



THE APPROACH CONTROL POSITION (APP)

1. Introduction

The Terminal Control or Approach (called APP) controller has the responsibility of ensuring Air Traffic Control (ATC) Services to arrivals and departures within the airspace around large airports.

In the USA, this position is referred to as a Terminal Radar Approach Control or TRACON

His controlled zone is called the TMA (Terminal Control Area). It extends from a base altitude, always higher than the surface, to a ceiling flight level. All TMA boundaries are published on charts.

The control within this zone can be eventually split in some large airfield:

- Arrival controller (APP)
- Departure controller (DEP)
- Sometimes several the TMA airspace area is split into several area handled by different arrival and departure controllers

Traffic within the TMA airspace is composed by:

- Departure flights, in climb phase
- Arrival flights, in descent phase
- Flights in transit, crossing airspace at a constant altitude (or FL)

The **APP** controller has to ensure the traffic management for IFR (liners and jets) and VFR (light and GA aircraft). He may also handle helicopters, gliders, parachuting, trainings and aerial acrobatics activities.

The **APP** controller is responsible for:

- Separation of all IFR,VFR traffic according to the airspace class in class A, B, C, D or E airspaces
- IFR and VFR arrival routes inside TMA airspace
- Realization of all necessary approach sequences (traffic management)
- IFR and VFR departure routes inside TMA airspace
- IFR or VFR transit routes inside TMA airspace
- Approach management of all aerodromes belonging to his TMA

Whenever the **DEP**, **TWR**, **GND** and **DEL** positions are not open, the **APP** controller must take responsibility of their functions as a supplementary task (please check the corresponding guidelines).

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The **APP** controller tasks are:

- Ensure safety of VFR and IFR traffic within airspace class A, B, C, D and E
- Provide Standard Terminal Arrival Routes (STAR) when published and needed
- Issue approach clearances to IFR flights
- Ensure IFR traffic management by issuing published approach clearances, radar vectors or direct routes to adequate fix or navigation aid
- Manage flight levels and altitudes of IFR traffic to ensure their separation and prepare them to intercept the final approach track
- Expedite traffic flow and provide traffic regulation in his TMA
- Provide radar vectoring (if possible) or a different procedure to an aircraft deviating from the cleared route
- Provide Flight Information Services (FIS) to VFR traffic within the TMA in airspace class C, D and E

The **APP** controller is never responsible for:

- Aircraft transiting above his TMA
- All aircraft flying below his TMA in non-controlled zone and not going to enter the TMA (unless the controller is providing FIS)
- Departing aircraft crossing the TMA if the DEP controller is present
- Take-offs and landings if the TWR controller is present (except during emergency)

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2. Approach controller tasks

2.1. Arrivals handling – descent management and transit management

The first task of the **APP** controller is the management of traffic trajectories and descent path in order to prepare the aircraft to the final approach sequence for arrival or, the management of transit aircraft.

The controller can use one STAR procedure published, an omnidirectional arrival to IAF or a radar vectoring operation to handle all the arrival aircraft on the airfield.

The Standard Terminal Arrival Routes (STAR) are published procedures between one or several points located on published routes connected to one or several initial approach named IAF (Initial Approach Fix).

The flight should be transferred at least 2 minutes before entering the TMA by the adjacent controller when descending to an altitude coordinated among the controllers or corresponding to the TMA ceiling.

From his first contact with the pilot, the **APP** controller shall know if he already received a **STAR (standard arrival procedure)** clearance, an **omnidirectional arrival** procedure clearance, or a radar vectoring (it depends on the coordination with the adjacent controller when present).

2.2. Creating approach sequence until final approach track

The **APP** controller must give the pilot the final approach clearance together with the landing runway. This information shall be issued as soon as possible and always before the IAF or when a radar vectoring is given.

Once aircraft have left the IAF, the controller should not change the landing runway announced unless in exceptional situations (emergency, separation loss, occupied runway, weather conditions).

The creation of approach sequence mainly consists of:

- Ensuring traffic safety at all times by maintaining optimal separation between all aircraft
- Creating and optimizing traffic flows with expediting and maintaining an orderly flow of air traffic

The controller is responsible to create a flow of aircraft, also name the approach sequence, he can use the following tools to handle the traffic:

- Give the aircraft an arrival followed by an approach clearance (published via IAP)
- Grant a direct route to a fix along the published approach track
- Provide radar vectoring (if possible in function of local regulation and minima)
- Give the aircraft a direct route to an IAF or off-procedure point only for traffic management purpose
- Issue a holding clearance over the IAF (this is the procedure the pilot must follow when he has not received any of the preceding clearances)
- Assign altitudes and speeds different from those published in order to ensure regulation and separation.
- Negotiate with the pilot another route clearance which he can follow

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Pay attention that radar vectoring where authorized by the local regulation is used to:

- Provide minimum flight separation
- Optimize flight duration on approach phase
- Ensure efficient traffic regulation
- Guide lost traffic on final approach track

Consult available documentation about management of approach and radar vectoring management

2.3. Ensuring safety

Along the arrival and approach procedure, the controller is responsible for the separation of all aircraft under his control, whether it is along a published route or not (direct or radar-vectoring).

The Approach controller shall at any time:

- Ensure safety for each aircraft with respect to aircraft performance and minimum separation between all aircraft at any time (whether they are totally or not under his control)
- Not give any altitude clearance below minimum safety altitudes i.e. MRVA for Minimum Radar Vectoring Altitude or MSA minimum sector altitude where they are applicable to prevent any potential terrain collision
- Prevent any potential terrain collision
- Ensure minimum separation between arrival and departure aircraft even if the position APP and DEP are split.

