

# Submission

to

**CAA Notice of Proposed Rule Making**

**NPRM 19-04**

**Part 61 Private Pilot Licence Medical Review**

**Docket 19/CAR/1**

**This submission is presented on behalf on the NZ Aviation Federation.**

**Dated 27<sup>th</sup> January 2020**

## **In Preparing this submission NZAF have relied on the following documentation**

- The CAA NPRM 19-04
- April 2017 CAA Consultation Document
- September 2017 CAA Summary of submissions
- The Regulatory Impact Statement (RIS) prepared for the Ministry of Transport circa August 2018
- Executive leadership Team Working paper prepared by Elizabeth Bolton for ELT meeting 14/6/19
- Executive Leadership meeting notes from 14<sup>th</sup> June 2019
- Documents / emails considered by CAA to be Key documents in the drafting of the NPRM
- NZTA 'Medical Aspects of Fitness to Drive'
- CAA rules Part 67, Part 61, Part 91
- Civil Aviation Act 1990 section 2A (in the process of review by the Ministry)
- The Ministry of Transport, Transport Regulatory Policy Statement 2012
- Government Expectations for Good Regulatory Practice April 2017
- FAA Fact Sheet General Aviation safety July 30<sup>th</sup> 2018
- Risk analysis prepared For NZAF by TDB Advisory 23<sup>rd</sup> January 2020 (supplied as a separate document attached to this submission)

**Plus, the following appendices attached to this document**

**Appendix 1: Responses to CAA Positions by Brent Blue MD (International AOPA)**

**Appendix 2: Table from CAA Aviation Safety Report 6 Monthly Summary of Aviation Safety**

**Appendix 3: AOPA NZ summary of aircraft statistics from CAA Statistics**

# **SUBMISSION**

## **Section 1**

**1.1** We agree with purpose of the NPRM and the statements made supporting that purpose.

## **Section 2**

**2.1.5** We support the adoption of the option in the third bullet point; “requiring PPL holders to obtain a commercial driver medical certificate with passenger endorsement”. For clarification, the certificate referred to is the NZTA DL9P.

**2.1.6** We do not agree with the full range of privileges identified by CAA as reasonably associated with the DL9P medical certificate. We will comment on these in section 3.

**2.1.7 and 2.1.8** We will comment on each item individually in section 3

**2.2.1** It is noted that the Regulatory Impact Statement was issued in August 2018 and contained a range of privileges that differ to those included in this NPRM. It is also noted that the Ministry agreed to those proposals contained in the RIS and to date we have not seen any evidence that a revised RIS was provided to the Ministry incorporating the changes made. We consider that is not in accordance with the Government Expectations for Good Regulatory Practice.

**2.2.8** We agree with Clause 2.2.8 as the preferred option. As the training and practical tests will be the same for both medical certificates, having a separate licence does not make economic sense.

## **Section 3**

### **Passenger Numbers.**

**3.6** We agree with the proposal for 5 passengers (a total of 6 on board the aircraft).

### **Aircraft Size**

**3.14** We agree with the weight limit proposed at 2730 kg which is based on the FAA 6000 lbs limit.

### **Multi Engine Aircraft**

**3.15** We disagree with the statement that there is greater complexity and speed associated with light twin aircraft. The primary question that should be asked is ‘how would a DL9P affect the capability of a pilot to fly a light twin?’

We refer here to the document prepared for NZAF by TDB Advisory, titled 'Risk Analysis of the Proposed Privileges for the Private Pilot Licence Alternative Medical Standard' and appended to this submission.

In section 5 of this risk assessment they analyse the privilege of flying a light multi engine aircraft on the DL9P medical certificate and find that there is no benefit from excluding this class of aircraft (which is subject to the agreed MTOW and passenger numbers) from the privileges applicable to a trained and rated pilot with a PPL licence.

It is worth noting that TDB Advisory consider there may be some safety advantages in having the second engine.

We would suggest that a further question could be asked, 'is an emergency in a twin-engine aircraft that has lost one engine a greater emergency than in a single engine aircraft that has an engine failure?'

