positions and procedures to ensure that all applicable clearance information in accordance with FAA Order JO 7110.65, Air Traffic Control, is conveyed to the pilot either via verbal communication or CPDLC.

(i) Procedures for operating in "AUTO" mode, when applicable.

c. DCL Application (PDC/CPDLC) Selectable Fields. The Departure Clearance (DCL) application provides up to nine Selectable Fields for the tower controller to enter all other clearance information. Each Selectable Field has a purpose and should only be used for that purpose. For standardization, facilities must use DCL Application Selectable Fields as follows:

1. Selectable Field 1, SID Field, must contain:

(a) The correctly filed SID, or

(b) the SID assigned by the En Route Automation System (EAS), or

(c) if No SID is filed or assigned by EAS, the controller must either select a SID or, if no SID is to be assigned, select the "NO SID" option.

2. Selectable Field 2, Transition Field, is reserved for named Transitions on Departure Procedures. Selectable Field 2 must contain:

(a) The correctly filed Transition, or

(b) the Transition assigned by the EAS, or

(c) if No Transition is filed or assigned by EAS, the controller must either select a Transition or, if no Transition is to be assigned, select the "- - - -" option.

3. Selectable Field 3, Climb Out Field, is reserved for climb related information, such as heading assignments, expected vector assignments, or defined SID climbs. Climb Out Field instructions must never contradict SID instructions and may reiterate pertinent SID information. This field is limited to 32 characters and only those entries adapted by the TAS will be available for selection.

4. Selectable Field 4, CLIMB VIA Field, is reserved for use when a SID is assigned or selected, and will contain CLIMB VIA SID or CLIMB VIA SID EXCEPT MAINTAIN (altitude) information as follows:

(a) If the assigned SID contains vertical guidance from take-off to climb to an altitude to maintain or contains a top altitude, and it is intended that an aircraft vertically navigate in accordance with the SID assigned or entered in Selectable Field 1, then Selectable Field 4 must contain the instruction "CLIMB VIA SID", or

(b) If the assigned SID does not have an initial altitude to maintain or a top altitude, but contains vertical guidance, and it is intended that an aircraft vertically navigate in accordance with the SID assigned or entered in Selectable Field 1, then Selectable Field 4 must contain the instruction "CLIMB VIA SID EXCEPT MAINTAIN (altitude)", or

(c) If the assigned altitude is different from the published altitude in the SID, the altitude may be amended using, CLIMB VIA SID EXCEPT MAINTAIN (altitude).

5. Selectable Field 5, Maintain Altitude Field, is reserved for initial altitude Assignment. If NO SID is assigned or the assigned SID does not contain either an initial altitude or vertical guidance, then Selectable Field 5 must contain the instruction "MAINTAIN (assigned altitude)".

6. Selectable Field 6, Expected Altitude Field, is reserved for specifying when the Expected Altitude would be used in the event of lost communications.

7. Selectable Field 7, Departure Frequency Field, is reserved for Departure Control Frequency Assignment. The selection of "SEE SID" may be used if the SID contains Departure Control Frequency Assignment specific to the intended departure procedure.

8. Selectable Field 8, Contact Field, is reserved for additional Contact information in accordance with facility directives. This field is limited to 32 characters.

9. Selectable Field 9, Local Information Field, is reserved for additional information in accordance with facility directives. This field is limited to 34 characters and must not contradict information contained elsewhere in a departure clearance.

d. TDLS Application Specialist (TAS). The ATM must designate two air traffic personnel as facility TASs. The TASs must:

1. Configure air traffic components of TDLS, incorporate air traffic operational data, monitor data and configurations to ensure accuracy and currency, make adjustments to TDLS as required, and maintain the TDLS adaptation for currency and optimum usability.

2. Share responsibility and coordinate with the Technical Operations TDLS System Administrator(s) as necessary.

3. Receive reports and monitor routes which are routinely generated by automation that differ from the filed route (indicated with plus signs on flight progress strip). Investigate likely causes of multiple, repeated occurrences. Report the findings to appropriate ARTCC DCL point of contact.

e. Coordination. All matters pertaining to the PDC/CPDLC/TDLS of system-wide interest, including notification of new participants, must be coordinated through the headquarters air traffic PDC/CPDLC/TDLS coordinator in Air Traffic Procedures, Mission Support, AJV-8.