NATIONAL TEST PILOT SCHOOL

TRAINING MANUAL

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Change Summary

Rev.	Date	Summary of Changes
-	**21 February 2016**	First Approval of the new Training Manual including the EASA requirements
1	**12 May 2016**	Manual format changed to NTPS standard
2	**14 November 2016**	Reviewed the documents base don EASA comments: - Modified Appendix A - Add Appendix B (EASA NTPS Course Compliance Table) - Add Appendix C (Alt Moc Sortie)
3	**9 March 2017**	Added Flight Test Instructor Course – Chapter 3 Added Bridging Courses logic – Appendix D
4	**20 May 2017**	Modified the Flight Test Instructor Course details – Chapter 3
5	**15 March 2018**	Updated Schedules for Category 1 and 2 Courses – Chapters 1 and 2 Designated Flight Test Instructor Course Instructors – Chapter 3 Familiarization flight content – Appendix A EASA NTPS Course Compliance Tables – Appendix B

Distribution List

Copy #	Name/Location	Type
1	M:\Courses\Training Manual\NTPS Training Manual Rev. 5 - 15 March 2018	Electronic Copy
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List of Acronyms

AMC	Acceptable Means of Compliance
AFM	Airplane Flight Manual
ATO	Approved Training Organization
ATP	Airline Transport Pilot
CEO	Chief Executive Officer
COO	Chief Operations Officer
CFI	Certified Flight Instructor
CRM	Crew Resource Management
EASA	European Aviation Safety Agency
ETPS	Empire Test Pilot School
EPNER	École du Personnel Navigant d'Essais et Réception
FAA	Federal Aviation Administration
FCL	Flight Crew Licensing
FTE	Flight Test Engineer
FTI	Flight Test Instructor
FTOM	Flight Test Operations Manual
FTT	Flight Test Technique
FW	Fixed Wing
LFTE	Lead Flight Test Engineer
IP	Instructor Pilot
OM	Operations Manual
OMM	Organizational Management Manual
OPA	Optionally Piloted Aircraft
P&FQ	Performance and Flying Qualities
PIC	Pilot In Command
RFM	Rotorcraft Flight Manual
RW	Rotary Wing
SFTE	Student Flight Test Engineer
SMM	Safety Management Manual
STP	Student Test Pilot
SP	Safety Pilot
T&E	Test & Evaluation
THA	Test Hazard Analysis
TM	Training Manual
TP	Test Pilot
TPI	Test Pilot Instructor
TM	Training Manual
TRB/SRB	Technical Review Board and Safety Review Board
USAFTPS	United States Air Force Test Pilot School
USNTPS	United States Naval Test Pilot School

Overview

This Training Manual is intended to define the training program at the National Test Pilot School (NTPS) for Test Pilot students who desire to obtain an EASA Category 1 and Category 2 Flight Test Rating in either aeroplanes or helicopters, as well as the training for Flight Test Instructors. It also outlines the NTPS process for adapting standard NTPS courses based on a student's previous flight test competency.

The Category 1 courses are designed to be condition 1 training courses and apply to category 1 flight test ratings on:

(i) Helicopters certificated in accordance with the standards of CS-27 or CS-29 or equivalent airworthiness codes;

(ii) Aeroplanes certificated in accordance with:

A. The standards of CS-25 or equivalent airworthiness codes; or

B. The standards of CS-23 or equivalent airworthiness codes, within the commuter category or having an M_D above 0.6 or a maximum ceiling above 25 000 ft.

The Category 2 courses are designed to be condition 2 training courses that apply to:

(i) Category 2 flight test ratings for:

A. Helicopters certificated in accordance with the standards of CS-27 or CS-29 or equivalent airworthiness codes;

B. Aeroplanes certificated in accordance with:

a. The standards of CS-25 or equivalent airworthiness codes; or

b. The standards of CS-23 or equivalent airworthiness codes (including those within the commuter category or having an M_D above 0.6 or a maximum ceiling above 25 000 ft), except for aeroplanes with a maximum take-off mass of less than 2 000 kg.

(ii) Category 1 flight tests for aeroplanes certified in accordance with the standards of CS-23, with a maximum take-off mass of more than 2 000 kg, with the exclusion those certified in accordance with the standards of CS-23 or equivalent airworthiness codes, within the commuter category or having an M_D above 0.6 or a maximum ceiling above 25 000 ft.

As the training for these ratings is a subset of the entirety of flight test training offered at the NTPS, this document provides both specific information for the training outlined and provides references to the applicable portions of other NTPS documents that provide information relating to the training for EASA Category 1 and Category 2 Test Pilot Ratings and Flight Test Instructor Ratings. These references include student progress testing methods and documentation and the procedures to follow if the standards are not met at any stage of the course, specifically:

(i) NTPS Policy Manual Para. 5.6.4, Grading Systems,

(ii) NTPS Policy Manual Para. 6.2.6, Student Records and

(iii) NTPS Operations Manual, para. 15.2, NTPS Student Records

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1. CATEGORY 1 TEST PILOT COURSE

The EASA Category 1 Test Pilot Course is the ultimate in flight test education. Graduates of this 50 week course are prepared to perform EASA Category 1 Test Pilot privileges such as envelope expansion, civil certification, and military suitability assessments. This course is designed to equip experienced pilots with the knowledge and practical experience to safely plan, conduct, and report on flight test programs including but not limited to performance, handling qualities and systems flight tests. This is not a basic flight training course, but an intense academic curriculum designed to produce world-class test pilots. In addition, graduates may receive a master's degree in either Flight Test Engineering or Flight Test and Evaluation, depending on their undergraduate qualifications.

The course is structured in two phases: The Systems Phase begins in January and the Performance and Flying Qualities Phase begins in June. Students may join the course either in January ('A' Class) or June ('B' Class). All students start with a three-week module of general topics and then join the applicable phase. At the end of their first phase there will be a field trip to representative flight test centers and aircraft and avionics manufacturers. The capstone project is a limited evaluation of an aircraft unfamiliar to the student. Course subjects are taught in modular form, generally one week of theory followed by two weeks of practical laboratory exercises flight demonstrations, test planning, data collection and analysis, and reporting. The general schedule for the Category 1 course is shown in figure 1.

1.4 Required Modules

Each of the required 18 Test and Evaluation (T&E) modules shown in Table 1 is described in detail in the current NTPS Course Syllabus.

T&E 4001 Fundamentals of Flight Test
T&E 4002 Test Management
T&E 4003 Capstone Project
T&E 4101 or 4111 Performance Flight Testing I
T&E 4102 or 4112 Performance Flight Testing II
T&E 4103 or 4113 Flying Qualities Flight Testing I
T&E 4104 or 4114 Flying Qualities Flight Testing II
T&E 4105 Modern Flight Control Systems
T&E 4106 Structures, Loads and Weapons Testing
T&E 4107 Civil Aircraft Icing Certification Testing
T&E 4201 Avionics Systems Flight Testing
T&E 4202 Navigation, Communications and GPS Testing
T&E 4203 Civil Avionics Systems Certification Testing
T&E 4204 RADAR and EW Systems Testing
T&E 4205 UAV Systems Testing
T&E 4206 Weapons Integration Testing
T&E 4207 Electro-Optic and Infrared Systems Testing
T&E 4208 HMD & NVG Testing

Table 1 – Required Modules – Category 1 Course

Wk	Phase		Module	Notes
1	General	1	Fundamentals of Flight Test	T&E 4001
2	General	2		
3	General	3		
4	Systems	1	Avionics Systems Flight Testing	T&E 4201
5	Systems	2		
6	Systems	3		
7	Systems	4	Commication, Navigation and GPS Testing	T&E 4202
8	Systems	5		
9	Systems	6	Electro-Optics and Infrared Systems Testing	T&E 4207
10	Systems	7		
11	Systems	8		
12	Systems	9	NVG and HMD Systems Testing	T&E 4208
13	Systems	10		
14	Systems	11	RADAR and EW Systems Testing	T&E 4204
15	Systems	12		
16	Systems	13		
17	Systems	14	Civil Certification of Avionics Systems (23/25)	T&E 4203
18	Systems	15		
19	Systems	16		
20	General	4	Field Trip	
21	Systems	17	UAV Systems Testing	T&E 4205
22	Systems	18		
23	Systems	19	Weapons Integration Testing	T&E 4206
24	Systems	20	Civil aircraft Icing Certification Testing	T&E 4107
25	Vacation	1		
26	Vacation	2		
27	General	5	Test Management	T&E 4002
28	P&FQ	1	Perormance I Flight Testing	T&E 4101/4111
29	P&FQ	2		
30	P&FQ	3		
31	P&FQ	4	Perormance II Flight Testing	T&E 4102/4112
32	P&FQ	5		
33	P&FQ	6		
34	P&FQ	7	Flying Qualities I Flight Testing	T&E 4103/4113
35	P&FQ	8		
36	P&FQ	9		
37	P&FQ	10	Flying Qualities II Flight Testing	T&E 4104/4114
38	P&FQ	11		
39	P&FQ	12		
40	P&FQ	13		
41	P&FQ	14	Modern Flight Controls	T&E 4105
42	P&FQ	15		
43	P&FQ	16		
44	Capstone	1	Capstone Project	T&E 4003
45	Capstone	2		
46	Capstone	3		
47	Capstone	4		
48	P&FQ	17	Loads/Flutter/Stores Cert	T&E 4106
49	P&FQ	18		
50	P&FQ	19		Graduation

Figure 1 – Category 1 Course Schedule

1.5 Flight Test Training Sorties

In the EASA Category 1 Test Pilot Course each fixed wing test pilot student will fly a minimum of ten different types of fixed wing aircraft and each rotary wing test pilot student will fly a minimum eight different helicopter types during the 50 week course. Student test pilots will fly a variety of different flight test training sorties in the curriculum to include Familiarization, Demonstration, Data, Evaluation, and AltMOC Flights. Definitions of the planned flight types are detailed in Appendix A as well as standard familiarization cards for fixed and rotary wing aircraft.