There are many light twins being used today for safety of two engines. We submit that the reference in the NPRM to a higher workload is misleading as the pilot is trained to operate in that environment.

Further, the reference in the NPRM to a twin aircraft travelling at greater speeds and developing more kinetic energy is incorrect as can be shown the table 9 included in the TDB report of aircraft speeds and weight. Regardless of the number of engines kinetic energy is a matter of weight and speed so the number of single engine aircraft of the same or greater weight and speed negate that argument.

**3.16** We submit that while the total number of aircraft and hours flown are important statistics for the background to the NPRM they have no constructive relevance in this section.

**3.17** The preliminary consultation document in question 10 refers to the use of a "reduced standard of medical certification". In other questions the words a 'Lower standard' are used. The readers of the questions did not have the document "Medical Aspects of fitness to drive" included in the questionnaire and it is unlikely that any of those readers would be intimately aware of the standards prescribed in the CAA rules Part 67. There has been no comparison provided to the reader of the questionnaire so any comments would be a personal opinion and not based on any comparative analysis.

We now refer to the documents provided to NZAF by CAA under the OIA which show that CAA subject matter experts were possibly not aware of the contents of these documents either. To ask a question without the providing all the facts is disingenuous and will not invoke an answer based on empirical data. Consequently, all the respondent's answers must have been based on personal opinion and one would assume a twin-engine pilot would not answer the same as a single engine pilot.

**3.18** We agree with all the points made but recognise that microlights are under a different class of medical.

**3.19** We submit that the leading sentence that states "there is no causal link between medical incapacitation and flying a multi engine aircraft" is a pivotal statement and should be taken as the

overriding fact in any decision to restrict the privilege. The other statements here are contradictory and serve no purpose.

**3.20** This has not been shown to be the case and we refer to the independent risk analysis done by TDB Advisory. We agree with the risk analysis provided in section 5 of the TDB Advisory report.

## **Altitude and Pressurised aircraft**

**3.21** We submit that there are several models of aircraft that have exactly the same complexity as each other with the exception that one will be pressurised and the other not. As has been shown in the TDB Advisory report, pressurisation adds less complexity than wearing an oxygen mask or canula. It has been argued that the risk of hypoxia is less in a pressurised aircraft, due to the automated system, than in a non-pressurised one where the pilot must decide when to put the oxygen apparatus on. The reference to high altitudes is misleading as in all cases of light pressurised aircraft the max service ceiling is about 25,000 feet which is a mid-altitude (see table 9 in the TDB Advisory report). It is also the NZAF opinion, that the majority of flights in these type of aircraft in NZ are at a maximum of around 18,000 feet. It is an altitude that tops out the average weather in NZ and if the weather is much higher, other factors like Icing come in to play so the decision to fly or not becomes simple.

**3.22** The reference to being in controlled airspace is misleading as in general NZ airspace over 9,000 feet is controlled airspace but in many cases 6,000 feet and over can apply. The benefits of being in controlled airspace are greater than any purported disadvantages as it is what it says, controlled where separation is guaranteed.

**3.23** We submit that this makes no sense from a practical point of view. The rules state the altitude and time allowed at altitude, before donning oxygen equipment. We agree with the risk analysis done in section 7 of the TDB Advisory report.

**3.24** We submit that pressurisation adds no complexity to the pilot workload as it is an automated system with alarms and monitoring is part of the system. Rapid decompression at 25,000 feet gets the pilots attention quickly and action must be taken to descend immediately at rates up to 4,000 feet per minute. An action which the pilot is trained for. However, at 18,000 feet the descent rate can be much lower and at these altitudes the time is not so critical. A slow decompression provides an alert to the pilot whereas in a non-pressurised aircraft with oxygen it is a greater possibility that a slow loss of oxygen would not be noticed. We agree with the risk analysis provided in section 6 of the TDB Advisory report.

**3.25** We disagree with this proposal and refer you to the TDB Advisory risk analysis for Pressurised aircraft.

## **Controlled Aerodromes and Airspace**

**3.26** We disagree with this statement. Whilst it may be possible to train for a PPL completely outside of controlled airspace it is highly unlikely to happen. Therefore, as it is part of the training process it cannot be regarded as more complex in nature than handling say an engine failure on take-off.

