

The legal aspects of the administrative requisition of civilian remotely piloted aerial vehicles to provide additional military power

Los aspectos legales de la requisición administrativa de vehículos aéreos teledirigidos de uso civil para dotar de potencia militar adicional

Os aspectos jurídicos da requisição administrativa dos veículos aéreos remotamente pilotados de uso civil para provimento de acréscimo de poderio militar

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ABSTRACT

This study aims to develop the legal aspects involved for the possible compulsory use of civilian equipment for military purposes, more specifically related to remotely piloted air vehicles and aerospace power, such as the armed conflict between Ukraine and Russia. For the production of the research, the hypothetical-deductive method was used, where at first it was identified that these devices are increasingly popular with an increasing number of civil records, and framed in the concept of aircraft. Following, it was verified whether remotely piloted vehicles can contribute as an addition to military power, more precisely with regard to aerospace power. Having determined the premises, there was an investigation of the Brazilian legal system in relation to the legal rules that authorize such compulsory use.

Keywords: RPA; civilian drones; military purpose; National mobilization.

RESUMEN

Este estudio tiene como objetivo desarrollar los aspectos legales involucrados para el posible uso obligatorio de equipos civiles con fines militares, más específicamente relacionados con los vehículos aéreos pilotados a distancia y el poder aeroespacial, como el conflicto armado entre Ucrania y Rusia. Para la elaboración de la investigación se utilizó el método hipotético-deductivo, donde en un primer momento se identificó que estos dispositivos son cada vez más populares con un número creciente de registros civiles, y enmarcados en el concepto de aeronave. A continuación, se verificó si los vehículos teledirigidos pueden contribuir como complemento al poderío militar, más precisamente en lo que se refiere al poderío aeroespacial. Una vez determinadas las premisas, se investigó el ordenamiento jurídico brasileño en relación con las normas jurídicas que autorizan tal uso obligatorio.

Palabras clave: RPA; drones civiles; propósito militar; Movilización Nacional.

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RESUMO

Este estudo tem por propósito desenvolver os aspectos jurídicos envolvidos no possível uso compulsório de equipamentos civis para finalidades militares, mais especificamente relacionados aos veículos aéreos remotamente pilotados e ao poder aeroespacial, a exemplo do conflito armado entre Ucrânia e Rússia. Para a produção da pesquisa foi utilizado o método hipotético-dedutivo, com o qual, em primeiro momento, identificou-se que esses aparelhos estão cada vez mais populares com crescente quantitativo de registros civis, e enquadrados no conceito de aeronaves. Seguindo, foi verificado se os veículos remotamente pilotados podem contribuir para o fornecimento de acréscimo ao poderio militar, mais precisamente no tocante ao poder aeroespacial. Apuradas as premissas, houve a averiguação do ordenamento jurídico brasileiro com relação às normas jurídicas que autorizam tal uso compulsório.

Palavras-chave: RPA; drones civis; finalidade militar; Mobilização Nacional.

1. INTRODUCTION

Natural path of technological evolution in regard to aircrafts, the remotely piloted aerial vehicles, popularly known as drones, have reached wide use in the most diverse activities, both in Brazil as in other countries. This growth is due, in part, to the low market value of these devices, corroborated by their technical, scientific, computational, and electronic advances. In addition, the increase in production and the increase in its functionalities are observed in military use and in several areas of civilian use (VASCONCELOS, 2019).

These technological improvements led to the use of drones in the 1980s and 1990s as surveillance and monitoring vehicles for military purposes. During this time, the armed forces of the United States of America went through a process of modernization, called the Revolution of Military Affairs (RAM) and, thus, these means began to have military utility as weapons, which inaugurated a new manner of armed conflicts. After the terrorist attacks of September 11, 2001, the new weaponry was employed transnationally against the groups responsible for this aggression, with the promise of effectiveness in precision at a distance (PERON, 2014).

