



REPUBLIC OF SINGAPORE

GOVERNMENT GAZETTE

BILLS SUPPLEMENT

Published by Authority

NO. 13]

MONDAY, APRIL 13

[2015

First published in the *Government Gazette*, Electronic Edition, on 13th April 2015 at 5:00 pm.

Notification No. B 13 — The Unmanned Aircraft (Public Safety and Security) Bill is hereby published for general information. It was introduced in Parliament on the 13th day of April 2015.

Unmanned Aircraft (Public Safety and Security) Bill

Bill No. 13/2015.

Read the first time on 13 April 2015.

A BILL

i n t i t u l e d

An Act to amend the Air Navigation Act (Chapter 6 of the 2014 Revised Edition) and the Public Order Act (Chapter 257A of the 2012 Revised Edition) to regulate the operation of unmanned aircraft in Singapore in the interests of public safety and security.

Be it enacted by the President with the advice and consent of the Parliament of Singapore, as follows:

Short title and commencement

1.—(1) This Act may be cited as the Unmanned Aircraft (Public Safety and Security) Act 2015 and, with the exception of Part 2, comes into operation on such date as the Minister charged with the responsibility for air navigation may, by notification in the *Gazette*, appoint.

(2) Part 2 of this Act comes into operation on such date as the Minister charged with the responsibility for homefront security may, by notification in the *Gazette*, appoint.

PART 1

AMENDMENT OF AIR NAVIGATION ACT

Amendment of section 2

2. Section 2(1) of the Air Navigation Act (Cap. 6) (referred to in this Part as the principal Act) is amended —

(a) by inserting, immediately after the definition of “Authority”, the following definition:

““auxiliary police officer” means a person appointed as such under Part IX of the Police Force Act (Cap. 235);”;

(b) by inserting, immediately after the words “Civil Aviation Authority of Singapore Act” in the definition of “aviation safety instrument”, the words “or a permit referred to in section 7(3)(b)(ii) or 7A(3)(b)(ii)”;

(c) by inserting, immediately after the definition of “Chicago Convention”, the following definitions:

““command and control link” means the data link between a remotely piloted aircraft and a remote pilot station for the purposes of managing the flight of the remotely piloted aircraft;

“competent security officer” means any public officer designated as such by the Minister

charged with the responsibility for homefront security;”;

- (d) by inserting, immediately after the definition of “operate”, the following definition:

“ “operator”, for an unmanned aircraft, means a
person engaged in, or offering to engage in, the
operation of the unmanned aircraft, and where
the unmanned aircraft is a remotely piloted
aircraft, includes — 5

(a) the person who causes the remotely piloted
aircraft to fly; and 10

(b) the remote pilot of the aircraft with duties
essential to the operation of the remotely
piloted aircraft, such as manipulating the
flight controls as appropriate during flight
time, if the remote pilot is not the
operator;” 15

- (e) by inserting, immediately after the definition of “pilot-in-command”, the following definitions:

“ “remotely piloted aircraft” means an unmanned
aircraft that is operated using a remotely piloted
aircraft system; 20

“remotely piloted aircraft system” or “RPAS”, for a
remotely piloted aircraft, means all of the
following components: 25

(a) the remotely piloted aircraft;

(b) every remote pilot station associated with
the remotely piloted aircraft in
paragraph (a) containing the equipment
used to pilot that aircraft; 30

(c) the command and control links between
the remotely piloted aircraft in
paragraph (a) and its remote pilot station
or stations and other command;

- (d) any other components as specified in the type design to fly that aircraft;” and
- (f) by inserting, immediately after the definition of “structure”, the following definitions:

5 ““unmanned aircraft” means an aircraft that may be flown or used without any individual on board the aircraft to operate it;

 “unmanned aircraft system” means an unmanned aircraft and its associated elements;”.

10 **Amendment of section 2B**

3. Section 2B of the principal Act is amended by inserting, immediately after subsection (2), the following subsection:

15 “(2A) A person outside Singapore who operates an unmanned aircraft in a manner which, if the person were in Singapore, would be an offence under section 7, 7A, 7B or 7C, shall be guilty of an offence under section 7, 7A, 7B or 7C, as the case may be.”.

Amendment of section 3

4. Section 3 of the principal Act is amended —

20 (a) by inserting, immediately after the words “necessary or convenient to be prescribed” in subsection (1), the words “for the control and regulation of aviation in and over Singapore for the safety of air navigation or for public safety or both, and”;

25 (b) by inserting, immediately after paragraph (ga) of subsection (2), the following paragraph:

30 “(gb) for applying the provisions of this Act or orders made under this section to unmanned aircraft and their operators (indoors or outdoors), design, maintenance and manufacture with such prescribed exceptions, modifications and adaptations as the differences between the

manned aircraft and unmanned aircraft require;”;

- (c) by inserting, immediately after the words “in the order” in subsection (2)(l), the words “where necessary or expedient for the safety of air navigation or for public safety”; and 5
- (d) by inserting, immediately after the words “under the order” in subsection (2)(q), the words “or under section 7C”.

