Chapter 11. Traffic Management Procedures

Section 1. General

11–1–1. DUTY RESPONSIBILITY

a. The mission of the traffic management system is to balance air traffic demand with system capacity to ensure the maximum efficient utilization of the NAS.

b. TBFM must be used to the maximum extent feasible in preference to miles-in-trail initiatives.

NOTE—The benefits of TBFM are best realized through the coordinated effort of all facilities supporting Performance Based Navigation procedures or Traffic Management Initiatives (TMIs).

c. It is recognized that the ATCS is integral in the execution of the traffic management mission.

NOTE—Complete details of traffic management initiatives and programs can be found in FAAO JO 7210.3, Facility Operation and Administration.

11–1–2. DUTIES AND RESPONSIBILITIES

a. Supervisory Traffic Management Coordinator-in-Charge (STMCIC) must:

1. Ensure an operational briefing is conducted at least once during the day and evening shifts. Participants must include, at a minimum, the STMCIC, Front Line Manager-in-Charge (FLMIC)/Controller-in-Charge (CIC) and other interested personnel as designated by facility management. Discussions at the meeting should include meteorological conditions (present and forecasted), staffing, equipment status, runways in use, Airport Arrival Rate (AAR)/Metering Parameters and Traffic Management Initiatives (TMIs) (present and anticipated).

2. Assume responsibility for TMC duties when not staffed.

3. Ensure that TMIs are carried out by personnel providing traffic management services.

4. Where authorized, perform EDST data entries to keep the activation status of designated EDST Airspace Configuration Elements current.

5. Perform assigned actions in the event of an EDST outage or degradation, in accordance with the requirements of FAA Order 7210.3, Facility Operation and Administration, and as designated by facility directive.

6. Ensure changes to restrictions/metering are implemented in a timely manner.

b. FLM/CIC must:

1. Keep the TMU and affected sectors apprised of situations or circumstances that may cause congestion or delays.

2. Coordinate with the TMU and personnel providing air traffic services to develop appropriate TMIs for sectors and airports in their area of responsibility.

3. Continuously review TMIs affecting their area of responsibility and coordinate with TMU for extensions, revisions, or cancellations.

4. Ensure that TMIs are carried out by personnel providing air traffic services.

5. Where authorized, perform data entries to keep the activation status of designated EDST Airspace Configuration Elements current.

6. Perform assigned actions in the event of an EDST outage or degradation, in accordance with the requirements of FAA Order 7210.3, Facility Operation and Administration, and as designated by facility directive.

7. Ensure changes to TMIs are implemented in a timely manner.

C. Personnel providing air traffic services must:

1. Ensure that TMIs are enforced within their area of responsibility. TMIs do not have priority over maintaining:

   (a) Separation of aircraft.

   (b) Procedural integrity of the sector.

2. Keep the FLM/CIC and TMU apprised of situations or circumstances that may cause congestion or delays.
3. Continuously review TMIs affecting their area of responsibility and coordinate with FLM/CIC and TMU for extensions, revisions, or cancellations.

4. Where authorized, perform data entries to keep the activation status of designated EDST Airspace Configuration Elements current.

5. Perform assigned actions in the event of an EDST outage or degradation, in accordance with the requirements of FAA Order 7210.3, Facility Operation and Administration, and as designated by facility directive.

d. ARTCCs, unless otherwise coordinated, must:

1. Support TBFM operations and monitor TBFM equipment to improve situational awareness for a system approach to TMIs.

2. Monitor arrival flow for potential metering actions/changes and, if necessary, initiate coordination with all facilities to discuss the change to the metering plan.

e. TRACONs, unless otherwise coordinated, must:

1. Support TBFM operations and monitor TBFM equipment to improve situational awareness for a system approach to TMIs.

2. Monitor arrival flow for potential metering actions/changes and, if necessary, initiate coordination with all facilities to discuss the change to the metering plan.

3. Schedule internal departures in accordance with specific written procedures and agreements developed with overlying ARTCCs and adjacent facilities.

f. ATCTs, unless otherwise coordinated, must:

1. Monitor TBFM equipment to improve situational awareness for a system approach to TMIs.

2. Release aircraft, when CFR is in effect, so they are airborne within a window that extends from 2 minutes prior and ends 1 minute after the assigned time.

NOTE—Coordination may be verbal, electronic, or written.

11–1–3. TIME BASED FLOW MANAGEMENT (TBFM)

During periods of metering, personnel providing air traffic services must:

a. Display TBFM schedule information on the main display monitor (MDM).

b. Comply with TBFM-generated metering times within +/- 1 minute.

1. If TBFM-generated metering time accuracy within +/- 1 minute cannot be used for specific aircraft due to significant jumps in the delay countdown timer (DCT), other TMIs may be used between those aircraft such as miles-in-trail (MIT) or minutes-in-trail (MINIT) to assist in delay absorption until stability resumes.

2. An exception to the requirement to comply within +/- 1 minute may be authorized for certain ARTCC sectors if explicitly defined in an appropriate facility directive.

c. When compliance is not possible, coordinate with FLM/CIC, personnel providing traffic management services, and adjacent facilities/sectors as appropriate.

