



**REPUBLIC OF KENYA
MINISTRY OF ROADS AND TRANSPORT**

**REGULATORY IMPACT ASSESSMENT
For
The Civil Aviation (Surveillance and Collision Avoidance Systems) Regulations, 2024**

This Regulatory Impact Assessment has been prepared by the Cabinet Secretary responsible for Roads and Transport pursuant to sections 6 and 7 of the Statutory Instruments Act, Cap 2A of the Laws of Kenya.

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1.0 Chapter One – Introduction

1.1 Establishment and Regulation making authority

Kenya Civil Aviation Authority is established under the Kenya Civil Aviation Act, Cap. 394 (“the Act”) with the primary mandate being Regulation and Oversight of Aviation Safety and Security; Economic Regulation of air services and development of Civil Aviation; Provision of Air Navigation Services; and Training of aviation personnel as guided under the provisions of the Convention on International Civil Aviation, related ICAO Standards and Recommended Practices (SARPs), the Act, and the Civil Aviation Regulations.

The purpose for which the Authority was established are, to economically and efficiently plan, develop and manage civil aviation, regulate and operate a safe civil aviation system in Kenya in accordance with the provisions of the Act.

Section 82 (1) of the Act empowers the Cabinet Secretary responsible for matters relating to civil aviation, to make Regulations to give effect to and for the better carrying out of the objects and purposes of the Act, and to provide generally for regulating air navigation, air transport, air accident investigation and carrying out and giving effect to any convention.

Further, Section 82(2) of the Act specifies the various sets of Regulations to be developed. Against this background, the Cabinet Secretary has developed the Civil Aviation (Surveillance and Collision Avoidance Systems) Regulations, 2024 which seeks to—

- (a) prohibit the flying of any aircraft, unless there is in force in respect of such aircraft a certificate of airworthiness or permit to fly issued or recognized in accordance with regulations made under this Act; or except upon compliance with such conditions as to maintenance and repair as may be prescribed or specified in the certificate or permit;
- (b) requires the flight crew, and persons, performing prescribed functions in relation to the operation or maintenance of aircraft, air navigation services, design and construction of aircraft to be the holders of licences of specified kinds;
- (c) provide for the manner and conditions of issue, validation, renewal, extension or variation of any licence required in regulations and for the form, custody, production, cancellation, suspension, endorsement and surrender of such;
- (d) provide for the conditions under which and in particular the aerodromes to or from which, aircraft entering or leaving Kenya may fly and the conditions under which aircraft may fly from one part of Kenya to another;
- (e) minimize or prevent interference with the use or effectiveness of apparatus used in connection with air navigation and air navigation services and prohibiting or regulating the use of such apparatus and the display of signs and lights liable to endanger aircraft;
- (f) generally secure the safety, efficiency, and regularity of air navigation and safety of aircraft and of persons and cargo carried therein, and for preventing aircraft endangering other persons;

- (g) regulate the making of signals and other communications by or to aircraft and persons carried therein;
- (h) prescribe, subject to any other written law, a civil air ensign for Kenya and regulating the use of any other ensign established for purposes connected with air navigation;
- (i) prohibit aircraft from flying over such areas in Kenya as the Cabinet Secretary may by order published in the Gazette declare to be prohibited areas;
- (j) exempt any aircraft or persons or classes of aircraft or persons from the provisions of any regulations made under this Act;
- (k) provide for the investigation in such manner as may be prescribed, including by means of a tribunal established for the purpose, of any accident arising out of or in the course of air navigation and occurring either in or over Kenya or occurring elsewhere to Kenya aircraft;
- (l) prohibit access to or interference with aircraft to which an accident has occurred, and authorizing any person, so far as may be necessary for the purpose of an investigation, to have access to, remove, take measures for the preservation of, or otherwise deal with any such aircraft;
- (m) provide for the classification and use of airspace and the control and use of air routes and provisions of search and rescue facilities; and
- (n) provide for the control and operation of the aircraft within or directly above the aerodrome for the purpose of limiting or mitigating the effect of noise.

