THE AREA CONTROL CENTRE (CTR) POSITION

1. Introduction

The Area Control Centre (ACC) also known as en-route controller and called CTR on IVAO, has the responsibility of ensuring Air Traffic Control (ATC) services over high altitude airspace, mainly during the en-route phase of flight, within a Flight Information Region (FIR).

The controlled FIR is often divided into a lower traffic area (LTA or lower information region LIR, often called still FIR) and an upper traffic area (UTA or upper information region UIR) and can be split into several ACC.

LTA and UTA extend from a base altitude, always higher than the surface to a ceiling level (this is not always the case for UTA).

Moreover, the CTR controller provides ATC services within airways, whether they are included in the LTA/UTA or not.

The **CTR** controller tasks are:

- **Separation of all IFR, VFR** traffic according to airspace class in class A, B, C, D or E airspaces
- **Provide ATC service to IFR and VFR flights** above the Minimum En-route Altitude (MEA)
- **Provide ATC service to IFR flights** inside his LIR(FIR) and UIR areas of responsibility (according to the airspace class)
- Ensure a proper and **safe management of flight levels** according to the semi-circular rules and RVSM airspaces
- **Accelerate and organize the flight traffic**, with granting direct routes to shorten aircraft trajectories
- **Manage the traffic flow within airways** by assigning cruise speeds to aircraft
- **Issue STAR clearances** when needed by aircraft under his responsibility
- **Ensure pre-sequencing of approaching flights**, with providing radar vectors, direct routes, speed and descent rate instructions
- **Ensure traffic information** services according to the airspace class

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

- Aircraft transiting above the UIR (when a ceiling exists)
- All aircraft flying off runways below the MEA
- Any aircraft flying within a class G airspace
- TMA and CTR zones of controlled airports
- Any airfield outside its area of responsibility

2. En-route controller tasks

Consult available document in order to obtain more practical information about en-route management.

2.1. Making and optimizing en-route regulation

The en-route regulation is the main task of the en-route controller.

The regulation 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 en-route regulation implies the following actions:

- Ensure safety by maintaining adequate separation above the minimum (see below)
- Shorten aircraft routes to the destination airport in order to reduce the time of flight by maintaining an efficient traffic flow
- Regulate the speed of all aircraft on the same traffic flow
- Organize traffic flows to avoid airport congestion
- Handle overtaking, descending, climbing and crossing aircraft around same levels.

Some of the conflict situation can be:

- Aircraft crossing another aircraft route at same level and getting closer
- Aircraft getting closer or overtaking another aircraft on same route and same level
- Aircraft joining the same route or crossing from a different route on one specific point
- Aircraft climbing or descending across another aircraft level and route and getting closer

During cruise it is quite common to grant direct routes (if the traffic density allows for it) to optimize and to accelerate the traffic flow.

The traffic optimization is one of the main controller tasks established by air traffic regulations.

This type of clearance, impacting the airspace controlled by adjacent controllers, can only be issued after prior coordination among controllers or following the publication established and published by IVAO staff under the form of a Letter of Agreement (LOA).

Whenever a controller grants a direct route to an aircraft, he has to ensure that the new trajectory will not be in conflict with any other aircraft flying at the same level or crossing that level.

2.2. Maintaining a traffic flow on a route

Once a traffic flow is set up, the en-route controller shall maintain the situation over the whole route.

He has to constantly monitor all aircraft's positions flying at the same altitude and over the same routes. He shall monitor their speed. The speed regulation is provided by reducing or increasing the aircraft speeds so as their speeds are as close as possible.

2.3. Providing traffic information

The other objectives of area controllers are:

- Providing aircraft with advice and information required for the safe and efficient conduct of flights.
- Notifying those involved in search and rescue of aircraft in need of this service and assist them in tasks.

2.4. Managing the climb and the descent

During climb and/or descent the controller must ensure that lateral, longitudinal and vertical separation minima are fulfilled all the time.

Respecting the separation minima or operational minima is necessary when two aircraft have different climb (descend) rates or speed performances.

This is even more important when the traffic load is increasing, because the controller may wrongly estimate a parameter or be surprised by an unexpected high climb/descent rate or speed.