At the present time, aerospace power relies on multiple sources that go beyond the Air Force itself, such as the auxiliary air forces concerning the Army and Navy, as well as Civil Aviation. There is a whole infrastructure complex, such as military bases, training centers, airports, industries destined for the expansion and manufacturing of airplanes and flight equipment, whether they are military or civilian (ALMEIDA, 2006). Given this, the importance of studying the possibility of civilian drones being inserted in the context of complementary providence to military power, more specifically to aerospace power, is highlighted.

1.1 Background

This study aims to discuss this theme from the perspective of the science of Brazilian law in line with some thinkers of military doctrine and aerospace power, on the use of civilian remotely piloted aerial vehicles adapted to military purposes, if necessary. In the current armed conflict between Russia and Ukraine, Ukrainian military forces are using these devices (NANDA, 2022).

In this article¹ the author seeks to verify the possibility of giving a new dimension to the research problem addressed in this work, namely: the expansion of the competence to supervise the use of civilian RPAs, in an integrated way with the state, district and municipal public safety authorities which will generate greater security for the management and control of national air traffic, asking if it is possible that, in Brazil, civilian drones can be legally used or compulsorily requisitioned for military use.

In its development, this article will be divided into three parts. First, a brief analysis of the applications of civilian drones, which underlies the growing number of these devices, as well as their conceptualization as aircraft.

From this initial contextualization, it will be possible to analyze that, just like aircrafts, drones can be directed to military operations. Thus, in the second part, this possibility is examined in line with some aerospace power theorists, exemplifying such feasibility in the current armed conflict between Ukraine and Russia. Finally, in the third part, we seek support in the Brazilian scenario, on the existence of legal support to allow for the military use of civilian drones in a lawful and legitimate way.

¹ Arising from a master's thesis defended in the Graduate Program in Aerospace Sciences at the Universidade da Força Aérea (UNIFA).

1.2 Methodology

The main focus of this work is to identify, in Brazil, if it is possible for the Union to determine that an individual transfers his assets in a compulsory way for the sake of the public interest, more precisely in relation to remotely piloted aerial vehicles to be used for military purpose in support of aerospace power.

In order to fulfill this objective, the research used the science of law, analyzing legal normative commands in alignment with the aerospace sciences, that is, in an interdisciplinary overview, thus firming the adoption of the hypothetical-deductive method.

According to Bunge (apud Marconi and Lakatos, 2003), the stages of the study were fulfilled as follows: based on the fact that civilian remotely piloted aircraft are increasingly popular and increasing in numbers in Brazil; on the verification that civil aircraft can be a means of adding to the military power and, more specifically, to the aerospace power, according to some of its theorists, and in the verification of this fact in the current conflict between Ukraine and Russia. Using those premises, to identify the legal grounds for the Union to requisition these aircraft and to allocate them for military use, if necessary.

Therefore, the present research was based on the bibliographic source, due to the use of legislation, books, and existing scientific articles, analyzed according to the objectives outlined in this paper. This is qualitative research, in the sense that the conclusions

or results reached by the analysis of the sources used, corroborate an individual view and specific on the subject in question (CORRÊA, 2008).