1.6 Ground Training and Flight Test Training Summary

The Category 1 Test Pilot Course contains over 600 hours of planned ground training (lectures, laboratories, exercises, simulations, and examinations). The details of the ground training content for each module are shown in the NTPS Course Syllabus. Similarly for the flying, each pilot will receive a minimum of 100 hours of flight test training in a wide variety of aircraft and FAA approved simulators throughout the 50 week course. The overall course training content and compliance can be found in the tables in Appendix B.

1.7 Master's Degree

Qualified students who successfully complete the Category 1 Test Pilot Course will have completed all the required modules for the master's degree program and will be eligible for one of the two master's degrees, depending on their undergraduate qualifications.

1.8 Pre-requisites

The following pre-requisites are for attending the NTPS Category 1 Test Pilot Course. They do not necessarily match the flight test rating licensing requirements for the various national authorities. The flight test rating applicant is responsible for knowing and meeting the flight test rating licensing requirements for their national authority.

Pilots: A minimum of 750 hours of pilot-in-command time and a bachelor's degree in math, science or engineering (or equivalent military academy) plus medically qualified to perform flight duties. Non-native English speakers must pass a Test of English as a Foreign Language (TOEFL) with a minimum score of 80.

1.9 Privileges

The Category 1 courses are designed to be Condition 1 training courses and apply to Category 1 flight test ratings on:

(i) Helicopters certificated in accordance with the standards of CS-27 or CS-29 or equivalent airworthiness codes;

(ii) Aeroplanes certificated in accordance with:

A. The standards of CS-25 or equivalent airworthiness codes; or

B. The standards of CS-23 or equivalent airworthiness codes, within the commuter category or having an MD above 0.6 or a maximum ceiling above 25 000 ft

2. CATEGORY 2 TEST PILOT COURSES

The EASA Category 2 Test Pilot Course is an excellent course in flight test education. Graduates of this 18 week course are prepared to perform EASA Category 2 Test Pilot privileges. The EASA Category 2 Test Pilot Course is a subset of the EASA Category 1 Test Pilot Course and enrolled students will normally attend classes with the Category 1 students. There are planned to be two options for the course focus: a Systems-focused course and a Performance and Flying Qualities (P&FQ) focused course. The Systems focused course always begins in January and the Performance and Flying Qualities Focused Course always starts in June. The subjects are taught in modular form, generally one week of theory followed by two weeks of practical laboratory exercises, flight demonstrations, test planning, data collection, data analysis, and reporting. **Currently only the P&FQ focused option is implemented and available for Category 2 Test Pilot students because of EASA concerns about the extensive amount of P&FQ testing privileges afforded a Category 2 Test Pilot.**

2.1 Category 2 Performance and Flying Qualities Focus

2.1.1 Required Modules

The required modules for the Category 2 Test Pilot Course focusing in Performance and Flying Qualities testing are shown in Table 2. The schedule is shown in Figure 2.

T&E 4001 Fundamentals of Flight Test
T&E 4101 or 4111 Performance Flight Testing I
T&E 4102 or 4112 Performance Flight Testing II
T&E 4103 or 4113 Flying Qualities Flight Testing I
T&E 4104 or 4114 Flying Qualities Flight Testing II
T&E 4008 Introduction to Systems Testing
T&E 4003 Capstone Project

Table 2 – Required Modules – Category 2 Course
Performance and Flying Qualities Focus

Wk	Phase		Module	Notes
1	Systems	1	Introduction to Systems Testing	T&E 4208
2	Systems	2		
3	General	1	Fundamentals of Flight Test	T&E 4001
4	General	2		
5	General	3		
6	P&FQ	1	Perormance I Flight Testing	T&E 4101/4111
7	P&FQ	2		
8	P&FQ	3		
9	P&FQ	4	Perormance II Flight Testing	T&E 4102/4112
10	P&FQ	5		
11	P&FQ	6		
12	P&FQ	7	Flying Qualities I Flight Testing	T&E 4103/4113
13	P&FQ	8		
14	P&FQ	9		
15	P&FQ	10	Flying Qualities II Flight Testing	T&E 4104/4114
16	P&FQ	11		
17	P&FQ	12		
18	P&FQ	13		
19	P&FQ	14	Final Project	
20	P&FQ	15		Graduation

Figure 2 – Category 2 Schedule
Performance and Flying Qualities Focus

2.1.2 Flight Test Training Sorties

Each pilot in the Category 2 Performance and Flying Qualities focused Test Pilot Course will fly a minimum of seven different types of fixed wing aircraft or four different helicopter types during the 18 week course. Student test pilots will fly a variety of different flight test training sorties in the curriculum to include Familiarization, Demonstration, Data, Evaluation, and AltMOC Flights. Definitions of the planned flight types are detailed in Appendix A as well as standard familiarization cards for fixed and rotary wing aircraft.

2.1.3 Ground Training and Flight Test Training Summary

The Category 2 Test Pilot Course contains over 200 hours of planned ground training (lectures, laboratories, exercises, simulations, and examinations). The details of the ground training content for each module are shown in the NTPS Course Syllabus. Similarly for the flying, each pilot will receive a minimum of 50 hours of flight test training in a variety of aircraft and FAA approved simulators throughout the 18 week course. The overall course training content and compliance can be found in the tables in Appendix B.

2.1.4 Pre-requisites

The following pre-requisites are for attending the NTPS Category 2 Test Pilot Course. They do not necessarily match the flight test rating licensing requirements for the various

national authorities. The flight test rating applicant is responsible for knowing and meeting the licensing requirements for their national authority.
Pilots: A minimum of 750 hours of pilot-in-command time and a bachelor's degree in math, science or engineering (or equivalent military academy) plus medically qualified to perform flight duties. Non-native English speakers must pass a Test of English as a Foreign Language (TOEFL) with a minimum score of 80 on the internet version.

2.1.5 Privileges

The Category 2 courses are designed to be condition 2 training courses that apply to:

(i) Category 2 flight test ratings for:
   A. Helicopters certificated in accordance with the standards of CS-27 or CS-29 or equivalent airworthiness codes;
   B. Aeroplanes certificated in accordance with:
      - The standards of CS-25 or equivalent airworthiness codes; or
      - The standards of CS-23 or equivalent airworthiness codes.

(ii) Category 1 flight tests for aeroplanes certified in accordance with the standards of CS-23, with a maximum take-off mass of more than 2000kg, with the exclusion those certified in accordance with the standards of CS-23 or equivalent airworthiness codes, within the commuter category or having an MD above 0.6 or a maximum ceiling above 25,000 ft.

2.2 Category 2 Systems Focus

Note: the systems-focused Category 2 course has not been designated by EASA as an approved training course at the time of this document publication. Application for approval may be made in the future and if so it is planned to encompass the course content shown in the following paragraphs. No details or summaries for this proposed course are currently included in Appendix B.

2.2.1 Required Modules

The required modules for the Category 2 Test Pilot Course focusing in Systems testing are shown in Table 2. The schedule is shown in Figure 3.

T&E 4001 Fundamentals of Flight Test
T&E 4201 Avionics Systems Flight Testing
T&E 4202 Navigation, Communications and GPS Testing
T&E 4203 Civil Avionics Systems Certification Testing
T&E 4204 RADAR and EW Systems Testing
T&E 4207 Electro-Optic and Infrared Systems Testing
T&E 4208 HMD & NVG Testing
T&E 4007 Introduction to Performance & Flying Qualities

Table 3 – Required Modules – Category 2 Course, Systems Focus

Wk	Phase		Module	Notes
1	General	1	Fundamentals of Flight Test	T&E 4001
2	General	2		
3	General	3		
4	Systems	1	Avionics Systems Flight Testing	T&E 4201
5	Systems	2		
6	Systems	3		
7	Systems	4	Commication, Navigation and GPS Testing	T&E 4202
8	Systems	5		
9	Systems	6	Electro-Optics and Infrared Systems Testing	T&E 4207
10	Systems	7		
11	Systems	8		
12	Systems	9	NVG and HMD Systems Testing	T&E 4208
13	Systems	10		
14	Systems	11	RADAR and EW Systems Testing	T&E 4204
15	Systems	12		
16	Systems	13		
17	Systems	14	Civil Certification of Avionics Systems (23/25)	T&E 4203
18	Systems	15		
19	Systems	16		
20	P&FQ	1	Introduction to Performance and Flying Qualities	T&E 4007/4017
21	P&FQ	2		

Figure 3 – Category 2 Schedule, Systems Focus

2.2.2 Flight Test Training Sorties

Each pilot in the Category 2 Systems focused Test Pilot Course will fly a minimum of seven different types of fixed wing aircraft or four different helicopters during the 20 week course. Student test pilots will fly a variety of different flight test training sorties in the curriculum to include Familiarization, Demonstration, Data, Evaluation and AltMOC Flights.

2.2.3 Ground Training and Flight Test Training Summary

While the details of the academics content are shown in the NTPS Course Syllabus for each of the modules, in total the Category 2 Test Pilot Course with a systems focus includes over 200 classroom hours (lectures, examinations, laboratories, exercises and oral reports). Similarly, for the flying, each pilot will receive over 50 hours of flying time in a variety of aircraft and FAA approved simulators throughout the 20 week course.

3. FLIGHT TEST INSTRUCTOR (FTI) COURSES

OVERVIEW: The following outlines the NTPS processes for providing Initial, Revalidation, and Renewal Flight Test Instructor Courses. The processes are based on the guidance in the EASA FCL.905.FTI through FCL.940.FTI.

