



SNPNAC

SYNDICAT NATIONAL DU PERSONNEL NAVIGANT DE L'AERONAUTIQUE CIVILE

8 Route de Fontainebleau 94579 RUNGIS CEDEX

Téléphone : + 33(0)1 45 12 99 99 Fax : +33(0)1 45 12 97 98

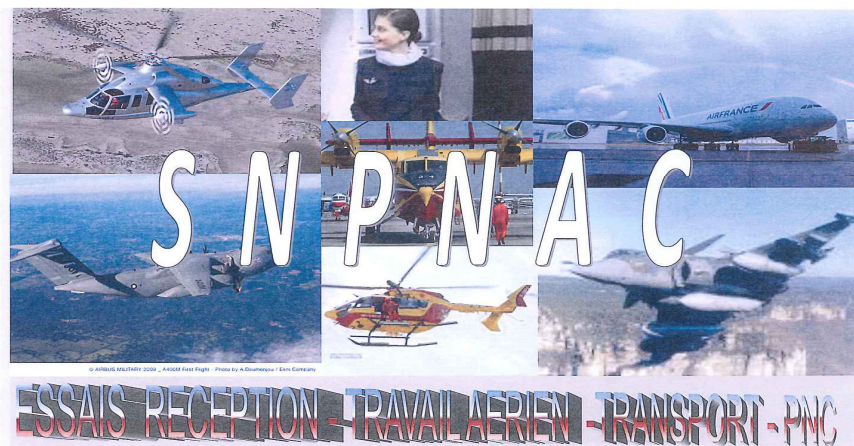
E-Mail : snpnac@orange.fr

FLIGHT TEST BRANCH

Since 1947

Please would you find following our **Comment-Response about-NPA 2013—16**

« LEAD FLIGHT TEST ENGINEER LICENSES »



1 - General

After ten years, may be more, of discussions between industries JAA then EASA, our representative organization through his FLIHT TEST BRANCH has tried to answer with our best to the present problems ; well that not participating directly to the discussions of flight test working group. We propose again of according to the long experiment of our limbs, operant into flight test industries or official center, bring our skills to answer and explain a constructive and lucid way to harmonize and organize their job for the future .Probably, following this way, we should save time, maintain a high level of safety and efficiency with the view to prevent problems in all kind in the sector of the aircrafts manufacturing. Our target is to explain in advance the interest and all advantages to maintain a common training course and licenses system for all flight test crew members for cat 1 and 2 operations, (TEST PILOTS & FLIGHT TEST ENGINEERS). It's not to late. We think it's still possible without too much trouble or distortions for the Industries, Officials, States and Flight Crews XSELF and the choice for licensing LFTE like pilots will be a chance to maintain the high level of conception, quality and safety for the future of the EU Aeronautic. The opposite shall show fast biases in all genre harmful forward the EU aeronautic, in all countries.

TODAY for us :

The present situation is :

For pilots conducting category 1 and 2 of flight testing : a specific flight test qualification was linked to the pilot's license.

For pilots conducting categories 3 and 4 flight tests; a different regime was applied

For flight test engineers, it was not possible to use the same legal basis as for pilots since the scope of community competence is for the moment limited to the licensing of only three categories of aviation personnel: maintenance engineers and mechanics (Part-66), pilots (Part-FCL) and Air Traffic Controllers. Balloon pilot ETC it seems no coherent to forgot one important category regarding their privileges.

Some of the reasons provided to require such a license were

Consistency with the ICAO Convention despite there is no specific item flight test It seems due to the qualification and The role of the LFTE for the safety of the flight

Loss of status for the people and probably social problems to work in legality.

Significant comments were generated mostly by people having their activity in countries that have a licensing scheme for test crews including a license for FTEs. After discussions on this issue, it was agreed to distinguish FTEs from LFTEs as the latter have specific in-flight duties. FTE LFTE function privileges and training course was defined then therefore, the Agency agreed with the group on the following two-step approach.

First step: Incorporate in Part-21 safety requirements for FTE and LFTE.

Second step: Issue an A-NPA to discuss the creation of a licensing scheme for LFTEs,
Social, harmonization, safety, economics

LFTE training and medical fitness.

Experience has shown that an identical formation for pilots improves the crew cockpit management, efficiency and, therefore, has beneficial influence on safety.