NOTE—TBFM accuracy of generated metering times is predicated on several factors, including vectoring outside of TBFM route conformance boundaries (route recovery logic), certain trajectory ground speed calculations, and when TMU resequences a specific flight or flight list. Caution should be used in these situations to minimize impact on surrounding sector traffic and complexity levels, flight efficiencies, and user preferences.
Chapter 12. Canadian Airspace Procedures

Section 1. General Control

12–1–1. APPLICATION

Where control responsibility within Canadian airspace has been formally delegated to the FAA by the Transport Canada Aviation Group, apply basic FAA procedures except for the Canadian procedures contained in this chapter.

NOTE–
In 1985, the U.S. and Canada established an agreement recognizing the inherent safety of the ATC procedures exercised by the other country. This agreement permits the use of ATC procedures of one country when that country is exercising ATC in the airspace over the territory of the other country insofar as they are not inconsistent with, or repugnant to, the laws and regulations or unique operational requirements of the country over whose territory such airspace is located. Accordingly, this chapter was revised to include only those Canadian procedures that must be used because of a Canadian regulatory or unique operational requirement.

12–1–2. AIRSPACE CLASSIFICATION

a. Class A airspace. Controlled airspace within which only IFR flights are permitted. Airspace designated from the base of all controlled high level airspace up to and including FL 600.

b. Class B airspace. Controlled airspace within which only IFR and Controlled VFR (CVFR) flights are permitted. Includes all controlled low level airspace above 12,500 feet ASL or at and above the minimum en route IFR altitude, (whichever is higher) up to but not including 18,000 feet ASL. ATC procedures pertinent to IFR flights must be applied to CVFR aircraft.

NOTE–
The CVFR pilot is responsible to maintain VFR flight and visual reference to the ground at all times.

c. Class C airspace. Controlled airspace within which both IFR and VFR flights are permitted, but VFR flights require a clearance from ATC to enter.

d. Class D airspace. Controlled airspace within which both IFR and VFR flights are permitted, but VFR flights do not require a clearance from ATC to enter, however, they must establish two-way communications with the appropriate ATC agency prior to entering the airspace.

e. Class E airspace. Airspace within which both IFR and VFR flights are permitted, but for VFR flight there are no special requirements.

f. Class F airspace. Airspace of defined dimensions within which activities must be confined because of their nature, or within which limitations are imposed upon aircraft operations that are not a part of those activities, or both. Special use airspace may be classified as Class F advisory or Class F restricted.

g. Class G airspace. Uncontrolled airspace within which ATC has neither the authority nor responsibility for exercising control over air traffic.

12–1–3. ONE THOUSAND–ON–TOP

Clear an aircraft to maintain “at least 1,000 feet-on-top” in lieu of “VFR–on–top,” provided:

a. The pilot requests it.

NOTE–
It is the pilot’s responsibility to ensure that the requested operation can be conducted at least 1,000 feet above all cloud, haze, smoke, or other formation, with a flight visibility of 3 miles or more. A pilot’s request can be considered as confirmation that conditions are adequate.

b. The pilot will not operate within Class A or Class B airspace.

12–1–4. SEPARATION

Apply a lateral, longitudinal, or vertical separation minimum between aircraft operating in accordance with an IFR or CVFR clearance, regardless of the weather conditions.
12–1–5. DEPARTURE CLEARANCE/COMMUNICATION FAILURE

Base controller action regarding radio failures in Canadian airspace on the requirement for pilots to comply with Canadian Airspace Regulations, which are similar to 14 CFR Section 91.185; however, the following major difference must be considered when planning control actions. Except when issued alternate radio failure instructions by ATC, pilots will adhere to the following: If flying a turbine-powered (turboprop or turbojet) aircraft and cleared on departure to a point other than the destination, proceed to the destination airport in accordance with the flight plan, maintaining the last assigned altitude or flight level or the minimum en route IFR altitude, whichever is higher, until 10 minutes beyond the point specified in the clearance (clearance limit), and then proceed at altitude(s) or flight level(s) filed in the flight plan. When the aircraft will enter U.S. airspace within 10 minutes after passing the clearance limit, the climb to the flight planned border crossing altitude is to be commenced at the estimated time of crossing the Canada/U.S. boundary.

12–1–6. PARACHUTE JUMPING

Do not authorize parachute jumping without prior permission from the appropriate Canadian authority.

NOTE–
Canadian regulations require written authority from the Ministry of Transport.

12–1–7. SPECIAL VFR (SVFR)

NOTE–
Pilots do not have to be IFR qualified to fly SVFR at night, nor does the aircraft have to be equipped for IFR flight.

a. Within a control zone where there is an airport controller on duty, approve or refuse a pilot’s request for SVFR on the basis of current or anticipated IFR traffic only. If approved, specify the period of time during which SVFR flight is permitted.

b. Within a control zone where there is no airport controller on duty, authorize or refuse an aircraft’s request for SVFR on the basis of:
   1. Current or anticipated IFR traffic, and
   2. Official ceiling and visibility reports.

c. Canadian SVFR weather minimums for:
   1. Aircraft other than helicopters. Flight visibility (ground visibility when reported) 1 mile.
   2. Helicopters. Flight visibility (ground visibility when available) 1/2 mile.
Chapter 13. Decision Support Tools

Section 1. ERAM Decision Support Tools (EDST)

13–1–1. DESCRIPTION

EDST is used by the sector team in performing its strategic planning responsibilities. EDST uses flight plan data, forecast winds, aircraft performance characteristics, and track data to derive expected aircraft trajectories, and to predict conflicts between aircraft and between aircraft and special use or designated airspace. It also provides trial planning and enhanced flight data management capabilities. Under ERAM, the EDST capabilities constitute the initial En Route decision support tools.