We further submit that by including controlled aerodromes and controlled airspace in the one section is misleading as the need to fly in controlled airspace is critical to safe VFR flight which by definition must include the area in the vicinity of a controlled aerodrome.

**3.27** It should be noted that to fly into a controlled aerodrome or controlled airspace a radio is required and if not operational a special approval must be obtained. In addition to the radio, an aircraft must have a transponder and from Dec 2021 that will include an ADSB system. All aircraft will be visible to the tower at a controlled airport or the controller in controlled airspace. The comment that 'having an operating radio removes the need for a Colour Vision Test or an operational signal light test' needs to be proven in light of the comments made by the CAA subject matter expert in his emails prior to drafting this NPRM. It could be argued that demonstrated ability at the initial issue of a PPL and at the biennial flight review could be more important than a CVD test.

## **Flying over congested areas of Towns and Cities.**

**3.28** This restriction in the RPL has always been controversial. One could spend hours practising circuits at say Christchurch airport on runway 29 or 11 and spend the major percentage of that time over built up suburbs.

**3.30** We agree with this conclusion but make note that the wording needs to clearly say "in or out of any controlled airspace" as it did in the RIS provided to the Ministry in August 2018. Quote; *(be able to fly in and out of controlled airspace, subject to meeting the appropriate colour vision requirements)*

We note the ambiguity between the documents regarding the CVD testing.

## **Aerobatics**

**3.31** We agree with the risk analysis in the TDB Advisory report section 8.

We comment further that as stated in the NPRM, aerobatics place more physical strain on the body. These manoeuvres subject pilots and passengers to gravitational effects. Though these effects are unlikely to increase the probability of issues such as gastrointestinal illness, hypoxia or renal calculi, they may increase the probability of some medical events such as cardiovascular events, headaches and vestibular effects/disorientation.

The current class 2 medical does not identify special or different medical standards for pilots who practise or intend to practise aerobatics. It would be virtually impossible to do so, given the wide range of aerobatic activity levels and the inability to distinguish between them medically.

**3.35** We disagree with this limitation. We submit that the operational standards and limitations applied to aerobatics and aviation events in NZCARs 91.701, 91.703 and relevant sections of Part 149 are stringent and comparable to any worldwide.

We further submit that one of our member organisations, Flying NZ (RNZAC) advises that PPL aerobatics is an important part of an Aero Club's activities. They advise that from a survey of their members, clubs that responded, show 105 pilots flying on a PPL that have aerobatic ratings. That number does not include Canterbury or Marlborough, both clubs having strong aerobatic contingents.

### **Banner and Drogue towing**

**3.37** the wording in this paragraph indicates it is not prohibited due to medical reasons. Therefore, if there is no medical reason to restrict the privilege it should be allowed or not mentioned in the NPRM. Obviously hire and reward prohibits the activity and as stated this is more likely to be a commercial activity by a fully trained PPL pilot.

**3.39** We disagree as the grounds are not Medical. We also refer to Section 9 of the TDB Advisory report where they combine Towing and Sling loads in a risk analysis. This report fails to find any evidence that a Class 2 medical would mitigate any risk to a greater level than a DL9P

### **Sling Load Operations.**

**3.41** We agree with this proposal and refer to TDB Advisory report section 9.

We would point out that the statements in this paragraph in the NPRM are arguably the most logical ones in the document and should be used in the dialogue of most of the activities that we are discussing. To Quote;

*The demonstration of competency is of most relevance to the ability of a pilot to perform a sling load operation. There are no elements of medical certification that are likely to affect the ability of pilots to carry out these operations. It is therefore proposed that sling load operations be allowed.*

If the argument of demonstrated competency is to be used in respect of sling load operations, then the same argument should be applied to every other privilege where special training and competency checks are required to maintain the rating or privilege.

Further and significantly, the 'no elements of medical certification that are likely to affect the pilot' should also apply.

