



Inspectie Leefomgeving en Transport
Ministerie van Infrastructuur en Milieu

CONVERSION FLIGHT TEST RATING AND FLIGHT TEST INSTRUCTOR CERTIFICATE

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Content

Introduction—5

1 Cross reference, differences & time scale—9

1.1 Cross reference—9

1.2 Differences—9

1.3 Time scale—9

2 Analysis—10

2.1 Pilots—10

2.2 Flight test instructors—11

3 Conversion to EU-FCL—12

4 List of abbreviations—13

Appendix I - 14

Introduction

From 8 April 2012 the Commission Regulations (EU) No 1178/2011 and 290/2012 are applicable. Within Part Flight Crew Licensing (FCL) of No 1178/2011, new licences and ratings are introduced, or requirements for licences have changed. Commission Regulation (EU) No 1178/2011 contains the requirements for a number of ratings, amongst which a FLIGHT TEST rating and a FLIGHT TEST INSTRUCTOR certificate.

The Netherlands government has opted out for the application of FCL.800, FCL.805, FCL.815 and FCL.820 until ultimately 8 April 2015. In view of the approaching date of 8 April 2015 the Netherlands is working on the introduction of these ratings.

Article 4 of No 1178/2011 defines that existing JAR compliant national licences issued or recognised by a Member State before the applicability of this Regulation shall be deemed to have been issued in accordance with this Regulation. Member States shall replace these licenses with a licence complying with the format laid down in Part-ARA by 8 April 2018 at the latest.

Article 4 of No 1178/2011 also defines that existing non-JAR compliant national licences including any associated ratings, certificates, authorisations and/or qualifications issued or recognised by a Member State before the applicability of this Regulation shall be converted into a Part-FCL licence in accordance with Annex II to the regulation, or the elements laid down in a conversion report, as applicable.

In the Netherlands, no national requirements exist for flight test and flight test instruction. The mentioned activities will be converted into Part FCL ratings in accordance with the elements laid down in a conversion report as specified in Article 4(3)(b) and Article 4(4).

This conversion report applies to the FLIGHT TEST rating and FLIGHT TEST INSTRUCTOR certificate.

The applicable articles from commission regulation No 1178/2011 with regard to the requirements of a conversion report are listed below.

Regulation No 1178/2011, Article 4(4):

The conversion report shall:

- a) be established by the Member State that issued the pilot license in consultation with the European Aviation Safety Agency (the Agency);
- b) describe the national requirements on the basis of which the pilot licenses were issued;
- c) describe the scope of the privileges that were given to the pilots;
- d) indicate for which requirements in Annex I to this Regulation credit is to be given;
- e) indicate any limitations that need to be included on the Part-FCL licenses and any requirements the pilot has to comply with in order to remove those limitations.

Regulation 1178/2011, Article 4(5):

The conversion report shall include copies of all documents necessary to demonstrate the elements set out in points (a) to (e) of paragraph 4, including copies of the relevant national requirements and procedures. When developing the conversion report, Member States shall aim at allowing pilots to, as far as possible, maintain their current scope of activities.

The applicable articles from commission regulation No 1178/2011 with regard to a FLIGHT TEST rating and a FLIGHT TEST INSTRUCTOR certificate are listed below.

Regulation 1178/2011, Annex I, Subpart I, Additional ratings

FCL.820 Flight test rating

- a) Holders of a pilot licence for aeroplanes or helicopters shall only act as PIC in category 1 or 2 flight tests, as defined in Part-21, when they hold a flight test rating.
- b) The obligation to hold a flight test rating established in (a) shall only apply to flight tests conducted on:
 - 1) helicopters certificated or to be certificated in accordance with the standards of CS-27 or CS-29 or equivalent airworthiness codes; or
 - 2) aeroplanes certificated or to be certificated in accordance with:
 - i. the standards of CS-25 or equivalent airworthiness codes; or
 - ii. the standards of CS-23 or equivalent airworthiness codes, except for aeroplanes with a maximum take-off mass of less than 2 000 kg.
- c) The privileges of the holder of a flight test rating are to, within the relevant aircraft category:
 - 1) in the case of a category 1 flight test rating, conduct all categories of flight tests, as defined in Part-21, either as PIC or co-pilot;
 - 2) in the case of a category 2 flight test rating:
 - i. conduct category 1 flight tests, as defined in Part-21:
 - as a co-pilot, or
 - as PIC, in the case of aeroplanes referred to in (b)(2)(ii), except for those within the commuter category or having a design diving speed above 0,6 mach or a maximum ceiling above 25,000 feet;
 - ii. conduct all other categories of flight tests, as defined in Part-21, either as PIC or co-pilot;
 - 3) in addition, for both category 1 or 2 flight test ratings, to conduct flights specifically related to the activity of design and production organisations, within the scope of their privileges, when the requirements of Subpart H may not be complied with.
- d) Applicants for the first issue of a flight test rating shall:
 - 1) hold at least a CPL and an IR in the appropriate aircraft category;
 - 2) have completed at least 1 000 hours of flight time in the appropriate aircraft category, of which at least 400 hours as PIC;