13–1–2. CONFLICT DETECTION AND RESOLUTION

a. Actively scan EDST information for predicted aircraft-to-aircraft and aircraft-to-airspace alerts.

b. When a conflict probe alert is displayed, evaluate the alert and take appropriate action as early as practical, in accordance with duty priorities.

c. Prioritize the evaluation and resolution of conflict probe alerts to ensure the safe, expeditious, and efficient flow of air traffic.

NOTE– Conflict probe alerts are based on standard radar separation. Conflict probe does not account for instances in which greater separation may be needed (e.g., non-standard formations, A380) or where reduced separation is permitted (e.g., 3-mile airspace).

d. When a conflict probe alert is displayed and when sector priorities permit, give consideration to the following in determining a solution:

1. Solutions that involve direct routing, altitude changes, removal of a flight direction constraint (i.e., inappropriate altitude for direction of flight), and/or removal of a static restriction for one or more pertinent aircraft.

2. Impact on surrounding sector traffic and complexity levels, flight efficiencies, and user preferences.

e. When the Stop Probe feature is activated for an aircraft, conflict probe for that aircraft shall be restarted before transfer of control, unless otherwise coordinated.

NOTE– The requirement in paragraph 13-1-2e does not apply to aircraft entering a non EDST facility.

13–1–3. TRIAL PLANNING

When EDST is operational at the sector and when sector priorities permit, use the trial plan capability to evaluate:

a. Solutions to predicted conflicts.

b. The feasibility of granting user requests.

c. The feasibility of removing a flight direction constraint (i.e., inappropriate altitude for direction of flight) for an aircraft.

d. The feasibility of removing a static restriction for an aircraft.

13–1–4. CONFLICT PROBE-BASED CLEARANCES

When the results of a trial plan based upon a user request indicate the absence of alerts, every effort should be made to grant the user request, unless the change is likely to adversely affect operations at another sector.

13–1–5. THE AIRCRAFT LIST (ACL), DEPARTURE LIST (DL) AND FLIGHT DATA MANAGEMENT

a. The ACL must be used as the sector team’s primary source of flight data.

b. Actively scan EDST to identify automated notifications that require sector team action.

c. When an ACL or DL entry has a Remarks indication, the Remarks field of the flight plan must be reviewed. Changes to the Remarks field must also be reviewed.
d. Highlighting an entry on the ACL or DL must be used to indicate the flight requires an action or special attention.

e. The Special Posting Area (SPA) should be used to group aircraft that have special significance (e.g., aircraft to be sequenced, air refueling missions, formations).

f. Sector teams shall post flight progress strips for any non-radar flights.

g. A flight progress strip shall be posted for any flight plan not contained in the EAS.

h. Sector teams shall post any flight progress strip(s) that are deemed necessary for safe or efficient operations. The sector team shall comply with all applicable facility directives to maintain posted flight progress strips.

i. The Drop Track Delete option shall be used in accordance with facility directives.

13–1–6. MANUAL COORDINATION AND THE COORDINATION MENU

a. Where automated coordination with a facility is not available (e.g., an international facility, a VFR tower), use the Coordination Menu or a flight progress strip to annotate manual coordination status, in accordance with facility directives.

b. When the Coordination Menu is used and the flight plan is subsequently changed, remove the yellow coding from the Coordination Indicator after any appropriate action has been taken.

13–1–7. HOLDING

For flights in hold, use the ERAM Hold Data Menu/Hold View, the EDST Hold Annotations Menu, a flight progress strip, or a facility approved worksheet, to annotate holding instructions, in accordance with facility directives.

13–1–8. RECORDING OF CONTROL DATA

a. All control information not otherwise recorded via automation recordings or voice recordings must be manually recorded using approved methods.

b. When a point out has been approved, remove the yellow color coding on the ACL.

c. When the ACL or DL Free Text Area is used to enter control information, authorized abbreviations must be used. You may use:

1. The clearance abbreviations authorized in TBL 13–1–1.

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Cleared to airport (point of intended landing)</td>
</tr>
<tr>
<td>B</td>
<td>Center clearance delivered</td>
</tr>
<tr>
<td>C</td>
<td>ATC clears (when clearance relayed through non-ATC facility)</td>
</tr>
<tr>
<td>CAF</td>
<td>Cleared as filed</td>
</tr>
<tr>
<td>D</td>
<td>Cleared to depart from the fix</td>
</tr>
<tr>
<td>F</td>
<td>Cleared to the fix</td>
</tr>
<tr>
<td>H</td>
<td>Cleared to hold and instructions issued</td>
</tr>
<tr>
<td>N</td>
<td>Clearance not delivered</td>
</tr>
<tr>
<td>O</td>
<td>Cleared to the outer marker</td>
</tr>
<tr>
<td>PD</td>
<td>Cleared to climb/descend at pilot’s discretion</td>
</tr>
<tr>
<td>Q</td>
<td>Cleared to fly specified sectors of a NAVAID defined in terms of courses, bearings, radials, or quadrants within a designated radius</td>
</tr>
<tr>
<td>T</td>
<td>Cleared through (for landing and takeoff through intermediate point)</td>
</tr>
<tr>
<td>V</td>
<td>Cleared over the fix</td>
</tr>
<tr>
<td>X</td>
<td>Cleared to cross (airway, route, radial) at (point)</td>
</tr>
<tr>
<td>Z</td>
<td>Tower jurisdiction</td>
</tr>
</tbody>
</table>

TBL 13–1–1
Clearance Abbreviations
2. The miscellaneous abbreviations authorized in TBL 13-1-2.

