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Chapter 1

Unmanned Aircraft Operations in the Energy and Mining Industries: An Overview of the Legal and Regulatory Landscape

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Synopsis

§ 1.01. Introduction.

In recent years, the combination of improved capabilities and reduced cost has made the use of unmanned aircraft systems (UAS) an attractive technology for a wide range of commercial and industrial applications. Once the exclusive province of the military and hobbyists, UAS (commonly known as "drones") are now being used for motion picture and television filming and general aerial photography, surveying and mapping, monitoring and inspection of vertical and linear infrastructure, such as oil rigs and pipelines, and large scale landscapes such as surface mines and farm land. Some envision the use of UAS to deliver packages and pizza, and are actively pursuing research and development to that end.

Although the technology is readily available and increasingly inexpensive, the operation of UAS within the National Airspace System — which for UAS means pretty much anywhere out-of-doors — requires compliance with (or exemption from) Federal Aviation Administration (FAA) regulations and implicates a number of other legal considerations. As can be expected with the opening of any new technological frontier, a conflict has arisen between the goals of commerce and those of government. Businesses are looking to maximize the commercial uses of UAS and expedite innovation. Although federal, state and local governments share the interest in promoting economic growth, they are also responsible for ensuring national security and public safety and are increasingly under pressure to address concerns about individual privacy as well. This chapter will provide an overview of the developing legal and regulatory landscape for the use of unmanned aircraft in commercial applications in the United States, in particular in the energy and mining sectors.

§ 1.02. Unmanned Aircraft Systems.

Unmanned aircraft come in many shapes and sizes depending on their function. UAS used in military applications, such as the "Predator" drone, can be as large as manned aircraft and capable of carrying (and delivering) large payloads. At present, unmanned aircraft used in the commercial sector are typically much smaller, and are similar in size and appearance to the kinds of "model" aircraft used for recreational purposes and available for purchase at many hobby shops and retail electronic stores (although often employing substantially more sophisticated technology). As discussed below, for regulatory purposes, the FAA defines a "small" UAS as one that weighs less than 55 pounds.[1] This category covers most UAS currently used in commercial and industrial applications and accommodates the use of cameras or sensing equipment on the aircraft. This chapter will focus on the small UAS category.

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1 FAA Modernization and Reform Act of 2012, 49 U.S.C.A. § 40101 Sec. 331. Definitions (6).