## **Restrictions on agricultural operations.**

**3.42** We disagree with this proposal for private operations. Our members say there are many PPL private operators who do limited agricultural operations on their own properties. These are not commercial operations and not for hire and reward. We consider that the hire and reward limitations existing in the rules are enough to limit these operations to private only.

Further, the Sector Risk Profile (CAA 2013) which identified 16 major risks in the Agriculture sector (SPR) made no mention of medical events as substantial risk.

## **Night Flying**

**3.43** We agree with the statements made in this section. It is a privilege based on training and competence. That should be enough to agree to allow the privilege.

**3.44** The statements in this Paragraph are pure supposition and should be disregarded. It has already been stated in 3.43 that the privilege is based on training and competence. There are no elements of medical certification that are likely to affect the pilot.

**3.45** The statement relating to the medical standards as “less rigorous standards” is misleading and not proven. CVD screening has undergone a significant review by industry and CAA at great cost over the last couple of years. It has been agreed that demonstrated ability is paramount. This is demonstrated at initial issue and at a biennial flight review. If colour vision deficiency was noted, then the pilot would be failed in the test by the examiner. We also refer to the comment made in Para 3.27 regarding a radio negating the need for a CVD test and suggest the same logic should apply.

**3.49** We suggest that as probably over 90% of applicants would pass the CVD test then there should be a way that these few applicants can show demonstrated ability in line with the new guidelines for CVD in the CAA rules and guidelines.

**3.50** We disagree with this proposal on the basis that demonstrated ability would cover the issue. We consider night flying should be allowed and refer to Section 10 of the TDB Advisory report.

## **Glider towing and Parachute operations**

**3.51, 3.52, 3.53,** We agree with all these statements. They have been well considered and are based on common sense application of the level of risk.

**3.54** We agree with the opening statements in this paragraph. However, the suggestion that at 10,000 feet the operation becomes more complex has no basis. We refer to the TDB Advisory risk analysis in section 7 where they find no benefit in excluding this privilege above 10,000 feet.



**3.55** We agree with the proposal in general but question the arbitrary limitation on altitude as it is not based on any risk analysis that we can see. The part 91 Rules state;

***91.209 Use of oxygen equipment***

(a) A pilot-in-command of an unpressurised aircraft must, during any time that the aircraft is being operated above 13 000 feet AMSL and during any period of more than 30 minutes that the aircraft is being operated between 10 000 feet and up to and including 13 000 feet AMSL, require—

As the rules are very clear and allow up to 13,000 feet before oxygen is required, we cannot agree that this activity be restricted to an arbitrary 10,000 feet. It would be better to just allow the activity but ensure compliance with the existing rule.

**Instrument Flight Rules.**

**3.56** We disagree with this entire paragraph.

We find the TDB Advisory analysis in section 12 to be sound.

Flying IFR is no more complex than flying controlled VFR for a trained pilot. The training that is required (noted in the paragraph) brings the pilots skills to a level of competence that is the same level as a CPL pilot with an Instrument rating. The ability and competence is tested every 12 months (also noted in the paragraph). Furthermore, the pilot does not require (as suggested) any higher standard of eyesight and reaction times other than can be demonstrated in the initial and annual flight test.

The comment on hearing shows a lack of understanding of the requirements of a DL9P as a P endorsement requires a hearing check very similar to the Class 1 test. If this was not apparent in the annual flight test the pilot would fail the test. It is worth noting that the medical division of CAA held a joint meeting on 17<sup>th</sup> October 2019 with CASA and industry representatives where the need for the level of testing for an IFR with class 2 pilot was discussed in light of the fact that most pilots now use high spec headphones with individual volume controls for each ear and in many cases noise attenuating, which ensures the pilot has the best available technology to enable hearing and understanding the instructions of ATC. Again, any deficiency in the pilots hearing capability would be apparent at the annual check.