LFTE licensing would promote an adequate common standardization level. Mutual license recognition between Member States and organizations, would allow experience being shared, thus improving flight test safety and efficiency.

— Licensing will be under the responsibility competent authorities. Training

A better standardization of the medical requirements

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It will improve the crew coordination during certification flight tests. And use the same aeronautical language

Licensing will improve the recognition of crew privileges

Licensing should also allow a better monitoring of the crew's medical fitness and recent experience in flight.

We can say is not prohibited to have a cooperation ,to enter in force on this subject, between the biggest aeronautics STATES and smaller trough their industries, existing specific training schools (of int'l level), like a common support. For example : the Member States and NAAs which do not have sufficient flight test activity could eventually allocate the administrative burden to other competent authorities or qualified entities. Will be a need for an ATO or an additional approval for the organization.

At the end : with licensing process we are sure due to our long time experience in test activities will be improve for all EU countries the efficiency, the safety, the social aspect for the flight crew concerned and the monitoring of their profession in EU and during their World operations.

After the long work of the FTG and some convergences, we would like following gives you some others arguments based on our members experience.

2 - SUMMERY ANSWERS TO QUESTIONS FOR ALL STAKEHOLDERS

2.1 - Find under the answers to the questions 7 to 10

7 – How many people in your oversight perform flight test engineering duties 325

8 – How many of the people identified in 7 have duties that would qualify them as lead flight test engineers : 325

9 – How many people identified in 8 (as LETEs) operate independently ? (e.g. freelancers) 2

10 –How many of the people identified in 8 (as LFTE) have a license (or equivalent) : 325

2.2 – FIND UNDER THE ANSWERS AND REMARKS TO THE QUESTIONS 11 FROM OURS MEMBERS

THE CHOICE OF OUR ORGANIZATION IS OPTION 1 : LICENSE REQUIREMENT

We present as is possible a synthesis, but non exhaustive list provides justifications for our choice option 1.

These justifications represent the significant opinion of the full panel of the lead flight test engineers and test pilot in our oversight by the qualified and licensed LFTE ; actual on duty.

2.2.1 - The function of LFTE includes the following actions:

- For test purpose, acting on equipment control including reducing or shutting down an engine, and subsequently restoring the power level, shutting down hydraulic or electrical supply and restoring it, disengage autopilot....
- In case a genuine failure he will act to assist the pilot in applying the emergency procedure.
- Through the Flight test installation, for test or tuning purpose he will act on important aircraft system. That includes change the autopilot laws, act on the engine governing laws or change any parameter that can affect any of the systems, create any failure that have to be evaluated in flight (autopilot failure including active ones, engine governing failures, avionics failure...).
- In a built-up test, the LFTE will, be part of the decision to continue or to abort the test. Through the flight test installation he is able to gather data's that are not available to the pilot through aircraft parameters reading, is input in that decision is then paramount to flight safety.

The previously described LFTE tasks (assisting the pilot in case of real failure or malfunction, creating various failures and so being able to revert to normal conditions, changing or degrading autopilot or governing laws and reverting to previous conditions in case of any problem...) makes the LFTE a paramount actor of flight safety.

Performing these tasks and having an action that involved flight safety, makes the LFTE an "operating crewmember". And so compliance with article 32 of Chicago convention (the pilot of every aircraft and other members of the operating crew.... shall be provided with certificate of competency and license) makes the license mandatory for LFTE to perform their duty in compliance with ICAO rules. In the contrary, not having a license an performing these can of task may put himself and his organization in big trouble from a legal standpoint in case of any accident or incident

2.2.2 – If the LFTE regulation is only managed by part 21

The LFTE qualification and rights will be linked to a particular DOA. Recognition of knowledge and qualification outside of that particular DOA will be difficult and will however complicate the freedom of circulation in the UE. EASA has recognized the need of a license for PART 66 maintenance engineers and Air Traffic Controllers for air safety reasons and, as a consequence, the freedom of circulation inside the UE. To reach the same goal, Air safety and freedom of circulation for LFTE, it is essential that a license is issued. Without LFTE license the equality of treatment between those personnel will be questionable.