2. DEVELOPMENT

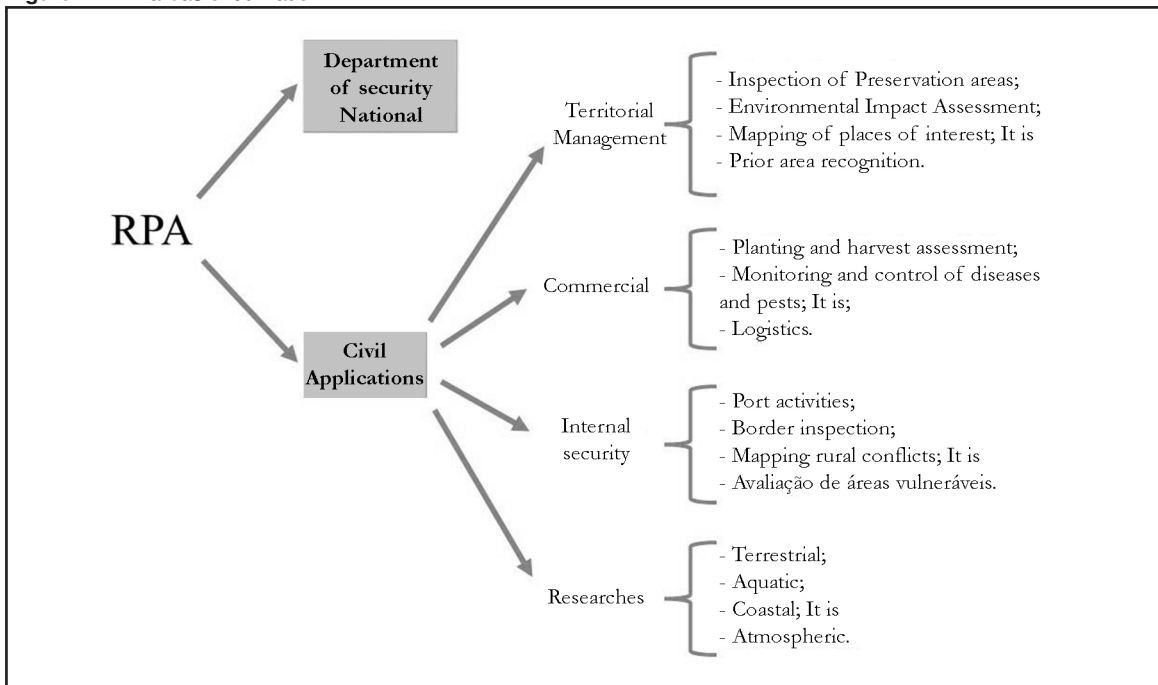
2.1 The diversity of application of remotely piloted aerial vehicles and their suitability to the concept of aircrafts

Due to their varied and endless service, these aircraft conquer, increasingly, new applications in the market and foster the growth of sectors that, until very recently, did not they know this technology, such as precision agriculture (PA). Simple tasks such as monitoring large crops or plantations, which were carried out at the high cost of flying small planes, helicopters or by slow inspection on the ground, are now done by drones with cheap operation and greater accuracy in identifying the areas of the crop that need some type of direct intervention, such as soil correction or pest control (MIKAMI, 2017).

As they are devices with large load capacity, they allow other mechanisms to be integrated, such as cameras that perform aerial images, making monitoring in agriculture more efficient (MIKAMI, 2017).

Without pretending to exhaustively illustrate the various fields of employment of Remotely Piloted Aircraft (RPA), Figure 1 demonstrates some applications of RPA in serving the national defense as well for civilian purposes.

Figure 1- RPA areas of utilization.



Source: BOLOGNEZ et al, 2021, p. 357.

In this sense, drones are devices that impress. Its ability to hover in the air, its unique maneuverability, the possibility of performing flights with precision, both in open field and in small spaces, the operation for long periods, technological advances, and adaptability to other devices such as cameras and measuring devices, are some features that are making RPA more and more common in several segments, whether for commercial or recreational purposes (FLUMIGNAN, 2015).

Law N^o. 7,565 of December 19, 1986, which provides for the Brazilian Aeronautics Code (CBA), thus establishes the concept of aircraft, in the Art. 106: “An aircraft is considered as any maneuverable device in flight, which can sustain and circulate in the airspace, through aerodynamic reactions, able to carry people or things.”

Pacheco (2006) states that the concept of aircraft provided for in the CBA reveals some important peculiarities for the identification of an air vehicle as such, they are: it is an apparatus, which indicates the need to gather systems and mechanisms working in an integrated way; to be maneuverable, meaning that it is susceptible to be commanded and the attribute of moving in various directions while in flight; sustaining and circulating in the airspace through aerodynamic reactions; and, finally, the ability to transport, whether people or cargo.