Amendment of section 3A

5. Section 3A(1) of the principal Act is amended —

- (a) by inserting, immediately after the words “necessary or convenient to be prescribed”, the words “for the control and regulation of aviation in and over Singapore for the safety of air navigation or for public safety or both, and”; 10
- (b) by inserting, immediately after paragraph (h), the following paragraphs: 15
 - “(ha) applying the provisions of this Act or regulations made under this section to unmanned aircraft and their operators (indoors or outdoors), design, maintenance and manufacture with such prescribed exceptions, modifications and adaptations as the differences between the manned aircraft and unmanned aircraft require; 20
 - (hb) prohibiting aircraft from flying over such areas in Singapore as may be specified in the regulations where necessary or expedient for the safety of air navigation or for public safety;”; 25
 - and
- (c) by inserting, immediately after the words “under the regulations” in paragraph (l), the words “or under section 7C”. 30

Amendment of section 4M

6. Section 4M of the principal Act is amended —

(a) by deleting the words “the Director-General of Civil Aviation or a safety inspector,” in subsection (1) and substituting the words “a safety inspector”;

(b) by deleting the words “the Director-General of Civil Aviation or” in subsection (1)(a);

(c) by deleting paragraph (a) of subsection (2) and substituting the following paragraph:

“(a) to require that person, or any individual who is or was an officer or employee of that person —

(i) to provide an explanation of the document or information; or

(ii) to attend before a safety inspector for an interview and to answer any question and give a statement about the document or information;”;

(d) by inserting, immediately after subsection (2), the following subsection:

“(2A) Where a person is required to attend before a safety inspector for an interview, the safety inspector must —

(a) record the person’s answers or statement at the interview in writing;

(b) read over that written record in paragraph (a) of the person’s answers or statement or, if the person is for any reason unable to understand or communicate in spoken English sufficiently, use an interpreter to inform the person about contents of the written record; and

(c) then require the person to sign that written record.”; and

- (e) by deleting the words “, the Director-General of Civil Aviation” in subsection (6).

Amendment of Division 4 heading of Part II

7. Part II of the principal Act is amended by deleting the word “*photography*” in the heading of Division 4 and substituting the word “*activities*”.

Amendment of section 7

8. Section 7 of the principal Act is amended —

- (a) by deleting subsections (2) to (5) and substituting the following subsections:

“(2) If —

(a) an unmanned aircraft has on board equipment for taking photographs when flying; and

(b) a photograph is taken of the whole or any part of a protected area using that photographic equipment on board the unmanned aircraft,

the operator of the unmanned aircraft, and the person taking the photograph if the person is not the operator, shall each be guilty of an offence and shall each be liable on conviction to a fine not exceeding \$20,000 or to imprisonment for a term not exceeding 12 months or to both.

(3) In proceedings for an offence under subsection (2) —

(a) it is not necessary for the prosecution to prove that an accused knew or had reason to believe that —

(i) the area is a protected area; or

(ii) the unmanned aircraft had on board equipment for taking photographs when flying; but

(b) it is a defence to the charge for the accused to prove, on a balance of probabilities, that —

(i) the photograph of the whole or any part of the protected area using photographic equipment on board the unmanned aircraft was not taken intentionally but was taken because of weather conditions or other unavoidable cause; or

(ii) the accused has in force a permit from a competent security officer and had, in accordance with that permit, taken, or caused to be taken, any photograph of the whole or any part of a protected area using photographic equipment on board the unmanned aircraft.

(4) Every offence under this section is an arrestable offence within the meaning of the Criminal Procedure Code (Cap. 68).

(5) In this section, a reference to taking a photograph includes a reference to —

(a) making a film or a video-recording; and

(b) making a recording of images for the purpose of broadcasting or live-streaming the images.”; and

(b) by deleting the words “carriage and prohibited” in the section heading.

New sections 7A, 7B and 7C

9. The principal Act is amended by inserting, immediately after section 7, the following sections:

“Permit needed for certain overflight by unmanned aircraft

7A.—(1) A person must not operate an unmanned aircraft to fly, at any height, over any part of any protected area declared under section 7.

(2) Every operator of an unmanned aircraft who contravenes subsection (1) shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$20,000 or to imprisonment for a term not exceeding 12 months or to both.

(3) In proceedings for an offence under subsection (2) — 5

(a) it is not necessary for the prosecution to prove that an accused knew or had reason to believe that the area flown over is a protected area; but

(b) it is a defence to the charge for the accused to prove, on a balance of probabilities, that — 10

(i) the accused did not intentionally cause the unmanned aircraft to fly over the protected area, and the overflight was not due to any want of reasonable care on the part of the accused; or

(ii) the overflight was authorised by and in accordance with a permit from a competent security officer. 15

(4) Every offence under this section is an arrestable offence within the meaning of the Criminal Procedure Code (Cap. 68).

Absolute prohibition of carriage of dangerous materials on unmanned aircraft 20

7B.—(1) If —

(a) a person operates an unmanned aircraft to fly indoors or at any height over any area in Singapore; and

(b) the unmanned aircraft carries a prohibited item when so flying, 25

the person shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$100,000 or to imprisonment for a term not exceeding 5 years or to both.

(2) In proceedings for an offence under subsection (1) —

(a) it is not necessary for the prosecution to prove that an accused knew that the unmanned aircraft carried a prohibited item when flying; but

(b) it is a defence to the charge for the accused to prove, on a balance of probabilities, that he did not know, and could not reasonably have been expected to know, that the unmanned aircraft carried a prohibited item when flying.

(3) Every offence under this section is an arrestable offence within the meaning of the Criminal Procedure Code (Cap. 68).

(4) In this section, “prohibited item” means —

(a) any weapon, substance or other thing the possession of which (for any purpose) would constitute an offence under any of the following written laws:

(i) the Arms and Explosives Act (Cap. 13);

(ii) the Corrosive and Explosive Substances and Offensive Weapons Act (Cap. 65);

(iii) the Dangerous Fireworks Act (Cap. 72);

(b) any biological agent, biological agent waste or toxin within the meaning of the Biological Agents and Toxins Act (Cap. 24A);

(c) any radioactive material, radioactive substance or radioactive waste within the meaning of the Radiation Protection Act (Cap. 262); or

(d) any other hazardous material (whether gaseous, liquid or solid) that is prescribed, in a notification published in the *Gazette*, by the Minister charged with the responsibility for homefront security to be a prohibited item for the purposes of this section.