2.2.3 – The safety flight safety role of the LFTE

The safety flight safety role of the LFTE induces a medical fitness that ensures he is able to discharge his duty in flight. Without a license, the LFTE medical examination will be assured by the DOA. That is to say by the employer with all the differences of interpretation that can involve. In case of a license, the medical will be linked to the EASA medical part. That is the assurance of equality Europe wide as well as for the examination as for the procedure of appeal in case of incapacity. For medical also only a LFTE license can assure equality of safety all over Europe

2.2.4 – Internationals tests

The tests are often conducted outside of the home base of the manufacturer. The crew has so to go through security checks in worldwide airports. To follow the quick crew path, a license is mandatory. Without LFTE license, security check will induce delay at departure and arrival.

2.3 - Again why Option 1 (licence requirement) is preferred

2.3.1 The reason which led to the introduction of a specific flight test qualification for pilots conducting category 1 & 2 of flight testing is also applicable to FTEs conducting category 1 & 2 flight tests or assisting the pilot in the operation of the aircraft and its systems during category 1 & 2 flight test activities (ie LFTEs involved in category 1 & 2 flight tests).

The training required for the qualification of a LFTE involved in category 1 & 2 flight tests is not specific to the organization for which the LFTE works.

This training is :

- General,
- Related to the category of flight test that the LFTE wishes to conduct,
- Closely linked to the training the category 1 & 2 flight test pilots receive
because training as a member of a constituted flight test crew ensures correct and standardized practices in terms of safety and crew coordination resource management.

Such qualification has to be maintained with medical and currency requirements:

2.3.2 - Up to now, the bulk of flight test activities in Europe have been conducted in a few member states. Even if the licensing of LFTEs did not exist in all these states, standard practice was to give LFTEs a category 1 & 2 flight test training in dedicated flight test schools. This means that, in practice, most of current LFTEs in Europe have been and are still subject to training, medical and currency requirements as if option 1 had always been the only option. As a consequence, adopting option 0 would not be a status quo option but would rather bring a degradation from the current situation, at least as far as LFTEs are concerned. It would actually rely initially on a “grandfathers” legacy bound to erode surely if not quickly.

Moreover, countries currently without need for LFTEs could continue to have only FTEs (ie without licensing scheme) even if option 1 is retained. Therefore, for that category of countries, option 1 would also be a status quo option.

2.3.3 - A qualification not specific to the organization for which the LFTE works and subject to currency requirements give LFTEs legitimation for a better recognition of their specific role within the organization so that in the presence of cost, schedule and safety conflicting goals, they are better positioned to voice their concern, dissent or possible disagreement to the proper level of the organization management or to maintain a minimum of independence in their assessments or judgements.

2.3.4 - A qualification not specific to the organization for which the LFTE works but recognized at EU level participates to the free movement of workers which is a fundamental principle enshrined in Article 45 of the Treaty on the Functioning of the European Union.

2.4 - The option 1 (licence requirement) is also preferred for

2.4.1 - Safety aspect :

Today the A-NPA states :

One of the LFTE duties is « ... assisting the pilot in the operation of the aircraft and its system », and so « their actions could be paramount for the safety ».

It is clearly understood that the LFTE is a flight crew member as defined in the annex1 to Chicago convention.

Taking into account that flight tests activities, due to certification requirements, are performed all over the world, it seems difficult to explain that flight tests activities are out of the Chicago convention scope (international civil aviation).

Having a category of personnel acting as a flight crew member without a license is not only a non-conformity to the Chicago convention but also it is inconsistent to the EASA safety objective where clearly the different categories of aviation personnel which have a direct effect on the safety have a license (maintenance engineer, pilots and air traffic controllers).

Amending the basic regulation in order to create the LFTE licensing scheme should not be an obstacle when considering the importance of maintaining and increasing the safety level in flight test activities.

Today, the option 0 is presented as no impact on the safety, however, safety is a large consideration. Indeed it is stated in the A-NPA (§2.4.5) that « most of the people that perform LFTE cat1 and 2 work for organisations that are located in Member States where a LFTE licensing scheme is already in place », which means that the status quo today is closer to option 1 than option 0.

Enforcing a licensing system ensures a better harmonisation between all the countries of the EU and so ensures more consistent treatment of personnel within each category.

Concerning medical fitness for example, a non-harmonisation could generate 2 main issues :

Firstly, safety: medical requirements are not the same for a person to read a Flight Test Order or to be a test witness than for a person to be appropriately fit « to discharge assigned duties and responsibilities ». Even if this difference was already noted by the A-NPA , and some recommendations are included in the AMC, the non harmonisation of detailed and objective medical fitness requirements leaves a gap which can have an impact on the safety. Secondly, there is a social impact.