APPROPRIATE REGULATIONS: The European Aviation Safety Agency (EASA) Part FCL.905.FTI through FCL.940.FTI lay out the specific requirements relevant for the flight test instructor (FTI).

FCL.905.FTI FTI – Privileges and conditions

(a) The privileges of a 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 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

(a) hold a flight test rating issued in accordance with FCL.820

(b) have completed at least 200 hours of category 1 or category 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).

FCL.940.FTI FTI – Revalidation and renewal

(a) Revalidation. For revalidation of an FTI certificate, the applicant shall, within the 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 month preceding the expiry date of the FTI certificate; and

(ii) 5 hours of flight test instruction within the 12 month 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).

FCL.920 Instructor competencies and assessment.

All instructors shall be trained to achieve the following competences:

- *Prepare resources,*
- *Create a climate conducive to learning,*
- *Present knowledge,*
- *Integrate Threat and Error Management (TEM) and Crew Resource Management (CRM),*
- *Manage time to achieve training objectives,*
- *Facilitate learning,*
- *Assess trainee performance,*
- *Monitor and review progress,*
- *Evaluate training sessions,*
- *Report outcome.*

Pre-Requisites for NTPS FTI Course Instructors: NTPS FTI Course Instructors will meet the following criteria:

- Pilot graduate from a recognized* test pilot school,
- Hold a Flight Instructor Rating,
- Hold a Flight Test Instructor Rating,
- Have completed at least 200 hours of category 1 or 2 flight tests or Flight Test Training for category 1 or category 2 flight tests per EU Commission Regulation 1039.
- Have completed at least 2 years of full time Flight Test Instruction at NTPS,
- Have been designated as an NTPS FTI Course Instructor by the Head of Training and the Accountable Manager. The following have been designated as NTPS FTI Course Instructors: the Accountable Manager, the Head of Training, the Chief Fixed Wing Flight

Test Instructor Pilot, and the Chief Rotary Wing Flight Test Instructor Pilot. Others may designated in writing as required.

*Note: recognized test pilot schools are those recognized by the Society of Experimental Test Pilots (www.setp.org).

FTI INITIAL TRAINING COURSES GENERAL: Per FCL.930.FTI the FTI training course is conducted as per FCL.930.FTI(a) either with or without crediting IAW FCL.930.FTI(b). The process that NTPS will use for each of these cases is presented below.

1) Initial Training IAW FCL.930.FTI(a) with no FCL.930.FTI(b) crediting
At this time NTPS does not plan to conduct initial training for applicants without the crediting provided for in FCL930.FTI(b). This training is a potential future capability.

2) Initial Training IAW FCL.930.FTI(a) with full FCL.930.FTI(b) crediting
It is understood that candidates pursuing FTI initial training at NTPS will come from a broad spectrum of backgrounds and experience. Therefore, there is no one size fits all course for this case. The specific process to be used to develop and conduct the initial FTI training course is presented below.

1. INITIATION. Upon contact from an applicant seeking a FTI initial training course, NTPS will have a discussion with the applicant to assess the overall situation and discuss the possible courses of action for the applicant to take. As NTPS may charge a fee for any or all assessments, proposed assessment costs should be discussed at this point and a cost estimate provided if requested by the applicant.

2. SELF-ASSESSMENT and EVIDENCE. If after completing step 1 the applicant desires an initial FTI training course, NTPS will instruct the applicant to conduct a pre-entry self-assessment of their skills and submit all the applicable evidence to NTPS so that they may evaluate the flight test level/competency of the applicant. This self-assessment will be documented on the FTI Initial Training Self-Assessment Form below. Examples of appropriate evidence may include but are not limited to: a resume/CV, national authority licenses, documentation of flight test experience, documentation of flight test training and education, documentation of academic training/degrees, etc. Based on the self-assessment the applicant may decide to submit the required documentation or withdraw the request.

3. ASSESSMENT and DETERMINATION. Once an applicant has submitted the required information, NTPS should perform an assessment of the applicant's submitted documentation and then determine where the applicant sits based on flight test experience and currency of experience. The assessment will be conducted by the Head of Training, Chief Flying Instructor and appropriate Chief FW/RW Test Pilot. and will be approved by

the Accountable Manager prior to providing feedback to the applicant. If a level of competency cannot be determined from the submitted information, then additional information may be requested.

4. COMPETENCY AGREEMENT. Once a level of flight test competency has been established and approved, it should be communicated to the applicant. A discussion of any portion of the assessment with the applicant is encouraged. If a disagreement on the level of competency exists and cannot be rectified by both parties, then the NTPS assessment will prevail. A reassessment may take place if additional information is surfaced or provided. Agreement on the level of competency between NTPS and the applicant must occur before proceeding. If agreement cannot be reached, then the process should stop.

5. COURSE DEVEOPMENT. When the level of competency has been agreed, a detailed initial FTI training course may then be developed and recommended to the applicant that will meet their training needs and also meet the requirements of FCL.930.FTI. The developed course will focus on the areas of practical flight instruction that are needed by and will be most useful to the applicant and this will drive the required hours of practical flight instruction. The standard sorties to be used for the course are listed by category at the end of this chapter. These standard sorties may be modified based on the applicant's needs. Additional sorties may be added if required for competency or at the applicant's request. In no case will the required hours of practical flight instruction be less than 5 hours for an initial rating.

6. COURSE EXECUTION. If the developed FCL.930.FTI compliant initial FTI training course is acceptable to both NTPS and the applicant, then the course of instruction may be undertaken at a mutually agreeable time. Ultimately, the successful completion of the FTI course will be competency based but in no case will it be less than 5 hours of practical flight instruction. During the course the applicant will be continuously assessed as per the competency requirements of FCL.920. The FTI Grade sheet is shown at the end of the chapter.

7. COMPLETION. Upon the successful completion of the agreed upon initial FTI training course, the applicant will receive a certificate stating that they have met the appropriate and required level of training in compliance with FCL.930.FTI.

FTI REVALIDATION & RENEWAL GENERAL: Per FCL.940.FTI, FTI revalidation and renewal are conducted as per FCL.940.FTI(a) or (b). The process that NTPS will use for each of these cases is presented below.

1) Revalidation as per FCL.940.FTI(a)(2). It is understood that candidates pursuing FTI revalidation at NTPS will come from a broad spectrum of backgrounds and experience. In the case of revalidation, the student still has a valid FTI certificate and should need only minor refresher training. The specific process to be used to develop and conduct a revalidation course is presented below.

1. INITIATION. Upon contact from an applicant seeking a FTI Revalidation course, NTPS will have a discussion with the applicant to assess the overall situation and discuss the possible courses of action for the applicant to take. As NTPS may charge a fee for any or all assessments, proposed assessment costs should be discussed at this point and a cost estimate provided if requested by the applicant.

2. SELF-ASSESSMENT and EVIDENCE. If after completing step 1 the applicant desires an initial FTI training course, NTPS will instruct the applicant to conduct a pre-entry self-assessment of their skills and submit all the applicable evidence to NTPS so that they may evaluate the flight test level & flight test training level/competency of the applicant. This self-assessment will be documented on the FTI Self-Assessment Form below. Examples of appropriate evidence may include but are not limited to: a resume/CV, national authority licenses, documentation of flight test experience, documentation of flight test training conducted, documentation of academic training/degrees, etc. Based on the self-assessment the applicant may decide to submit the required documentation or withdraw the request.

3. ASSESSMENT and DETERMINATION. Once an applicant has submitted the required information, NTPS should perform an assessment of the applicant's submitted documentation and then determine where the applicant sits based on flight test experience and currency of experience. The assessment will be conducted by the Head of Training, Chief Flying Instructor and appropriate Chief FW/RW Test Pilot. and will be approved by the Accountable Manager prior to providing feedback to the applicant. If a level of competency cannot be determined from the submitted information, then additional information may be requested.

4. COMPETENCY AGREEMENT. Once a level of flight test competency has been established and approved, it should be communicated to the applicant. A discussion of any portion of the assessment with the applicant is encouraged. If a disagreement on the level of competency exists and cannot be rectified by both parties, then the NTPS assessment will prevail. A reassessment may take place if additional information is surfaced or provided. Agreement on the level of competency between NTPS and the applicant must occur before proceeding. If agreement cannot be reached then the process should stop.

5. COURSE DEVEOPMENT. When the level of competency has been agreed, a detailed FTI renewal course may then be developed and recommended to the applicant that will meet

their training needs and also meet the requirements of FCL.940.FTI(a)(2). The developed course will focus on the areas of practical flight instruction that are needed by and will be most useful to the applicant and this will drive the required hours of practical flight instruction. As the student still has a valid FTI certificate it is expected that the required refresher training will be minimized if possible. The sortie(s) to be used should be selected from the standard sorties listed by category at the end of this chapter. These standard sorties may be modified based on the applicant's needs. Additional sorties may be added if required for competency or at the applicant's request. In no case will the required hours of practical flight instruction be less than one hour for a revalidation.

6. COURSE EXECUTION. If the developed FCL.940.FTI compliant FTI revalidation course is acceptable to both NTPS and the applicant, then the course of instruction may be undertaken at a mutually agreeable time. Ultimately, the successful completion of the FTI revalidation course will be competency based but in no case will it be less than one hour of practical flight instruction. During the course the applicant will be continuously assessed as per the competency requirements of FCL.920. The FTI Grade sheet is shown at the end of the chapter.

7. COMPLETION. Upon the successful completion of the agreed upon initial FTI training course, the applicant will receive a certificate stating that they have met the appropriate and required level of training in compliance with FCL.940.FTI.

2) Renewal as per FCL.940FTI(b). It is understood that candidates pursuing FTI revalidation at NTPS will come from a broad spectrum of backgrounds and experience. The currency of both flight test experience and flight test training may have a big impact on the amount refresher training required. The specific process to be used to develop and conduct a revalidation course is presented below.

