Impact of the revision of the Civil Aeronautics Law on the use of drones in construction sites

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One Asia Lawyers Group
Satoru Ezoe
Keigo Fujimura

1. Introduction

In the midst of growing needs for drone applications in logistics, etc. due to the improvement of drone related technologies, the amendment of the Civil Aeronautics Law (hereinafter referred to as the "Amendment Law") to allow "unassisted overlook flights in manned areas" (Level 4 flights), which is not permitted under the current Civil Aeronautics Law (hereinafter referred to as the "Current Law"), has been proposed. In this context, an amendment to the Civil Aeronautics Law (hereinafter referred to as the "Amendment Law") was enacted by the Diet on June 11, 2021, allowing "unassisted overflight in a manned area" (Level 4 flight), which is not[1] permitted under the current Civil Aeronautics Law (hereinafter referred to as the "Current Law"). (hereinafter referred to as the "Revised Law") was enacted by the Diet and promulgated on June 11, 2021[2].

The purpose of this amendment is to expand the scope of drone applications, such as cargo transportation over densely populated areas such as urban areas, by enabling the aforementioned Level 4 flights. In addition, the procedures for drone operations stipulated in the current law have been simplified, creating an environment that is easier than ever to utilize drones.

[3]The Ministry of Land, Infrastructure, Transport and Tourism (MLIT) and other organizations have been promoting the use of ICT in construction sites to cope with the future decrease in labor force. As part of these efforts, efforts are being made to automate the use of drones for inspection, surveying, and material transportation. The revision of the Civil Aeronautics Law, which will enable more effective use of drones, is expected to have an impact on the promotion of the use of drones in construction sites.

In the following, we will provide an overview of the revised law and explain what procedures will be required to operate drones in the future, as well as the legal risks that must be considered when actually operating drones in the field.

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[1] Ministry of Land, Infrastructure, Transport and Tourism, Civil Aviation Bureau, "New System Direction for Realization of Level 4 Unmanned Aircraft"
[https://www.kantei.go.jp/jp/singi/kogatamujinki/kanminkyougi_dai15/siryou1.pdf]

[2] House of Representatives website "Information on the progress of deliberations on bills
[https://www.shugiin.go.jp/internet/itdb_gian.nsf/html/gian/keika/1DD210A.htm]

[3] Ministry of Land, Infrastructure, Transport and Tourism website, "Full use of ICT"
[https://www.mlit.go.jp/sogoseisaku/constplan/sosei_constplan_tk_000031.html].

2. outline of the revised law

(1) Lifting the ban on level 4 flight

One of the major changes in the revised law is the lifting of the ban on "unassisted overflight in manned zones.

The term "inhabited area" refers to "an area with a high density of people or houses" (hereinafter referred to as "densely populated area"). Whether an area is densely populated or not is determined by the results of the national census (Article 236-2 of the Civil Aeronautics Law Enforcement Regulations). Since almost all urban areas, especially the Tokyo metropolitan area and the Keihanshin area, are densely populated areas[4], no visual surveillance flights were permitted in these areas without an assistant's entry control measures.

Permission for unassisted, unsupervised flights in densely populated areas will enable inspection, surveying, and transport of construction materials using autonomous drones in urban areas, expanding the range of drone applications.

(2) Setting of "Specified Flight

The revised law defines "specified flight" as a flight in a prohibited airspace (each item of Article 132-85, paragraph 1 of the revised law) and a flight by a flight method that is prohibited in principle (each item of Article 132-86, paragraph 2 of the revised law) (parentheses in Article 132-87 of the revised law).

In principle, a "permission" from the Minister of Land, Infrastructure, Transport and Tourism is required for flights in prohibited airspace, and an "approval" from the Minister of Land, Infrastructure, Transport and Tourism is required for flights in prohibited flight methods.

[Specific flight]

(1) Prohibited airspace (each item of Article 132-85, Paragraph 1 of the Revised Law)

a. The airspace above the vicinity of airports, etc. and the airspace above a height of 150 m or more (No. 1)

b. Over populated areas (No. 2)

(2) Prohibited flight methods (each item of Article 132-86, Paragraph 2 of the Revised Law)

c. Night flight (No.1)

d. Extra-vehicular flight (No. 2)

[4] Ministry of Land, Infrastructure, Transport and Tourism website, "Prohibited airspace and flight procedures for unmanned aerial vehicles"
[https://www.mlit.go.jp/koku/koku_fr10_000041.html]

e. Flying at a distance of less than 30 meters from a person or property (No. 3)

f. Flight over the event (No. 4)

g. Transport of dangerous goods (No. 5)

h. Property drop from a drone (No. 6)

Specific flights will be reorganized as described above, but the content of the prohibited airspace and prohibited flight methods themselves will remain unchanged from the current law.