Discharge from unmanned aircraft

7C.—(1) If —

- (a) a person operates an unmanned aircraft to fly indoors or at any height over any area in Singapore; and
- (b) the unmanned aircraft when so flying discharges anything (whether gaseous, liquid or solid),

the person shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$20,000.

(2) In proceedings for an offence under subsection (1), it is not necessary for the prosecution to prove that an accused knew or had reason to believe that the unmanned aircraft discharged anything while in flight, but it is a defence to the charge if the accused proves, on a balance of probabilities, that —

(a) the accused —

- (i) did not intentionally cause the thing to discharge from the unmanned aircraft and the discharge was not due to any want of reasonable care; and

- (ii) took all reasonably practicable steps to stop or reduce further discharge of that thing from the unmanned aircraft as soon as practicable after discovering the discharge;

- (b) the thing escaped from the unmanned aircraft operated by the accused in consequence of damage, other than intentional damage, to the unmanned aircraft and all reasonable precautions were taken by the accused after the occurrence of the damage or the discovery of the discharge for the purpose of preventing or minimising further discharge from the unmanned aircraft; or

- (c) the accused has in force a discharge permit from the Authority and had caused the thing to be discharged from the unmanned aircraft in accordance with that discharge permit.

(3) However, it is not a defence to a charge for an offence under subsection (1) if —

- (a) no individual dies or is hurt;
- (b) no property is destroyed or damaged; or
- (c) no hazard is caused to another aircraft, to anyone or any property,

as a result of anything discharged from an unmanned aircraft in flight.

(4) For the purposes of subsection (2)(b), damage to an unmanned aircraft or to its equipment is intentional damage if the damage arose in circumstances in which the operator of the unmanned aircraft —

- (a) acted with intent to cause the damage; or
- (b) acted recklessly and with knowledge that damage would probably result.

(5) A person who is refused a discharge permit, or whose discharge permit is cancelled by the Authority, may appeal to the Minister against the Authority's refusal or cancellation, as the case may be, in the manner prescribed under section 3 or 3A; and the Minister's decision on appeal is final.

(6) In this section, "discharge", from an unmanned aircraft, includes dropping from an unmanned aircraft but does not include the discharge of exhaust from an unmanned aircraft during flight.

(7) To avoid doubt, this section does not affect the operation of the Military Manoeuvres Act (Cap. 182).".

Amendment of section 17

10. Section 17(1) of the principal Act is amended by deleting the definition of "auxiliary police officer".

Amendment of section 17F

11. Section 17F(4) of the principal Act is amended by deleting the words "until the provision is revoked by regulations on aviation security made" and substituting the words ", and may from time to time be amended or revoked".

Amendment of section 29D

12. Section 29D(1) of the principal Act is amended —

- (a) by deleting the word “or” at the end of paragraph (b); and
- (b) by deleting the comma at the end of paragraph (c) and substituting the word “; or”, and by inserting immediately thereafter the following paragraph:

“(d) an authorised person within the meaning of section 29G,”.

New section 29G

13. The principal Act is amended by inserting, immediately after section 29F, the following section:

“Interception, etc., of unmanned aircraft

29G.—(1) Where an authorised person has reason to believe that an unmanned aircraft is being operated in a manner —

- (a) that contravenes any provision of this Act or any aviation safety subsidiary legislation; or
- (b) that poses a serious and an imminent risk to safety of the public,

the authorised person may, subject to subsection (3), exercise all or any of the powers in subsection (2) in relation to the unmanned aircraft for either purpose:

- (i) preventing further contravention of any provision of this Act or any aviation safety subsidiary legislation;
- (ii) preventing or stopping any actual or imminent occurrence that endangers or threatens to endanger the safety of the public.

(2) For the purposes of subsection (1), the powers that may be exercised by an authorised person in relation to an unmanned aircraft are without warrant —

- (a) to direct any person whom the authorised person reasonably believes to be involved in the operation of the unmanned aircraft —

- (i) to end the flight of the unmanned aircraft, or land it, safely in the fastest practicable way; or
- (ii) to fly the unmanned aircraft in the manner specified by the authorised person;

5 (b) with such assistance and by such force as is necessary —

- (i) to assume control of an unmanned aircraft to fly the aircraft or to end the flight of the aircraft, or land it, safely in the fastest practicable way; or
- (ii) to end the flight of the unmanned aircraft in the
10 fastest and safest practicable way; or

(c) to seize the unmanned aircraft and any component of the unmanned aircraft system for that aircraft, or other thing, that the authorised person believes on reasonable grounds —

- 15 (i) to be evidential material; or
- (ii) needs to be seized to prevent its concealment, loss or destruction, or its use in committing, continuing or repeating an offence under this Act or any aviation safety subsidiary legislation.

20 (3) In authorising any person under subsection (1), the Commissioner of Police or the Authority, as the case may be, may do all or any of the following:

- (a) limit the powers in subsection (2) that the authorised person may exercise;
- 25 (b) limit when the authorised person may exercise his powers in subsection (2) or any of them;
- (c) limit where in Singapore the authorised person may exercise his powers in subsection (2) or any of them;
- 30 (d) limit the circumstances in which the authorised person may exercise his powers in subsection (2) or any of them;

- (e) limit the offences in respect of which the authorised person may exercise his powers in subsection (2) or any of them.

(4) Any person who, without reasonable excuse, contravenes any direction under subsection (2)(a) shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$20,000 or to imprisonment for a term not exceeding 12 months or to both.

(5) A Magistrate may, on an application by the Authority, make an order authorising the Authority to destroy or otherwise dispose of any thing seized under subsection (2)(c) by a safety inspector, if the Magistrate is satisfied that —

- (a) apart from this section, a safety inspector or the Authority is required to return the thing to a person; and
- (b) the safety inspector or the Authority cannot, despite making reasonable efforts, locate the person or the person has refused to take possession of that thing.