3. The EDST equivalents for control information symbols authorized in TBL 13-1-3.

4. Plain language markings when it will aid in understanding information.

5. Locally approved abbreviations.

d. When the ACL or DL Free Text Area is used to enter control information, the Free Text Area must remain open and visible. When no longer relevant, the information entered into the Free Text Area must be updated or deleted.

e. Control information entered in the Free Text Area must be used for reference purposes only.

**NOTE**
Information entered into the Free Text Area does not pass on handoff and, if necessary, must be coordinated.

### TBL 13-1-2

**Miscellaneous Abbreviations**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>BC</td>
<td>Back course approach</td>
</tr>
<tr>
<td>CT</td>
<td>Contact approach</td>
</tr>
<tr>
<td>FA</td>
<td>Final approach</td>
</tr>
<tr>
<td>FMS</td>
<td>Flight management system approach</td>
</tr>
<tr>
<td>GPS</td>
<td>GPS approach</td>
</tr>
<tr>
<td>I</td>
<td>Initial approach</td>
</tr>
<tr>
<td>ILS</td>
<td>ILS approach</td>
</tr>
<tr>
<td>MA</td>
<td>Missed approach</td>
</tr>
<tr>
<td>NDB</td>
<td>Nondirectional radio beacon approach</td>
</tr>
<tr>
<td>OTP</td>
<td>VFR conditions—on—top</td>
</tr>
<tr>
<td>PA</td>
<td>Precision approach</td>
</tr>
<tr>
<td>PT</td>
<td>Procedure turn</td>
</tr>
<tr>
<td>RA</td>
<td>Resolution advisory (Pilot-reported TCAS event)</td>
</tr>
<tr>
<td>RH</td>
<td>Runway heading</td>
</tr>
<tr>
<td>RNAV</td>
<td>Area navigation approach</td>
</tr>
<tr>
<td>RP</td>
<td>Report immediately upon passing (fix/altitude)</td>
</tr>
<tr>
<td>RX</td>
<td>Report crossing</td>
</tr>
<tr>
<td>SA</td>
<td>Surveillance approach</td>
</tr>
<tr>
<td>SI</td>
<td>Straight—in approach</td>
</tr>
<tr>
<td>TA</td>
<td>TACAN approach</td>
</tr>
<tr>
<td>TL</td>
<td>Turn left</td>
</tr>
<tr>
<td>TR</td>
<td>Turn right</td>
</tr>
<tr>
<td>VA</td>
<td>Visual approach</td>
</tr>
<tr>
<td>VR</td>
<td>VOR approach</td>
</tr>
</tbody>
</table>
### EDST Equivalents for Control Information Symbols

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>T dir</td>
<td>Depart (direction if specified)</td>
</tr>
<tr>
<td>↑</td>
<td>Climb and maintain</td>
</tr>
<tr>
<td>↓</td>
<td>Descend and maintain</td>
</tr>
<tr>
<td>CR</td>
<td>Cruise</td>
</tr>
<tr>
<td>AT</td>
<td>At</td>
</tr>
<tr>
<td>X</td>
<td>Cross</td>
</tr>
<tr>
<td>M</td>
<td>Maintain</td>
</tr>
<tr>
<td>/airway</td>
<td>Join or intercept (airway, jet route, track, or course)</td>
</tr>
<tr>
<td>=</td>
<td>While in controlled airspace</td>
</tr>
<tr>
<td>WICA</td>
<td>While in control area</td>
</tr>
<tr>
<td>dir ECA</td>
<td>Enter control area</td>
</tr>
<tr>
<td>dir OOCA</td>
<td>Out of control area</td>
</tr>
<tr>
<td>dir ESA</td>
<td>Cleared to enter surface area. Indicated direction of flight by appropriate compass letter(s)</td>
</tr>
<tr>
<td>TSA alt</td>
<td>Through surface area and altitude indicated direction of flight by appropriate compass letter(s). Maintain special VFR conditions (altitude if appropriate) while in surface area</td>
</tr>
<tr>
<td>250 K</td>
<td>Aircraft requested to adjust speed to 250 knots</td>
</tr>
<tr>
<td>~20 K</td>
<td>Aircraft requested to reduce speed 20 knots</td>
</tr>
<tr>
<td>+30 K</td>
<td>Aircraft requested to increase speed 30 knots</td>
</tr>
<tr>
<td>SVFR</td>
<td>Local Special VFR operations in the vicinity of (name) airport are authorized until (time). Maintain special VFR conditions (altitude if appropriate)</td>
</tr>
<tr>
<td>B4</td>
<td>Before</td>
</tr>
<tr>
<td>AF</td>
<td>After or Past</td>
</tr>
<tr>
<td>/</td>
<td>Until</td>
</tr>
<tr>
<td><em>instructions</em></td>
<td>Alternate instructions</td>
</tr>
<tr>
<td>REST</td>
<td>Restriction</td>
</tr>
<tr>
<td>AOB</td>
<td>At or Below</td>
</tr>
<tr>
<td>AOA</td>
<td>At or Above</td>
</tr>
</tbody>
</table>