So it happens that the CBA itself stipulates that all aircraft need a commander on board, with it being the responsible for the operation of the aircraft. This is how it is described:

Art. 165 – Every aircraft shall have on board a commander, a member of the crew, designated by the owner or explorer, who will be his agent during the voyage.

Art. 166 – The commander is responsible for the operation and safety of the aircraft. (BRAZIL, 1986).

In a compartmentalized analysis of the standards in the CBA, it would be possible to conclude that RPAs are not aircraft per se since the legal requirements are not present in them. Such a mistaken conclusion would lead to a situation of perplexity in finding that the airspace would be frequented by devices unrelated to any type of regulation by agencies and laws that deal with aeronavigation.

Regulations more recent than the CBA, such as the Ordinance of the Department of Airspace Control (DECEA) N^o. 112/DGCEA of May 22, 2020, which approved the Instruction of the Aeronautics Command (ICA) 100-40 and took care of the Remotely Piloted Aircraft Systems and their access to Brazilian Airspace, claim that RPA are aircraft when it conceptualizes the RPA in item 2.1.7:

REMOTELY PILOTED AIRCRAFT (RPA)
Subcategory of unmanned aircraft, flown from a remote flying station and used for any purpose other than recreational and that is capable of interacting with the Air traffic and other aircraft in real time. (BRAZIL, 2020).

Moving in the same direction, the National Civil Aviation Agency (ANAC) in the exercise of its regulatory attribution, according to Art. 3^o of the Law N^o. 11,182 of September 27, 20052, formulated the Resolution N^o. 419 of May 2, 2017, which approved the Brazilian Special Regulation of Civil Aviation (REBAC-E) N^o. 94, establishing in the Article 1, the “General Requirements for Civilian Unmanned Aircraft”.

Notwithstanding the existence of other norms issued by both DECEA and ANAC, it is undeniable that, for these regulatory bodies, drones are aircraft themselves, and they are applicable to whatever the CBA defines in all its legal and administrative aspects.

2.2 The evolution of civil aviation and military uses

Douhet was aware that the evolution of aviation would be constant due to the remarkable progress witnessed in his time, and also predicted that it would be an inevitable process with unimaginable results.

Regarding the future of air navigation as a factor of human progress, opinions may differ, but a certain fact is that the new means of transport has found for itself a permanent place. Throughout the history of the means of transportation, this machine, which man, after centuries of failed attempts, was able to create with his genius and daring, has made the most rapid and remarkable progress. It is not possible to predict what stage of development it will reach, but everything indicates that considerable progress will still be in store for it. (DOUHET, 1978, p. 108-109).

² Art. 3 Anac, in the exercise of its powers, must observe and implement the guidelines, guidelines and policies established by the federal government, especially with regard to: (As amended by Law No. 12,462, of 2011).

Consequently, it was certified the advantages that the Air transportation has been shown to have:

1. Economic and industrial advantages. The development of a flourishing air navigation would stimulate the development of the aeronautical industry as a whole.
2. Advantages to national security. It is to be expected that there will be no more wars, but it would be extremely foolish to trust in this. The Great War revealed the possibilities of the air weapon, even though there was not enough time to show its full importance. There is no doubt that with the technical improvements that will most likely arise, the value of the air weapon will continue to increase, and in any future war, the possession of air supremacy will be more advantageous than the possession of maritime supremacy. To have at our disposal a large fleet of transport aircraft equates in terms of potential power to having a large Air Force, always ready to defend our rights. (DOUHET, 1978, p. 108-109).

As a result of the progress of air navigation portrayed by Douhet, in Brazil it is certified that there a considerable number of RPA registered and in operation. As can be seen in Tables 1 and 2, the total number of people registered with ANAC for operating RPA, as well as devices registered in 2022, is significant (ANAC, 2022). Here is the data from April 2022:

As pointed out, these aircraft are quite versatile and also conform to the characteristic of flexibility that Santos (1989) identifies as essential in the

contemporary Air Force, in line with the technological sophistication that must also be present today.