2.4.2 - Social aspect

Concerning medical fitness in the case of no licensing scheme existing, there will be no detailed or harmonised requirements between organisations. In case of disagreement between employee and employer there is a potential for conflict and inequitable treatment between different people of a same category.

Companies which use personnel as an FTE only will not see any change. Only organisations using personnel in the role of LFTE in Cat 1 and Cat 2 testing, that do not currently have a licensing system will be impacted. As most EU organisations using LFTE already have a licensing system, the impact will be minimal.

Moreover, having a common European license will facilitate the free circulation of personnel between organisations and countries which is one the goals of the EU. Otherwise, a LFTE privileges will be attached to his DOA.

2.4.3 - Economic aspect

The option 1 is presented as an option which generates additional cost. Considering that countries which have flight test activities which require LFTE involvement already have flight test pilots, they already manage the flight test pilot license and so have the adequate organisation in place. Moreover, in the EU there is the possibility for a country to delegate the license management to another one.

2.5 - Compliance to Chicago Convention - Flight safety aspects

A_NPA20013-16 definition of tasks and duties of LFTE “assisting pilots in the operation of the aircraft and its systems” show that LFTE is an “operating crew member” according to article 32 of Chicago Convention. The Convention is requesting that “the pilot of every aircraft and the other members of the operating crew.... shall be provided with certificate of competency and licenses”.

Moreover, as explained in the A_NPA A LFTE is potentially acting on safety critical systems (e.g. flight control systems, engines, electric systems, hydraulic systems, ...), therefore LFTE function is essential regarding flight safety. Therefore LFTE is totally fulfilling the definition of a flight crew member written in the Annex1 to Chicago Convention : “Flight crew member: a licensed crew member charged with duties essential to operation of an aircraft during flight duty period”. It would be a paradox that a person acting on critical systems and performing essential task in regard to flight safety would not be considered by EASA as a flight crew member

Chicago convention does apply to International Civil Aviation and particularly to International Air Navigation. In the past, when flight tests were performed over the territory of each state, it could be understandable that each state has defined specific rule, including waivers to Chicago Convention, regarding flight testing. Nowadays, crossing states borders during flight test, performing flight test in foreign countries is “every day” practices. There is no legitimized reasons to continue under a derogatory regime except for member states in which flight test are no conducted out of this state borders. Moreover one can challenge the legal aspects of today derogatory regime knowing that flight tests are conduct within the international air traffic. What about the risk of a third party suit in justice toward persons, companies, member states or EASA in case of an incident/accident for non-compliance with an international treaty ?

Moreover, PART 66 maintenance engineers and Air Traffic Controllers have a European license. The need of a license for those categories essential for the safety of the air navigation was recognized by EASA. No license for LFTE who are as essential as the previous for flight safety would create an understandable social discrepancy. Including, for an individual, risk of non-recognition of its qualification by employers or member states reducing the freedom of circulation within UE.

2.6 - Cost aspects:

In case of option 1 (creating a license for LFTE) costs will be marginal for member states knowing that it would require to incorporate LFTE license management for a limited number of people in the management system already taking care of licenses for a huge number of pilots. For member states for which no LFTE are foreseen (either no flight testing activities or only FTE acting to conduct flight tests) there will be no cost impact.

In addition, it should be observed that the license would be necessary only for the LFTE, in accordance with their functions on board during flight test. FTE not exercising these functions will not need to be licensed.

2.7 - Medical requirements:

It has to be pointed out that medical requirement as described in NPA 008-20 are not very detailed and will lead to interpretation and difficulties in case of disagreement between the employer and the employee. A licensing of the LFTE will allow using the applicable requirements and rules of Part MED

2.8 –Other confirmation we need of LFTE license

2.8.1 - Flight safety aspect:

LFTE is “assisting pilots in the operation of the aircraft and its systems”. That means, in accordance with the pilot, for the need of test itself:

- Acting for example on: engine controls, automatic pilot modes, hydraulic system, electric system, radio, radio navigation, mission system,
- Having possibility to modify behavior of important systems like engine governor via FADEC tests configurations, Automatic Pilot via parameters modification device.

Also LFTE is conducting the test, means that his role has a paramount effect in the management of level of risk during the flight test.