### Abbreviation | Meaning
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(Alt)B(Alt)</td>
<td>Indicates a block altitude assignment. Altitudes are inclusive, and the first altitude must be lower than the second (Example 310B370)</td>
</tr>
<tr>
<td>V time</td>
<td>Clearance void if aircraft not off ground by time</td>
</tr>
<tr>
<td>CL</td>
<td>Pilot canceled flight plan</td>
</tr>
<tr>
<td>+info+</td>
<td>Information or revised information forwarded</td>
</tr>
<tr>
<td><strong>alt</strong></td>
<td>Other than assigned altitude reported Example: <strong>50</strong></td>
</tr>
<tr>
<td>ARC mi. dir.</td>
<td>DME arc of VORTAC or TACAN</td>
</tr>
<tr>
<td>C freq.</td>
<td>Contact (facility) or (freq.), (time, fix, or altitude if appropriate). Insert frequency only when it is other than standard</td>
</tr>
<tr>
<td>R</td>
<td>Radar contact</td>
</tr>
<tr>
<td>R alt</td>
<td>Requested altitude</td>
</tr>
<tr>
<td>R/</td>
<td>Radar service terminated</td>
</tr>
<tr>
<td>RX</td>
<td>Radar Contact Lost</td>
</tr>
<tr>
<td>RV</td>
<td>Radar vector</td>
</tr>
<tr>
<td>RVX</td>
<td>Pilot resumed own navigation</td>
</tr>
<tr>
<td>HO</td>
<td>Handoff completed</td>
</tr>
<tr>
<td>E</td>
<td>Emergency</td>
</tr>
<tr>
<td>W</td>
<td>Warning</td>
</tr>
<tr>
<td>P</td>
<td>Point out initiated. Indicate the appropriate facility, sector, or position.</td>
</tr>
<tr>
<td>FUEL</td>
<td>Minimum fuel</td>
</tr>
<tr>
<td>EFC time</td>
<td>Expect further clearance at (time)</td>
</tr>
<tr>
<td>− fix</td>
<td>Direct to fix</td>
</tr>
<tr>
<td>FRC</td>
<td>Full route clearance</td>
</tr>
<tr>
<td>IAF</td>
<td>Initial approach fix</td>
</tr>
<tr>
<td>NORDO</td>
<td>No Radio</td>
</tr>
<tr>
<td>PT</td>
<td>Procedure turn</td>
</tr>
<tr>
<td>RLS</td>
<td>Release</td>
</tr>
<tr>
<td>REQ</td>
<td>Request</td>
</tr>
<tr>
<td>SI</td>
<td>Straight in</td>
</tr>
</tbody>
</table>
13–1–9. ACKNOWLEDGEMENT OF AUTOMATED NOTIFICATION

a. The EDST Inappropriate Altitude for Direction of Flight (IAFDOF) feature must be used in the automatic mode (i.e., IAFDOF Manual must remain deselected) unless otherwise authorized in a facility directive.

b. Completion of any required coordination for IAFDOF must be acknowledged on the ACL by removing the IAFDOF coding.

c. Completion of appropriate coordination for an Unsuccessful Transmission Message (UTM) must be acknowledged on the ACL by removing the UTM coding.

d. Issuance of the Expect Departure Clearance Time (EDCT) to the pilot or other control facility must be acknowledged on the DL by removing the EDCT coding.

e. IAFDOF, UTM, or EDCT coding must be acknowledged only after the appropriate action has been completed.

f. The first sector which displays Embedded Route Text (ERT) coding must issue and send/acknowledge the route prior to initiating a hand-off unless verbally coordinated or as specified in appropriate facility directives. Do not send/acknowledge ERT coding unless the sector has track control for the flight or it has been otherwise coordinated.

g. Route Action Notifications (RAN) such as ATC preferred routes or route processing errors must be amended at the first control position that displays the RAN unless verbally coordinated or as specified in appropriate facility directives. Do not remove RAN coding unless the sector has track control or it has been otherwise coordinated.

13–1–10. CURRENCY OF TRAJECTORY INFORMATION

a. The sector team shall perform automation entries in a timely manner.

NOTE—
1. Conflict probe accuracy requires timely updates of data used to model each flight’s trajectory. If this data is not current, the aircraft entries and notification of probe results for surrounding sectors and facilities, as well as the subject sector, may be misleading.

b. Data used to model an individual aircraft’s trajectory includes route of flight, assigned and interim altitudes, application/removal of an adapted restriction for that flight, and aircraft type.

b. An exception to the requirement to enter or update interim altitudes may be authorized for certain ARTCC sectors if explicitly defined in an appropriate facility directive.

NOTE—
Conflict probe accuracy in assigning alert notification is dependent upon entry/update of a flight’s interim altitude.

13–1–11. DELAY REPORTING

a. Adhere to all applicable delay reporting directives.

b. Delay information shall be recorded. Delay information may be automatically recorded via use of the EDST Hold Annotations Menu, ERAM Hold Data Menu, ERAM Hold View, or manually on flight progress strips or facility-approved worksheets, in accordance with the facility-defined standard.

c. When using the Hold Annotation Menu to automatically record delay information, the hold annotations shall be deleted when the aircraft is cleared from holding.

NOTE—
When using EDST hold annotations, delay information cannot be accurately recorded unless the annotations are deleted when the aircraft is cleared from holding. When using the ERAM Hold Data Menu or Hold View, delays are automatically recorded when the aircraft is cleared out of hold.

