

# Appendix B

## OSMC Recommendation No: 51

**The Civil Contingencies Manager should investigate the utility of unmanned aerial vehicles (UAVs) in the response to flooding and other emergency incidents. A report setting out the findings should be returned to the Overview and Scrutiny Management Commission by June 2015.**

### 1. Background.

During emergencies it is very useful to get an overview of the areas affected in pictures or videos thus allowing responders to prioritise areas to support.

These pictures are often provided by those officers from the Council of other responding agencies in the area sending information. In addition residents send pictures into the Council to inform of the current situation. In order to get a more 'birds eye' view of a larger area during the floods in 2007 and again in 2013/14 requests were made to Thames Valley Police for their helicopter to fly over specific areas to allow for this visual picture to be provided.

All of the above are useful tools to use during any incident however certainly in the case of the later the use of it is very dependent on the priorities of the police force at the time.

Hence the recommendation to consider other options.

### 2. Considerations.

There are a number of rules in relation to Unmanned Aerial Vehicles with respect to Civil Aviation Authority (CAA)<sup>i</sup> Rules which include:

- a. You can fly a small UAV of up to 20kg in weight with no prior permission needed so long as you abide by the restrictions:
  - You cannot fly over or within 150m of a congested area;
  - You cannot fly over or within 150 m of an assembly of more than 1000 people;
  - You cannot fly within 50m of any vessel, vehicle or structure not under your control
  - You cannot fly within 50m of any person.

As a result in part due to these limitations and due to the quality of the footage provided this would not be an option for the Council to follow.

- b. If you wish to fly the UAV for commercial work, over people or property then permission must be provided by the CAA.

This is the work most likely to be required by the Council in emergency response mode or indeed for any other Council requirements and therefore the permission required includes:

- An evidence manual detailing the practices and procedures
- Evidence of airmanship skills and awareness
- Evidence of the ability to operate the UAV safely.

As a result this would be intensive for the Council to operate a UAV for its own purposes.

### **3. Other issues with respect to the Council owning a UAV include:**

a. Costs:

- i. The cost of the UAV – to get stability of the UAV and quality of pictures the costs of a UAV are in the region of £10000.00– prohibitive for the Council on the number of times it would be used.
- ii. Insurance costs due to the nature of the work
- iii. Training of staff – there are a number of competencies that the Council Officers would have to comply with in relation to skills to use the UAV. In addition a number of officers would have to be trained in order to not have a single point of failure in an emergency situation. For the CAA to give a company permission the Pilot(s) needs to go through a training course to learn the theory side of UAV flying. The theory training and examination cost £1050 per Pilot.  
The Pilot(s) then need to undertake a practical flight examination at a cost of £350 per Pilot with a renewal fee of £75 per pilot per year.  
The CAA will then process this application to provide the Permission for Aerial Work at a cost of £226, and £113 per year after.  
Alongside this the Pilot(s) need to spend hours practically flying the UAV to train before the practical flight examination takes place.

b. Maintenance of the data and security of the information.

c. Maintenance of the equipment – there is a regime of maintenance that is required which is intensive due to the nature of the equipment.

### **4. Alternatives to purchasing a UAV.**

There are a number of companies locally, one of which we have used in the past, who undertake this work who regularly do this type of work, have all the equipment and comply with all the CAA rules and therefore could provide the service to the Council. Contacts out of hours are available to assist in requests outside normal office hours.

The charges would be in the region of £150.00/hour which is substantially more cost effective for the Council at this stage due to the number of times the equipment is used.

There are still limitations with the use but these are practicalities in relation to line of sight, maintaining sight of the UAV and a 1km radius of operation from the operator. However it can fly at approx 122m (400ft) and provide good images (in 2013 footage was taken of Northcroft Park from ~ 92m (300ft) with good results.

## **5. Summary & Recommendations.**

Having reviewed the options and undertaken a cost analysis and resource comparison it is recommended that:

- a. The Council does not purchase a UAV but maintains on a database at least one company which is CAA approved to be contacted whenever an emergency requires visual information, including 24hour contact details.
- b. A protocol is considered as to what the Council would and would not use the data for and how it would use, share and store the data obtained.

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<sup>i</sup> <http://www.caa.co.uk/default.aspx?CATID=1995>