Harrison Pierce

Mission Selection Assignment

**Mission 1**

For this mission, the most suitable drone option is B. The Phantom 4 has a solid camera and is bundled with 2 extra batteries for additional flight time when filming outdoor events. Typically, one battery at full capacity will last almost 30 minutes in air, which for many sports games would not be enough for the total duration which is where the extra batteries are necessary. Additionally, the price at $2200 all in means that it would be cheaper than the inspire 1 when bundled with a camera and significantly cheaper than the Matrice v2 making it the best choice for the job.

**Mission 2**

For mission 2, the best drone option is A, the Inspire 1. When inspecting windmills, there needs to be plenty of battery considering the job requires significant fuel when tackling it via the traditional method. Additionally, being that the windmill is likely placed in a location with high winds, a heavier drone like the Inspire should be able to handle winds better than for example the Phantom 4. Though it is priced higher than the Phantom, the 10 batteries included means there is more than enough flight time to complete the job.

**Mission 3**

Due to the large-scale nature of this mission, the best option for the job is again the Inspire 1. Plenty of battery and a decent megapixel count means a lot of flight time to cover the entire farm and a picture that won’t become pixelated when zoomed in digitally.

**Mission 4**

The clear best fit for this mission is the DJI Matrice v2 with option 2 (Zemuse XT2r) due to its ability to best detect alligators through thermal hot spots. Additionally, the drone package includes 8 batteries and would last enough time for the potentially large areas being surveilled. Though expensive, the Zenmuse XT2r is really the only option for this job because of its unique thermal camera.