1.2 Requirements of the Statutory Instruments Act

The Statutory Instruments Act, Cap. 2A (SIA) is the legal framework governing the conduct of RIA in Kenya. Sections 6 and 7 require that if a proposed statutory instrument is likely to impose significant costs on the community or a part of the community, the Regulation-Making Authority (RMA) shall, prior to making the statutory instrument, prepare a regulatory impact statement about the instrument. SIA further sets out certain key elements that must be contained in the RIA namely—

- (a) a statement of the objectives of the proposed legislation and the reasons for them a statement explaining the effect of the proposed legislation including in the case of a proposed legislation which is to amend an existing statutory instrument the effect on the operation of the existing statutory instrument;
- (b) a statement of other practicable means of achieving those objectives, including other regulatory as well as non-regulatory options;
- (c) an assessment of the costs and benefits of the proposed statutory rule and of any other practicable means of achieving the same objectives;
- (d) the reasons why the other means are not appropriate;
- (e) any other matters specified by the guidelines; and
- (f) a draft copy of the proposed statutory rule.

1.3 What is a Regulatory Impact Assessment (RIA)?

RIA is a systemic approach of critically assessing the positive and negative effects of proposed or existing regulations and non-regulatory alternatives. It is an analytical report to assist decision makers to arrive at an informed policy decision.

As an aid to decision making, RIA includes an evaluation of possible alternative regulatory and non-regulatory approaches with the overall aim of ensuring that the final selected regulatory option provides the greatest net public benefit.

Typically, the structure of RIA should contain the following elements: title of the proposal, the objective and intended effect of the regulatory policy, an evaluation of the policy problem, consideration of alternative options, assessment of all their impacts distribution, results of public consultation, compliance strategies, and processes for monitoring and evaluation.

RIA promotes evidence-based policymaking as new regulations typically lead to numerous impacts that are often difficult to foresee. From a societal viewpoint, RIA confirms whether a proposed regulation is welfare enhancing, in that, the benefits will surpass costs.

RIA therefore has an overall objective of not only improving understanding of the real-world impact of regulatory action, including both the benefits and the costs of action, but also integrating multiple policy objectives, improving transparency and consultation; and enhancing governmental Authority.

2.0 Chapter Two –Civil Aviation (Surveillance and Collision Avoidance Systems) Regulations 2024

2.1 Scope

These regulations apply to a person who intends to, or provides Communication, Navigation and Surveillance services within designated air spaces or at aerodromes in Kenya but does not apply to a person who intends to, or provides Communication Navigation and Surveillance services exclusively to State aircraft.

2.2 Objective

The general objective of Surveillance and Collision Avoidance Systems Regulations is to provide requirements for operations and maintenance of Surveillance and Collision Avoidance systems so as to provide detailed information to the air traffic control system allowing air traffic controllers to safely guide the aircraft and to reduce the risk of mid-air collisions between aircrafts.

2.3 Specific objectives

The specific objectives of the Surveillance and Collision Avoidance Systems Regulations are to —

- (a) set terms for compliance with requirements for maintenance and operations of Secondary Surveillance Radar (SSR), Surveillance Systems, Mode S Extended Squitter and Multi-lateration Systems;
- (b) set terms for compliance with requirements for operations and maintenance of Airborne Collision Avoidance Systems;
- (c) outline requirements for availability and reliability of Surveillance facilities; and
- (d) outline technical requirements for airborne surveillance systems.

