SCOTTISH POLICE AUTHORITY

Meeting	**Public SPA Board Meeting**
Date	**Tuesday 19 December 2017**
Location	**City Suite, Apex City Quay, Dundee**
Title of Paper	**Unmanned Aerial Vehicles (UAVs)**
Item Number	**6.3.3**
Presented By	**DCC Johnny Gwynne**
Recommendation to Members	**For Noting**
Appendix Attached	**No**

PURPOSE

The purpose of this paper is to update the members of the Scottish Police Authority in relation to the ongoing work to deploy Unmanned Aerial Systems as part of the current Air Support function.

1. BACKGROUND

1.1 Currently Police Scotland has a single air asset based at the Air Support Unit in Glasgow. The current aircraft is an H135 T3 helicopter which services the whole of Scotland. Weather has a major influence on the aircraft's ability to fly and this, combined with Scotland's challenging geography can occasionally mean that the aircraft is unable to reach certain parts of the country.

1.2 In addition, although seen as a vital asset, the helicopter operates at significant cost. Police Scotland Air Support Unit proposes to purchase two 'commercial, off the shelf' (COTS) Unmanned Aerial Systems (UAS) and associated equipment, basing them in Aberdeen and Inverness. The overarching aim is to enhance the current air support function and reduce costs.

2. FURTHER DETAIL ON THE REPORT TOPIC

2.1 The UAS in Aberdeen and Inverness would be deployed by the Operational Support Units (OSU) based at these locations, the rationale being that these units have significant responsibility in relation to missing person, crime and defensive searches as well as public order and CBRN incidents. POLSA requirements in both Aberdeen and Inverness are provided through the OSU and officers from these areas would be the main users of the UAS, primarily for missing person searches which take place on an almost daily basis.

2.2 Significant research has taken place including regular contact and visits to other police forces who are currently utilising this technology. A consultation paper was issued to the heads of departments within Police Scotland and there was overwhelming support from all parts of the organisation for the operational deployment of Unmanned Aerial Systems.

2.3 These systems can be deployed in a number of business areas which would be of significant operational benefit. This is particularly the case during the search for missing persons, one of the most demand-intensive areas of police work and one in which the deployment of UAS would be of significant benefits in searching for and locating some of the most vulnerable people in our communities. In addition, Road Policing, Armed Policing, Public Order, Crime Scene Analysis and Local Policing will all benefit from the introduction of these systems.

2.4 In the first instance these systems are designed as an overt policing tool and are not, at least initially, intended to be used for covert surveillance other than in extremis.

2.5 The governance of the project and any future developments will be the responsibility of the ACC Operational Support and delivered through the Air Support Unit and Specialist Operations Superintendent.

2.6 In addition to purchasing systems, a collaborative effort has begun involving Police Scotland and The University of Glasgow Aerospace Sciences Research Division. This work will involve 4th year students and will include the design and construction of a bespoke unmanned system for Police Scotland Air Support Unit to deploy in an operational environment. The aim of this collaboration is to conduct experimental and developmental work to examine the full potential of unmanned systems in an operational emergency services environment. The further aim is to develop new sustainable technology which will in turn lead to a more effective service delivered to the people of Scotland. This work is firmly in line with the Police Scotland 2026 objectives.

2.7 A further collaboration involving The University of the West of Scotland is currently being developed and the aim of this is to examine sensor technology including intelligent computer systems and thermal imaging, a key tool utilised in the search for missing people and a variety of other operational tasks. It is hoped that this work will feed into the operational systems and improve their capabilities.

2.8 The aim is to have all training and procurement work completed and for the unmanned systems to be deployed operationally in March 2018.

3. FINANCIAL IMPLICATIONS

3.1 There are financial implications in this report.

3.2 The following details the capital costs at this stage for the unmanned systems and all the necessary support functions and equipment which will be required to deploy operationally.

Equipment	**Cost (£)**
2 x Unmanned systems, cameras and ancillaries (estimate)	100,000
3 x Training unmanned systems and ancillaries (actual cost)[1]	4,867.63
Training courses (estimate)	8,640
Police vehicles including adaptations (estimate)	66,000
CAA Permissions (estimate)	1,211
CAA permissions renewal (annually)	130
Total	**180,848.63**

3.3 Invitations to tender for the training courses and for the purchase of the operational UAS are currently on the Public Contracts Scotland website with a submission date for replies of Monday 4th December. These bids will be evaluated as soon as possible and a week has been set aside in early January to allow prospective suppliers a chance to demonstrate their systems to Police Scotland before a contract is awarded. It is hoped these systems will be delivered in February 2018.

3.4 The award for the training courses is expected to be made within days of the final submissions with the intent that training will begin in the early part of 2018.

3.5 It is anticipated that savings can be made by deploying an unmanned system as opposed to the helicopter. Currently only certain tasks can be performed by a UAS however as technology advances this will undoubtedly change.