(6) In this section, “evidential material” means any thing that is relevant to proving a contravention of any provision of this Act or any aviation safety subsidiary legislation (whether or not an offence).

(7) In this section, an authorised person is —

- (a) a police officer, or an auxiliary police officer, of or above the rank of sergeant and authorised by the Commissioner of Police to exercise powers under this section;
- (b) a safety inspector authorised by the Authority to exercise powers under this section; or
- (c) an individual with the suitable qualifications and experience to properly exercise one or more of the powers in subsection (2) and authorised by the Authority to do so.

(8) To avoid doubt, nothing in this section derogates from the provisions of the Criminal Procedure Code (Cap. 68) or section 201B of the Singapore Armed Forces Act (Cap. 295).”.

PART 2

AMENDMENT OF PUBLIC ORDER ACT

Amendment of section 20

14. Section 20 of the Public Order Act (Cap. 257A) is amended —

(a) by inserting, immediately after the definition of “prohibited item”, the following definitions:

““prohibited item permit” means a permit of that name granted under section 26(2B) for a specific prohibited item or a class of prohibited items;

“remotely piloted aircraft” and “remotely piloted aircraft system” have the same respective meanings as assigned in the Air Navigation Act (Cap. 6);” and

(b) by inserting, immediately after the definition of “statutory condition of entry”, the following definitions:

““unmanned aircraft” means an aircraft that may be flown or used without any individual on board the aircraft to operate it, and excludes a balloon or kite;

“unmanned aircraft system” means an unmanned aircraft and its associated elements;”.

Amendment of section 26

15. Section 26 of the Public Order Act is amended —

(a) by deleting the words “, or possess a prohibited item in,” in subsection (2);

(b) by inserting, immediately after subsection (2), the following subsections:

“(2A) A person must not —

(a) without lawful excuse, possess a prohibited item in a special event area; or

(b) use a prohibited item in a way that causes —

- (i) the prohibited item or any part of it;
- (ii) something contained in or on the prohibited item; or
- (iii) something produced by the prohibited item,

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to enter the special event area.

(2B) In proceedings for an offence under subsection (3) for failing to comply with subsection (2A) —

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(a) it is not necessary for the prosecution to prove that an accused knew or had reason to believe that an area is a special event area; but

(b) it is a defence to a charge for failing to comply with subsection (2A)(b) for the accused to prove, on a balance of probabilities, that —

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(i) the accused did not intentionally cause the prohibited item or part of it, or something contained in or on, or produced by, the prohibited item, to enter the special event area, and the entry was not due to any want of reasonable care on the part of the accused; or

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(ii) the accused had in force a prohibited item permit from the Commissioner and had, in accordance with that permit, used a prohibited item in a way that caused it, something contained in it or on it or something produced by it, to enter the special event area.”; and

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(c) by inserting, immediately after the words “subsection (2)” in subsection (3), the words “or (2A)”.

Amendment of section 32

16. The Public Order Act is amended by re-numbering section 32 as subsection (1) of that section, and by inserting immediately thereafter the following subsections:

5 “(2) If a person (whether in or outside a special event area) operates an unmanned aircraft in a manner —

 (a) that disrupts, interferes with, delays or obstructs the conduct of a special event, or any activity associated with the special event; or

10 (b) that interferes with the reasonable enjoyment of a special event, or an activity associated with the special event,

the person shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$20,000 or to imprisonment for a term not exceeding 12 months or to both.

15 (3) In proceedings for an offence under subsection (2) —

 (a) it is not necessary for the prosecution to prove that an accused intentionally caused the unmanned aircraft to fly in a manner as described in subsection (2)(a) or (b); but

20 (b) it is a defence to the charge for the accused to prove, on a balance of probabilities, that the flight was not due to any want of reasonable care on the part of the accused.”.

New section 32A

17. The Public Order Act is amended by inserting, immediately after section 32, the following section:

25 **“Interception, etc., of unmanned aircraft**

32A.—(1) Where an authorised person has reason to believe that an unmanned aircraft is being operated in a manner —

 (a) that contravenes section 26(2) or (2A) or 32(2); or

30 (b) that poses a serious and an imminent risk to the security or safety of persons lawfully attending a special event,

the authorised person may, subject to subsection (3), exercise all or any of the powers in subsection (2) in relation to the unmanned aircraft for either purpose:

(i) preventing further contravention of section 26(2) or (2A) or 32(2); 5

(ii) preventing or stopping any actual or imminent occurrence that endangers or threatens to endanger the security or safety of persons lawfully attending a special event.

(2) For the purposes of subsection (1), the powers that may be exercised by an authorised person in relation to an unmanned aircraft are without warrant — 10

(a) to direct any person whom the authorised person reasonably believes to be involved in the operation of the unmanned aircraft — 15

(i) to end the flight of the unmanned aircraft, or land it, safely in the fastest practicable way; or

(ii) to fly the unmanned aircraft in the manner specified by the authorised person;

(b) with such assistance and by such force as is necessary — 20

(i) to assume control of an unmanned aircraft to fly the aircraft or to end the flight of the aircraft, or land it, safely in the fastest practicable way; or

(ii) to end the flight of the unmanned aircraft in the fastest and safest practicable way; or 25

(c) to seize the unmanned aircraft and any component of the unmanned aircraft system for that aircraft, or other thing, that the authorised person believes on reasonable grounds —

(i) to be evidential material relevant to an offence under this Part; or 30

(ii) needs to be seized to prevent its concealment, loss or destruction, or its use in committing,

continuing or repeating an offence under this Part.