2.4 Structure of the Civil Aviation (Surveillance and Collision Avoidance Systems) Regulations 2024—

- (a) PART I – Preliminary (Citation, Interpretation and Application)
- (b) PART II – General Requirements for Provision of Communication, Navigation and Surveillance Services
- (c) PART III– Secondary Surveillance Radar (SSR)-General.
- (d) PART IV– Surveillance Systems
- (e) PART V– Airborne Collision Avoidance System (ACAS)
- (f) PART VI– Mode S Extended Squitter
- (g) PART VII— Multi-Lateration Systems (MLAT)
- (h) PART VIII— Technical Requirements for Airborne Surveillance Applications
- (i) PART IX— Exemptions
- (j) PART X— Miscellaneous Provisions
- (k) PART XI– Offences and Penalties

3.0 Chapter Three – Background and Context

3.1 Policy Background

The Sustainable Development Goals (SDGs), also known as the Global Goals, were adopted by the United Nations in 2015 as a universal call to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity.

Goal 9 of the SDGs advocates for building resilient infrastructure, promoting inclusive and sustainable industrialization and fostering innovation. Kenya intends to provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport by 2030.

Kenya Vision 2030 is a nationwide multi-sectorial document that outlines the main policies, legal and institutional reforms as well as programs and projects that the Government plans to implement.

The 2030 Vision aspires to be a country firmly interconnected through a network of roads, railways, ports, air, water and sanitation facilities, and telecommunications. The expansion, modernization and management of the aviation sector continues to enhance air transport safety, security, and connectivity across the country and beyond. Civil aviation is a critical catalyst for global and national development. Air transport in Kenya has continued to grow and has contributed to job creation and increased interaction and trade with other countries.

Bottom-Up Economic Transformation Agenda (BETA): The Bottom-Up Economic Transformation Plan 2022-2027 is the manifesto of the ruling Kenya Kwanza administration. The agenda is built on six key pillars, to be implemented through five (5) MTP IV. The key pillars include infrastructural development whose objective is to enhance transport connectivity.

The Constitution of Kenya 2010 is the primary legislation from where all laws emanate. Under Part I of the Fourth Schedule, to the Constitution, civil aviation has been recognized as one of the functions of the national government.

Chapter 4 of the Constitution similarly provides for the Bill of Rights. Article 46 provides for the consumer rights. Aviation Consumers have rights for services of reasonable quality; information necessary for them to get full benefit from the services; and protection of their economic interests.

Chapter 6 of the Constitution provides for leadership and integrity including the conduct of state officers and public officers. Employees and officers of the Authority are public officers hence are bound by the principles of Chapter 6 of the Constitution. The regulations have largely provided for standardized ways of provision of quality services, information to be used by its consumers for protection of their economic interest, data protection issues, access to information while maintaining technical infrastructure within the aviation sector.

Article 94 (6) of the Constitution gives parliament the power to delegate its legislative authority to a State organ, State officer or person to make provision having the force of law in Kenya.

The Kenya Aviation Policy aims at fostering the growth of aviation business in Kenya to support job creation by positioning Kenya as a recognized regional leader in aviation; maximize the contribution of the aviation sector to Kenya's economic growth and development; and enhance Kenya's connectivity at a national and international level by ensuring safe, secure and competitive access which is responsive to the needs of businesses, tourism and the population.

The Policy covers the entire aviation sector in Kenya including key air transport challenges related to regulatory framework, safety, security, environmental aspects, economic regulation, institutional framework, air transport market and stakeholders, air transport infrastructure including planning, development, operation, and management, air transport personnel, and air transport statistics.

The Kenya Airspace Master Plan similarly, outlines the evolution and associated investments to be made by the Kenya Civil Aviation Authority (KCAA) in Air Navigation Services (ANS) over the next 15 years. The objectives of the Plan include global and regional consistency, legal/regulatory considerations, and stakeholder expectations. The plan covers operational evolutions, technical improvements, and human resources development.

The National Aviation Safety Plan (NASP) has been aligned with the International Civil Aviation Organization's (ICAO) Global Aviation Safety Plan (GASP), the NASP outlines objectives, strategic priorities, and safety actions to be taken over three years (2023 to 2025). The Plan includes key elements such as identification of national safety issues, setting aviation safety goals and targets, implementing safety enhancement initiatives (SEIs), and collaborating with industry stakeholders and agencies responsible for safety oversight. The NASP complements Kenya's State Safety Programme (SSP) Document.