1. INITIATION. Upon contact from an applicant seeking a FTI renewal course, NTPS will have a discussion with the applicant to assess the overall situation and discuss the possible courses of action for the applicant to take. As NTPS may charge a fee for any or all assessments, proposed assessment costs should be discussed at this point and a cost estimate provided if requested by the applicant.

2. SELF-ASSESSMENT and EVIDENCE. If after completing step 1 the applicant desires a FTI Renewal course, NTPS will instruct the applicant to conduct a pre-entry self-assessment of their skills and submit all the applicable evidence to NTPS so that they may evaluate the flight test level & flight test training level/competency of the applicant. This self-assessment will be documented on the FTI Self-Assessment Form below. Examples of appropriate evidence may include but are not limited to: a resume/CV, national authority licenses, documentation of flight test experience, documentation of flight test training

conducted, documentation of academic training/degrees, etc. Based on the self-assessment the applicant may decide to submit the required documentation or withdraw the request.

3. ASSESSMENT and DETERMINATION. Once an applicant has submitted the required information, NTPS should perform an assessment of the applicant's submitted documentation and then determine where the applicant sits based on flight test experience, flight test instruction experience and currency of both The assessment will be conducted by the Head of Training, Chief Flying Instructor and appropriate Chief FW/RW Test Pilot and will be approved by the Accountable Manager prior to providing feedback to the applicant. Significant attention needs to be paid to the currency and amount of both flight test experience and flight test instruction during the determination of competency. If a level of competency cannot be determined from the submitted information, then additional information may be requested.

4. COMPETENCY AGREEMENT. Once a level of flight test competency has been established and approved, it should be communicated to the applicant. A discussion of any portion of the assessment with the applicant is encouraged. If a disagreement on the level of competency exists and cannot be rectified by both parties, then the NTPS assessment will prevail. A reassessment may take place if additional information is surfaced or provided. Agreement on the creditable level of competency between NTPS and the applicant must occur before proceeding. If agreement cannot be reached, then the process should stop.

5. COURSE DEVEOPMENT. When the level of competency has been agreed, a detailed FTI renewal course may then be developed and recommended to the applicant that will meet their training needs and also meet the requirements of FCL.940.FTI(b). The developed course will focus on the areas of practical flight instruction that are needed by and will be most useful to the applicant and this will drive the required hours of practical flight instruction. The standard sorties to be used for the course are listed by category at the end of this chapter. These standard sorties may be modified based on the applicant's needs. Additional sorties may be added if required for competency or at the applicant's request. In no case will the required hours of practical flight instruction be less than 5 hours for a renewal.

6. COURSE EXECUTION. If the developed FCL.940.FTI(b) compliant initial FTI training course is acceptable to both NTPS and the applicant, then the course of instruction may be undertaken at a mutually agreeable time. Ultimately, the successful completion of the FTI renewal course will be competency based but in no case will it be less than 5 hours of practical flight instruction. During the course the applicant will be continuously assessed as per the competency requirements of FCL.920. The FTI Grade sheet is shown at the end of the chapter.

7. COMPLETION. Upon the successful completion of the agreed upon initial FTI training course, the applicant will receive a certificate stating that they have met the appropriate and required level of training in compliance with FCL.940.FTI.

FTI COURSES CURRICULUM BASIS

The primary references to be used in any of the developed courses will be the NTPS Handbook, Volume X and the specific subject FTT classroom briefings. Other appropriate references may be used as required or desired. Some organizations may have their own FTT Manuals and these may be used for revalidation and/or renewal courses if appropriate.

For any of the developed courses three levels of training should be accomplished for each scheduled FTT iteration of the practical flight training.

1) The NTPS FTI will assign the student a selected FTT(s) for the practical flight training. As a training foundation, the NTPS FTI will discuss and review with the student the specific subject FTT classroom briefing and cover the highlights of the applicable section of the Volume X including the demo data cards.

2) The student will build upon the reviewed FTT foundation with homework, self-study, and planning for the assigned FTT in preparation for the practical flight training exercise. This will include the development of the pre-flight briefing, flight planning, and the applicable data cards to come prepared for the practical flight training exercise the following training day.

3) The student will perform as the FTI for the practical flight training exercise. The student will present the flight test technique, relevant theory and data cards during the flight briefing to the FTI as if briefing a test pilot student and will receive feedback from the FTI prior to the flight. Conduct of each FTT will occur in three steps. First, the NTPS FTII will demonstrate the FTT. The purpose of this demonstration is to review the technique and provide an example for the student to emulate. Second, the student will demonstrate the FTT, giving them the opportunity to practice both the technique and the delivery of instruction. Third, the NTPS FTII will act as a trainee and introduce common errors for the student to identify and remedy. Any problems areas or helpful hints will be pointed out real-time while the remaining areas will be covered during the debrief. The Student will conclude the mission with a debriefing of FTT execution, data quality, problem areas and any other appropriate feedback. The NTPS FTI will finish the training session with a detailed debriefing of the student performance including areas that warrant improvement and any areas of unsatisfactory performance. Student performance during each training flight will be recorded on the FTI Grade sheet.

4) The process will be repeated until the developed course material has been covered, satisfactory performance/competency has been attained, and the required number of practical flight training hours have been accomplished.

Standard Sorties by Category

Practical Flight Instruction Sorties – Fixed Wing

Aircraft	***Test techniques***	***Duration***
Single/multiengine aircraft	Pitot-statics, climb performance and cruise performance.	1.2
Single/multiengine aircraft	Longitudinal, maneuvering and lateral-static stability.	1.3
Multiengine aircraft	Dynamic stability and one engine inoperative asymmetric flight (V_{mca}).	1.3
Single engine aircraft	Stall speed, stall characteristics and CLHQ.	1.2
Total practical flight instruction		5.0

Practical Flight Instruction Sorties – Rotary Wing

Aircraft	***Test techniques***	***Duration***
Single engine helicopter	Position Error Correction, Hover Performance.	1.2
Twin engine helicopter	Level flight performance, Climb & Descent performance	1.2
Single or Twin engine helicopter	Static Stability (Longitudinal & Lateral-directional), Low Airspeed Flying Qualities	1.3
Single or Twin engine helicopter	Dynamic Stability (Longitudinal & Lateral-directional), AFCS Evaluation	1.3
Total practical flight instruction		5.0

National Test Pilot School

EASA Flight Test Instructor Self Assessment Fom

Name	
Organization	

EASA Pilot Rating	Issue Date		Expriy Date	
	Category		Class	
EASA Flight Test Rating IAW FCL.820	Issue Date		Expriy Date	
	Test Pilot School		Graducation Date	
	CAT I or II		Issuing Authority	
EASA Instructor Rating	Initial Qualification Date		Expriy Date	
EASA Flight Test Instructor Rating	Initial Qualification Date		Expriy Date	
Flying Experience	Total Flying Hours		Total Flying Instructor Hours	
	Total Flight Test Hours (CAT 1 or 2 flight tests)		Total Flight Test Instructor Hours	
	Total Hours in last 12 Months		Flight Test Hours in last 12 Months	
	Flight Test Instruction Hours in last 12 Months			

Notes: Flight Test Instructor details only applicable for Renewal & Revalidation candidates.

Details of expected future flight test tasks: _____

National Test Pilot School
EASA Flight Test Instructor Grade Sheet

Student(s)	**Instructor**	**Date**
Aircraft	**Exercise**	

Evaluation Parameter	**Unsatisfactory**	**Developing (Satisfactory)**	**Competent**	**Accomplished**
Prepare resourses	Did not ensure adequate facilities or briefing material (6)	Adequate facilities but limited prepared briefing material (7)(8)	Good facilities & used appropriate briefing material (9)	Very well prepared facilities and briefing material. Understood lesson objectives. (10)
Create a climate conducive to learning	Did not create an environment conducive to learning. Created barriers to learning & did not adapt to trainee. (6)	Established credentials & provided satisfactory role model. Could better adapt to trainee learning style. (7)(8)	Sound role model & supports trainee needs (9)	Established credentials & provided excellent role model. Adapted teaching to trainee learning style. (10)
Present knowledge	Difficult to understand & unorganized lesson (6)	Satisfactory communication of a planned lesson. (7)(8)	Clear communication & methodical approach. (9)	Very effective communicator with clear teaching method. Realistic training. (10)
Integrate TEM and/or CRM	TEM & CRM not implemented or emphasised. (6)	TEM & CRM used but not linked to technical training. (7)(8)	TEM & CRM used with links to technical training & other applications. (9)	Excellent example of TEM & CRM as applied to flight test. (10)
Manage time to achieve training objectives	Does not manage time or airspace, lesson objectives not met. (6)	Attempts to manage time & airspace with some success. (7)(8)	Good management of time & airspace. Training objectives met. (9)	Excellent management of time & airspace to achieve lesson objective efficiently. (10)
Facilitate learning	Impatient & does not encourage trainee. (6)	Tries to encourage trainee and attempts to provide feedback on trainee performance. (7)(8)	Encourages trainee, supoprtive & provides effective feedback. (9)	Shows motivating, patient, confident & assertive manner. Proivdes constructive feedback & involves trainee. (10)
Assesses trainee performance	Does not effectively observe trainee and is unable to provide structured feedback. (6)	Observes major trainee errors & attempts to give feedback. Not always clear & concise. (7)(8)	Consistently good assessment of trainee performance with sound feedback. (9)	Excellent observation skills, encourages trainee self assessment & provides clear feedback of performance. (10)
Monitor and review progress	Does not compare trainee progress with lesson outcomes or provide corrective action. (6)	Attempts to monitor trainee progress & provides limited or ineffective corrective action. (7)(8)	Monitors trainee progress and provides appropriate corrective action. (9)	Compares trainee progress with lesson outcomes and consistently applies effective corrective action. (10)
Evaluate training sessions	Does not elicit feedback from trainees or track progress. Does not make appropriate records. (6)	Attempts to compare trainee performance with lesson objective. Training record needs improvement. (7)(8)	Tracks trainee progress against lesson objective and makes appropriate record. (9)	Elicits feedback from trainee. Tracks competency against lesson objectives. Excellent record of training. (10)
Report outcome	Does not make report of training or report is inaccurate or includes events not observed. (6)	Report of training attempted but lacks accuracy or clarity. (7)(8)	Satisfactory report of training session. (9)	Accurate report of observed events. (10)