**3.57** In writing this submission NZAF have had all the relevant documents provided by CAA and developed a full chronology of the development of the NPRM. We can therefore comment on the input of the CAA subject matter expert referred to in this paragraph as we have read his email dated 21<sup>st</sup> March 2019 on the subject. It appears that this email had a significant effect in the change from the RIS which proposed allowing the IFR privilege

The CAA SME clearly did not have an understanding of the medical requirements of the DL9P as the fact that a hearing test is included in that standard was not known. In all the statements by the SME there was reference to a “lower” standard of the DL9 without any supporting evidence to show that was the case. In fact, in all his references, the “lower” DL9 is used and not the P endorsement. We suggest that the SME had not read the entire NZTA document medical aspects of fitness to drive.

Regarding the purported stress levels quoted, we would contend that flying under IFR in controlled airspace is less stressful than scud running in uncontrolled airspace at legally allowed heights and conditions. In the accompanying report by TDB Advisory the base case risk assessment scenario for a one hour PPL flight from Nelson to Fielding, includes about 85% of the time in controlled airspace flying with the same communication requirements as would occur on an IFR flight in the same airspace.

The purported risks with vestibular influence are no greater with a DL9P than with a Class 2 and that is one of the main parts of training for IFR flights. IFR pilots are all trained to rely on the instruments. It is all about the training which is nearly the same number of hours on top of those required to obtain a PPL.

**3.58** We disagree entirely with this statement. It has no credibility whatsoever. In controlled airspace the commercial aircraft and the private aircraft are under strict ATC control. However, if the commercial aircraft is flying into an uncontrolled airport, like for instance Timaru, then standard operating procedures apply and both the commercial aircraft and the private one must abide by the rules both VFR and IFR.

Further, a VFR pilot can fly in controlled airspace, at say Christchurch International Airport, flying on a parallel runway as ab initio training to fully qualified, all in close proximity to commercial aircraft.

**3.59** We agree with this statement and proposal. Aligning with the USA is a good thing as the majority of our planes come from USA and are built to a level that allows IFR. It is also worth noting here the AOPA NZ is following the example of AOPA USA to encourage IFR flight in private aircraft. This is based on the available safety statistics that show the advantages of flight under Air Traffic Control.

Further, as previously noted, the hearing test is already included in the DL9P and shows that the author of the NPRM has taken the opinion of the CAA SME without checking the medical standards.

**3.60** We disagree with the inference in this statement. It is saying that this would only affect 9 PPL pilots. The writer could list 9 without referring to any records so that cannot be true. It has no relevance and should be taken out of the NPRM.

**3.61** We disagree with this statement completely. The accident was not the result of a medical incapacitation and the statement even has a question mark to show the uncertainty of the NPRM writer. Having examined the accident report, it is obvious that the pilot did not follow the procedures in the flight manual for an engine failure and lost control of the aircraft. The accident should not be included in this NPRM as it has no relevance whatsoever. The comment on the reason for the low accident rates being attributable to the low numbers of pilots participating in the activity is also

misleading as we dispute the number of IFR pilots who would use the PPL with a DL9P medical. USA figures show around 45% of private pilots hold an instrument rating and the number of CFIT accidents has reduced as the percentage has gone up. Clearly showing the safety benefits of IFR. A point to note from personal experience is that only a few IFR flights are in actual hard IMC conditions for the entire flight.

**3.62** Apart from the low frequency comment this statement is correct and should be taken notice of in the final summation.

**3.63** We completely disagree with this proposal on the grounds stated above and refer again to the independent risk analysis provided in section 12 of the TDB Advisory report.

#### **Section 4**

Any comments on this section may not be relevant when considering our comments in the previous section. However, we make some limited comments for clarity

**4.2.1** We agree with this subject to agreement and clarification of the privileges.

**4.3.1** It is important to have a clear understanding of the difference between a licence and a medical certificate and we think this clause does that.

**4.3.2** This clause points out the significant saving to the PPL pilot. This fact is central to the need for the rule change that may be associated with this NPRM. It is also in clear agreement with the second bullet point in Section 1 of this NPRM.

**4.4.3** We agree with this proposal

**4.4.4** We agree with this proposal

**4.4.5** There needs to be some clarification to the wording here as it states that the holder of a DL9P must “effectively” comply with section 2A of the Act. It has been stated in other documents for this NPRM that Section 2A would not apply. This needs to be clarified. The requirement for a pilot to render themselves unfit is the same in the DL9P legal section. It is also clear that the GP must notify NZTA of any change in condition of the applicant. This needs to be made abundantly clear.