(3) In authorising any person under subsection (1), the Commissioner may do all or any of the following:

- (a) limit the powers in subsection (2) that the authorised person may exercise;
- (b) limit when the authorised person may exercise his powers in subsection (2) or any of them;
- (c) limit where in Singapore the authorised person may exercise his powers in subsection (2) or any of them;
- (d) limit the circumstances in which the authorised person may exercise his powers in subsection (2) or any of them;
- (e) limit the offences in respect of which the authorised person may exercise his powers in subsection (2) or any of them.

(4) Any person who, without reasonable excuse, contravenes any direction under subsection (2)(a) shall be guilty of an offence and shall be liable on conviction to a fine not exceeding \$20,000 or to imprisonment for a term not exceeding 12 months or to both.

(5) A Magistrate may, on an application by the Commissioner, make an order authorising the Commissioner to destroy or otherwise dispose of any thing seized under subsection (2)(c) by an authorised person, if the Magistrate is satisfied that —

- (a) apart from this section, an authorised person or the Commissioner is required to return the thing to a person; and
- (b) the authorised person or the Commissioner cannot, despite making reasonable efforts, locate the person or the person has refused to take possession of that thing.

(6) In this section, “evidential material” means any thing that is relevant to proving a contravention of any provision of this Act

or any subsidiary legislation under this Act (whether or not an offence).

(7) In this section, an authorised person is a police officer, or an auxiliary police officer, of or above the rank of sergeant and authorised by the Commissioner to exercise powers under this section.

(8) To avoid doubt, nothing in this section derogates from the provisions of the Criminal Procedure Code (Cap. 68) or section 201B of the Singapore Armed Forces Act (Cap. 295).".

Amendment of section 47

18. Section 47(2) of the Public Order Act is amended by inserting, immediately after the words "a permit" in paragraphs (a) and (b), the words "or prohibited item permit".

Amendment of section 48

19. Section 48(1) of the Public Order Act is amended by inserting, immediately after the words "a public place,", the words "to air navigation,".

EXPLANATORY STATEMENT

Unmanned aircraft was thought of as either radio-controlled model aircraft or something operated by the military such as a cruise missile. Technological advances have enabled the development of a bigger range of unmanned aircraft that have an enlarged range and scale of operations with many and varied applications in the civilian sector. For example, traffic control, surveying, pesticide application to crops, and firefighting. Such aircraft are referred to by a variety of terms, such as unmanned aerial vehicles or remotely piloted aircraft (RPAs) or more commonly "drones". While similar in characteristics to model aircraft, these machines have capabilities often far surpassing those of model aircraft.

This Bill seeks to amend the Air Navigation Act (Cap. 6) and the Public Order Act (Cap. 257A) to address the threat and risk to security and public safety that the operation of unmanned aircraft in Singapore, in particular RPAs and their systems, poses in Singapore's domestic airspace.

Clause 1 relates to the short title and commencement.

The Bill is divided into 2 Parts. The amendments contained in Part 2 (which relate to the Public Order Act) may be brought into force by the Minister in charge of that Act, viz. the Minister charged with the responsibility for homefront security when the Bill is enacted. The rest of the Bill when enacted may be brought into force by the Minister charged with the responsibility for air navigation.

PART 1

AMENDMENT OF AIR NAVIGATION ACT

Part 1 comprises clauses 2 to 13 with various amendments to the Air Navigation Act.

Clause 2 amends section 2(1) of the Air Navigation Act (called ANA) by introducing several new definitions mainly to support the various amendments relating to RPAs.

These new definitions are “unmanned aircraft”, “unmanned aircraft system”, “remotely piloted aircraft”, “remotely piloted aircraft system” or “RPAS” and “command and control link”.

The term “unmanned aircraft” refers to an aircraft that may be flown or used without any individual on board the aircraft to operate it.

A new definition of “operator” is introduced in relation to unmanned aircraft. This refers to a person engaged in, or offering to engage in, the operation of the unmanned aircraft. Where the unmanned aircraft is a remotely piloted aircraft, this includes also the person who causes the remotely piloted aircraft to fly, and whoever is the person (the remote pilot of the aircraft) with duties essential to the operation of the remotely piloted aircraft, such as manipulating the flight controls as appropriate during flight time, if the remote pilot is not the operator.

The definition of “aviation safety instrument” is also amended to exclude the permit that may be granted under section 7 ANA (as amended by the Bill) for the taking of photographs of protected areas, and the new section 7A (for flying over protected areas). A competent security officer, and not the Civil Aviation Authority of Singapore (CAAS) will be granting these permits.

A “competent security officer” is defined to mean a public officer designated as such by the Minister charged with the responsibility for homefront security.

Clause 3 amends section 2B ANA to confer extra-territorial jurisdiction over persons outside Singapore who operate an unmanned aircraft in a manner which, if taking place in Singapore, would be an offence under the amended section 7 and the new section 7A, 7B or 7C. For example, a remote pilot of an RPA may be situated outside Singapore but cause the RPA to fly into Singapore over a protected area or carrying prohibited material. Maturing technology has enabled the

development of unmanned aircraft that travel at higher speeds and over longer distances.

Clauses 4 and 5 amend sections 3 and 3A ANA, respectively, to provide the CAAS, with the approval of the Minister charged with the responsibility for air navigation, power to make orders and regulations, respectively, in relation to the air navigation in or over Singapore for the safety of air navigation or the protection of public safety or both, and not just to implement the Convention on International Civil Aviation done at Chicago on 7 December 1944.

Clauses 4 and 5 contain amendments to also enable orders and regulations to be made to institute a system of control over the operation of unmanned aircraft which parallels that for manned aircraft, such as equivalents for aircraft registration, airworthiness and maintenance, operator licences and operating rules that seek to provide a level of safety according to the degree of risk to other users of domestic airspace and the general public (indoor or outdoor) posed by the operation of unmanned aircraft.

Sections 3 and 3A ANA are also amended to provide for appeals against decisions of the CAAS under the new section 7C.