(3) Aircraft Certification and Skill Certification System

With the increase in the use of drones and the expansion of their usable range, damage to people and property due to crashes and accidents involving drones is inevitably expected to increase. In response to this, the revised law newly established the systems of "aircraft certification" (Article 132-13 of the revised law) and "unmanned aircraft operator competence certification" (Article 132-40 of the revised law, hereinafter referred to as "competence certification"). (Article 132-40 of the revised law, hereinafter referred to as "competence certification"). Under the revised law, in order to perform specified flights, it is necessary to obtain these airframe certification and competence certification.

On the other hand, it also has the advantage of permitting Level 4 flights and simplifying or eliminating the permitting and approval procedures required by the current law.

Aircraft certification and proficiency certification are divided into two categories as follows.

[Airframe Certification] (Article 132-13, Paragraph 2 of the revised law)

(1) Type 1 aircraft certification: Applies to drones that perform specified flights without taking entry control measures.

(2) Type 2 aircraft certification: Applies to drones that perform specified flights with access control measures in place.

(Article 132-42 of the revised law)

First class unmanned aircraft pilot: Certification of competence to perform specified flights without taking any entry control measures.

(2) Second class unmanned aircraft pilot: Certification of competency to conduct specific flights under controlled entry.

(4) Streamlining of permit and approval procedures

Under the current law, permission or approval from the Minister of Land, Infrastructure, Transport and Tourism is required for each flight to conduct a specified flight. It takes about two to four weeks to review the permission or approval.[5] Therefore, in order to conduct a flight subject

[5] Ministry of Land, Infrastructure, Transport and Tourism (MLIT) website: "Approval procedures for unmanned aircraft flight permits

to the regulations, it is necessary to submit an application two to four weeks prior to the date of work, and it took time from application to operation.

The revised law aims to streamline these permission and approval procedures.

Level 4 flights in the vicinity of airports or in densely populated areas without access control measures (Level 4 flights) require strict procedures, including obtaining first-class and first-class certification for both airframe certification and proficiency certification, and then obtaining permission for each flight.

On the other hand, if you have obtained an aircraft certification and competence certificate, and have taken measures to control access, you only need to take measures specified by the Ministerial Ordinance of the Ministry of Land, Infrastructure, Transport and Tourism in order to conduct flights in densely populated areas, night flights, flights out of sight, and flights within 30 meters of people or objects, and you do not need to obtain permission or approval for each operation.

In addition, for night flights with no access control measures, flights outside the visual line of sight, flights within 30 meters of people or objects, flights over events, transport of hazardous materials, and dropping objects from drones, part of the examination for permits and approvals for each flight will be omitted with the acquisition of aircraft certification and competence certification.

The simplification of drone operation procedures is expected to lower the cost of drone operations at construction sites and encourage more active use of drones.

3. Legal liability in the event of a drone crash or other accident

(1) The issue of tort liability

If a drone crashes due to a malfunction or pilot error during operation at a construction site and comes into contact with a person or object, not only the drone operator but also the site supervisor and the main contractor may be held liable. In particular, if the drone causes harm to the life or body of a person, or if it causes delays due to contact with a train or aircraft, or due to damage to facilities necessary for the operation of public transportation, the company may be liable for a large amount of compensation.

In most drone crashes, the drone comes into contact with trees, utility poles, houses, or other structures due to misoperation or loss of sight of the aircraft[6]. In most cases, the cause of such accidents is considered to be simple operational errors, and therefore, tort negligence is

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[https://www.mlit.go.jp/koku/koku_fr10_000042.html]

[6] Ministry of Land, Infrastructure, Transport and Tourism, "List of Accidents and Troubles Related to Unmanned Aircraft in Fiscal 2020 (Reported to the Ministry of Land, Infrastructure, Transport and Tourism)" [https://www.mlit.go.jp/common/001342842.pdf].

recognized.

It should be noted that negligence is likely to be recognized even when the cause of the accident such as a crash is a malfunction or failure in operation of the drone or a dead battery. The current law also requires external and operational inspections of the drone, as well as confirmation of the airspace and surrounding conditions in which the drone will be flown, and the remaining battery capacity before flight (Article 132-2, Paragraph 1, Item 2 of the current law, and Article 236-4 of the Aviation Law Enforcement Regulations). In other words, if a drone is flown with insufficient battery power and the battery runs out during flight, or if the drone crashes due to malfunction or component failure caused by negligent maintenance, the drone will be found to have violated its inspection obligations.

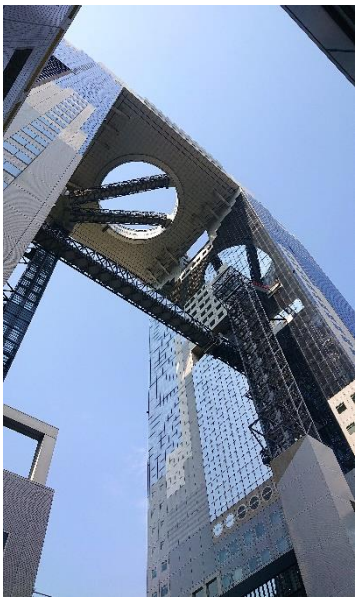
The law also mandates the confirmation of weather conditions necessary for flight. Therefore, even if a drone is agitated and crashes due to a weather phenomenon such as sudden strong wind, it is considered to be negligent because it violated the duty to confirm the possibility of such strong wind and fly the drone in advance.