**4.4.8** May need modifying when the privileges are agreed to.

**4.4.9** May need modifying when the privileges are agreed to.

**4.4.10** May need modifying when the privileges are agreed to.

**4.4.11** May need modifying when the privileges are agreed to.

**4.4.12** May need modifying when the privileges are agreed to.

**4.4.14** May need modifying when the privileges are agreed to.

**4.4.13** Is agreed to

**4.4.15 – 4.4.19** May need modifying when the privileges are agreed to.

## **Section 5**

**5.4.1 – 4.4.2** we agree with these statements.

**5.5.1** This statement could be misleading by not stating “controlled airspace”. It is a basic requirement for a pilot to fly into and out of controlled airspace and to do so requires a radio and from 2021 a transponder with ADSB.

**Section 5.5** The whole of section 5.5 must be re-evaluated in light of our submission.

**Section 5.6, 5.7, 5.8, are all accepted.**

**Section 6 and section 7 appear to be acceptable**

That concludes our submission on the actual issued NPRM.

## **We wish to comment further on the CAA process preceding the writing of the NPRM**

We have a serious concern with the lack of empirical data that has been used to establish the privileges proposed to be available on the DL9P medical. In our examination of the two standards it appears that they are very similar in the conditions that are required to be examined for. Furthermore, the legal obligations on the examining physician appear to us to be also very similar.

We consider it is misleading to refer to the DL9P as a lesser / Lower / less rigorous standard as this could influence a policy writer who is not familiar with the two standards.

There is an obvious misunderstanding of the Proposed DL9P standard by CAA subject matter experts. This is clear in the persistent reference to a “lower or inferior or lessor” standard of medical. That is clearly not the reality of a DL9P. The reference to hearing standards completely missed the fact that they are tested for in a DL9P.

The statistics used to show numbers of pilots with a Class 2 medical is shown in the RIS (Clause 10) as 1433 active class 2 medicals. The CAA Aviation Safety Report 6 Monthly Summary of Aviation Safety for the year ended 30 June 2019 shows on Page 18 that there were 5778 Recreational licences (RPL with med or any class 2 med only or any PPL only) supported by an active medical of a class appropriate for the licence type.

The number quoted in the RIS of 1433 must therefore be wrong. (See tables below).

The number of aircraft also needs examining as all calculations for the ADSB issue came up with in excess of 3000 whereas the number quoted in table 5 in the RIS is 1657. The policy writer appears to

have only considered aircraft that were registered to individuals when the reality is that many are in companies, partnerships or syndicates.

Appendix 3 in the RIS lists 18 reported occurrences where medical issues have been a factor. In our examination of these 18 it was found that only 5 of them should have been included as relevant to the result of a Class 2 or DL9P. Of those 5, they all held a class 2 medical so would certainly have qualified for a DL9P. Therefore, the use of these statistics is misleading to the reader who is unfamiliar to the topic. There was no case where a DL9P could have caused the occurrence. This was pointed out by AOPA in their submission, but no changes were made to the ensuing documents.

We consider that CAA have not followed the Government Expectations for Good Regulatory Practice and in our opinion much time and cost could have been saved by following those simple procedures laid out by the Government in their policy documents. Specifically, the use of Industry expertise in co-designing a rule leading up to the development of the final NPRM for public consultation.

Finally, but not least important, we would like to acknowledge the excellent work done by Elizabeth Bolton in the preparation of the original consultation questionnaire, summary of responses and interviews with Industry leaders for the development of the Regulatory Impact Statement. We also acknowledge the excellent work done by the drafting team in preparing the NPRM.

Submitted by



**Ian D Andrews** *President*



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# Appendix 1

## Responses to CAA Positions by Brent Blue MD (IAOPA)

### **Flying Multi Engines:**

There is no medical evidence that flying multi-engine aircraft requires better medical condition than any other aircraft. Although multi-engine accidents have a higher fatality percentage, it is due to uncontrolled flight into terrain. There is no evidence that medical conditions have any bearing on this fatality rate. In addition, the conservative Civil Aerospace Medical Institute (CAMI) of the Federal Aviation Administration (FAA) does not make ANY differentiation between medical class or qualifications related to single or multi engine aircraft. Thus, a pilot exercising private pilot privileges can fly a Cessna 150 or a Cessna Citation jet while holding a third class medical.

