INTEGRATION OF UAVS
INTO UK AIRSPACE

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CIVIL AVIATION AUTHORITY
## Integration of UAVS Into UK Airspace

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### Report Date
02 SEP 2003

### Report Type
N/A

### Dates Covered
-

### Title and Subtitle
Integration of UAVS Into UK Airspace

### Performing Organization Name(s)
CAA-DAP, UK

### Distribution/Availability Statement
Approved for public release, distribution unlimited

### Supplementary Notes
See also ADM001676, UAV 2002 conference & Exhibition., The original document contains color images.

### Security Classification
- Report: Unclassified
- Abstract: Unclassified
- This Page: Unclassified

### Limitation of Abstraction
UU

### Number of Pages
23

### Responsible Person
unclassified

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Standard Form 298 (Rev. 8-98)
Prescribed by ANSI Std Z39-18
AIM

To inform the conference of the ongoing work by DAP to integrate UAVs into all classes of UK Airspace
UAV OPERATIONS

- UK Airspace
- Integrating UAVs with other airspace users.
  - UAV Operations in UK Airspace Guidance Doc
  - Sense and Avoid Criteria
UK Airspace

UK Sovereign airspace
UK Airspace

- UK Controlled Airspace (CAS)
UK Airspace

Examples of airspace divisions outside CAS
DAP Living Definition

“An aircraft which is designed, or modified, not to carry a human pilot and is operated under remote or autonomous control.”
FIRST UK UAV FLIGHT

1848 Chard Somerset
John Stringfellow

Without CAA Approval
Key Players

Operations Steering Group – Meets 6 Monthly

Operations Working Group – Meets 3 Monthly

Includes experts from MOD (including Defence Procurement Agency), Unmanned Aerial Vehicle System Association (representing industry), other military and civil members and airspace regulators

It will point the reader to the appropriate documentation, regulatory authority or policy makers according to their needs.

www.caa.co.uk/dap
UAV Operations in UK
Airspace - Guidance

• Operator Qualifications
  • UAV Commander
    • Overall responsibility
    • May command more than one UAV
  • UAV Pilot (UAVp)
    • Actively exercises remote control for non-autonomous flights, or monitors autonomous flights
UAV Operations in UK
Airspace - Guidance

Airspace Principles
...operate within existing arrangements.
...no automatic right of airspace use..
...equivalent level of compliance...
...no increased risk to existing users..
...initially flights outside Danger Areas will be in temporary segregated airspace.
...provision of ATS must be transparent to the controller...callsign to include “Unmanned”
UAV Operations in UK
Airspace - Guidance

General Principles - Outside Danger Areas

...ATC comms continuously monitored...

...Vehicle Operator must be able to take immediate control...

...special equipment mandated for airspace must be carried...
UAV Operations in UK

Airspace - Guidance

General Principles - Outside Danger Areas

...an approved method of aerial collision avoidance is required...

...an approved method of terrain clearance is required...

...Standard Operating Procedures required..

...comply with the IFR or VFR as they affect manned aircraft - they may not fly VFR in IMC even with non-visual collision avoidance...
UAV Operations in UK

Airspace - Guidance

The CAA will consider any applications for “one-off” demonstration or proving flights outside the Danger Area structure.
Next Steps:

- Develop guidance in areas where it is lacking
  - Continue to address the “Sense and Avoid” issue
  - Await applications for UAV flights
Top Tip

Manufacturers should not base their collision avoidance system on equipment currently fitted to other aircraft - they cannot wholly rely on an SSR-based system.
The CAA anticipates the need for UAV integration in all classes of UK airspace - guidance and regulation for both civil and military will go hand in hand, wherever possible.