Notes: Any Unsatisfactory component results in a failing grade. Unsatisfactory components must receive remedial training and require resubmission

Comments: _____

_____

_____

_____

_____

Final Grade: _____

REFERENCES

- NTPS Policy Manual
- NTPS Organizational Management Manual
- NTPS Operations Manual
- NTPS Flight Test Organizational Manual
- NTPS Safety Management Manual
- National Test Pilot School Syllabus
- Commission Regulation (EU) No 1178/2011 of 3 November 2011 laying down technical requirements and administrative procedures related to civil aviation aircrew pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council
- Commission Regulation (EU) No 1039/2015 of 30 June 2015 as regards flight testing

APPENDIX A: SORTIE TYPE DESCRIPTIONS AND STANDARD FAMILIARIZATION FLIGHT CONTENT

Sortie Type Descriptions

General

All student sorties at National Test Pilot School are based upon the published curriculum and, as such, are considered Flight Test Training Flights in full or with an hourly factor. As a reinforcement of this, all flights are graded and/or require a "Daily Report" as an academic exercise and to record the Student Test Pilot's (STPs) observations. The key discriminator between the different categories of student training flights lies in the necessary level of student proficiency needed to meet the lesson objectives.

Familiarization Flight (FAM)

A student sortie whose primary objective is to introduce the student to new aircraft, equipment, avionics, and/or systems that they will need to use during the Category 1/Category 2 Test Pilot Course or other NTPS courses. An additional objective is to teach the Test Pilot Student how to rapidly, effectively, and safely prepare for and participate in an aircraft sortie in an unfamiliar aircraft. The ability to do such preparation for an unfamiliar aircraft is an essential test pilot skill that needs to be trained and learned. A final objective of the flight is to practice already introduced flight test techniques. The intent is to expose the STP to a new environment where flight test techniques (FTT's) are used to increase familiarity. Trim shots, precise flying, flight test crew resource management, human factors issues and other flight test related elements are emphasized during these flights. General familiarization flight content for different types of aircraft used at the National Test Pilot School is shown in the following pages. Familiarization flights are given a hourly factor of 75% towards the flight test training hourly requirements.

Demonstration Flight (DEMO)

A student sortie whose primary objective is for the Instructor Test Pilot (ITP) to provide instruction in flight test techniques, equipment, avionics, or aircraft. This includes ITP instruction, demonstration, coaching and STP practice, as required, to demonstrate proficiency. STP proficiency is required in order for the training objectives to be met for a DEMO flight. DEMO flights are considered 100% flight test training.

Data Flight (DATA)

A student sortie whose primary objective is the acquisition of flight test data, appropriate to meet the lesson objectives, utilizing the necessary flight test techniques. The STP must demonstrate proficiency in the planning and conduct of a safe and efficient flight test mission to collect the necessary flight test data. On routine data flights the ITP serves as a safety pilot principally, but may offer instruction as required for safe and effective data collection. The Student Test Pilot (STP) should act as if he/she was the Pilot in Command use the ITP as a crewmember implementing effective Crew Resource Management. The STP should be the principle manipulator of the aircraft controls and exercise the majority of aeronautical decision making involved with achieving the flight objectives. The ITP should occupy a seat configured with adequate aircraft

controls, and insure compliance with local authority licensing, flying and security regulations. DATA flights are considered 100% flight test training.

Alternate Means of Compliance Flight (AltMOC)

As part of the EASA ATO certification process, NTPS proposed an alternate means of compliance (AltMOC) for some of the flights without an instructor on board (FWIOB) sorties that students should complete as per the regulations. AltMOC flights are considered 100% flight test training. When an AltMOC flight is scheduled it should be conducted in accordance with the following specific process and as per the Rules of Engagement presented in Appendix C:

1. The specific AltMOC sortie from the authorized list will be assigned to the STP by Operations as per the direction of the Chief Rotary Wing or Chief Fixed Wing Test Pilot Instructor. The callsign for the flight will be established as the SP's callsign with an A suffix. (i.e. Tiger 01A)
2. The STP and Student Flight Test Engineer (SFTE), if assigned, will conduct the mission planning. The SP will not aid in mission planning other than to clarify any questions about the assignment.
3. The STP and SFTE will conduct the mission briefing. The SP will provide mission critical feedback on the briefing once complete and then authorize the flight. (If the planning or briefing is insufficient to safely and/or satisfactorily execute the flight test training mission then the SP will terminate the AltMOC sortie, conduct additional training on the unsatisfactory areas, and coordinate with Operations for the sortie and planning to be rescheduled.)
4. The STP will function as the Pilot in Command of the sortie and with the SFTE will conduct the flight test training mission and execute all Aeronautical Decision Making while employing the principles of effective Crew Resource Management.
5. The STP will be the sole manipulator of the flight controls.
6. During the sortie, the SP will not provide instruction nor provide any feedback on flight test techniques, data quality, or sortie efficiency. The SP will intervene in the event of an actual emergency or in the event of a potential safety or procedural issue that cannot be ignored.
    a. Should an aircraft emergency arise, the Safety Pilot will announce that AltMOC scenario is terminated and the aircrew will work together as a crew to manage the emergency and effect the safe recovery of the aircraft.
    b. Should a non-emergency intervention be required due to a potential safety or proceduaral issue that cannot be ignored, the Safety Pilot will announce that the AltMOC scenario is terminated and apply the necessary intervention correct the potential issue. The Safety Pilot will then determine if the crew will return to base, continue the sortie in a training mission mode, or continue the sortie in the AltMOC mission mode.
7. The STP will conduct a mission debrief to include critical self-analysis of the mission execution and efficiency.
8. Following the STP debriefing, the SP will analyze the flight and provide feedback to the STP as per the NTPS AltMOC Grading Sheet. The grading sheet will be turned in to student records by the SP following the feedback.

Familiarization Flight Content for Single Engine Fixed Wing Aircraft

1. Start/Taxi/Takeoff
2. Climb at best rate of climb speed and also at a cruise climb speed.
3. Level Acceleration from 5 kts above stall speed to high speed, near V_h.
4. Cruise performance trim shots for 30 seconds at three different speeds, including at least one speed requiring use of the back side trim shot technique.
5. Steady turns in increments from 1 to 2 g's without throttle changes, maintaining speed by descending.
6. Approach to stall at idle power, wings level, at 1 kt/sec. Recover at stall warning. Do both the cruise configuration and the landing configuration.
7. Multiple landings.

Familiarization Flight Content for Multi-Engine Fixed Wing Aircraft

For multi-engine fixed wing aircraft, do all of the above content specified for single engine aircraft plus a check of the single engine climb performance of the aircraft as follows:

1. Establish the best single engine climb speed in the landing configuration with one throttle at takeoff power and the other at idle and record the vertical velocity.
2. Retract the flaps and record vertical velocity.
3. Retract the gear and record vertical velocity.
4. Simulate feathering, if applicable and possible, and record vertical velocity.

Familiarization Flight Content for Single Engine Helicopter

1. Start/Taxi/Takeoff
2. Climb at best rate of climb speed.
3. General handling turns up to 60 degrees of bank.
4. Cruise performance trim shots for 30 seconds at various speeds.
5. Practice autorotations.
6. Normal traffic patterns to a hover.
7. Hover turns about a point.
8. Sideward and rearward low speed flight at hover height.

Familiarization Flight Content for Multi-Engine Helicopter

For multi-engine helicopters, do all of the above content specified for single engine helicopters plus the following:

1. Demonstration of OEI performance up and away.
2. AFCS Off demonstration if equipped.
3. Rejected takeoff following a simulated engine failure.
4. Continued takeoff following a simulated engine failure.

APPENDIX B: EASA NTPS COURSE COMPLIANCE TABLES

On the following pages are compliance summaries and comparisons of NTPS course content to EASA training requirements for both Category 1 and 2, fixed wing and rotary wing test pilot ratings.