Finally, the power in section 3(2)(I) to make an order prohibiting aircraft from flying over such areas in Singapore is clarified as one that is exercisable where necessary or expedient for the safety of air navigation or for public safety or both. This is to distinguish the order from the orders made for the purposes of the amended section 7 and the new section 7A, which deal with areas where overflight must be banned for reasons of security. A similar amendment is made to section 3A.

Clause 6 amends section 4M ANA to make explicit a power for safety inspectors to require a person to attend before a safety inspector for an interview and to answer any question and give a statement. Safety inspectors may or may not be CAAS employees.

The reference to “Director-General of Civil Aviation” is also omitted as it is redundant. By definition in section 2(1) ANA, a safety inspector includes the Director-General of Civil Aviation.

Clause 7 amends the heading of Division 4 of Part II ANA because of the amendments in clauses 8 and 9 which expand the scope of the Division beyond photography.

Clause 8 amends section 7 ANA to deal with certain aerial photography from unmanned aircraft flying around, into or over areas in Singapore declared by the Minister charged with the responsibility for air navigation to be protected areas under the section.

This covers taking a photograph, making a film or a video-recording, and making a recording of images for the purpose of broadcasting or live-streaming the images.

Under the new section 7(2), if an unmanned aircraft carries equipment for taking photographs when flying, and a photograph is taken of the whole or any part of a protected area using that photographic equipment on board the unmanned aircraft, then the operator of the unmanned aircraft, and the person taking the photograph if he or she is not the operator, are each guilty of an offence. The unmanned aircraft need not fly over the protected area; it may be flying around or in the vicinity of the protected area when the photograph is taken from it. The punishment is a fine not exceeding \$20,000 or imprisonment for a term not exceeding 12 months or both. This offence is an arrestable offence.

As strict liability offences are required to promote the highest practicable standards of compliance with security requirements, in proceedings for an offence under the new section 7(2), it is not necessary for the prosecution to prove that an accused knew or had reason to believe that the area is a protected area, or that the aircraft had on board equipment for taking photographs when flying.

However, the accused can escape liability if the accused can prove, on a balance of probabilities, that the photograph of the whole or any part of the protected area using photographic equipment on board the unmanned aircraft was taken not intentionally but because of weather conditions or other unavoidable cause. For example, the unmanned aircraft may be blown off-course by severe weather conditions, the command and control link between the RPA and the RPAS is hacked by a third party and the RPA flight course altered, or the image is taken as a necessary and unavoidable activity for the safe operation of the RPA.

Alternatively, the accused has a defence if the accused can show that he or she has in force a permit from a competent security officer and had, in accordance with that permit, taken, or caused to be taken, any photograph of the whole or any part of a protected area using photographic equipment on board the unmanned aircraft.

Clause 9 introduces new sections 7A, 7B and 7C covering certain prohibited activities using unmanned aircraft. This is to address the threats to public safety and security that may be presented by unregulated operation within Singapore domestic airspace of unmanned aircraft that are larger, have an enlarged scale of operations, carry heavier payloads, and travel at higher speeds and over longer distances.

Under the new section 7A, it is an offence if a person operates an unmanned aircraft to fly, at any height, over any part of any protected area declared under section 7. This offence is an arrestable offence.

Every operator of an unmanned aircraft who contravenes the new section 7A(1) faces punishment of a fine not exceeding \$20,000 or imprisonment for a term not exceeding 12 months or both.

As strict liability offences are required to promote the highest practicable standards of compliance with security requirements, in proceedings for an offence under the new section 7A, it is not necessary for the prosecution to prove that an accused knew or had reason to believe that the area flown over is a protected area.

However, the accused can escape liability if the accused can prove, on a balance of probabilities, that the accused did not intentionally cause the unmanned aircraft to fly over the protected area and that the overflight was not due to any want of reasonable care on the part of the accused.

For example, the unmanned aircraft may be blown off-course into a protected area by severe weather conditions, or the command and control link between the RPA and the RPAS is hacked by a third party and the RPA flight course altered to enter a protected area.

Alternatively, the accused has a defence if the accused can show that he or she has in force a permit from a competent security officer and the overflight was in accordance with that permit.

The new section 7B makes it an offence if a person operates an unmanned aircraft to fly indoors or at any height over any area in Singapore and the unmanned aircraft carries a prohibited item when so flying. The punishment is a fine not exceeding \$100,000 or imprisonment for a term not exceeding 5 years or both. This offence is an arrestable offence.

Prohibited item refers to any weapon, substance or other thing the possession of which (for any purpose) would constitute an offence under the Arms and Explosives Act (Cap. 13), the Corrosive and Explosive Substances and Offensive Weapons Act (Cap. 65) or the Dangerous Fireworks Act (Cap. 72).

Any radioactive material, radioactive substance or radioactive waste within the meaning of the Radiation Protection Act (Cap. 262) and any biological agent, biological agent waste or toxin within the meaning of the Biological Agents and Toxins Act (Cap. 24A) are also prohibited items. The list of prohibited items may be expanded to include other hazardous materials by a notification published in the *Gazette* by the Minister charged with the responsibility for homefront security.

As strict liability offences are required to promote the highest practicable standards of compliance with security requirements, in proceedings for an offence under the new section 7B, it is not necessary for the prosecution to prove that an accused knew that the unmanned aircraft carried a prohibited item when flying.

It is a defence in proceedings for the offence if the accused can, on a balance of probabilities, show that the accused did not know, and could not reasonably have been expected to know, that the unmanned aircraft carried a prohibited item.

The new section 7C makes it an offence if a person operates an unmanned aircraft to fly indoors or at any height over any area in Singapore and the unmanned

aircraft when so flying discharges anything (whether gaseous, liquid or solid). The punishment is a fine not exceeding \$20,000.