13–1–12. OVERDUE AIRCRAFT

Upon receipt of the overdue aircraft notification take appropriate actions set forth in Chapter 10, Section 3, Overdue aircraft.

NOTE—
EDST overdue aircraft notification is based on radar track data. Updating an aircraft’s route of flight will remove the overdue aircraft notification.
13–1–13. USE OF GRAPHICS PLAN DISPLAY (GPD)

a. Graphic depictions of flight trajectories may be used only to aid in situational awareness and strategic planning.

b. Do not use trajectory–based positions as a substitute for radar track position.

c. Do not use trajectory–based altitude in lieu of Mode C for altitude confirmation.

d. Do not use the GPD for radar identification, position information, transfer of radar identification, radar separation, correlation, or pointouts.

13–1–14. FORECAST WINDS

In the event that current forecast wind data are not available, continue use of conflict probe and trial planning with appropriate recognition that alert and trajectory data may be affected.

13–1–15. INTERFACILITY CONNECTIVITY

In the event of a loss of connectivity to an adjacent ERAM facility, continue use of EDST with appropriate recognition that alert data may be affected.

13–1–16. SURVEILLANCE AND FLIGHT DATA OUTAGES

In the event of a surveillance or flight data outage, electronic flight data may be used to support situational awareness while the facility transitions to alternate automation capabilities or non radar procedures.

13–1–17. AIRSPACE CONFIGURATION ELEMENTS

a. Airspace Configuration Elements are:
   1. Special Activity Airspace (SAA).
   2. Airport Stream Filters (ASF).
   3. Adapted restrictions.

b. Where assigned as a sector responsibility by facility directive, the sector team shall update Airspace Configuration Elements to reflect current status.

   NOTE—Unless otherwise covered in an LOA or facility directive, activating or scheduling the SAA in the Airspace Status View does NOT constitute coordination for activation of airspace.

c. For Airspace Configuration Elements designated as a sector responsibility, notify the operational supervisor when the status of an Airspace Configuration Element has been modified.
The following procedures are applicable to the operation of the Ocean21 Oceanic Air Traffic Control (ATC) System.

13–2–1. DESCRIPTION

a. The Ocean21 ATC System is utilized in designated en route/oceanic airspace. Ocean21 includes both surveillance and flight data processing, which provides the controllers with automated decision support tools to establish, monitor and maintain separation between aircraft, and aircraft to airspace and terrain.

b. Ocean21 capabilities include:

1. MEARTS based radar surveillance processing.
2. Conflict Prediction and Reporting.
3. Automatic Dependent Surveillance—Broadcast (ADS–B).
5. Controller Pilot Data Link Communications (CPDLC).
6. ATS Interfacility Data Communications (AIDC).
7. Additional Decision Support Tools used primarily for situational awareness.

13–2–2. CONFLICT DETECTION AND RESOLUTION

The controller must use the most accurate information available to initiate, monitor, and maintain separation.

a. Apply the following procedures in airspace where conflict probe is being utilized as a decision support tool:

1. Conflict Probe Results.
   a) Controllers must assume that the conflict probe separation calculations are accurate.

   (b) Unless otherwise prescribed in sub-para a3, controllers must utilize the results from conflict probe to initiate and maintain the prescribed separation minima.

2. Conflict Resolution.
   a) When a controller is alerted to a conflict, which will occur in his/her sector, take the appropriate action to resolve the conflict.

   (b) The controller responsible for resolving a conflict must evaluate the alert and take appropriate action as early as practical, in accordance with duty priorities, alert priority, and operational considerations.

   (c) Unless otherwise specified in facility directives, the controller must take immediate action to resolve any “red” conflicts.

3. Overriding Conflict Probe.
   a) Controllers must not override conflict probe except for the following situations:

      (1) The application of a separation standard not recognized by conflict probe listed in sub-para a8(a), or as identified by facility directive.

      (2) When action has been taken to resolve the identified conflict and separation has been ensured, or

      (3) Control responsibility has been delegated to another sector or facility, or

      (4) Other situations as specified in facility directives.

   b) Controllers must continue to ensure that separation is maintained until the overridden conflict is resolved.

4. Use of Probe when Issuing Clearances. Utilize conflict probe results when issuing a clearance to ensure that any potential conflict has been given thorough consideration.

5. Use of Probe when Accepting Manual Transfers. Prior to manually accepting an aircraft transfer from an external facility ensure that the coordinated flight profile is accurately entered, conflict probe initiated and, if necessary, action is taken to resolve any potential conflicts.
6. Trial Probe. The controller can utilize trial probe to assess whether there are any potential conflicts with a proposed clearance or when performing manual coordination.

**NOTE**—Once initiated, trial probe does not take into account any changes made to the proposed profile or to any other flight profile in the system. It is an assessment by conflict probe of the current situation at the time the controller enters the trial probe. A trial probe does not alleviate the controller from performing a conflict probe when issuing a clearance or accepting a transfer.

7. System Unable to Perform Conflict Probe for a Specific Aircraft.

(a) If a flight’s profile becomes corrupted, conflict probe may not be able to correctly monitor separation for that flight. Take the necessary steps to correct an aircraft’s flight plan when conflict probe could not be performed.

(b) In addition, after verifying flight plan data accuracy, utilize other decision support tools to establish and maintain the appropriate separation minima until such time that conflict probe can be utilized.