Fixed Wing Category 1 Test Pilot Course

Course Number	Course Name	Ground Training Hours	Flight Test Training Hours	FWIOB / AltMOC	Substantial Reports	Additional Simulator Time
T&E 4001	Fundamentals of Flight Test	55	14.3	0	1	1
T&E 4002	Test Management	32	0	0	0	0
T&E 4003	Capstone Project	3	6.0	4	1	0
T&E 4101	Performance Flight Testing I	38	9.6	1	1	2
T&E 4102	Performance Flight Testing II	34	9.5	1	1	2
T&E 4103	Flying Qualities Flight Testing I	38	10.4	1	1	2
T&E 4104	Flying Qualities Flight Testing II	36	15.6	1	1	2
T&E 4105	Modern Flight Controls	41	9.1	3	0	1
T&E 4106	Structures, Loads, & Flutter	37	4.0	0	0	0
T&E 4107	Civil Aircraft Icing Certification	10	1.2	0	0	0
T&E 4201	Avionics Systems Flight Testing	43	7.0	0	0	6
T&E 4202	Communications, Navigation, and GPS Flight Testing	33	5.0	1	0	1
T&E 4203	Civil Avionics Certification Testing	33	12	5	1	4
T&E 4204	RADAR and EW Systems Testing	37	2.7	1	0	10
T&E 4205	UAV/RPV Systems Testing	33	4.4	1	0	0
T&E 4206	Weapons Integration Flight Testing	30	2.0	0	0	0
T&E 4207	Electro-Optic and Infra-Red Systems Flight Testing	34	6.5	1	1	2
T&E 4208	HMD and NVG Testing	36	2.0	0	0	0
Totals		603	121.3	20	8	33
EASA Requirements		350	100	15	5	
Requirements Delta		(+) 253	(+) 21.3	(+) 5	(+) 3	

Planned Different Aeroplane Types Flown as part of the FW Cat 1 course:

a. As part of the core course:
    1. Glider
    2. C-172
    3. C-182
    4. SR-22
    5. GA-8
    6. BE-76
    7. PA-34
    8. DA-42
    9. BE C-90
    10. SW-3A Merlin
    11. MB-326 Impala
    12. L-39C
    13. T-38A
    14. NA-265 Sabreliner (CS-25)
b. Five (5) qualitative evaluation aircraft
    1. Three (3) different FW aircraft
    2. Two (2) different RW aircraft
c. One (1) final project FW aircraft

Total Aeroplane types flown: 18
EASA Total Aeroplane types required: 10
Delta: +8
Total Aircraft types flown: 20

Fixed Wing Category 2 Test Pilot Course

Course Number	Course Name	Ground Training Hours	Flight Test Training Hours	FWIOB / AltMOC	Substantial Reports	Additional Simulator Time
T&E 4001	Fundamentals of Flight Test	55	11.3	0	1	2
T&E 4101	Performance Flight Testing I	38	9.6	1	1	2
T&E 4102	Performance Flight Testing II	34	9.5	1	1	2
T&E 4103	Flying Qualities Flight Testing I	38	10.4	1	1	2
T&E 4104	Flying Qualities Flight Testing II	36	15.6	1	1	2
T&E 4003	Capstone Project	3	3.0	4	1	0
T&E 4008	Introduction to Systems Testing	36	4.5	0	1	0
Totals		240	63.9	8	7	10
EASA Requirement		150	50	8	3	
Requirement Delta		(+) 90	(+) 13.9	0	(+) 4	

Planned Different Aeroplane Types Flown as part of the FW Cat 2 course:

a. As part of the core course:
    1. Glider
    2. C-172
    3. C-182
    4. SR-22
    5. GA-8
    6. BE-76
    7. PA-34
    8. DA-42
    9. BE C-90
    10. SW-3A Merlin
    11. MB-326 Impala
    12. L-39C
    13. T-38A
    14. NA-265 Sabreliner (CS-25)
b. One (1) final project FW aircraft

Total Aeroplane types flown: 15
EASA Total Aeroplane types required: 7
Delta: +8

Rotary Wing Category 1 Test Pilot Course

Course Number	Course Name	Ground Training Hours	Flight Test Training Hours	FWIOB / AltMOC	Substantial Reports	Additional Simulator Time
T&E 4001	Fundamentals of Flight Test	55	14.3	0	1	1
T&E 4002	Test Management	32	0	0	0	0
T&E 4003	Capstone Project	3	6.0	4	1	0
T&E 4111	Performance Flight Testing I	34	10.7	1	1	2
T&E 4112	Performance Flight Testing II	28	10.5	1	1	2
T&E 4113	Flying Qualities Flight Testing I	35	8.9	1	1	2
T&E 4114	Flying Qualities Flight Testing II	30	12.4	1	1	2
T&E 4105	Modern Flight Controls	41	3.8	3	0	1
T&E 4116	Structures, Loads, and Vibrations	37	3.0	1	0	0
T&E 4107	Civil Aircraft Icing Certification	10	1.2	0	0	0
T&E 4201	Avionics Systems Flight Testing	43	7.0	0	0	6
T&E 4202	Communications, Navigation, and GPS Flight Testing	33	5.0	1	0	1
T&E 4203	Civil Avionics Certification Testing	33	4.5	5	1	4
T&E 4204	RADAR and EW Systems Testing	37	2.7	1	0	10
T&E 4205	RPV Systems Testing	33	4.4	1	0	0
T&E 4206	Weapons Integration Flight Testing	30	2.0	0	0	0
T&E 4207	Electro-Optic and Infra-Red Systems Flight Testing	34	6.5	1	1	2
T&E 4208	HMD and NVG Testing	36	2.0	0	0	0
Totals		603	108.9	21	8	33
EASA Requirements		350	100	20	5	
Requirements Delta		(+) 253	(+) 8.9	(+) 1	(+) 3	

Planned Different Helicopter Types Flown as part of the RW Cat 1 course:

a. Helicopters flown as part of the core course:
    1. EC-145 (CS 29)
    2. Bell 212 (CS 29)
    3. A-109A
    4. OH-58
    5. BO-105
    6. A-109S
b. Four (4) qualitative evaluation RW aircraft
c. One (1) final project RW aircraft

Total Helicopter types flown: 11
EASA Total Helicopter types required: 8
Delta: +3

Planned Different FW Aircraft Types Flown in the RW Cat 1 Course:

a. As part of the core course:
    1. Glider
    2. C-182
    3. SR-22
    4. GA-8
    5. BE-76
    6. BE C-90
    7. MB-326 Impala
    8. L-39C
    9. T-38A

Total FW Aircraft types flown: 9
Total Aircraft types flown: 20

Rotary Wing Category 2 Test Pilot Course

Course Number	Course Name	Ground Training Hours	Flight Test Training Hours	FWIOB / AltMOC	Substantial Reports	Additional Simulator Time
T&E 4001	Fundamentals of Flight Test	55	11.3	0	1	2
T&E 4111	Performance Flight Testiing I	34	10.7	1	1	2
T&E 4112	Performance Flight Testing II	28	10.5	1	1	2
T&E 4113	Flying Quallities Flight Testing I	35	8.9	1	1	2
T&E 4114	Flying Quallities Flight Testing II	30	12.4	1	0	2
T&E 4003	Capstone Project	3	3.0	4	1	0
T&E 4008	Introduction to Systems Testing	36	4.5	0	1	0
Totals		221	61.3	8	6	10
EASA Requirement		150	50	8	3	
Requirement Delta		(+) 71	(+) 11.3	(+) 0	(+) 3	

Planned Different Helicopter Types Flown as part of the RW Cat 2 course:

a. Helicopters flown as part of the core course:
    1. EC-145 (CS 29)
    2. Bell 212 (CS 29)
    3. A-109A
    4. OH-58
    5. BO-105
    6. A-109S
b. One (1) final project RW aircraft

Total Helicopter types flown: 7
EASA Total Helicopter types required: 4
Delta: +3

Planned Different FW Aircraft Types Flown in the RW Cat 2 Course:

a. As part of the core course:
    1. C-182
    2. SR-22

Total FW Aircraft types flown: 2
Total Aircraft types flown: 9

APPENDIX C: ALTMOC SORTIE INFORMATION

This appendix provides information on the various details of the NTPS Alternate Means of Compliance (AltMOC) flights that are included in the EASA Category 1 and Category 2 Test Pilot Courses. The contents include:

1. AltMOC Safety Pilot Rules of Engagement and the Specific Process for AltMOC Sorties

2. Grade Sheets for AltMOC Sorties

3. Authorized AltMOC Sorties

AltMOC Safety Pilot Rules of Engagement

AltMOC sorties should be conducted utilizing the following guidelines in order to comply with EASA guidance regarding "flights without an instructor on board the aircraft".

- The Student Test Pilot (STP) will:
  - Conduct the mission planning
  - Conduct the mission briefing
  - Conduct the flight test mission and execute all Aeronautical Decision Making
  - Be the sole manipulator of the flight controls.
  - Conduct the mission debrief to include critical self-analysis of flying and mission
  - Employ the principals of effective Crew Resource Management

- The Safety Pilot will NOT:
  - Assist in the mission planning
  - Provide instruction during mission planning or sortie execution
  - Provide feedback during the sortie on flight test techniques, data quality, or sortie efficiency
  - Provide routine aeronautical decision making

- The Safety Pilot will:
  - Conduct the sortie as per the NTPS AltMOC Sortie Specific Process.
  - Authorize the flight following a satisfactory mission briefing. (If the planning and/or briefing is insufficient to safely and/or satisfactorily execute the flight test training mission then the SP will terminate the AltMOC sortie, conduct additional training on the unsatisfactory areas, and coordinate with Operations for the sortie and planning to be rescheduled.)
  - Be current and qualified in the aircraft being flown.
  - Act as a full-time safety pilot.
  - Occupy a seat with adequate aircraft controls to affect recovery and landing as required.
  - Intervene in the event of an actual emergency or impending safety of flight or procedural violation.
  - Within the principals of proper Crew Resource Management (CRM), conduct in-flight duties under direction of the STP. These may include:
    - Clearing for traffic.
    - Aid in aircraft configuration changes where the STP has no or limited access to required controls.
    - Flight test note/data taking in the role of a Flight Test Engineer if required and authorized.
  - Communicate with crew only as necessary within the principals of proper CRM.
  - Evaluate STP performance utilizing the NTPS AltMOC Test Pilot Grade Sheet.

