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Safely navigating the skies and jobsites:

What every drone-using contractor needs to know

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The Federal Aviation Administration (FAA) recently introduced a groundbreaking regulation known as the Remote Identification (Remote ID) rule, aiming to enhance the safety and security of drone operations in the United States. The FAA published the "Remote ID Rule" in the Federal Register back in January of 2021 with a compliance deadline of September 16, 2023. However, due to issues pilots faced, the FAA granted pilots an additional 6 months to ensure all drones are complaint.

With the new April 2024 compliance deadline for this rule fast approaching, it's essential to understand the rule's implications for various sectors, including the construction industry.

The FAA's Remote ID Rule: An Overview

The FAA's Remote ID rule represents a significant milestone in the regulation of Unmanned Aircraft Systems (UAS), or as they are more commonly known, drones. The primary objective of this rule is to provide a reliable means of identifying and tracking drones while they are in flight. This is crucial for ensuring safety, security, and accountability in the rapidly growing drone industry.

The Remote ID Rule includes several key requirements, including:

Standard Remote ID:

Under the rule, all drones weighing 0.55 pounds or more, including those used for recreational purposes, must comply with Remote ID requirements. Standard Remote ID involves equipping the drone with a Remote ID broadcast module that transmits the drone's location and identification information to authorized receivers.

Remote ID UAS Service Suppliers (USS):

To facilitate Remote ID compliance, the FAA has allowed for the establishment of Remote ID UAS Service Suppliers, or USS. These entities will be responsible for collecting and transmitting the Remote ID data from drones to the FAA and law enforcement agencies.

Network-Based Remote ID:

Drones can either have a built-in Remote ID broadcast module or connect to a USS through the internet to comply with the Remote ID rule. Network-based Remote ID allows for greater flexibility in compliance options.

Broadcast Module Requirements:

The rule specifies technical standards for the broadcast modules to ensure the accuracy and reliability of the data transmitted. This includes the use of secure communication protocols and the ability to interface with other technologies, such as GPS.

Remote ID functions as a digital identification marker, facilitating the FAA, law enforcement, and federal agencies in locating the control station in situations where a drone is operating in an unsafe manner or within prohibited airspace.

Drone operators who cannot comply with the broadcasting requirement outlined in the Remote ID Rule will be granted an extension until March 16, 2024, to outfit their drones accordingly. To meet this deadline, drone pilots have two options: they can either purchase a drone that comes equipped with standard Remote ID capabilities from a manufacturer, or they can acquire a Remote ID broadcast module that can be attached to existing drones lacking Remote ID functionality.

Beyond this specified date, operators may be subject to fines and potential suspension or revocation of their pilot certificates. The FAA acknowledges the challenges some operators may face in sourcing certain remote identification broadcast modules while making this decision.

The impact on the construction industry

The FAA's remote ID rule compliance deadline has been extended to April 2024.

If your company is using drones on jobsites, the time for planning is now! Failure to do so could result in your drone pilot license being revoked and/or a civil penalty of up to $27,500.

The construction industry has been one of the early adopters of drone technology, leveraging it for a wide range of applications, including surveying, site inspections, progress monitoring, and even security. As a result, the FAA's Remote ID rule will have a significant impact on how construction companies use drones in their daily operations, including:

Enhanced Safety and Accountability

One of the primary benefits of the Remote ID rule for the construction industry is enhanced safety and accountability. With the ability to identify and track drones in real-time, construction companies can ensure that their drones operate safely within designated areas and avoid unauthorized flights. This is particularly important in construction zones where multiple drones may be in use simultaneously, reducing the risk of collisions and accidents.

Regulatory Compliance

Compliance with the Remote ID rule is essential for construction companies to avoid potential fines and penalties. Construction projects often involve working in urban or populated areas, which require strict adherence to FAA regulations. Failure to comply with the Remote ID rule could result in legal consequences that impact a construction company's reputation and bottom line.

Improved Project Management

Drones have become indispensable tools for construction project management, allowing for accurate site surveys, progress tracking, and data collection. With Remote ID compliance, construction companies can seamlessly integrate drones into their project management workflows, knowing that they are operating within the bounds of the law. This can lead to more efficient construction processes and improved decision-making.

Enhanced Security

Security concerns are prevalent in the construction industry, with valuable equipment and materials often present on job sites. Drones equipped with Remote ID can help enhance security by monitoring construction sites from the air. Suspicious or unauthorized drone activity can be quickly identified and reported to law enforcement, reducing the risk of theft or vandalism.

Integration with Other Technologies

The Remote ID rule also opens up possibilities for integrating drones with other construction technologies. For example, drones equipped with Remote ID can collaborate with autonomous construction equipment, such as bulldozers and excavators, to streamline construction tasks and improve overall efficiency.

