Regarding Title 38 of the Rules of the City of New York

The NYPD amended Title 38 of the Rules of the City of New York by adding a new Chapter 24. This has established a permitting process for the take-off and landing of unmanned aircraft, including drones. This paper will serve to briefly outline the seven sections in Chapter 24 and highlight what areas are in need of review, further consideration, or have been entirely overlooked or absent. Essentially, focusing on enhancement of sections Three and Five.

- Section One: defines key terms relevant to the permit application process
- Section Two: when a permit is required
- Section Three: establishes an application process for permits and details some of the drone operator's operational and drone deployment prerequisites
- Section Four: details reasons for disapproval of applications and the appeal procedure
- Section Five: details the conditions under which the operator must comply to be issued a permit to fly
- Section Six: Insurance requirements
- Section Seven: Fines and penalties

To understand the scope and magnitude of what is coming to NYC and other cities around the USA and the world, consideration must first be given to what is required to fly a piloted aircraft over and around a city. Then we will delve into the new concept of flying an unmanned aircraft in and around the towering buildings and skyscrapers that make up the walls of our metropolis, and how this all pertains to the NYPD permitting process.

Everyday professional aviators, flying small or large aircraft, perform the same steps every time they go out to fly…or at least they should. They check the weather at their destination and alternate(s), they figure out how they will depart they airport where they are located and determine the best route to where they want to go. Then they determine the best way to arrive into the destination airport. The takeoff and landing performance of the aircraft must be calculated (take-off/land distance, crosswind limits, fuel used, weight and balance, etc.). Lastly, a flight plan may need to be filed. To keep this non-technical, I will simply say there are two different set of rules and guidelines to follow depending on the weather. If the weather is clear and mostly without clouds or rain, then they can follow Visual Flight Rules (VFR). If they can't stay clear of clouds and or visibility is obstructed, then they must follow Instrument Flight Rules (IFR).

Fundamentally, VFR and IFR are rules designed to keep aircraft from flying into terrain, buildings, towers, any obstacle etc., and other aircraft. Under VFR, a pilot can generally fly anywhere they like, as long as it's not in prohibited airspace. If they're flying over people or homes, the rule is at least 500 feet above. Again, this is all very generic, sometimes it's more restrictive. If flying under IFR, then the pilot must adhere to a much stricter set of rules, fly higher, fly only on designated routes, and also maintain radio contact at all times with air traffic control (ATC). Drones flying within NYC create an entirely new paradigm of flying relatively close to and over the heads of people, without any ATC coordination. Because this is an entirely new way of employing aircraft near to and around people and buildings, it is evident to me that a new set of rules should also be employed…a blend of VFR and IFR rules. The intent is to maintain the safe separation of people and buildings and drones from each other.

Chapter 24, section Three, titled Applications, details what must be contained in the application. It lists the requirements to explain who you are, what you want to do with the drone, where and when you want to fly, the type of drone, registration and insurance requirements, and lastly data and cyber security requirements. This is a good start.

Chapter 24, section Five, titled Permit Conditions, looks at FAA licensing requirements, aircraft mishap or cyber security incident reporting, community notification procedures and timelines, and lastly, the stipulation that failure to comply with any of the permit conditions will result in permit revocation.

From a professional aviator's point of view, with over 30 years of flying around the world, what is conspicuously absent are the rules for employment…either VFR or IFR as mentioned above.

The FAA has recognized this fact, and on May 3rd, 2023, the FAA released the Urban Air Mobility (UAM) Concept of Operations 2.0. These are new operational rules and infrastructure currently under development that will facilitate the coming remotely piloted and autonomous aircraft revolution. More recently, in July of 2023, the FAA released the Advanced Air Mobility (AAM) Implementation Plan--Innovate28 (I28), which details integration of the UAM and vertical takeoff and landing aircraft into the national airspace by 2028.

While the FAA is more heavily focused on the infrastructure and operational rules to fly drones, vertical takeoff and landing aircraft, and fixed wing aircraft, both manned and unmanned in an integrated space, ultimately the final question comes down to how is the flying actually done…how are these unmanned aircraft systems (UAS), as the FAA now calls them, how are they flown?

Here are some operational considerations and method of employment both the FAA and Title 38, Chapter 24 have not yet addressed as planning requirements for operators:

1. Ground Surveys
    a. Obstacles—Trees, towers, power lines, buildings, traffic lights, scaffolding
2. Airspace Surveys
3. NOTAMS Checked
4. Deconfliction – Airspace and Frequency
5. Day vs Night Ops
    a. Does NYC even want drones flying at night? This complicates the flying to a much greater degree.
6. LAANC - Low Altitude Authorization and Notification Capability
    a. LAANC provides airspace authorizations only. Pilots must still check NOTAMs, weather conditions, and abide by all airspace restrictions.
7. Part 107 Waivers
8. Contingency Plans
    a. Emergency Plans of Action
    b. Return to home (RTH) settings
9. Maintenance – All fixed wing aircraft must maintain a maintenance and inspection logbook.
10. Pilot Recency of work/proficiency – Flying is a perishable skill and there must be continuity.
11. Pilot Qualifications and Documentation
12. Data Security and Privacy – Chapter 24, Section Three, properly addresses this issue.

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