

# **Statistical Analysis on Holders of Aviation Personnel Licences in Macao (2015-2017)**

## **1. Overview:**

In Macao, aircraft pilot licences for aviation personnel are divided into two main categories, namely Commercial Pilot Licence (CPL) and Airline Transport Pilot Licence (ATPL), which can be subdivided into two subcategories each based upon the aircrafts being operated, such as Commercial Pilot Licence (Helicopter) – CPL(H), Commercial Pilot Licence (Aeroplane) – CPL(A), Airline Transport Pilot Licence (Helicopter) – ATPL(H) and Airline Transport Pilot Licence (Aeroplane) – ATPL(A).

## **2. Number of Aircraft Pilot Licence Holders:**

### **2.1 Helicopter Pilots**

The data of Macao Civil Aviation Authority (AACM) shows that for the past three years (with ending date on 15th March each year from 2015 to 2017), the total number of valid CPL(H) and ATPL(H) holders has reduced from 7 to 2 and from 30 to 25, respectively.

Currently, there is only one helicopter operator in Macao which is registered in both Macao and Hong Kong (under another company name in Hong Kong). In view of this, holders of either CPL(H) or ATPL(H) issued in Macao or Hong Kong are eligible for serving as helicopter pilots according to AACM.

### **2.2 Aeroplane Pilots**

The data of AACM indicates that for the past three years (with ending date on 15th March each year from 2015 to 2017), the total number of valid CPL(A) holders has increased from 28 in 2015 to 36 in 2016 and then remained at 36 till 2017, while that of ATPL(A) decreased from 140 to 132. Only minor changes are observed in the total number of holders of these two licences, growing slightly from 168 in 2015 to 175 in 2016 and then falling back to 168 in 2017.

Since each qualified pilot is allowed to hold only one type of aircraft pilot licence in Macao and there is currently only one airline registered and based in Macao, the above figures also reflect the number of pilots who are based in Macao and working for that airline.

## **3. Distribution of Aircraft Pilots by Age and Gender:**

### **3.1 Distribution of Helicopter Pilots by Gender**

The number of helicopter pilots who hold CPL(H) or ATPL(H) issued in Macao gradually decreased from 37 in 2015 to 30 in 2016 and later to 27 in 2017. In 2015, only one female pilot aged between 35 and 44 attained the CPL(H) qualification while ATPL(H) holders have always been all male. In 2016, that female pilot lost her CPL(H) licence, and since then no more females have been granted that pilot licence. However, another female pilot aged between 35 and 44 received a ATPL(H) licence in the same year and there remained one female ATPL(H) holder in the following year.

### **3.2 Distribution of Helicopter Pilots by Age**

In the past three years, helicopter pilots were mainly aged between 35 and 44. In 2015, the age group comprises 24 pilots, accounting for 64.86% of the total number of 37 and in 2016, the number was down to 19, making up 63.33% of the total number of 30. In particular, all three CPL(H) holders belonged to this age group. In 2017, 15 pilots were recorded in the age group of 35-44, accounting for 55.55% of the total of 27. Meanwhile, only five licensed helicopter pilots

were recorded in the age group of 25-34 for three consecutive years.

Distribution of Macao Helicopter Pilots by Age and Licence Categories

Year End Date	15/3/2015		15/3/2016		15/3/2017	
Licence Category	CPL	ATPL	CPL	ATPL	CPL	ATPL
24 or below	0	0	0	0	0	0
25-34	2	3	0	5	0	5
35-44	5	19	3	16	1	14
45-54	0	7	0	6	1	6
55-64	0	1	0	0	0	0
65 or above	0	0	0	0	0	0
Subtotal	7	30	3	27	2	25
Total	37		30		27	

Source: AACM

### 3.3 Distribution of Aeroplane Pilots by Gender

Holders of aeroplane pilot licences, namely CPL(A) or ATPL(A), issued in Macao were all male pilots during the period of 2015 and 2017, with no female pilots recorded.

### 3.4 Distribution of Aeroplane Pilots by Age

Aeroplane pilots holding CPL(A) were mainly aged between 25 and 34 in the past three years, jumping from 57.14% in 2015 to 61.11% in 2017. In addition, the number of pilots aged 24 or below rose from 1 to 2 during the said period.

On the other hand, holders of ATPL(A) mainly fell into the age group of 35-44. The number of holders within this age group dropped from 60 in 2015 to 53 in 2017, referring to a slight decrement from 42.86% to 40.15% of the total number. In general, holders aged 35-44 outnumbered those of other age groups by about 20 within the same year. No ATPL(A) holder of 24 years old or under was recorded during the period in question.