However, the new section 7C does not outlaw the discharge of exhaust from an unmanned aircraft during flight.

As strict liability offences are required to promote the highest practicable standards of compliance with public safety and aviation safety, in proceedings for an offence under the new section 7C, it is not necessary for the prosecution to prove that an accused knew or had reason to believe that the unmanned aircraft discharged anything while in flight.

It is, however, a defence in proceedings for an offence under the new section 7C(1) if the accused can, on a balance of probabilities, show that the accused did not intentionally cause the thing to discharge from the unmanned aircraft and the discharge was not due to any want of reasonable care, and that he or she took all reasonably practicable steps to stop or reduce further discharge of that thing from the unmanned aircraft as soon as practicable after discovering the discharge.

Another defence is, if the accused can, on a balance of probabilities, show that the thing escaped from the unmanned aircraft operated by the accused in consequence of damage to the unmanned aircraft and all reasonable precautions were taken by the accused after the occurrence of the damage or the discovery of the discharge for the purpose of preventing or minimising further discharge from the unmanned aircraft. However, intentional damage is excluded; this is defined to mean damage arising in circumstances in which the operator of the unmanned aircraft acted with intent to cause the damage or recklessly and with knowledge that damage would probably result.

Alternatively, it is a defence in proceedings for an offence under the new section 7C(1) if the accused can, on a balance of probabilities, show that he or she has in force a discharge permit from the CAAS and had caused the thing to be discharged from the unmanned aircraft in accordance with that discharge permit.

It is, however, not a defence in proceedings for an offence under the new section 7C(1) if no individual dies or is hurt, or if no property is destroyed or damaged, or no hazard is caused to another aircraft, person or thing, as a result of anything discharged from an unmanned aircraft in flight.

Clause 10 amends section 17(1) ANA to delete the definition of “auxiliary police officer” as the definition is transferred to section 2(1) ANA by clause 2.

Clause 11 amends section 17F(4) ANA to enable the existing aviation security regulations to be amended or revoked from time to time until they are wholly replaced.

Clause 12 amends section 29D(1) ANA to provide that obstruction of a police officer, an auxiliary police officer, a safety inspector or other person authorised

under the new section 29G to exercise special powers in respect of unmanned aircraft is also an offence under section 29D.

Clause 13 inserts a new section 29G setting out special powers with respect to any unmanned aircraft which is reasonably believed to be operated in a manner that contravenes any provision of the ANA or any aviation safety subsidiary legislation, or that poses a serious and an imminent risk to safety of the public. This may include a situation where an RPA is flying very low in a crowded place or too high into the flight path of commercial airlines on scheduled journeys.

The powers are exercisable by a police officer or an auxiliary police officer of or above the rank of sergeant and authorised by the Commissioner of Police, by a safety inspector (who may or may not be a CAAS employee) authorised by the CAAS to exercise the powers under the new section 29G, or an individual with the suitable qualifications and experience and authorised by the CAAS (called the authorised person) to do so.

The powers may be exercised in relation to unmanned aircraft and only for the purpose of preventing further contravention of any provision of the ANA or any aviation safety subsidiary legislation or preventing or stopping any actual or imminent occurrence that endangers or threatens to endanger the safety of the public.

The powers are to direct, without warrant, any person reasonably believed to be involved in the operation of the unmanned aircraft to end the flight of the aircraft, or land it, safely in the fastest practicable way, or to fly the aircraft in the manner specified by the authorised person. For example, the direction may be to fly the unmanned aircraft at a lower height specified by the authorised person.

An authorised person may, without warrant and with such assistance and by such force as is necessary, assume control of any component of the RPAS of which that aircraft is part to end the flight of the remotely piloted aircraft, or land it, safely in the fastest practicable way, or to directly end the flight in the fastest and safest practicable way.

Finally, an authorised person may, without warrant, also seize the unmanned aircraft and any component of the unmanned aircraft system for that aircraft or other thing that the authorised person believes on reasonable grounds either to be evidential material, or needs to be seized to prevent its concealment, loss or destruction, or its use in committing, continuing or repeating an offence under the ANA or any aviation safety subsidiary legislation.

How much of these powers may be exercised by an authorised person will depend on the authorisation granted to him or her. The Commissioner of Police or the CAAS, as the case may be, may when authorising these persons, limit the powers that the authorised person may exercise, including when and where in Singapore the authorised person may exercise them, and the circumstances in which the authorised person may exercise them.

It is an offence if a person directed by the authorised person contravenes the direction without reasonable excuse. The punishment is a fine not exceeding \$20,000 or imprisonment for a term not exceeding 12 months or both. This is similar to the punishment in section 37 of the Public Order Act for contravening a move-on order issued under that Act.

The powers in the new section 29G do not affect the powers under the Criminal Procedure Code (Cap. 68) or the powers of the Singapore Armed Forces under the Singapore Armed Forces Act (Cap. 295), such as those to prevent any aerial threat to the defence or security of Singapore or to prevent the unlawful carriage by air of any weapon, explosive or other dangerous device or substance.

PART 2

AMENDMENT OF PUBLIC ORDER ACT

Part 2 comprises clauses 14 to 19 with various amendments to the Public Order Act.

Clause 14 amends section 20 of the Public Order Act (called POA) by introducing definitions that support the amendments in clauses 14 to 19. The terms “remotely piloted aircraft” and “remotely piloted aircraft system” have the same respective meanings as assigned in the Air Navigation Act. For the purposes of the POA, an “unmanned aircraft” is defined to not include balloons and kites as these are unlikely to present a public order threat.

Clause 15 amends section 26 POA to provide that a person must not use a prohibited item in a way that causes the prohibited item or any part of it (such as a component of the RPAS), something contained in or on the prohibited item, or something produced by the prohibited item, to enter the special event area.