The minimal vertical separation within the terminal control area is 1000ft over the whole approach procedure

The minimal horizontal separation within the terminal control area is:

- 5NM
- 3NM when reduced approach separation is applicable to the TMA area.
- 2.5NM when reduced approach separation is applicable on final approach track for this airfield

Consult available documentation about minimum separation under radar control.

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2.4. Transferring on final approach track

The approaching flights must be transferred to the **TWR** controller once established on the final approach axis.

It is generally admitted that a flight shall be transferred:

- Once the aircraft is established on the localizer axis for an ILS, LOC/DME, ILS/VPT approach
- Once the aircraft is established on the VOR radial for a VOR, VOR/DME, VOR/VPT approach
- Once the aircraft is established on the NDB track for a NDB, NDB/DME or NDB/VPT approach
- Once the pilot has the runway in sight for a circling approach (visual manoeuvring without prescribed track)

In the case of visual manoeuvring using prescribed tracks or circling procedures, the flight will be transferred once established on the localizer axis, the VOR radial or the inbound NDB track. In this case the transfer shall be done well before the pilot starts the visual approach in order to help the tower with the traffic management.

2.5. Managing departure

The management of departing flights and SID procedures is handled by the **DEP** position which is a subsection of the approach ATC. Whenever the DEP position is not open, all tasks are handled by the **APP** controller.

Please consult available documentation of the **DEP** position description.

2.6. Managing VFR flights management

The **APP** controller handles VFR flights under his TMA following its airspace class:

- **Class B:** continuous and two-way radio communication is required and the airspace penetration is subject to an ATC clearance (separation is provided to VFR flights with respect to all aircrafts)
- **Class C and D:** continuous and two-way radio communication is required and the airspace penetration is subject to an ATC clearance (no separation is provided to VFR flights). VFR flights are limited to 250kt IAS below 10000ft AMSL. Flight Information Service (FIS) is provided to VFR (traffic avoidance on request)
- **Class E:** radio communication is optional and the airspace penetration is not subject to an ATC clearance (separation is provided to VFR flights from IFR only in class C). VFR flights are limited to 250kt IAS below 10000ft AMSL. Flight Information Service is provided as far as practical

VFR flights are generally transferred:

- 2 minutes before entering the CTR (tower control zone)
- 2 minutes before entering an adjacent TMA
- Abeam of the VFR reporting points (VRP) previously coordinated
- Following any other procedure coordinated among controllers for safety or traffic management purposes
- Before joining the traffic circuit for a controlled aerodrome

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3. Special IVAO procedures

All special IVAO procedures are mandatory since they fit to situations or special IVAO features which cannot happen in real life while they may occur on the network because of its proper limitations.

3.1. Flight strips

The **APP** controller must ensure that flight strips are correctly filled in IvAc, in particular **fix** (in the “Cleared WP” field) **and flight level** (in the “Cleared FL” field), for all traffic. In the case of a sudden pilot disconnection, the **APP** controller must **refill the flight strip before transferring the traffic**. In particular, the “Cleared WP” field shall be filled whenever a direct route clearance is issued and the “Cleared FL” field shall be always filled in the case of heavily loaded airspace to ensure traffic safety.

3.2. Release to UNICOM

In the absence of the **CTR** controller or the adjacent approach, the **APP** handling a departing flight releases the pilot to **UNICOM 122.800** just before the TMA boundaries.

3.3. Incoming aircraft from non-controlled zone

In the case of inbound aircraft from an uncontrolled zone, the **APP** controller may send a FORCE ACT to the pilot 2 or 3 minutes before its entry within the TMA if he has not contacted him before. The controller should first assign a transponder code.

3.4. Not responding pilots

The pilot of an inbound aircraft **who does not respond to controller calls more than 1 minute after entering in TMA airspace without clearance must be warned by a FORCE ACT** to invite him to contact the ATC. In the case of no answer, or if the pilot does not pick up the ATIS within 1 minute, or if he continues his approach, a new FORCE ACT must be sent, together with a private chat message (be careful to use proper language).

The APP controller must not attempt to contact departing flights whenever a DEP controller is connected. The APP controller must not attempt to contact approaching flights when they are still in contact with the CTR controller. Coordinate the transfer with the CTR before sending a FORCE ACT to the pilot!

The FORCE ACT sent to the pilot must be the last exceptional measure to be taken if the **CTR** controller does not transfer the traffic after an acceptable period of time.

3.5. Departing flights

On IVAO the **APP** controller handles all departures whenever the **DEP** controller is not connected as well as the **TWR**, **GND** and **DEL** positions (down to the first connected ATC).

Example: APP and GND connected: the APP handles APP and TWR while GND handles GND and DEL

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3.6. Approach sector split among several controllers

In real life, the approach sector of large international airports can be split between several ATC positions:

- Initial approach controller
- Intermediate approach controller
- Final approach controller
- One or two departure controller
- Flight information controller

Such a division of the approach sector is only possible in the framework of very specific events involving a heavy traffic load.

3.7. Flight information service

On IVAO, the **APP** controller **may provide FIS** in the traffic information sector attached to his platform.

The **traffic information sector** includes the airspace below and around the TMA as published on the platform charts.

This class G airspace outside the TMA is a sector where **radio communication is optional** for VFR flights. Only FIS can be provided (no separation for VFR). Speed restrictions for VFR are the same for class C, D and E airspaces.

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