Training program for C1 (CTR) rating

Introduction

This is the official Vatsim Scandinavia training program for students training for the CTR (C1) Rating. Each mentor is expected to take his student through the subjects described in these example sessions. This is to make sure all students have been through the same core content in their training. The training is now based on multiple simulator sessions before starting to control live. The program will have a steady increase of traffic and difficulty. This will make it easier for the student to monitor the progress of the student as it is not based on how many pilots are showing up for the training.

The enroute controller

As an Enroute controller (C1) you are responsible for separating aircraft while enroute. You give initial descent and inbound clearance to aircraft starting their approach to the destination airport and transfer them to the approach controller or tower controller below. Similarly, you accept departing traffic and give them climb clearance to their cruising level and direct routing taking other traffic into account.

At most times regional airport towers and approaches are unmanned and you take on their duties as well. Thus, for some sectors it might be a rather demanding position with highly varied and complex traffic, requiring you to respond quickly with correct and clear ATC instructions.

You need to have good knowledge about a lot of detailed information about airports, controlled airspace, waypoints, ATS-routes, published local procedures and Letters of Agreement.

You are also expected to put all your separation skills into use, like vectoring, speed restrictions, direct routing and changes in flight level. You are working on a completely different timescale than what you are used to on an approach position, so a small adjustment early is often better than a big adjustment when the conflict is imminent.

As an area controller you will also coordinate with adjacent and subjacent ACC, APP, TWR and AFIS units, in accordance with local procedures.

Qualifications required to start training

VATSCA members

In order to start practical Enroute Controller training in VATSCA, a student must meet one of the the following requirements:

- VATSCA Approach Controller (S3)
- Enroute Controller training request sent to and accepted by VATSCA training department

Fast track possibilities

For real life air traffic controllers, commercial and airline pilots VATEUD other requirements should be met, according to the VATEUD Fast track policy (http://www.vateud.net/operations/atc-minimum-requirements, section 5.8 "Fast track upgrade").

For IVAO members holding an ACC (Center controller) rating, see (http://www.vateud.net/operations/atc-minimum-requirements, section 6.1 "Transfers from IVAO").

Training plan

1. Controller radar client software
   - Visibility centers
   - Configuration to be seen:
     - Relevant ATS-routes
     - Waypoints
     - Regional airports
     - Sector boundaries
   - Configuration according to local procedures
   - Plugins

2. Position
   - Complete decoding of METAR including
     - RVR
     - Codes from automatic weather observations:
     - NSC, NSW, NDV, trends
   - Controlled and uncontrolled airspace for sector
   - Other Sectors: Adjacent and Below
   - Possible splitting into sub-sectors
   - Navigational references: ATS-routes, VORs, NDBs and waypoints
     - Regional airports in sector:
     - Airport layout (runway, taxiway, parking on apron)
     - Approach procedures (ILS, NDB, VOR)
     - SIDs/STARs
     - Local procedures for departure and inbound clearances
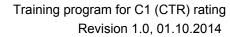   - Controller relevant information in Letters of Agreement

- ○ Published holdings: at TMA entry points and en-route

3. Procedures
   - ○ Radar identification
     - ■ Pick-up from unmanned adjacent sector: assign squawk code and confirm radar contact
     - ■ aircraft with duplicated squawk codes - assign new to assure all aircrafts are uniquely identified
   - ○ IFR arrival
     - ■ Inbound clearance:
       - ● STAR or PRNAV-STAR (which is applicable for the aircraft?)
       - ● Direct navigational aid/fix
       - ● Coordinated level for descend before hand-off to approach sector below
     - ■ Initial sequencing for arrivals
   - ○ Handling of VFR traffic enroute
     - ■ Flight plan activation
     - ■ Flight information service
   - ○ Enroute FL change
   - ○ Out of cockpit
   - ○ Special procedures
     - ■ Deviation to alternate airport
     - ■ Emergencies
   - ○ Cooperation and responsibilities regarding adjacent sectors
     - ■ Coordination - when is this required?
     - ■ Transfer of control
     - ■ Transfer of communication
     - ■ Releases (for climb/descend/turn/full)
   - ○ Separation of enroute traffic
     - ■ Speed restrictions (primarily for sequencing)
     - ■ Crossing: slower behind faster
     - ■ Small corrections early, rather than large corrections much too late!
     - ■ Entry conflict search
     - ■ Exit planning

4. Holdings
   - ○ Entry
   - ○ Level allocation
   - ○ Speed
   - ○ Descent

- Exit

5. Operational efficiency
    - Providing service at several airports
    - Change focus: overview over sector vs. attention to particular situation
    - Early hand-off for continuous climb or descend
    - Direct routings

6. Standard ICAO phraseology
    - Holding, Expected approach time, number in sequence
    - Inbound clearance, STAR or direct routing.

The simulator training program

The first practical sessions will be in the simulator. The simulator will offer the student a steady increase of traffic level, to allow a steady learning-curve.

Simulator exercises

301 Separation techniques.

- Two aircraft are head on
- One aircraft is catching up on another.
- Two aircraft have routes crossing.
- The situations happen individually so that the student can focus on one task at a time, and discuss with the mentor.

302 Enroute traffic & traffic in/out of one major airport, combined with transiting traffic.

- 5 Departures
- 5 Arrivals
- 10 Enroute transit airspace
- Approach is online on the dep/arr airport.
- Approx 40 minutes.

303 Servicing multiple airports

- Traffic inbound/outbound from 2 smaller airports (preferably with other approaches than ILS.)
- 2 inbounds and 2 outbounds from both the small airports.
- 5 arrivals to major airport.
- Vectors for approach to smaller airport.
- TWR online on major airport.

304 Focus on enroute separation.

- 10 transits and 10 inbound for major airport.
- 2 transiting aircraft have wrong level according to east/west. Opposite traffic conflicting with them. (Note: If the traffic comes from a manned sector, change level by coordination before entry - otherwise when pilot calls)
- Sequencing arrival flow to Major airport, using speed control and/or vectoring as appropriate
- APP online on major airport

Online training program

The online training should consist of minimum 5 sessions, or until the acceptable level is obtained by the student. At least one of the sessions should be without APP and TWR for primary[1] airport online

Examination

Enroute Controller (C1) check-out:
- Enroute sector
- Time frame: 2-3 hours
- Supporting ATC: preferably adjacent enroute sectors. If support on positions below are allowed are determined locally, due to local differences in airspace complexity, traffic etc. (In some cases it can even be sufficient having a TWR controller on standby, opening an MA TWR position on examiners request).
- A minimum of 20 aircrafts should be handled during the checkout. This number can be varied at examiners discretion to take into account local complexity and/or a higher workload. In case the examiner evaluates traffic as insufficient for CPT evaluation, an additional sweatbox examination can take place after the online examination.

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[1] BIKF, EFHK, EKCH, ENGM, ESSA