For flight safety and good level of cross crew work, LFTE has to comply with:

- Approved initial training (today described in Part 21)
- Approved initial medical check
- Following of competence conditions : flight activity and medical

Those three requirements constitute the description of an aviation license.

2.8.2 - Legal aspect:

LFTE description of activities in “A-NPA LFTE license” is clearly in the scoop of an “operating crew member”.

Also flight test Cat 1 and Cat 2 request flight activities all over the world. For Cat 1, due to certification requirements, where range of altitudes and temperatures of flight envelope to be demonstrated lead to perform test during dedicated cold, hot, altitude campaigns. For Cat 1 and Cat 2, due to marketing demonstration with aircraft without Type Certificate.

Those two points show a perfect applicability of the OACI rule described in Annex1 of Chicago Convention to LFTE duties.

Not to create a LFTE license will lead to a non-conformity of Basic Regulation of EASA versus OACI.

2.8.3 - Free circulation of people within UE:

LFTE Training under DOA/POA responsibility described today in CRD Part 21 for flight Cat 1 and 2 will lead to have differences between the different organizations. This will increase difficulties for LFTE to move to other organization.

2.8.4 - Social Protection:

Medical requirement not covered by precise and harmonized legal text like Part MED will lead to not protect correctly an employee versus his employer.

2.9 - LFTE license and FTE (CDR-Part 21) compatibility

FTE: engineer involved in flight test operations either on ground or in flight.

They participate to flight Cat 3 and 4 with pilot or (pilots for multi-pilot aircrafts) and as assistant for Cat 1 and 2. This is possible due to the fact that pilot manage totally the flight test and the operation of the aircraft. Their activities are not linked to the scope of Chicago Convention.

People are managed at DOA/POA level based on experience.

LFTE: lead flight test engineer

They are assigned for duties in an aircraft for the purpose of conducting flight tests or assisting the pilot in the operation of the aircraft and its systems during flight test activities.

They can act on Cat 1 or Cat 2 flights.

People get a license with a harmonized level of competence at European level (training, medical and following of competence conditions).

Specificities of light aviation:

For flight tests performed on light aircrafts, as flight test all Cat (1, 2, 3, 4) can be managed by one pilot due to their simplicity, FTE can be used if needed. This possibility is defined at the DOA/POA of the organization who performs the test. Notes that today when flight test is Cat 1 (for example Height/Speed diagram tests for helicopter or spinning tests for plane), generally test pilot is the only occupant of the aircraft, considering that level of risk is no more compatible to the competence and the level of insurance protection of a FTE.

Considering those definitions current flight test activities ongoing in Europe are compatible. Moreover, costs impact will be low for states that already get national licensing. For states using FTE or for states without flight test activity there will be no cost impact.

3 - ONE TEST PILOT ANSWERS COULD BE CONCLUDED THIS DOCUMENT

As a flight test pilot, I support option # 1 (license requirement).

Here are my justifications :

11.

- A license for test pilots is being established, which will give a common ground for all EASA countries regarding ground and flight training required for the different categories of test pilots. Why would we need a license for pilots, and not for test engineers who conduct the flight, have a crucial part in the flight run down and outcome and may make decision regarding flight safety and effectiveness. The specificity of flight testing leading deserve in my opinion a proper training.**
- A license for FTEs would allow them to have a common and standardized knowledge recognized across all EASA countries. They would not be bound to one manufacturer or another, and that would improve their mobility and flight test knowledge spreading.**
- With a license, an FTE would be recognized as a full crew member for a test flight, which may help during cross-borders transit and save paperwork and time.**
- The license would be an official acknowledgement for comprehensive training and medical fitness (which would then be necessary). It would be an insurance for the crew that everybody talks on the same level.**
- A license would provide the Lead FTE formal authority as the flight test conductor.**

4 – CONCLUSION

We confirm we think is still possible without too much consequences for regulation, state, industries and flight crew.

The choice for LFTE license will be appropriate to maintain the high level of conception, quality, safety for this branch for European aeronautic; into a legal framework and take count of the responsibilities of theses flight crews.

We are available to give you more information if needed.

Best regards.

**The SECRETARY of NATIONAL BUREAU
Senior LFTE**

A handwritten signature in black ink, appearing to be 'P. R.' followed by a flourish.

**The PRÉSIDENT
X TEST PILOT**

A handwritten signature in black ink, appearing to be 'J. M.' followed by a flourish.

Note : annex flight text crew task