A review of final National Transportation Safety Board (NTSB) reports from 2017 through 2018, highlights the low occurrence of multi-engine accidents attributed to medical incapacitation. Only three fatal accidents involved impairment/incapacitation, between 2017 and 2018, in multi-engine aircraft. NTSB data shows 50 total fatal accidents, so roughly six percent of fatal accidents during this time frame involved impairment/incapacitation. Therefore, fatal multi-engine accidents are not more susceptible to medical incapacitation/impairment.

### **Flying a Pressurized Aircraft:**

Pressurization does not increase workload of the pilot and is actually safer for the pilot and passengers due to a DECREASED risk of hypoxia compared to wearing oxygen equipment given the minute risk of a decompression event. The concern expressed also assumes the pilot has a critical cardiopulmonary condition during which a decompression event would be a “tipping point” for such condition. Additionally, flying in a pressurized aircraft versus non-pressurized and on oxygen has other physical implications such as improved visual acuity at night.

### **Exercising the privileges of an aerobatic rating:**

The FAA does not require any special medical certificate for aerobatics (except for aerobatic performers who receive compensation). In addition, a review in the Aerospace Medical and Human Performance Journal by FAA physicians’ medical restrictions for high-G force flight is UNWARRANTED (Mills WD, Greenhaw RM, Wang JMP. *A medical review of fatal high-G U.S. aerobatic accidents.* *Aerosp Med Hum Perform.* 2019;90(11):959-965.).

### **Flying at Night:**

Except for select circumstances such as color vision, glaucoma, and use of certain medications, FAA’s CAMI does not make any medical distinctions between day and night flight. There is no evidence that medical issues are a factor in night accidents nor a factor in medical incapacitation.

During our two-year review of NTSB data, only three fatal accidents involving impairment/incapacitation during night operations are cited. Only one of those accidents was the result of the pilot losing consciousness. The other two fatal accidents were pilots who took medication that may have been potentially impairing.

In addition to the exceedingly low number of impairment/incapacitation accidents, night flying had 65 fatal accidents between 2017 and 2018. That equates to about 4.5 percent of night accidents caused by impairment/incapacitation. This equates to a yearly average of 2.25 percent over this time period.

### **Flying under IFR:**

The FAA's regulations do not impose any additional medical certification requirements on pilots who will be flying under Instrument Flight Rules (IFR). A pilot's ability to fly under IFR depends only on his or her pilot certificates and ratings. For instance, an instrument rated-private pilot may fly IFR while holding a third class medical, which is issued under the exact same standards as a third class medical issued to a private pilot who is only qualified to fly under Visual Flight Rules (VFR). Moreover, should a private pilot choose to obtain a first class medical, that certificate will be issued under the exact same standards that apply to an Airline Transport Pilot who applies for a first class medical

From 2017 through 2018 there are an estimated 55 fatal accidents involving IFR flights on IFR flight plans. Of the 55 fatal accidents two were the result of medical incapacitation/impairment. This equates to a yearly average of 1.75 percent of IFR fatal accidents during this time period.

### **General Considerations:**

Aeromedical certification has evolved over time. Advances in medical science, now make it possible to more effectively detect, and treat conditions that might previously have impacted the ability to safely pilot a private aircraft. In 1980, the FAA only certified pilots with high blood pressure on one of five medications. Now, the FAA allows pilots with numerous medical conditions such as coronary heart disease, cancer, kidney stones, auto immune diseases, asthma, diabetes, and many others. During this same time period, the rate of fatal accidents in general aviation has DECREASED by ~50% effectively showing that allowing pilots to fly with various medical conditions does not increase risk or make the sky less safe. In addition, the FAA's own figures show that 98.9% of all pilots who apply for special issuance medicals receive them after testing which most physicians think is unnecessary. Since the rate of accidents under special issuance medical parallels with pilots of the same age without special issuance medical, one can ask is this process necessary at all.

