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# ROYAL AUSTRALIAN AIR FORCE

Headquarters No 84 Wing

BP8099648

CDR AMG

(Through OC 84WG

s47E(c)

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## For information:

Sir, As a CDS load, PCADS can be employed now but a CDS profile in a firefighting environment will require specific training and risk management. If PCADS is considered viable, I'd recommend seeking the s33(a)(iii)

DG ACE

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DA THAILAND

OC 86WG

SOCD AMG

## ROYAL THAI AIR FORCE AERIAL FIREFIGHTING EXERCISE – POST ACTIVITY REPORT

### PURPOSE

1. s33(a)(iii)

### BACKGROUND

2. s33(a)(iii)

Two observers from the Australian Embassy (Defence Attaché and Defence WOFF) and one from 84WG (ex C-130J-30 Captain) attended the activity.

### FIREFIGHTING IN THAILAND

3. s33(a)(iii)

### PCADS

4. **System description.** PCADS is designed by Flexible Attack Innovations (FAI) and consists of a four cubic foot cardboard box containing a 1000 litre biodegradable bladder

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designed to deliver water, firefighting gel or fire retardant. The system is designed to interface with the aircraft roller and rail system fitting on an A22 size skid board (provided by FAI). PCADS is delivered utilising established Container Deliver System (CDS) airdrop procedures from a nominal 500 feet above ground level (AGL) but can be delivered between 250-1000 feet AGL. Once the container departs the aircraft the lid of the system is removed by the airflow, this in turn pulls on straps that tears both the box and bladder open spilling its contents over the designated area. s33(a)(iii)

5. **Dispersal patterns and safety.** s33(a)(iii)

By comparison, the Modular Airborne Firefighting System II (MAFFS II) has a similar dispersal pattern but from a much lower altitude of 150-200 feet AGL. Flexibility of increased drop height over other firefighting systems increases safety margins in an already dynamic environment. Severe turbulence, extreme winds and poor visibility can regularly be encountered when near a large bushfire. A dispersal pattern comparison between different systems is shown at Annex B.

6. s33(a)(iii)

The completed PCADS can be stored for allowing them to be prepared well before fire season ready for immediate response when required. s33(a)(iii)

7. s33(a)(iii)

8. Caylpm Technologies International offer a similar system called Guardian. In 2016, CAF was provided a brief (J3641481) on fixed wing firefighting capabilities available to Air Mobility Group (AMG) that included the Guardian system.

9. **Cost.** The systems individual unit price is unknown but included in each unit are all the components required to build a PCADS bundle including the skid boards. Annual sustainment cost of the system is unknown.

**APPLICABILITY TO RAAF**

10. PCADS can be employed on any platform currently certified to conduct CDS aerial delivery. The C-27J Spartan, C-130J-30 Hercules or C-17A Globemaster III could all conduct aerial firefighting utilising PCADS. Loads varying from 6000 to 40000 litres could be delivered dependent on aircraft type. PCADS has an ATTLA clearance for carriage in C-130J-30 and C-17A. Prepared PCADS bundles could be stored at RAAF bases around the

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<sup>1</sup> s33(a)(ii)

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country ready for immediate use as required. s33(a)(iii)

## CONCLUSION

12. s33(a)(iii)

There is a training burden, albeit minimal, associated with the use of PCADS but the RAAF could employ the system for use on CDS capable platforms. The capability impact of using RAAF aircraft for firefighting and the potential for PCADS to damage infrastructure or injure/kill wildlife or personnel would require careful risk mitigation.

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### Annexes:

- A. s33(a)(iii)
- B. PCADS dispersal pattern comparison
- C. s33(a)(iii)