- Should an aircraft emergency arise, the Safety Pilot will announce that AltMOC scenario is terminated and the aircrew will work together to manage the emergency and safe recovery of the aircraft.
- Should a non-emergency intervention be required, the Safety Pilot will announce that the AltMOC scenario is terminated and apply the necessary intervention. The Safety Pilot will then determine if the crew will return to base, continue the sortie in a training mission mode, or resume the sortie in the AltMOC mission mode.
- Examples of reasons for Safety Pilot non-emergency intervention include but are not limited to:
  - Unsafe Aircraft Operations
  - Unsafe flight condition developing
  - Regulatory or airspace violation is imminent
  - The prevention of an imminent aircraft operating limitation
  - An actual aircraft operating limitation exceedance

NTPS AltMOC Sortie Specific Process

As part of the EASA ATO certification process, NTPS proposed an alternate means of compliance (AltMOC) for some of the flights without an instructor on board (FWIOB) sorties that students should complete as per the regulations. AltMOC flights are considered 100% flight test training. When an AltMOC flight is scheduled it should be conducted in accordance with the following specific process and as per the Rules of Engagement:

1. The specific AltMOC sortie from the authorized list will be assigned to the STP by Operations as per the direction of the Chief Rotary Wing or Chief Fixed Wing Test Pilot Instructor.
2. The STP and Student Flight Test Engineer (SFTE), if assigned, will conduct the mission planning. The SP will not aid in mission planning other than to clarify any questions about the assignment.
3. The STP and SFTE will conduct the mission briefing. The SP will provide mission critical feedback on the briefing once complete and then authorize the flight. (If the planning or briefing is insufficient to safely and/or satisfactorily execute the flight test training mission then the SP will terminate the AltMOC sortie, conduct additional training on the unsatisfactory areas, and coordinate with Operations for the sortie and planning to be rescheduled.)
4. The STP will function as the Pilot in Command of the sortie and with the SFTE will conduct the flight test training mission and execute all Aeronautical Decision Making while employing the principles of effective Crew Resource Management.
5. The STP will be the sole manipulator of the flight controls.
6. During the sortie, the SP will not provide instruction nor provide any feedback on flight test techniques, data quality, or sortie efficiency. The SP will intervene in the event of an actual emergency or in the event of a potential safety or procedural issue that cannot be ignored.
    a. Should an aircraft emergency arise, the Safety Pilot will announce that AltMOC scenario is terminated and the aircrew will work together to manage the emergency and effect the safe recovery of the aircraft.
    b. Should a non-emergency intervention be required due to a potential safety or proceduaral issue that cannot be ignored, the Safety Pilot will announce that the AltMOC scenario is terminated and apply the necessary intervention correct the potential issue. The Safety Pilot will then determine if the crew will return to base, continue the sortie in a training mission mode, or continue the sortie in the AltMOC mission mode.
7. The STP will conduct a mission debrief to include critical self-analysis of the mission execution and efficiency.
8. Following the STP debriefing, the SP will analyze the flight and provide feedback to the STP as per the NTPS AltMOC Grading Sheet. The grading sheet will be turned in to student records by the SP following the feedback.

AltMOC Sortie Grade Sheet

National Test Pilot School

EASA AltMOC Compliance Test Pilot Flying Grade Sheet

Student(s)	Instructor	Date
Aircraft	Exercise	

Evaluation Parameter	FAIL	PASS		
Mission Planning				
Pre-Test Briefing	**Not prepared** Disorganized, mission objectives ignored, poorly presented.	**Minimally Prepared** Assumed everything would go as planned – minimal thought to contingencies.	**Prepared** However, only considered some contingencies.	**Very Well Prepared** Organized and considered all appropriate contingencies.
Mission Planning / Data Cards	**Unsatisfactory** Poorly designed or disorganized. Minimal to no mission planning. Mission Objectives ignored.	**Usable** Demonstrated incomplete mission planning to accomplish Mission Objectives.	**Good** Demonstrated an adequate level of mission planning to accomplish Mission Objectives.	Excellent Demonstrated a high level of mission planning. Mission Objectives positioned for success.
Post-Test Briefing	**Unsatisfactory** Added no value. Offered no analysis of FTT/Data Quality.	**Adequate** Offered opinions on limited number of events. Little analysis on FTT/Data Quality.	**Good** Offered opinions, participated in discussion, some analysis on FTT/Data Quality.	**Excellent** Offered valid opinions, lead discussion, provided feedbalck on FTT/Data quality.
Proficiency and Execution				
Flight Test Techniques (FTTs)	**Unsatisfactory** No or poor understanding of FTT accomplishment nor Data Quality.	**Adequate** Flew FTTs to meet minimum adequate Data Quality.	**Good** Flew FTTs to meet desired Data Quality.	**Excellent and Self-Aware** Flew FTTs well and self-critiques quality of inputs.
FTT Application	**Unsatisfactory** Did not understand how FTTs relate to data.	**Incomplete** Had an incomplete understanding of how FTTs relate to final results.	**Adequate** Understood the relationship between FTTs and final data quality.	**Excellent** Easily articulated how expected results are affected by FTTs.
Situational Awareness (SA)	**Unsafe** No apparent SA. Safety Pilot intervention required.	**Minimal** Minimal acceptable SA. Level of SA lead to mission inefficiencies.	**Good** Maintains good personal SA.	**Excellent** Has very good personal SA and actively contributes to team SA.
Crew Resource Management and Aerial Decision Making				
Crew Resource Management (CRM)	**Unsatisfactory** Ignored crew. Safety Pilot intervention required.	**Minimal** Tried to implement CRM principles with some success. Inefficient use of resourses.	**Effective** Understood CRM and used crew members to a reasonable extent.	**Highly Effective** Exhibited excellent CRM skills, utilized crew in an effective and appropriate manner.
Aerial Decision Making (ADM)	**Unsafe** Safety Pilot Required to Override due to Safety of Flight.	**Marginal** Operated at a minimum level of ADM. Delayed and ineffective decisions exeuted.	**Acceptable** Displayed good ADM and is generally effective.	**Excellent** Very effective and efficient.
Adaptability	**Unsatisfactory** Could not adapt to change.	**Marginal** Adapted to change with some difficulty. Efficiency affected.	**Appropriate** Adapted to change; enhancing mission efficiency.	**Excellent** Easily adapted to change without missing a beat.
Overall Grade				

Notes: Place an X or a check in the applicable box. Any single grade in "Fail" column results in an overall failed sortie.

Comments:

NTPS Authorized EASA AltMOC Sorties

FIXED WING SPECIFIC

1. GPS PEC FTT
2. Prop Cruise FTT
3. Climb/Accel FTT
4. Stalls FTT
5. Turn FTT
6. Long Stat/Man Stab FTT
7. Lat/Dir FTT
8. Dynamics FTT
9. Closed Loop Handling Qualities FTT
10. Qual Eval

SYSTEMS SPECIFIC

1. Workload Data Maneuvers FTT
2. Workload Data Course FTT
3. GNSS Navigation Accuracy FTT
4. GNSS Continuity and Approach FTT
5. 4203 Civil Certification Project Flight

ROTARY WING SPECIFIC

1. GPS PEC FTT
2. PEC Ground Course FTT
3. Hover Performance FTT
4. Level Flight Performance FTT
5. Climb Performance FTT
6. Longitudinal Stability FTT
7. Lateral Directional Stability FTT
8. Dynamic Stability FTT
9. Closed Loop Handling Qualities FTT
10. ADS-33 FTT
11. Qual Eval

NTPS EASA COURSE AltMOC SORTIE PLAN

EASA Fixed Wing Category 1 Test Pilot Course

Course Number	Course Name	FWI/Alt MOC Flights	Specific Sortie	Planned Aircraft	FTE Onboard
T&E 4001	Fundamentals of Flight Test	0			
T&E 4002	Test Management	0			
T&E 4003	Capstone Project	4	Project FWIOB	Project Aircraft	Yes
T&E 4101	Performance Flight Testiing I	1	GPS PEC AltMOC	C-182, SR-22, BE-76	Yes
T&E 4102	Performance Flight Testing II	1	Prop/Cruise AltMOC	C-182, SR-22, BE-76	Yes
T&E 4103	Flying Quallities Flight Testing I	1	Long Stat/Man Stab AltMOC	Impala, L-39, Sabre	No
T&E 4104	Flying Quallities Flight Testing II	1	Lat/Dir AltMOC	C-182, SR-22, BE-76	No
T&E 4105	Modern Flight Controls	3	Qualitive Evaluations FWIOB	HU-16, T-6, Citation, Extra 300, Glider	No; T6, Extra, Glider
T&E 4106	Structures, Loads, & Flutter	0			
T&E 4107	Civil Aircraft Icing Certification	0			
T&E 4201	Avionics Systems Flight Testing	0			
T&E 4202	Communications, Navigation, and GPS Flight Testing	1	Workload Data Maneuvers AltMOC	C-182, SR-22, BE-76	Yes
T&E 4203	Civil Avionics Certification Testing	1	Workload Data Course AltMOC	C-182, SR-22, BE-76	Yes
		4	4203 Project AltMOC	Assigned for Project	Yes
T&E 4204	RADAR and EW Systems Testing	1	GNSS Navigation Accuracy AltMOC	C-182, SR-22, BE-76	Yes
T&E 4205	UAV/RPV Systems Testing	1	GNSS Continuity and Approach AltMOC	C-182, SR-22, BE-76	Yes
T&E 4206	Weapons Integration Flight Testing	0			
T&E 4207	Electro-Optic and Infra-Red Systems Flight Testing	1	Qualitive Evaluation AltMOC	DA-42, King Air, L-39, Other	Yes
T&E 4208	HMD and NVG Testing	0			
Total		20			

NTPS EASA COURSE AltMOC SORTIE PLAN

EASA Fixed Wing Category 2 Test Pilot P&FQ Focused Course

Course Number	Course Name	FWI/Alt MOC Flights	Specific Sortie	Planned Aircraft	FTE Onboard
T&E 4001	Fundamentals of Flight Test	0			
T&E 4101	Performance Flight Testiing I	1	GPS PEC AltMOC	C-182, SR-22, BE-76	Yes
T&E 4102	Performance Flight Testing II	1	Prop/Cruise AltMOC	C-182, SR-22, BE-76	Yes
T&E 4103	Flying Quallities Flight Testing I	1	Long Stat/Man Stab AltMOC	Impala, L-39, Sabre	No
T&E 4104	Flying Quallities Flight Testing II	1	Lat/Dir AltMOC	C-182, SR-22, BE-76	Yes
T&E 4003	Capstone Project	4	Project FWIOB	Project Aircraft	Yes
T&E 4008	Introduction to Systems Testing	0			
Totals		8			