8. Conflict Probe Limitations.

(a) Conflict Probe does not support the following separation minima:

1. Subpara 8–4–2a2 – Nonintersecting paths.

2. Subpara 8–4–2d2 – Intersecting flight paths with variable width protected airspace.

3. Subpara 8–4–3a – Reduction of Route Protected Airspace, below FL 240.

4. Subpara 8–4–3b – Reduction of Route Protected Airspace, at and above FL 240.

5. Subpara 8–4–4a1 – Same NAVAID: VOR/VORTAC/TACAN.

6. Subpara 8–4–4a2 – Same NAVAID: NDB.

7. Subpara 8–4–4c – Dead Reckoning.

8. Para 8–5–4 – Same Direction.


(b) Additional Decision Support Tools: These support tools include: range/bearing, time of passing, intercept angle, the aircraft situation display (ASD) and electronic flight data.

1. The results provided by these additional decision support/controller tools can be used by the controller for maintaining situational awareness and monitoring flight profile information, and for establishing and maintaining separation standards not supported by probe, or when probe is unavailable.

2. Under no circumstances must the controller utilize any of the additional decision support tools to override probe results when the applicable separation standard is supported by probe and none of the other conditions for overriding probe apply.

**13–2–3. INFORMATION MANAGEMENT**

a. Currency of Information: The sector team is responsible for ensuring that manually entered data is accurate and timely. Ensure that nonconformant messages are handled in a timely manner and that the flight’s profile is updated as necessary.

**NOTE**—Conflict probe accuracy requires timely updates of data used to model each flight’s trajectory. If this data is not current, the aircraft flight profile and probe results may be misleading.

b. Data Block Management.

1. Ensure that the data block reflects the most current flight information and controller applied indicators as specified in facility directives.

2. Ensure that appropriate and timely action is taken when a special condition code is indicated in the data block.

c. Electronic Flight Strip Management.

1. Electronic flight strips must be maintained in accordance with facility directives and the following:

   (a) Annotations. Ensure that annotations are kept up to date.

   (b) Reduced Separation Flags. Ensure the flags listed below are selected appropriately for each flight:

      1. M – Mach Number Technique (MNT).

      2. R – Reduced MNT.
(3) D– Distance–based longitudinal.
(4) W– Reduced Vertical Separation Minimum (RVSM).

c. Degraded RNP. Select when an aircraft has notified ATC of a reduction in navigation capability that affects the applicable separation minima.

d. Restrictions. Ensure restrictions accurately reflect the cleared profile.

d. Queue Management.

1. Manage all sector and coordination queues in accordance with the appropriate message priority and the controller’s priority of duties.

2. In accordance with facility directives, ensure that the messages directed to the error queue are processed in a timely manner.

e. Window/List Management.

1. Ensure that the situation display window title bar is not obscured by other windows and/or lists.

NOTE–
The use of the CPDLC message set ensures the proper “closure” of CPDLC exchanges.

b. Transfer of Communications to the Next Facility.

1. When the receiving facility is capable of CPDLC communications, the data link transfer is automatic and is accomplished within facility adapted parameters.

2. When a receiving facility is not CPDLC capable, the transfer of communications must be made in accordance with local directives and Letters of Agreement (LOAs).

c. Abnormal conditions.

1. If any portion of the automated transfer fails, the controller should attempt to initiate the transfer manually. If unable to complete the data link transfer, the controller should advise the pilot to log on to the next facility and send an End Service (EOS) message.

2. If CPDLC fails, voice communications must be utilized until CPDLC connections can be reestablished.

3. If the CPDLC connection is lost on a specific aircraft, the controller should send a connection request message (CR1) or advise the pilot via backup communications to log on again.

4. If CPDLC service is to be canceled, the controller must advise the pilot as early as possible to facilitate a smooth transition to voice communications. Workload permitting, the controller should also advise the pilot of the reason for the termination of data link.

5. When there is uncertainty that a clearance was delivered to an aircraft via CPDLC, the controller must continue to protect the airspace associated with the clearance until an appropriate operational response is received from the flight crew. If an expected operational response to a clearance is not received, the controller will initiate appropriate action to ensure that the clearance was received by the flight crew. On initial voice contact with aircraft preface the message with the following:

PHRASEOLOGY–
(Call Sign) CPDLC Failure, (message).
13–2–5. COORDINATION

In addition to the requirements set forth in Chapter 8, Offshore/Oceanic Procedures, Section 2, Coordination, automated coordination must constitute complete coordination between Ocean21 sectors, both internally and between sectors across adjacent Ocean21 facilities, except:

a. When the aircraft is in conflict with another in the receiving sector, or

b. When otherwise specified in facility directives or LOA.

13–2–6. TEAM RESPONSIBILITIES – MULTIPLE PERSON OPERATION

a. When operating in a multiple controller operation at a workstation, ensure all ATC tasks are completed according to their priority of duties.

b. Multiple controller operation must be accomplished according to facility directives.
Appendix A. Standard Operating Practice (SOP) for the Transfer of Position Responsibility

1. PURPOSE

This appendix prescribes the method and step-by-step process for conducting a position relief briefing and transferring position responsibility from one specialist to another.