Under section 22(2) POA, items like knives and weapons may be declared (by a notification in the *Gazette*) as prohibited items for the purposes of a special event. Rockets, RPAs and other similar unmanned aircraft may be similarly declared to be prohibited items.

Once so declared, a person operating an electronically controlled model plane or an RPA in a way that it may enter a special event area will be guilty of an offence under the new section 26(2A) POA. The punishment is a fine not exceeding \$20,000 or imprisonment for a term not exceeding 12 months or both.

The exception is where a person has in force a prohibited item permit from the Commissioner of Police and who, in accordance with that permit, uses a prohibited item in a way that causes it, something contained in it or on it or something produced by it, to enter the special event area.

Where the prohibited item is an unmanned aircraft, it is a defence in proceedings for the offence if the accused satisfies the court, on a balance of

probabilities, that the accused did not intentionally cause the unmanned aircraft to fly into or over the special event area and that the overflight was not due to any want of reasonable care on the part of the accused.

However, in proceedings for an offence under section 26(3) for failing to comply with the new section 26(2A), it is not necessary for the prosecution to prove that an accused knew or had reason to believe that an area is a special event area.

Finally, the intention of section 26 POA is not to impose restrictions on everyday activities within homes, workplaces or schools that are in a special event area, but to address activities that may pose a security or public safety threat to persons at the special event. There is therefore an additional defence of lawful excuse for possessing a prohibited item like loud hailers, aerosol paint containers and flags. For example, a motor repair workshop within a special event area would legitimately have aerosol paint containers for their work. However, a lawful excuse could exist in countless other scenarios. Since the person using the prohibited item knows why he or she is using the item, the accused is put in the position to prove that lawful excuse.

Clause 16 extends section 32 POA to make it an offence if a person (whether in or outside a special event area) operates an unmanned aircraft in a manner, that disrupts, interferes with, delays or obstructs the conduct of a special event, or any activity associated with the special event, or that interferes with the reasonable enjoyment of a special event, or an activity associated with the special event. The punishment is a fine not exceeding \$20,000 or imprisonment for a term not exceeding 12 months or both.

An accused may escape liability for the offence under the new section 32(2) if the accused can, on a balance of probabilities, show that the accused did not intentionally cause the unmanned aircraft to fly in a manner, that disrupts, interferes with, delays or obstructs the conduct of a special event, or that interferes with the reasonable enjoyment of a special event, or an activity associated with the special event, and that the flight was not due to any want of reasonable care on the part of the accused.

For example, there can be severe weather conditions that may blow the unmanned aircraft off-course, or the command and control link between the RPA and the RPAS is hacked by a third party and the RPA flight course altered.

Clause 17 introduces a new section 32A POA setting out special powers with respect to any unmanned aircraft which is reasonably believed to be operated in a manner that contravenes section 26 or 32 POA as amended, or that poses a serious and an imminent risk to security or safety of persons lawfully attending a special event. This can include a situation where an RPA is flying very low into the crowds at a special event or without the authorisation of a prohibited item permit.

The powers are exercisable by a police officer or an auxiliary police officer of or above the rank of sergeant and authorised by the Commissioner of Police to exercise the powers under the new section 32A. The powers may be exercised by any of these officers in relation to the unmanned aircraft only for the purpose of preventing further contravention of section 26 or 32 or preventing or stopping any actual or imminent occurrence that endangers or threatens to endanger the security or safety of persons lawfully attending a special event.

The powers are to direct any person reasonably believed to be involved in the operation of the unmanned aircraft to end the flight of the aircraft, or land it, safely in the fastest practicable way, or to fly the aircraft in the manner specified by the police officer or auxiliary police officer. For example, the direction may be to fly the unmanned aircraft at a lower height specified by a police officer.

A police officer or an auxiliary police officer may, without warrant and with such assistance and by such force as is necessary, assume control of any component of the RPAS of which that aircraft is part to end the flight of the remotely piloted aircraft, or land it, safely in the fastest practicable way, or to directly end the flight in the fastest and safest practicable way.

Finally, a police officer or an auxiliary police officer may also seize the unmanned aircraft and any component of the unmanned aircraft system for that aircraft or other thing that the police officer or auxiliary police officer believes on reasonable grounds either to be evidential material, or needs to be seized to prevent its concealment, loss or destruction, or its use in committing, continuing or repeating an offence under the POA.

How much of these powers may be exercised by a police officer or an auxiliary police officer will depend on the authorisation granted to him or her. The Commissioner of Police may when authorising these officers, limit the powers that the police officer or auxiliary police officer may exercise, including when and where in Singapore the police officer or auxiliary police officer may exercise them, and the circumstances in which the police officer or auxiliary police officer may exercise them.

It is an offence if a person directed by the police officer or auxiliary police officer contravenes the direction without reasonable excuse. The punishment is a fine not exceeding \$20,000 or imprisonment for a term not exceeding 12 months or both.

The powers in the new section 32A POA do not affect the powers under the Criminal Procedure Code or the powers of the Singapore Armed Forces under the Singapore Armed Forces Act such as those to prevent any aerial threat to the defence or security of Singapore or to prevent the unlawful carriage by air of any weapon, explosive or other dangerous device or substance.

Clause 18 amends section 47(2) POA to enable regulations to be made to deal with applications for and the process for granting a prohibited item permit for the purposes of the new section 26(2A).

Clause 19 amends section 48(1) POA to provide that the provisions of the POA apply despite provisions in the law relating to air navigation. For example, even if an RPA operator is granted by the CAAS a discharge permit to discharge confetti from its RPA as part of its commercial operations, the operator must still obtain a permit from the Commissioner of Police under the POA if the RPA is to be used to discharge confetti at a special event within the special event area.

EXPENDITURE OF PUBLIC MONEY

This Bill will not involve the Government in any extra financial expenditure.