Electronic artifacts have taken on extreme priority in this field, leading aviation increasingly to move away from art and to focus on science, and conditioning crew members to transform themselves into intelligent systems managers. (SANTOS, 1989, p. 144-145).

In the same vein, Amitage (apud SANTOS,1989) observes that aeronavigation devices are endowed with the quality of adaptability, showing that cargo planes are adjustable for the military use, being applicable to missions of this purpose, such as: aerial refueling, patrols, monitoring, etc. Therefore, civil aviation is important for the increase of aerospace power and, as aircraft, drones are not on the sidelines of this conjuncture.

Illustrating the efficient use that these civilian air assets can present in military missions and conjecturing that they can be transformed into weapons, it is presumed that they would have the ability to achieve the objective of paralyzing the enemy, according to Warden’s theory of the strategic rings.

To Warden (1988 apud FADOK; BOYD; WARDEN, 1995) the strategic rings are identified in five dimensions: leadership, organic fundamentals, infrastructure, population, and military forces on the

Table 1- Register of people operating RPA.

TOTAL NUMBER OF PEOPLE REGISTERED WITH ANAC FOR RPA OPERATION	74.850
INDIVIDUALS	68.475
LEGAL ENTITIES	6.375

Source: Brazil, 2022.

Table 2- RPA Registration.

TOTAL NUMBER OF RPA REGISTERED	93.729
FOR RECREATIONAL USE	52.906
FOR PROFESSIONAL USE	40.823

Source: Brazil, 2022.

field. An air attack on the center of this complex, identified as the leadership, would entail the annulment of all other strategic rings, which would cause paralysis on the enemy. Thus, it is mentioned that:

Warden defines the enemy as a system of five strategic rings and advocates the paralysis through air strikes on these rings. Listed in decreasing importance for the proper functioning of the enemy system, these “rings” are leadership, essential organic elements, infrastructure, population, and military forces on the field. In any case, the ultimate target of all strategic attacks should always be the mind of the enemy command. According to Warden, air power is especially well-suited for inducing strategic paralysis, since it alone can incapacitate all five rings, simultaneously or selectively from the inside out (FADOK; BOYD; WARDEN, 1995, p. 2).

The peculiarities described on drones make these aircraft to be capable of being adapted for military purposes and can also be effective weapons of annihilation of the enemy through its strategic paralysis. Clausewitz (1976 apud FADOK; BOYD; WARDEN, 1995) equates the paralysis of the enemy with its annihilation and, similarly, Liddell (1972 apud FADOK; BOYD; WARDEN, 1995) explains that strategic paralysis of the enemy can be obtained through its disarmament, which would be the most economical and damage-reducing way of war (FADOK; BOYD; WARDEN, 1995, p. 6).

In the ongoing war between Russia and Ukraine, drones are rewriting the rules of armed

conflict. John Parachini (apud NANDA, 2022) states that: “the armored combat vehicle was key at one point, but now drones may be the most decisive weapon system.”³

According to the British newspaper *The Guardian* (2022), a group of volunteer drone pilots, called the “Aerorozvidka unit”, has played an important role in containing advances by Russian troops on Ukrainian territory. The alluded group conducts night operations with drones and its operators move on ATVs monitoring and attacking Russian targets, such as a 40-mile mechanized column moving towards the capital Kyiv and the failed offensive to seize the airport in the city of Dnipro.

This group consists of 50 squadrons of drone pilots that have been using not only properly military aircraft, but also commercial surveillance devices, homemade civilian devices, many repurposed by a domestic drone production industry. Voluntary organizations from Ukraine join forces to the same purpose. Figure 2 illustrates a member of the Aerorozvidka group carrying a drone adapted for military missions.

Experts assessed for the news site *EurAsian Times* that, so far, in the drone war, Ukraine has done better than Russia, and one of the factors is the mobilization of the civilian drones and their adaptation for use in armed conflict, either for monitoring or as weapons (NANDA, 2022).