NTPS EASA COURSE AltMOC SORTIE PLAN					
EASA Rotary Wing Category 1 Test Pilot Course					
Course Number	Course Name	FWI/Alt MOC Flights	Specific Sortie	Planned Aircraft	FTE Onboard*
T&E 4001	Fundamentals of Flight Test	0			
T&E 4002	Test Management	0			
T&E 4003	Capstone Project	4	Project FWIOB	Project Aircraft	Yes
T&E 4111	Performance Flight Testiing I	1	Hover Performance AltMOC	OH58, BO105, A109	Yes
T&E 4112	Performance Flight Testing II	1	Level Flight Performance AltMOC	OH58, BO105, A109	Yes
T&E 4113	Flying Quallities Flight Testing I	1	Longitudinal Stability AltMOC	OH58, BO105, A109	Yes
T&E 4114	Flying Quallities Flight Testing II	1	Lateral Directional Stability AltMOC	OH58, BO105, A109	Yes
T&E 4105	Modern Flight Controls	3	Qualitive Evaluations FWIOB	R22, R44, H500, Bell 206, EC350	No R22
T&E 4116	Structures, Loads, and Vibrations	0			
T&E 4107	Civil Aircraft Icing Certification	0			
T&E 4201	Avionics Systems Flight Testing	0			
T&E 4202	Communications, Navigation, and GPS Flight Testing	1	Workload Data Maneuvers AltMOC	OH58, BO105, A109	Yes
T&E 4203	Civil Avionics Certification Testing	1	Workload Data Course AltMOC	OH58, BO105, A109	Yes
		4	4203 Project AltMOC	UH1N, A109, EC145	Yes
T&E 4204	RADAR and EW Systems Testing	1	GNSS Navigation Accuracy AltMOC	OH58, BO105, A109	Yes
T&E 4205	RPV Systems Testing	1	GNSS Continuity and Approach AltMOC	OH58, BO105, A109	Yes
T&E 4206	Weapons Integration Flight Testing	0			
T&E 4207	Electro-Optic and Infra-Red Systems Flight Testing	1	Qualitive Evaluation AltMOC	OH58, BO105, A109	Yes
T&E 4208	HMD and NVG Testing	0			
Totals		20			
*The plan is for an FTE on-board all Rotary Wing AltMOC flights as RW Flight Test is rarely Single Pilot.					

NTPS EASA COURSE AltMOC SORTIE PLAN					
EASA Rotary Wing Category 2 Test Pilot P&FQ Focused Course					
Course Number	Course Name	FWI/Alt MOC Flights	Specific Sortie	Planned Aircraft	FTE Onboard*
T&E 4001	Fundamentals of Flight Test	0			
T&E 4111	Performance Flight Testiing I	1	Hover Performance AltMOC	OH58, BO105, A109	Yes
T&E 4112	Performance Flight Testing II	1	Level Flight Performance AltMOC	OH58, BO105, A109	Yes
T&E 4113	Flying Quallities Flight Testing I	1	Longitudinal Stability AltMOC	OH58, BO105, A109	Yes
T&E 4114	Flying Quallities Flight Testing II	1	Lateral Directional Stability AltMOC	OH58, BO105, A109	Yes
T&E 4003	Capstone Project	4	Project FWIOB	Project Aircraft	Yes
T&E 4008	Introduction to Systems Testing	0			
Totals		8			
*The plan is for there to be an FTE on-board all Rotary Wing AltMOC flights as RW Flight Test is rarely Single Pilot.					

APPENDIX D: NTPS BRIDGING COURSES AND COURSES ADAPTED FOR COMPETENCY

OVERVIEW: The following outlines the NTPS process for adapting standard NTPS courses based on a student's previous flight test competency. The process is based on the guidance in AMC1 FCL.820.

APPLICABLE REGULATIONS: From EASA AMC1 FCL.820 (Acceptable Means of Compliance 1 to FCL.820):

Competency-based training:

1. *Training courses for the flight test rating should be competency-based. The training program should follow as much as possible the syllabus outlined below, but may be adapted taking into account the previous experience, skill and theoretical knowledge level of the applicants.*
2. *It should also be recognized that the syllabi below assume that suitable flight test experience will be gained subsequent to attendance at the course. Should the applicant be significantly experienced already, then consideration should be made of that experience and it is possible that course content might be reduced in areas where that experience has been obtained .*
3. *Furthermore, it should be noted that flight test ratings are specific to both a certain category of aircraft (airplanes or helicopters) and to a certain category of flight test (category 1 or 2). Therefore, holders of a flight test rating wishing to extend their privileges to further categories of aircraft or to further categories of flight test (this is only relevant for holders of a category 2 flight test rating since the category one flight test rating includes the privileges for category 2 test flights) should not be requested to undertake the same course as an "ab-initio" applicant. In these cases, the ATO should develop specific "bridge courses" taking into account the same principles mentioned above.*
4. *To allow proper consideration of the applicant's previous experience, a pre-entry assessment of the applicant's skills should be undertaken by the applicant, on the basis of which the ATO may evaluate the level of the applicant to better tailor the course. Thus, the syllabi listed below should be regarded as a list of individual demonstrable competencies and qualifications rather than a list of mandatory training objectives.*

GENERAL: The preferred method of training test pilots is as per the standard NTPS Category 1 and Category 2 courses. Completing the prescribed standard courses ensures the best possible training in all subject areas, completion in the shortest period of time, and provides for the proper continuity of training.

However, as indicated above, the EASA AMC1 FCL.820 allows for test pilot students to potentially be given credit for previous education and experience that could allow for a reduction

in training requirements in a bridging or adapted course. NTPS Bridging Courses and Courses Adapted for Competency should be tailored as per AMC1 FCL.820 and the NTPS course syllabi, and should be competency-based. It is recognized that no two student applicants will have the exact same training, education, and experience and thus there are likely to be differences in the tailoring of their specific "bridge courses" or specific "adapted courses".

SPECIFIC PROCESS: The following process should be used to develop and conduct a NTPS bridging or adapted course for a student applicant that requests such a course:

1. INITIATION. Upon contact from an applicant seeking a bridging or adapted course, NTPS will have a discussion with the applicant to assess the overall situation and discuss the possible courses of action for the applicant to take. This contact may result in a recommendation to the applicant that the best course of action is to complete the entire Cat 1 or Cat 2 course. If a tailored bridging or adapted course appears warranted then the applicant should proceed to step 2. As NTPS may charge a fee for any or all assessments, proposed assessment costs should be discussed at this point and a cost estimate provided if requested by the applicant.

2. SELF-ASSESSMENT and EVIDENCE. If after completing step 1 the applicant desires a tailored bridging or adapted course, NTPS will instruct the applicant to conduct a pre-entry self-assessment of their skills and submit all the applicable evidence to NTPS so that they may evaluate the flight test level/competency of the applicant. Examples of appropriate evidence may include but are not limited to: completing the NTPS self-assessment matrix of meeting AMC1 FCL.820 requirements, a resume/CV, national authority licenses, documentation of flight test experience, documentation of flight test training and education, documentation of academic training/degrees, etc. Based on the self-assessment the applicant may decide to submit the required documentation or withdraw the request.

3. ASSESSMENT and DETERMINATION. Once an applicant has submitted the required information, NTPS should perform an assessment of the applicant's submitted documentation, compare this to the appropriate category level of requirements found in AMC1 FCL.820, and then determine where the applicant sits based on competency. Any creditable competency should be documented in the NTPS matrix and/or a memo. Any competency credit given should be clearly established by objective evidence or the expert opinion of the assessing post holders. No subjective "benefit of the doubt" should be used to establish competency credit. The assessment should be conducted by one or more appropriate post holders but must be approved by the accountable manager prior to providing feedback to the applicant. If a level of competency cannot be determined from the submitted information, then additional information may be requested and/or an on-site assessment may be required.

4. COMPETANCY AGREEMENT. Once a level of competency has been established and approved, it should be communicated to the applicant. A discussion of any portion of the assessment or creditable competencies with the applicant is encouraged. If a disagreement on the level of competency exists and cannot be rectified by both parties, then the NTPS assessment will prevail. A reassessment may take place if additional information is surfaced or provided. Agreement on the creditable level of competency between NTPS and the applicant must occur before proceeding. If agreement cannot be reached then the process should stop.

5. COURSE TAILORING. When the creditable level of competency has been agreed, a detailed bridging or adapted course may then be tailored and recommended to the applicant that will meet the requirements of AMC FCL.820 and the intent of the NTPS syllabus. The tailored course should normally be the standard Category 1 or Category 2 course adapted for items removed based on the creditable level of competency. In the cases where only minimal reductions in the full Cat 1 or Cat 2 course might be achieved based on the established level of competency, the full courses may be recommended.

6. COURSE EXECUTION. If the tailored AMC1 FCL.820 compliant bridging or adapted course is acceptable to both NTPS and the applicant, then the course of instruction may be undertaken at a mutually agreeable time, ideally in conjunction with other existing flight test training. The same high standards of student performance, ethics, and behavior for the standard Category 1 or 2 course apply to any bridging, tailored or adapted course.

7. COMPLETION. Upon the successful completion of the agreed upon bridging or adapted course, the applicant will receive a certificate stating that they have met the appropriate and required level of training in compliance with FCL.820.