- 3) have completed a training course at an ATO appropriate to the intended aircraft and category of flights. The training shall cover at least the following subjects:
 - Performance,
 - Stability and control/Handling qualities,
 - Systems,
 - Test management,
 - Risk/Safety management.
- e) The privileges of holders of a flight test rating may be extended to another category of flight test and another category of aircraft when they have completed an additional course of training at an ATO.

Regulation 1178/2011, Annex I, Subpart J, Section 11, Specific requirements for the flight test instructor – FTI

FCL.905.FTI FTI – Privileges and conditions

- a) The privileges of a flight test instructor (FTI) are to instruct, within the appropriate aircraft category, for:
 - 1) the issue of category 1 or 2 flight test ratings, provided he/she holds the relevant category of flight test rating;
 - 2) the issue of an FTI certificate, within the relevant category of flight test rating, provided that the instructor has at least 2 years of experience instructing for the issue of flight test ratings.
- b) The privileges of an FTI holding a category 1 flight test rating include the provision of flight instruction also in relation to category 2 flight test ratings.

FCL.915.FTI FTI – Prerequisites

An applicant for an FTI certificate shall:

- a) hold a flight test rating issued in accordance with FCL.820;
- b) have completed at least 200 hours of category 1 or 2 flight tests.

FCL.930.FTI FTI – Training course

- a) The training course for the FTI shall include, at least:
 - 1) 25 hours of teaching and learning;
 - 2) 10 hours of technical training, including revision of technical knowledge, the preparation of lesson plans and the development of classroom/simulator instructional skills;
 - 3) 5 hours of practical flight instruction under the supervision of an FTI qualified in accordance with FCL.905.FTI(b). These hours of flight instruction shall include the assessment of the applicant's competence as described in FCL.920.
- b) Crediting:
 - 1) Applicants holding or having held an instructor certificate shall be fully credited towards the requirement of (a)(1).
 - 2) In addition, applicants holding or having held an FI or TRI certificate in the relevant aircraft category shall be fully credited towards the requirements of (a)(2).

Conversion flight test rating and flight test instructor certificate

FCL.940.FTI FTI — Revalidation and renewal

- a) Revalidation. For revalidation of an FTI certificate, the applicant shall, within the validity period of the FTI certificate, fulfil one of the following requirements:
- 1) complete at least:
 - i. 50 hours of flight tests, of which at least 15 hours shall be within the 12 months preceding the expiry date of the FTI certificate; and
 - ii. 5 hours of flight test flight instruction within the 12 months preceding the expiry date of the FTI certificate; or
 - 2) receive refresher training as an FTI at an ATO. The refresher training shall be based on the practical flight instruction element of the FTI training course, in accordance with FCL.930.FTI(a)(3), and include at least 1 instruction flight under the supervision of an FTI qualified in accordance with FCL.905.FTI(b).
- b) Renewal. If the FTI certificate has lapsed, the applicant shall receive refresher training as an FTI at an ATO. The refresher training shall comply at least with the requirements of FCL.930.FTI(a)(3).

1 Cross reference, differences & time scale

1.1 **Cross reference**

The Netherlands did not specify license regulations for flight testing and flight test instruction in the national regulations. A specific FLIGHT TEST rating and/or FLIGHT TEST INSTRUCTOR certificate have, until now, not been required.

A cross-reference between existing and new regulations is therefore not possible, as the authority does at the moment, not stipulate specific qualification standards.

1.2 **Differences**

At present, there are no regulations related to flight testing and flight test instruction, making a comparison between existing and new regulations or qualification standards and identification of differences between the two impossible.