Figure 2 - Member of Aerorozvidka, a unit specialized in drone strikes, formed by Ukrainian volunteers.



Source: Source/Twitter @Aerorozvidka.

³ Our translation.

A civilian drone similar to the DJI Phantom3, armed with a single grenade containing 36 grams of explosive, attacked a Russian vehicle driven by soldiers causing damage to it. The scene was recorded by the device itself. Transformed into weaponry, civilian drones are being used in this armed conflict as low-cost weapons, but with attractive benefits for the Ukrainian resistance, such as success in some missions (UKRAINE, 2022).

2.3 Legal and statutory protection for military use of remotely piloted civilian aircrafts

In case of necessity by the Brazilian State, these aircraft can be requisitioned for military purposes in various sectors of operation. This is exactly what Law No. 11,631 of December 27, 2007, which provides for the National Mobilization and creates the National Mobilization System – SINAMOB, in Article 2, item I, which provides:

Art. 2 For the purposes of this Law, the following shall be considered:

I - National Mobilization the set of activities planned, guided, and undertaken by the State, complementing the National Logistics, aimed at enabling the country to conduct strategic actions in the field of National Defense, in the face of foreign aggression.

To this end, the said law uses the term “requisition” in Art. 4, sole paragraph, item IV, which means a form of public intervention in private property, whose constitutional basis is found on Art. 5, item XXV, of the Federal Constitution of Brazil of 1988 (CRFB/88). As provided:

AArt. 4 The execution of the National Mobilization, characterized by the speed and compulsoriness of the actions to be implemented, with the intent of providing the Country with conditions to face the fact which motivated it, will be decreed by act of the Executive Branch authorized by the National Congress, or endorsed by it, during the interval of the legislative sessions.

Single paragraph. In the decree of the National Mobilization, the Executive Power shall specify the geographical space of the national territory in which it will be conducted and the measures necessary for its execution, among them:

IV - the requisition and occupation of goods and services.

Art. 5 All are equal before the law, without distinction of any kind, guaranteeing to Brazilians and foreigners residing in the country, the inviolability of the right to life, liberty, equality, security, and ownership, as follows:

XXV - in the event of imminent public danger, the competent authority may use private property, assured to the owner subsequent compensation, if there is damage.

This setting aims to meet situations in which the Government needs the use private goods or services to achieve objectives of collective interest, directed to urgent and momentary situations, with the possibility of compensation after use. Meireles states (2016, p. 759).

Requisition is the coercive use of private goods or services by the Government by act of direct and immediate execution by the requesting authority and subsequent compensation, for servicing urgent and transitory collective needs. The basis of the setting of the requisition is found in art. 5, XXV, of the Federal Constitution, which authorizes the use of private property, in the imminence of public danger, by the competent authorities (civil or military).

Di Pietro (2006, p. 213) explains that the administrative requisition, originally, was an setting of limitation of private property specifically of a military nature, with application during periods of war or of serious internal commotion, in the terms of Art. 80 of the Constitution of 1891 and Art. 591 of the Civil Code of 1916, reproduced in the Constitutions of 1934, 1946 and 1967. Subsequently, with the Delegated Law No. 4 of September 26, 1962, it became possible to application during periods of peace for intervening in the economic domain and a continuous act according to the Law No. 8,080 of September 19, 1990, with applicability to the health field.

Thus, it is verified that the requisition, as a modality of intervention in private property, has the objective of administratively limiting the right to property that is characterized as a fundamental norm, described in Art.5, item XXII of CRFB/88 which provides:

Art. 5 All are equal before the law, without distinction of any kind, guaranteeing to Brazilians and foreigners residing in the country the inviolability of the right to life, liberty, equality, security, and ownership, as follows:

XXII - the right to property is guaranteed.

In the case of an exceptional situation, it is necessary to contain strict legality to the normative command that created it, and the requesting body may not act outside the legal limitation imposed.