2. DISCUSSION

a. In all operational facilities, the increase in traffic density and the need for the expeditious movement of traffic without compromising safety have emphasized the importance of the position relief process.

b. The contents, methods, and practices used for position relief and briefings vary among personnel, and pertinent information is often forgotten or incompletely covered. Major problems occur whenever there is a heavy reliance upon memory, unsupported by routines or systematic reminders. This SOP addresses the complete task of transferring position responsibility and the associated relief briefing.

c. Position relief unavoidably provides workload for specialists at the time of relief. The intent of this SOP is to make the transfer of position responsibility take place smoothly and to ensure a complete transfer of information with a minimum amount of workload. The method takes advantage of a self-briefing concept in which the relieving specialist obtains needed status information by reading from the Status Information Area/s to begin the relief process. Up to the moment information related to the control of aircraft or vehicular movements requires verbal exchanges between specialists during the relief process. The method also specifies the moment when the transfer of position responsibility occurs.

d. In the final part of the relief process, the specialist being relieved monitors and reviews the position to ensure that nothing has been overlooked or incorrectly displayed and that the transfer of position responsibility occurred with a complete briefing.

3. TERMS

The following terms are important for a complete understanding of this SOP:

a. Status Information Area (SIA). Manual or automatic displays of the current status of position related equipment and operational conditions or procedures.

b. Written Notes. Manually recorded items of information kept at designated locations on the position of operation. They may be an element of the Status Information Area/s.

c. Checklist. An ordered listing of items to be covered during a position relief.

4. PRECAUTIONS

a. Specialists involved in the position relief process should not rush or be influenced to rush.

b. During position operation, each item of status information which is or may be an operational factor for the relieving specialist should be recorded as soon as it is operationally feasible so that it will not be forgotten or incorrectly recorded.

c. Extra care should be taken when more than one specialist relieves or is being relieved from a position at the same time; e.g., combining or decombing positions. Such simultaneous reliefs should be approached with caution.

5. RESPONSIBILITIES

a. The specialist being relieved must be responsible for ensuring that any pertinent status information of which he/she is aware is relayed to the relieving specialist and is either:
   
   1. Accurately displayed in the Status Information Area/s for which he/she has responsibility, or
   
   2. Relayed to the position having responsibility for accurately displaying the status information.

b. The relieving specialist must be responsible for ensuring that, prior to accepting responsibility for the position, any unresolved questions pertaining to the operation of the position are resolved.

c. The relieving specialist and the specialist being relieved must share equal responsibility for the completeness and accuracy of the position relief briefing.

d. The specialists engaged in a position relief must conduct the relief process at the position being relieved unless other procedures have been established and authorized by the facility air traffic manager.

NOTE—
The “sharing” of this responsibility means that the specialist being relieved is obligated to provide a complete, accurate briefing and the relieving specialist is obligated to ensure that a briefing takes place and is to his/her total satisfaction.

6. STEP–BY–STEP PROCESS

a. PREVIEW THE POSITION

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<thead>
<tr>
<th>Relieving Specialist</th>
<th>Specialist Being Relieved</th>
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<tbody>
<tr>
<td>1. Follow checklist and review the Status Information Area(s).</td>
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**NOTE—**
This sub-step may be replaced by an authorized pre–position briefing provided an equivalent review of checklist items is accomplished.

2. Observe position equipment, operational situation, and the work environment.
3. Listen to voice communications and observe other operational actions.
4. Observe current and pending aircraft and vehicular traffic and correlate with flight and other movement information.
5. Indicate to the specialist being relieved that the position has been previewed and that the verbal briefing may begin.

**NOTE—**
Substeps 6a2, 3, and 4 may be conducted concurrently or in any order.
b. VERBAL BRIEFING

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<tr>
<th>Relieving Specialist</th>
<th>Specialist Being Relieved</th>
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<tr>
<td><strong>4.</strong> Ask questions necessary to ensure a complete understanding of the operational situation.</td>
<td><strong>1.</strong> Brief the relieving specialist on the abnormal status of items not listed on the Status Information Area(s) as well as on any items of special interest calling for verbal explanation or additional discussion. <strong>2.</strong> Brief on traffic if applicable. <strong>3.</strong> Brief communication status of all known aircraft. <strong>5.</strong> Completely answer any questions asked.</td>
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**c. ASSUMPTION OF POSITION RESPONSIBILITY**

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<th>Relieving Specialist</th>
<th>Specialist Being Relieved</th>
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<tr>
<td><strong>1.</strong> Make a statement or otherwise indicate to the specialist being relieved that position responsibility has been assumed.</td>
<td><strong>2.</strong> Release the position to the relieving specialist and mentally note the time.</td>
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**d. REVIEW THE POSITION**

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<th>Relieving Specialist</th>
<th>Specialist Being Relieved</th>
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<tr>
<td><strong>1.</strong> Check, verify, and update the information obtained in steps 6a and b. <strong>2.</strong> Check position equipment in accordance with existing directives.</td>
<td><strong>3.</strong> Review checklist, Status Information Area/s, written notes, and other prescribed sources of information and advise the relieving specialist of known omissions, updates, or inaccuracies. <strong>4.</strong> Observe overall position operation to determine if assistance is needed. <strong>5.</strong> If assistance is needed, provide or summon it as appropriate. <strong>6.</strong> Advise the appropriate position regarding known Status Information Area(s) omissions, updates, or inaccuracies. <strong>7.</strong> Sign-on the relieving specialist with the time as noted in step 6c2. <strong>8.</strong> Sign off the position in accordance with existing directives or otherwise indicate that the relief process is complete.</td>
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