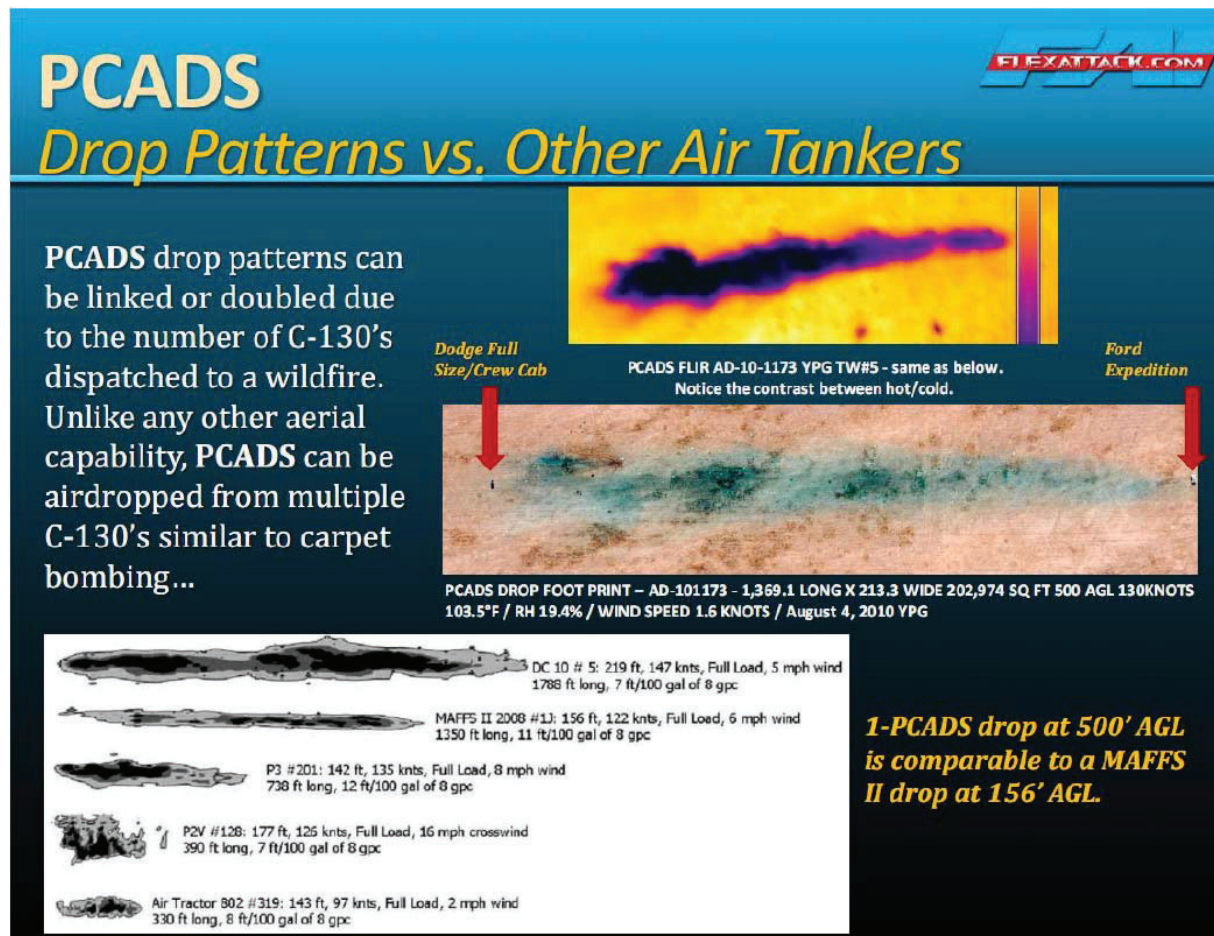
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ANNEX B



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## AERIAL FIREFIGHTING

### Key Points

- The Australian Defence Force (ADF) is able to support the states and territories, within resource limitations, in accordance with Defence Assistance to the Civil Community arrangements as part of a Whole of Government response, where state or territory capacity or resources do not exist or are not available in sufficient time.
- Air Force Air Mobility aircraft (C-130J, C-27J, C-17) **have been** used extensively used to support firefighting efforts including supply of equipment, evacuation and movement of people, food, and reconnaissance.

### Talking Points

- The state and territory Governments have primary responsibility for the protection of life, property and the environment, and for coordinating and planning emergency responses or recovery actions in disaster affected areas within their jurisdiction.
- During a natural disaster, all requests for Defence assistance, are made by the affected State or Territory through Emergency Management Australia to the Federal Government.
- Defence regularly supports Aerial Firefighting by providing base facilities and support services for the firefighting aircraft leased for this purpose.
- The Air Force does not have an aerial firefighting capability.
- The modification of existing aircraft for firefighting and conduct of aerial fighting, **would** significantly reduce the Air Force capacity for movement of people and equipment necessary to support firefighting efforts, or any other Humanitarian Assistance and Disaster Relief callouts.
- An analysis of these aerial firefighting options in Australian conditions **would** be essential and specialist advice from agencies including Emergency Management Australia, Rural Fire Service and the National Aerial Firefighting Centre **would** be required to support this assessment.

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## AERIAL FIREFIGHTING

- The cost to acquire and sustain an Air Force aerial firefighting capability **would** take further analysis including the associated personnel, facilities, support, supplies and training requirements.
- Due to lead times for procurement, aircraft modification, training and certification, an Air Force aerial firefighting capability **would not be** available for the current fire season.
- The Australian Defence Force (ADF) continues to work with emergency services, to assist with firefighting efforts
- **[refer to QB on ADF Assistance for Natural Disasters for details of ADF support]**

### Overview of recent or significant events, and media interest timeline

Date	Event
04 December 2019	The Mercury – New Defence fire-force call – <i>“Andrew Wilkie is doubling down on calls for Defence to build specialist aircraft to bolster Australia's firefighting arsenal. The federal member for Clark urged the Morrison Government to develop a specialist RAAF heavy aerial firefighting capability in Question Time yesterday”</i>
Dates Various	Numerous articles regarding ADF support to bushfires

## Background

- Nil

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## AERIAL FIREFIGHTING

### Contact and Clearance Officer

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