Therefore, the Public Administration has the legal duty to compensate the individual for the use of the requested good, at the end of the destination, provided that it entails the reduction of its market value, as well as any impairment of decrease of the

utility that it represented for the individual. Therefore, it has a transitory nature, that is, it is not a form of taking the private property for the ownership of the Public Power, but only the duty to yield it so that the goods are destined to a function that meets exceptional situations or for the good of the collectivity. This is how Mello states (2015, p. 929):

Requisition is an act by which the State, for the benefit of a public interest, constitutes someone, in a unilateral and self-executing manner, the obligation to render to him or to assign to him temporarily the use of a good in natura, obliging himself to indemnify the damages that such measure effectively entails to the obliged.

As the Constitutional Text itself protects the right to property and exempts it by administrative requisition, this makes so that the legal commands for the limitation of property are reserved to the exclusive legislative competence of the Union. Any part of the Public Administration may request assets from individuals, but, for this, it must be supported by the text of the law discussed and approved by Congress National.

This is how Article 22, item III of CRFB/88 states: “It is the exclusive responsibility of the Union to legislate on: III - civil and military requisitions, in case of imminent danger and at times of war”.

This exclusive competence of the Union to legislate on some issues, such as public intervention in private property, exists to guarantee the Democratic State of Law provided for in the preamble of the Magna Carta and to prevent authoritarian measures from being adopted, endangering constitutional harmony and democracy, which are the pillars of individual freedoms. This is how it is described:

PREAMBLE. We, the representatives of the Brazilian people, gathered in the National Constituent Assembly to establish a Democratic State, aimed at ensuring the exercise of social and individual rights, freedom, security, well-being, development, equality, and justice as the supreme values of a fraternal, plural and unprejudiced society, founded on social harmony and committed, in the internal and international order, to the peaceful settlement of controversies, we promulgate, under the protection of God, the following CONSTITUTION OF THE FEDERATIVE REPUBLIC OF BRAZIL.

However, the CRFB/88 privately grants to the Head of the Federal Executive Branch a total or partial decree to, in case of foreign aggression,

promote national mobilization with all the measures necessary for its execution, such as the requisition of private property. Describes the Art.84, item XIX:

Art. 84. The President of the Republic shall be responsible for:

XIX – declaration of war, in the case of foreign aggression, authorized by the National Congress or endorsed by it, when it occurred in the interval of the legislative sessions, and, under the same conditions, to decree, total or partial, national mobilization.

Therefore, the National Mobilization Law, No. 11,631 of December 27, 2007, has all the legal and constitutional support, being a valid, legal, legitimate normative command and attentive to the rules of law necessary for its applicability, if necessary.

3. CONCLUSION

This article sought to identify the diffusion of RPA with civil application in several segments and that the growth in the number of these aircrafts demonstrates that they are of great importance to the Aerospace Power, if necessary for military purposes, because they fall within the requirement of the public interest, overriding private interests.

Regarding the proposed objectives and with regards to the concepts of aircraft existing in Aeronautical Law, it was possible to conclude, from the analysis of normative commands of this branch of Law, as well as by definitions in doctrines and existing administrative regulations on drones, that these means of aeronavigation fit perfectly into the concept of aircraft, being consistent with all the standards applicable to them.

It was possible to detect the relevance of these disruptive means of aeronavigation for military service, also due to the versatile characteristics they have, since they are adaptable to equipment and apparatus intended for military purposes, such as weapons and surveillance mechanisms. Thus, it was determined that drones intended for civilian use, in various segments, are important means available to provide increased military power, in particular as a reinforcement of the Aerospace Power, when necessary, along the lines of the current armed conflict between Ukraine and

Russia, where they have been successfully carrying out several military missions.

In addition, this study analyzed that national legislation, starting at the Magna Carta, through the National Mobilization Law, allows for civilian drones to be requested by the Government, through a presidential decree, provided that

the legal requirements are met in order for it to be adapted and used in the military interest in various applications. It is also important to mention that the legal doctrines on public intervention in private property, through the setting of administrative requisition, welcome this possibility by the State.

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