**Bio: Dr. Brent Blue is a Senior [Aviation Medical Examiner](#) who introduced Digital [Pulse Oximetry](#) to general aviation in 1995. He has been the team doctor for the US Unlimited Aerobatic team at the world competition in Hungary and lectures extensively on Hypoxia and carbon monoxide at altitude. Dr. Blue flies a Cessna 340, a Cessna 185, and a 450 Stearman out of his home airport near Jackson Hole in the United States.**

### **NZAF Note!**

Dr Blue is a member of the IAOPA task force presenting the working papers to ICAO on a work stream that is currently considering an ICAO standard for PPL medicals that will be based on a GP examination to a drivers license standard. AOPA NZ is also a member of that task force.

## Appendix 2

The following is copied from Page 18 of CAA Aviation Safety Report 6 Monthly Summary of Aviation Safety for the year ended 30 June 2019

### Licences

The following table summarises the number of airline transport, commercial, private and recreational pilot, air traffic controller, and aircraft maintenance engineer licences on the register as at 30 June of each year.

Licences	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Recreational (RPL with Med or any Class2 Med only or any PPL only)	6868	6921	6973	6987	6647	6389	6184	5904	5691	5778
CPL with class 1 Med	2344	2339	2337	2217	2098	2046	2051	2032	2143	2126
ATPL with Class1 Med	1134	1188	1175	1163	1223	1228	1268	1261	1228	1138
ATC with Class 3 Med	363	361	374	367	381	387	381	364	361	371
LAME	2463	2519	2575	2639	2699	2754	2800	2852	2898	2940
<b>Total</b>	<b>13172</b>	<b>13328</b>	<b>13434</b>	<b>13373</b>	<b>13048</b>	<b>12804</b>	<b>12684</b>	<b>12413</b>	<b>12321</b>	<b>12353</b>

**Note** — the statistics above for pilot licences count only those with active medical certificates of a class appropriate for the licence type. This means that for CPL and ATPL licences, the number with a class 2 medical only, must only be exercising PPL privileges (or not flying at all). The statistics for ATCL holders count only those with an active class 3 medical certificate.

(‘Private & Recreational’ is the combined total of any PPLs with a valid medical certificate, any aircrew licence with only Class2 medical certificate and any RPLs with current DL9 medical)

These statistics show the number of licences held and the totals therefore overestimate the number of licence holders, as each holder may hold more than one licence.

The numbers of ‘Private & Recreational’ Pilot licence holders have stabilised in 2019 after declining since 2013. Commercial Pilot licence holders have been declining since 2010.



## Appendix 3

CAA stats From Website	2014		
Aircraft Class	Number	Totals	
Aeroplane	1976		
Amateur built Aeroplane	289	<b>2265</b>	<b>Aeroplane Incl Air NZ</b>
Glider	291		
Power Glider	45		
Amatuer built Glider	4	<b>340</b>	<b>Gliders</b>
Helicopter	799		
Amateur built Helicopter	23	<b>822</b>	<b>Helicopters</b>
Microlight class 2 (2 seats)	808		
Microlight class 1 (1 seat)	212	<b>1020</b>	<b>Microlights</b>
Balloon	62		
Hang Glider	17		
Gyroplane	46		
	<b>4572</b>		<b>Total on register</b>
<b>Air NZ and Subsidiaries</b>			
Airbus 320	19		
Boeings	57		
Beech 1900	18		
ATR	15		
Q300 Bombardier	23		
	<b>132</b>		<b>Domestic &amp; international</b>
Total fixed wing	2265		
Less Air NZ	132		
	<b>2133</b>		
		<b>SUMMARY</b>	
		<b>2133</b>	<b>GA Aeroplanes</b>
		<b>822</b>	<b>Helicopters</b>
		<b>340</b>	<b>Gliders</b>
		<b>808</b>	<b>Class 2 Microlight</b>
		<b>4103</b>	<b>Total GA Aircraft not incl</b>