The cases in which negligence in tort is not recognized when a drone crashes and causes harm to a person's life or body are quite limited, such as when the drone itself or parts such as the battery have a defect that cannot be detected by inspection due to a problem in the manufacturing process, and the drone crashes due to the defect. This is quite limited.

As mentioned above, it should be noted that if a drone comes into contact with a person, there is a high possibility that the pilot or company will be found liable in tort, and there is a risk of incurring a large amount of liability. In order to avoid this, it is necessary for an experienced and knowledgeable pilot to properly maintain and manage the aircraft, and also to fully check the weather conditions and obstacles in the airspace before flying.

(2) Tokyo District Court Decision of January 28, 1975

In this case, the court held the pilot of an unmanned aircraft liable for damages in tort for an accident in which the aircraft contacted a person and injured him.



The same court ruled that when flying a radio-controlled model airplane (a stunt plane for competition that is one meter or more in length and has a metal structure in the engine), which "because of its structure or nature, is expected to cause great harm if it were to collide with a person," "if there is a person in the vicinity, it is necessary to In the unlikely event that the airplane strays from its flight path and heads toward a person, the airplane must be restored to its normal flight path immediately, or if this is not possible, measures such as bringing the airplane down in a hurry must be taken. If this is not possible, he should take measures such as crashing the plane in a hurry, and thereby prevent the occurrence of harm to the human body.

As far as the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) has been informed, there have been no cases of drone accidents that have caused serious harm to human life or body, and no court cases related to drone accidents have been accumulated. However, when piloting a drone, it is important to "consider the size of the area, wind direction, wind speed, etc.," "follow a flight path that will not collide with people," and "if the plane is headed for people," "immediately restore the normal flight path, or if this is not possible, take measures such as crashing the plane in a hurry. If this is not possible, the airplane should be brought down in a hurry, etc." As stated in the same court case, "there is a duty to prevent the occurrence of harm to human health.

The obligation to report to the Minister of Land, Infrastructure, Transport and Tourism when a person is killed or injured or property is damaged by a drone (Article 132-90, Paragraph 2 of the revised law), combined with the increase in accidents due to the widespread use of drones, means that there is a good chance that there will be cases in the future to dispute the tort liability of drone operators and their users. In the future, there is a good chance that there will be cases in which drone operators and their users will be held liable for torts.

(3) Criminal liability

If a person is killed or injured as a result of a drone crash, he or she may be held criminally liable for manslaughter (Article 211 of the Penal Code).

As for criminal liability, not only the pilot but also the management of the company that employs the pilot may be held liable.

In particular, it should be noted that [7]corporate managers may also be held criminally liable in cases where they knew that the operation of drones without proper maintenance and upkeep had become the norm in the field and left the situation unattended without establishing a

[7] The Supreme Court decided on November 25, 1993 that the hotel owner was guilty of manslaughter due to his breach of duty to establish a fire prevention management system.

management and operation system, resulting in an accident.

4. Summary

As explained above, the recent amendment to the Civil Aeronautics Law is expected to expand the scope of drone use in construction sites, as well as lower costs and improve ease of operation by simplifying operational procedures. However, in response to the recent increase in the number of accidents involving drones, stricter regulations on drone flights have also been established. The revised law will require higher standards for piloting skills, aircraft management, and operation management, as well as the establishment of skill certification and aircraft certification systems. In order to operate drones at construction sites after the enforcement of the revised law, airframe certification and skill certification will be required in many situations. It is expected that the methods for obtaining airframe certification and skill certification will be announced in the future. Companies that are currently operating or considering operating drones at construction sites should consider whether or not they need to obtain airframe certification and competency certification by comparing their expected drone operation methods with the necessary procedures.

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Author.

Satoru Ezoe

RepresentativePartner, **One Asia** Osaka Office

Team Leader, Infrastructure Export Legal Practice

After graduating from university and graduate school with a major in civil engineering, he joined a general contractor and worked as a civil engineer in construction management and design. After that, he studied law from scratch at a law school, passed the bar exam, registered as a lawyer at the Osaka Bar Association, and joined a law firm specializing in construction disputes as the head of the Osaka office. As the leader of One Asia Lawyers' infrastructure export legal practice team, he provides legal support to various infrastructure-related companies from both legal and technical perspectives. satoru.ezoe@oneasia.legal

06-6311-1010

Keigo Fujimura

Attorney at Law, **One Asia** Osaka Office

After registering as a lawyer with the Osaka Bar Association in December 2020, he joined the One Asia Osaka Office, where he is involved in civil cases such as traffic accident-related cases, family affairs cases such as divorce and inheritance, and land surrender claims, as well as daily legal consultations with corporate clients, and is committed to dispute resolution and dispute prevention.
In the future, he will be mainly involved in corporate and liaison matters, and will work to provide better legal services to his corporate clients.
keigo.fujimura@oneasia.legal

06-6311-1010