55th CONFERENCE OF DIRECTORS GENERAL OF CIVIL AVIATION ASIA AND PACIFIC REGIONS

Denarau Island, Nadi, Fiji
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AGENDA ITEM 3: AVIATION SAFETY

CIVIL REMOTELY PILOTED AIRCRAFT SYSTEM (RPAS)

Presented by India

INFORMATION PAPER

SUMMARY

Civilian use of Remote Piloted Aircraft (RPA) commonly known as Drones is increasing by leaps and bound, which includes surveys (critical infrastructure monitoring like power facilities, ports, and pipelines; etc.), commercial photography, aerial mapping, package deliveries, agriculture spraying, damage assessment of property, assessment of areas affected with natural calamities, etc. India has amended the Aircraft Rules to insert Rule 15A on Civil Remotely Piloted Aircraft System (RPAS). DGCA India has issued Civil Aviation Requirements for Operation of Civil Remotely Piloted Aircraft System (RPAS) on 27th August 2018 effective from 1st December 2018.

CIVIL REMOTELY PILOTED AIRCRAFT SYSTEM (RPAS)

1. INTRODUCTION

1.1 RPAS is a comparatively new technology in the civil aviation sector. It is one subset of Unmanned Aircraft System (UAS). Other subsets of UAS are Autonomous Aircraft and Model Aircraft. Model Aircraft generally do not have payload and are used for recreational purposes only. RPAS and Autonomous Aircraft have commercial as well as recreational applications which need to be regulated.

1.2 India is expected to have huge number of RPAS by year 2021. Industries such as agriculture, construction, surveying, roads, railway, mining, aerial filming, forest and environment study etc. would be stimulated to a great extent.

1.3 Often, people view RPAS as a technology with inherent risk factor. In order to alleviate this, it is important that regulatory frameworks are robust yet innovation friendly. In order to get the best input, frequent interactions and feedback are required from industry players. Digital crowd sourced initiatives can go a long way in bolstering the RPAS industry.

1.4 Keeping in view the risks and threat to safety of manned aircraft and strategically important establishments, DGCA vide public notice dated 7th October 2014 restricted non-Government agencies, organizations and individuals from launching civil Unmanned Aircraft Systems until regulations comes into effect. This risk based approach was purposely done to gain knowledge of the technology and development of the market without adversely affecting safety and security of the nation. However, DGCA India had been granting permission to few pilot projects on aerial photography/ survey based on visual line of sight (VLoS) and below 200ft AGL for Government organizations and PSUs on case-by-case basis.

2. DISCUSSION

2.1 <u>Legislative and Regulatory Provisions</u>

2.1.1 Govt. of India has inserted Rule 15A on Civil Remotely Piloted Aircraft System (RPAS) in Aircraft Rules 1937 in November, 2017.

2.1.2 DGCA, India has issued Civil Aviation Requirements for Operation of Civil Remotely Piloted Aircraft System (RPAS) on 27th August 2018 which will be effective from 1st December 2018.

2.1.3 RPA has been categorised in accordance with maximum all-up-weight (including payload) as follows:

Nano	:	$\leq$ 250 gm
Micro	:	> 250 gm and $\leq$ 2 kg
Small	:	> 2 kg and $\leq$ 25 kg
Medium	:	> 25 kg and $\leq$ 150 kg
Large	:	> 150 kg

2.1.4 RPAS operations are restricted to:

a) Day light (between sunrise and sunset);
b) Within visual line of sight;
c) Flying up to 400 feet in Indian airspace;
d) In Visual Meteorological Conditions (VMC) with a minimum ground visibility of 5 km;
e) Surface winds of not more than 10 knots.

2.1.5 RPA shall not discharge or drop substances unless specially cleared. Further, RPA shall not transport any hazardous material such as explosives or animal or human payload.

2.1.6 "No drone zone" has been identified for the operations of RPAS in India which majorly secludes area within 5 km from the perimeter of major airports, area within 3 km from the perimeter of any civil, private or defense airports, military installations, area within 25 km from international borders.

2.1.7 All permissions for RPAS operations will be granted through 'Digital Sky Platform'. The platform works on 'No Permission – No Take-off' concept.

2.1.8 There is no requirement of remote pilot license. However, minimum criteria for training has been laid out for flying small and above categories of RPAS.

2.1.9 The Digital Sky platform works on 'No Permission – No Take-off (NPNT)' concept. It will be one of its kind in the world.

2.1 DGCA India is a member of many domestic and international working groups that are engaged in activities pertaining to RPAS. Regulations on RPAS will be reviewed based on experience gained and outcome of the recommendations of the respective working groups.

3. ACTION BY THE CONFERENCE

3.1 The Conference is invited to note:

a) Progress made by India in the area of RPAS.

b) Technology adopted by India for operation of RPAS on day-to-day basis.

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