1.3 **Time scale**

This conversion to a Flight Test rating and Flight Test instructor certificate, based on this conversion report will be available upon publication of this report on the website of ILenT.

The latest date, as established by the Dutch Competent Authority, by which a conversion in accordance with this report is available is 8 April 2018.

2 Analysis

2.1 Pilots

Commission Regulation (EU) No. 748/2012 (Regulation Initial Airworthiness) Annex 1 (Part 21) contains implementing rules for the airworthiness and environmental certification of aircraft and related products, parts and appliances, as well as for the certification of design and production organizations. A new Annex XII to Part 21 (expected publication date Q3/2014, but not yet published at the issue date of this report) addresses flight test safety improvement issues with the specific objective to focus on defining and harmonizing the flight test crew qualifications and achieve a smooth transition to the introduced requirements.

The requirement to comply with Appendix XII to Part 21 is applicable for CS-23 aircraft above 2000 kg, and all CS-25, CS-27 and CS-29 aircraft.

Appendix XII to Part 21 will introduce, amongst other topics, the definition of four categories of flight test. The definitions of those four categories are shown in Appendix I to this report.

FCL.820 addresses the competence and experience requirements for pilots for so-called category 1 and category 2 flight tests. AMC & GM to Part FCL specify the training requirements for the category 1 and category 2 flight test rating. The training for these categories of flight test is not specific to the organization for which the pilot works. The pilot will undertake a course of training at an approved training organization with privileges to conduct flight test instruction and once the applicant meets the requirements he will have this qualification endorsed on the licence, which will allow him the benefits of mutual recognition within EU member states.

The Netherlands did, until now, not specify specific license requirements for flight testing in the national regulations. Category 1 and 2 flight testing, as defined in Part 21, is conducted by design organizations authorized to conduct such flight testing and, in addition, by the National Aerospace Laboratory NLR and the Delft University of Technology, which organizations performed experimental flights that may qualify as category 1 or 2 flight tests.

Not all pilots currently involved in category 1 and 2 flight test are graduates from a recognized test pilot school. Some of them were trained within their own flight test organization and received mentoring from more experienced test pilots in that organization. Another group of pilots, typically ex-military test pilots, graduated at one of the recognized test pilot schools.

In view of the above, one may expect to find that pilots involved in flight testing holding a Flight Crew License issued by The Dutch authorities (CAA-NL) may have varying levels of knowledge, skill and experience.

For every pilot applying for a conversion to a FLIGHT TEST rating, an assessment will be required of the relationship between the level of knowledge, skill and experience on one side and the resulting level of operational safety on the other side, taking into account that the privileges of the FLIGHT TEST rating can only be exercised within Part 21 design organizations.

CAA-NL has determined, that the best way to make such an assessment is by using a commission of expert pilots, consisting of examiners and instructors with sufficient relevant experience in flight test and/or flight test instruction. Those pilots will be specifically authorized by CAA-NL to perform these assessments as part of the conversion process.

An analysis of the candidate's successfully completed training, as well as the amount of relevant total and recent experience will result in a clear picture of the level of knowledge, skill and experience of the pilot and the resulting level of safety at which he/she is expected to operate. For those candidates who are not graduates of one of the recognized test pilot schools CAA-NL has established minimum flight test category 1 or 2 experience requirements. If deemed appropriate, a recommendation to issue the FLIGHT TEST rating or FLIGHT TEST INSTRUCTOR certificate in the Flight Crew License will follow. If deemed insufficient the application will be rejected.

2.2 Flight test instructors

The Netherlands did not specify specific license requirements for flight test instruction in the national regulations. CAA-NL has established minimum experience requirements for the conversion to a Part FCL flight test instructor certificate, which correspond to FCL.915.FTI and FCL.930.FTI.

3 Conversion to EU-FCL

The Dutch authority has decided, that:

1. Applications for a FLIGHT TEST rating or FLIGHT TEST INSTRUCTOR certificate issued in accordance with EU-FCL will be assessed by a commission of expert pilots, consisting of examiners and instructors with sufficient relevant experience in flight test and/or flight test instruction, who are specifically appointed by CAA-NL for this task.

