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David R. Neel (U) SUBJECT: Potential for Nefarious Use of Unmanned Aerial Vehicles (UAVs)

(U) UAVs can provide first responders, private industry, or government agencies with multiple advantages; from providing aerial imagery, use as a communications relay platform in remote areas, infrared (IR) detection during search and rescue operations, or monitoring the movement of a wildfire; UAV applications have only the limitations of the imagination. Within the year, the FAA must allow any "government public safety agency" to operate a UAV weighing 25 pounds or less, as long as certain conditions are met. The FAA predicts that after they allow commercial use of drones in U.S. airspace, 15,000 of the flying robots will be in the skies by 2015, and double that by 2030.

(U) Often, what benefits legal use of a tool has an equalizing balance of adding a burden to society when that same technology is used with nefarious intent. Unlawful use of UAV technology will be as diverse as the proposed legitimate applications. Criminal individuals and organizations will quickly identify the legal and operational gaps in law enforcement response to such an asymmetric vector. Additionally, criminals will recognize the initial legal and privacy constraints for law enforcement use of UAVs, and seek to exploit those boundaries. Terrorists will also understand the implications of a potentially low-cost, low-risk delivery of a kinetic attack on buildings, persons, or other manned aircraft. Individuals will also have the readily available, non-attributable means to stalk, spy, eavesdrop, or facilitate retribution violence or destruction of public or private property.

(U) Criminal use of UAVs will include, but not limited to:

- Circumventing checkpoints to move contraband
- Surveillance of law enforcement operations
- Jamming of law enforcement communications
- Act as an airborne communications repeater for "secure" communications
- Electronic eavesdropping platform for government/military/economic espionage
- Fish and Game guiding violations
- Kinetic attacks

(U) Potential for miss-use of this platform is great. Additionally, wrong-doers or those who believe that UAV use is violating their Privacy or Civil Rights-Civil Liberties, will seek ways to defeat, destroy, disable, or misappropriate (steal) UAV's that are conducting legal or commercial missions. New technologies, tactics, techniques and procedures will emerge to support this, and must be anticipated. There are already documents available on the open internet identifying "How to Kill UAVs." This also plays into current negative media coverage of the use of "drones" in the United States.

(U) Legislative bodies and policy makers, law enforcement leadership, and regulatory authorities need to begin now to anticipate how this UAV/UAS technology will be used for criminal activity and pass the appropriate legislation, develop effective operational countermeasures, and identify investigative strategies.

David Neel is the DHS Intelligence Officer assigned to the State of Alaska. This paper represents his personal viewpoint and should not be construed to reflect an official position by the U.S. Department of Homeland Security or the State of Alaska.

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