Distribution of Macao Aeroplane Pilots by Age and Licence Categories

Year End Date	15/3/2015		15/3/2016		15/3/2017	
Licence Category	CPL	ATPL	CPL	ATPL	CPL	ATPL
24 or below	1	0	1	0	2	0
25-34	16	30	25	32	22	29
35-44	10	60	8	59	10	53
45-54	1	32	2	31	2	33
55-64	0	18	0	17	0	17
65 or above	0	0	0	0	0	0

Subtotal	28	140	36	139	36	132
Total	168		175		168	

Source: AACM

### **5. Operational Qualifications for CPL and ATPL Pilots:**

Holders of CPL and ATPL can operate the kind of aircraft specified on their licences (helicopter or aeroplane). These two types of licences have no difference in terms of the operational qualifications but in occupational rank in airlines. Normally, a first officer must acquire ATPL, which has higher requirements, to ascend to a captain. Therefore, ATPL is actually one of the requirements for promotion in airlines.

### **6. Requirements for Obtaining Aircraft Pilot Licences:**

Since the lowest level of aircraft pilot licence issued in Macao is CPL instead of RPL (Recreational Pilot Licence) or PPL (Private Pilot Licence) and it has not instituted any licence examination system for CPL and ATPL, pursuant to the Executive Order No. 62/2016, persons, who intend to apply for authorised licences such as CPL or ATPL from Macao Civil Aviation Authority (AACM), has to first obtain CPL or ATPL issued by foreign authorities. Following application reviews and specialised examinations, the person, who is an employee of an airline registered in Macao, can be granted authorised CPL or ATPL issued by AACM and accredited in Macao.

In general, the steps of getting aircraft pilot licences should be first PPL or RPL, then CPL and lastly ATPL.

As stipulated by AACM, applicants of CPL have to be at least 18 years of age, while applicants of ATPL have to be at least 21 years of age.

In addition, English proficiency is also one of the requirements.

### **7. Other Aviation Personnel:**

Apart from aircraft pilots, three types of aviation personnel are required to obtain licences issued by AACM before they can actually take up the post, including Air Traffic Controller (ATC), Flight Operations Officer (FOO) and Aircraft Maintenance Engineer (AME).

To acquire an Air Traffic Controller (ATC) licence in Macao, prospective ATC licence holders have to be employed by the Administration of Airports Ltd. (ADA), receive training and finally pass AACM’s examination. The holders can undertake works such as controlling air traffic and co-ordinating flight operations.

To acquire a Flight Operations Officer (FOO) licence in Macao, prospective FOO licence holders have to be employed by an airline, receive training and finally pass AACM’s examination. The holders can assist the airline in preparing documents for flight operations and co-ordinating flight dispatches.

To acquire an Aircraft Maintenance Engineer (AME) licence in Macao, prospective AME licence holders have to be employed by an airline, receive training and finally pass AACM’s examination. The holders can undertake maintenance work for the relevant aircrafts.

### **8. Number of ATC, FOO and AME Licence Holders in 2015-2017:**

**Number of ATC Licence Holders:** A slight increase was observed in the total number of ATC licence holders, up by 1 each year, which is believed to be attributable directly to the licensing requirements that applicants ‘have to be employed’ by ADA. The data, thus, also represents the number of the relevant employees in ADA. In addition, the holders were mainly aged from 35 to 44 over the three years.

	15/3/2015	15/3/2016	15/3/2017
24 or below	0	0	0
25-34	9	8	7
35-44	14	16	17
45-54	1	1	2
55-64	0	0	0
65 or above	0	0	0
Total	24	25	26

Source: AACM

**Number of FOO Licence Holders:** the total number of FOO licence holders remained unchanged over the past three years and no significant change was observed in terms of the distribution by age from 2016 to 2017. The data is believed to be related directly to the licensing requirements that applicants ‘have to be employed’ by an airline. The data, thus, also represents the number of the specific employees in the relevant airlines. In addition, most of the holders were rather young, mainly aged from 25 to 34.

	15/3/2015	15/3/2016	15/3/2017
24 or below	2	0	0
25-34	7	12	12
35-44	14	6	3
45-54	18	4	7
55-64	0	0	0
65 or above	0	0	0
Total	22	22	22

Source: AACM

**Number of AME Licence Holders:** A minor decrease was observed in the total number of AME licence holders during 2015 to 2017, but the annual number was rather similar each year. Only one female engineer obtained an AME licence in 2016 and had it renewed in 2017, which broke the record of all male aircraft maintenance engineers. The number is believed to be related directly to the licensing requirements that applicants ‘have to be employed’ by an airline. The data, thus, also represents the number of the specific employees in the relevant airlines. Besides, most of the holders were aged between 35 and 44.

	15/3/2015	15/3/2016	15/3/2017
24 or below	0	0	0
25-34	14	13	13
35-44	63	56	47
45-54	35	35	40
55-64	16	19	21
65 or above	0	0	0

Total	128	123	122
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Source: AACM