2. For applicants who:

- a) hold at least a CPL and IR in the appropriate aircraft category and
- b) have completed at least 1 000 hours of flight time in the appropriate aircraft category, of which at least 400 hours as PIC and
 - i. have completed a flight test course at one of the recognised test pilot schools¹ comparable to AMC1 FCL.820 - Condition 1 course syllabus or
 - ii. are able to present documentary evidence acceptable to the CAA-NL of having accrued a minimum of 100 flying hours of flight test or flight test training that would qualify as category 1 or 2 flight test², including a minimum of 15 flights that contained category 1 flight tests;

a conversion to an EU-FCL CATEGORY 1 FLIGHT TEST rating will be recommended.

3. For applicants who:

- a) hold at least a CPL and IR in the appropriate aircraft category and
- b) have completed at least 1 000 hours of flight time in the appropriate aircraft category, of which at least 400 hours as PIC and
 - i. have completed a flight test course at one of the recognised test pilot schools¹ comparable to AMC1 FCL.820 - Condition 2 course syllabus or
 - ii. are able to present documentary evidence acceptable to the CAA-NL of having accrued a minimum of 50 flying hours of flight test or flight test training that would qualify as category 1 or 2 flight test²;

a conversion to an EU-FCL CATEGORY 2 FLIGHT TEST rating will be recommended.

4. For applicants who:

- a) are eligible for a flight test rating conversion and
- b) have completed at least 200 hours of category 1 or 2 flight test² and
- c) hold or have held a FI or TRI certificate in the relevant aircraft category and
- d) have performed at least 5 hours of practical flight test instruction at a recognised test pilot school¹

a conversion to an EU-FCL FLIGHT TEST INSTRUCTOR certificate will be recommended.

¹ Recognized test pilot schools are EPNER, ETPS, USAFTPS. USNTPS

² Definition in Appendix I

4 List of abbreviations

| | |
|---------|--|
| AMC | Acceptable Means of Compliance |
| ATO | Approved Training Organization |
| CAA-NL | Civil Aviation Authority The Netherlands (Inspectie Leefomgeving en Transport) |
| CPL | Commercial Pilot Licence |
| EPNER | École du Personnel Navigant d'Essais et de Réception |
| ETPS | Empire Test Pilot School |
| FCL | Flight Crew Licensing |
| FI | Flight Instructor |
| FTI | Flight Test Instructor |
| IR | Instrument Rating |
| JAR | Joint Aviation Regulations |
| PIC | Pilot In Command |
| TRI | Type Rating Instructor |
| USAFTPS | United States Air Force Test Pilot School |
| USNTPS | United States Naval Test Pilot School |

Appendix I: Flight Test Categories

(ref. ANNEX to EASA OPINION No 07/2013)

For the purposes of Appendix XII to Part 21, the following activities are considered flight tests:

- Flights for the development phase of a new design (aircraft, propulsion systems, parts and appliances);
- Flights to demonstrate compliance to airworthiness codes;
- Flights intended to experiment new design concepts, requiring unconventional maneuvers or profiles for which it could be possible to exit the already approved envelope of the aircraft;
- Flight test training flights

Any flight that does not fulfil the above definitions of flight test is not considered a test flight (e.g. maintenance check flights are NOT considered test flights within the scope of Part 21 and Part FCL).

Flights tests include the following four categories:

Category 1:

- Initial flight(s) of a new type of aircraft or of an aircraft of which flight and/or handling characteristics may have been significantly modified;
- Flights during which it can be envisaged to potentially encounter flight characteristics significantly different from those already known;
- Flights to investigate novel or unusual aircraft design features or techniques;
- Flights to determine or expand the flight envelope;
- Flights to determine the regulatory performances, flight characteristics and handling qualities when flight envelope limits are approached;
- Flight test training for category 1 flight tests.

Category 2:


- Flights not classified as category 1 on an aircraft whose type is not yet certified;
- Flights not classified as category 1 on aircraft of an already certified type, after embodiment of a not yet approved modification and which:
 - require an assessment of the general behaviour of the aircraft; or
 - require an assessment of basic crew procedures, when a new or modified system is operating or is needed; or
 - are required to intentionally fly outside of the limitations of the currently approved operational envelope, but within the investigated envelope.
- Flight test training for category 2 flight tests.

Category 3:

Flights performed for the issuance of statement of conformity for a new-built aircraft which do not require flying outside of the limitations of the type certificate (TC) / aircraft flight manual (AFM).

Category 4:

Flights not classified as Category 1 or 2 on an aircraft of an already certified type, in case of an embodiment of a not yet approved design change.



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