Challenges and considerations

While the Remote ID rule brings numerous benefits to the construction industry, there are also challenges and considerations that construction companies must address:

Cost of Compliance
Upgrading existing drones or purchasing new ones with Remote ID capabilities can be costly. Construction companies must budget for these expenses to ensure compliance.

Data Security
Ensuring the security and privacy of Remote ID data is crucial. Construction companies should carefully select Remote ID USS providers that prioritize data protection.

Training and Awareness
Construction personnel who operate drones must be trained on Remote ID compliance to avoid unintentional violations of the rule.

How to Comply?
Who must comply with Remote ID? All drones (over 0.55lbs) unless flying inside of a FAA recognized identification area (FRIA). If contractors are flying drones on jobsites, likely outside of FRIA areas, there are a few option to consider. One option is to purchase a drone that is already equipped with remote ID capability or retrofitting an existing drone with a remote ID module.

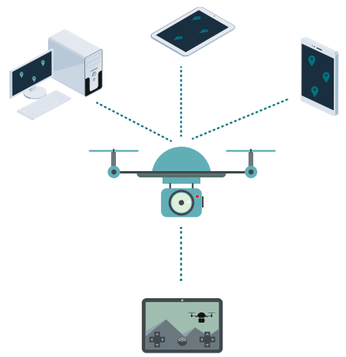
Current remote ID compliant drone manufactures include DJI, Skydio, Autel, Flyability, Microdrones, and Wingtra some models may require a firmware update please this can be checked at the FAA UAS Declaration of Compliance Find your aircraft Declaration of Compliance (faa.gov).

Another option is to retrofit an existing fleet. There are a variety of Remote ID modules available with more on the way. These remote ID modules are broken into (3) categories:

- **Self-contained** (most popular) these modules have a built in power source and antenna. Pricing for these units falls between $100-$350 per unit. A few of the most popular units include AeroPing, BlueMark DB120 Beacon, and the Dronetag MINI.
- **Non-Self Contained** (designed for manufacture or custom-built drones) these modules do not have a built-in power source and will need to be tied into the drones power supply or external power source.
- **Network Remote ID** this is typically via a cell network and would require the pilot to have a monthly service agreement with a cell provider.

3 ways drone pilots can meet the Remote ID rule

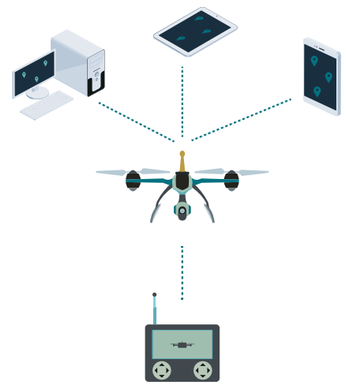
Standard Remote ID drones



Drone broadcasts Remote ID info via radio frequency (eg, WIFI & Bluetooth)

Drone Remote Identification
- Remote ID capability is built into the drone
- From takeoff to shutdown, drone broadcasts:
  - Drone ID (Remote ID-compliant serial number)
  - Drone location and altitude
  - Drone velocity
  - Control station location and elevation
  - Time mark
  - Emergency status

Drones with Remote ID broadcast mocule



Drone broadcasts Remote ID info via radio frequency (eg, WIFI & Bluetooth)

Drone Remote Identification
- Remote ID capability through module attached to drone
- Limited to visual line of sight operations
- From takeoff to shutdown, drone broadcasts:
  - Drone ID (Remote ID-compliant serial number)
  - Drone location and altitude
  - Drone velocity
  - Takeoff location and elevation
  - Time mark

Drones without Remote ID

FAA Recognized Identifcation Area (FRIA)
- Drones without remote ID can operate without broadcasting
- Drones without Remote ID must operate within visual line of sight and within FRIA
- Anyone can fly there, but FRIAs can only be requested by community-based organizations and educational institutions

By embracing the Remote ID rule, construction companies can continue to leverage the power of drones

Final thoughts

The FAA's Remote ID rule represents a significant step forward in the regulation of drone technology in the United States. For the construction industry, compliance with this rule is not just a regulatory requirement but also a means to enhance safety, security, and operational efficiency. By embracing the Remote ID rule, construction companies can continue to leverage the power of drones while contributing to the responsible and accountable use of this transformative technology in their daily operations. As the compliance deadline approaches, construction companies should prioritize the integration of Remote ID into their drone operations to reap the full benefits of this groundbreaking regulation.

Additional resources from the FAA:
https://www.faa.gov/uas/getting_started/remote_id/Remote-ID-Toolkit-main.pdf

Remote Identification of Drones | Federal Aviation Administration (faa.gov)

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