2.5. Coordination and transfer of arrivals

A suitable coordination with the **APP** controller is necessary to ensure efficient pre-sequencing according to the following parameters:

- In the case of a published arrival procedure, **CTR** and **APP** controllers shall coordinate a **transfer level and point**
- In the case of unpublished arrival (radar vectoring), **CTR** and **APP** controllers shall coordinate a **transfer point or zone,** with an associate altitude if needed**.**
- The **CTR** controller can grant **direct routes towards characteristic points** to prepare the approach sequence
- The **CTR** controller may give a **holding procedure** in order to reduce the flow of traffic inbound the overcrowded TMA

Flights must be transferred before reaching the lateral limits of the TMA controlled by the APP. This generally corresponds about 2 minutes from the TMA boundaries, checking that the aircraft altitude is not too high.

Sometimes the transfer to the **APP** controller may be performed at a level higher than the TMA ceiling. This is coordinated among the two controllers.

The CTR controller could anticipate descent clearances to allow the aircraft reaching the IAF at the coordinated altitude.

2.6. Coordination and transfer of departures

A suitable coordination with the **DEP** (or **APP**) controller is necessary to ensure efficient integration of departing flights through the en-route traffic according to the following parameters:

- In the case of a published departure procedure, **CTR** and **DEP** controllers shall coordinate a **transfer level**
- In the case of omnidirectional departure or radar vectoring, **CTR** and **DEP** controllers shall coordinate a **transfer point or zone,** with an associate altitude if needed
- The **CTR** controller can grant **direct routes towards characteristic points** to prepare the integration of departures through the en-route traffic
- The **CTR** controller may grant a **radar vectoring** to ensure operational and minimum separation during the climb
- The **CTR** controller may change the climb rate and speed of departing aircraft to ensure operational separation during the climb
- The **CTR** controller may coordinate with the **DEP** an **increased transfer level** to help him handling the departing flow

Flights must be transferred to the CTR as soon as possible before reaching the boundaries of the TMA, either its lateral or vertical limits (in any case before the closest one).

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 **CTR** controller should verify that flight strips clearances 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 **CTR** 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.

These flight strip clearances are used for discrete coordination between adjacent controllers with less coordination messages.

3.2. Transfer

In the absence of an adjacent **CTR** controller or a connected approach, the **CTR** controller releases the pilot to UNICOM 122.800 before reaching the boundaries of his control zone.

3.3. Non-controlled zone

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

It is forbidden to send a FORCE ACT to a pilot flying within a class G airspace or a TMA non controlled by the CTR controller.
Within traffic information regions or airspace where ATC contact is not mandatory, the pilot is free to contact or not the en-route controller. No FORCE ACT shall be done.

3.1. Not responding pilots

The pilot of an aircraft **that has entered controlled en-route airspace since more than 2 minutes without clearance and not in communication with the controller must be warned by another 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 pursues his route, a new FORCE ACT must be sent, together with a private chat message (be careful to use proper language). If the aircraft is continuing with no radio contact, it is time to call an IVAO supervisor using the ".wallop" command

The CTR controller must not attempt to contact departing/arriving flights whenever an adjacent controller is connected.

The FORCE ACT sent to the pilot must be the last exceptional measure to be taken if the adjacent **CTR** controller does not answer.

3.2. Departing and arriving flights

At IVAO the **CTR** controller handles all departures and arrivals from a controlled TMA only when the **APP** or **DEP** controllers are not connected and only if he can manage the supplementary tasks without affecting the proper control of his zone.
If the **TWR**, **GND** and **DEL** controllers are not connected, the CTR can take responsibility of these positions only if he is able to manage this workload according to the actual traffic.

Although the CTR controller is taking more controlled airspace, the quality of service in his zone of responsibility shall not be deteriorated.

If the quality of control is deteriorated, the CTR controller shall stop controlling additional unstaffed controlled zones and shall keep only his area of responsibility.

3.3. En-route region split into several sectors

In real life, the en-route regions can be split horizontally or vertically into several subsectors. This kind of sector split could be employed at IVAO but with respect of divisional restrictions.

At IVAO, given the rather light traffic load, en-route sectors are generally split into few subsectors, which are largely sufficient to cope with most of the situations.

The en-route region split and use are defined by the ATC operation department of each division.