[1] The training systems do not have a multi-sensor camera, including thermal imaging, are not weatherproof, cannot fly in the rain and have limited redundancies making these systems not be appropriate for certain operational environments. These additional requirements add to the cost, in particular the multi-sensor camera.

3.6 Once the initial set-up costs are met the ongoing yearly outgoings are expected to be minimal and these will include fuel for the vehicles, servicing for the systems, CAA permissions and refresher training for the operators.

4. PERSONNEL IMPLICATIONS

4.1 There are personnel implications associated with this paper.

4.2 The introduction of the unmanned systems is being coordinated by the Air Support Unit and a process to select suitable officers for training has commenced. These officers will be drawn from the current Operational Support Units in Inverness and Aberdeen.

5. LEGAL IMPLICATIONS

5.1 There are further legal implications in this paper to those listed above.

5.2 All unmanned operations will strictly adhere to aviation law as well as those permissions granted to Police Scotland by the Civil Aviation Authority (CAA). A robust Operating Safety Case and Operations manual are in the process of being drafted and these will form the backbone of an application for commercial operations which will be made to the CAA. In addition, a Privacy Impact Assessment will be carried out and all requirements in relation to data security including the new General Data Protection Regulations (GDPR) will be met.

5.3 The systems are primarily intended, at least initially, for overt use and therefore RIPSA will not normally apply unless used in extremis (in accord with RIPA and RIPSA). Any sustained change to this will be communicated and will of course adhere to the relevant legislative requirements.

6. REPUTATIONAL IMPLICATIONS

6.1 There are reputational implications associated with this paper.

6.2 Any project or set of new processes that potentially involves gathering personal information may give rise to privacy concerns from the public. Given the potential risks around public perceptions surrounding privacy, a privacy impact assessment will take place and this document along with positive media engagement is a method by which to alleviate any public concerns for the use of this relatively new technology.

6.3 Feedback received during the research and consultation with other forces who currently utilise unmanned systems has shown that early engagement with local communities and media has resulted in positive feedback from members of the public and has bolstered public confidence in policing.

6.4 An internal and external communications strategy has been instigated and there will be an appropriate media release prepared in advance of any operational deployment.

6.5 The aim of deploying UAS is to enhance the current air support function and to have a positive impact on the communities which Police Scotland serves. This will demonstrate that Police Scotland is determined to offer the best possible service to the people of Scotland, more often when they are most in need such as in the case of missing persons. The UAS would be an overt asset and as such would be seen regularly in the public domain thereby supporting positive engagement with the public.

7. SOCIAL IMPLICATIONS

7.1 There are no social implications associated with this paper.

8. COMMUNITY IMPACT

8.1 There are positive community implications associated with this paper.

8.2 The unmanned systems will allow Police Scotland to provide an enhanced air support function to the public and partners. Police Scotland will be seen to be developing new, innovative and bold techniques to perform one of their main functions, that of protecting life.

8.3 The unmanned systems will provide an air support function in areas of the country where it can occasionally be problematic to service. These systems are not intended to replace the helicopter but they will provide initial air support and in certain circumstances negate the need for the helicopter to attend.

8.4 The officers utilising the systems will do so in an overt manner and will be encouraged to engage with the communities in which they will operate. A robust communications strategy will be employed and social media will also be used to highlight to the public where the systems are deployed with the aim to be as transparent and open as possible.

8.5 A full privacy and community impact assessment will take place prior to operational deployment.

9. EQUALITIES IMPLICATIONS

9.1 There are equality implications associated with this paper.

9.2 An Equalities Impact Assessment will be undertaken prior to the operational deployment of the unmanned systems.

10. ENVIRONMENT IMPLICATIONS

10.1 There are environmental implications associated with this paper.

10.2 The UAS are powered by batteries and these will be charged either in police premises or alternatively the vehicles are being designed to charge the batteries from the engine. Work will continue to look at alternative power supplies including solar, as technology develops. The systems will also be subject to the appropriate tasking and coordinating procedures to ensure that the carbon footprint is kept as low as possible.

10.3 As the operational deployment of the unmanned systems progresses it may result in a reduction in the flying hours of the helicopter. This will in turn reduce the environmental impact as less jet fuel will require to be used during deployments. In addition to this the UAS are significantly quieter than a helicopter, the result being a reduction in noise pollution.

10.4 The Air Support Unit has strong links with National Air Traffic Services (NATS) and this relationship will ensure that the UAS are operated within the CAA guidelines and will be fully compliant with air navigation law relating to unmanned aerial systems. This will mitigate the risk of conflict between general aviation (GA) and unmanned aerial systems.

10.5 In addition, with rigorous CAA approved training and with the forthcoming planned legislative changes Police Scotland will maintain a high standard of safety in terms of UAS operations and this will also include aircraft registration.

RECOMMENDATIONS

Members are requested to:

Note the information contained within this report.