Finally, the Civil Aviation Act, Cap. 394 sought to provide for the control, regulation and orderly development of civil aviation in Kenya; and for connected purposes. Section 4 of the Act provides that the establishment of the Kenya Civil Aviation Authority as a body corporate with perpetual succession and common seal. The Act applies to: aerodromes used for civil aviation in Kenya; air services established or operating in Kenya; any aircraft registered by the Authority; any foreign aircraft within the Kenya territory; aviation personnel and training schools certified by the Authority; enterprises operating in Kenya in the design, manufacture, maintenance, repair and modification of aircraft and aircraft parts or components; and air navigation facilities and services in Kenya. Section 82 gives

the Cabinet Secretary responsible for civil aviation, the power to make regulations for the better carrying into effect the provisions of the Civil Aviation Act.

3.2 Domestic Context

The Kenya Civil Aviation Authority is established under the Civil Aviation Act with the mandate to economically and efficiently plan, develop and manage civil aviation, regulate and operate a safe civil aviation system in Kenya in accordance with the provisions of the Act. Further, the Civil Aviation Act require that the Cabinet Secretary shall make regulations to give effect to and for the better carrying out of the objects and purposes of this Act, to provide generally for regulating air navigation, air transport, air accident investigation and carrying out and giving effect to any convention.

The Civil Aviation (Surveillance and Collision Avoidance Systems) Regulations, 2024 seeks to provide the KCAA with the mandate to effectively discharge its functions through the establishment of operational standards whose objective is to ensure that the aviation system in Kenya is aligned to the standards established internationally and applicable globally.

The Civil Aviation (Surveillance and Collision Avoidance Systems) Regulations 2024 therefore are issued in fulfilment of the obligations set forth in the Civil Aviation Act and in support of the mandate of KCAA.

3.3 International Context

The Convention on International Civil Aviation, which, has been ratified by Kenya established the International Civil Aviation Organization (ICAO) with a mandate to support, coordinate and help countries to diplomatically and technically realize a uniquely rapid and dependable network of global air mobility, connecting families, cultures, and businesses all over the world, and promoting sustainable growth and socio-economic prosperity wherever aircraft fly.

As a global forum of States for international civil aviation, ICAO develops policies and Standards, undertakes compliance audits, performs studies and analyses, helps and builds aviation capacity through many other activities and the cooperation of its Member States and stakeholders.

Article 37 of the Convention on International Civil Aviation provides for Adoption of international standards and procedures requiring each contracting State undertaking to collaborate in securing the highest practicable degree of uniformity in regulations, standards, procedures, and organization in relation to aircraft, personnel, airways and auxiliary services in all matters in which such uniformity will facilitate and improve air navigation.

The International Civil Aviation Organization adopts and amends international standards and recommended practices and procedures dealing with various aspects of air navigation and such other matters concerned with the safety, regularity, and efficiency of air navigation as may from time to time appear appropriate.

Further, Article 12 of the Convention requires that each contracting State undertakes to adopt measures to ensure that every aircraft flying over or maneuvering within its territory and that every aircraft carrying its nationality mark, wherever such aircraft may be, shall comply with the rules and regulations relating to the flight and maneuvers of aircraft there in force. Each contracting State undertakes to keep its own regulations in these respects uniform, to the greatest possible extent, with those established from time to time under this Convention. Over the high seas, the rules in force shall be those established under this Convention. Each contracting State undertakes to ensure the prosecution of all persons violating the regulations applicable.

Internationally, each of the 193 contracting States has, in compliance with their national commitments and obligations under the Convention, established national civil aviation regulations with the objective of governing the aviation industry in their jurisdiction.

Article 12 of the Convention relating to scheduled air services provides that no scheduled international air service may be operated over or into the territory of a contracting State, except with the special permission or other authorization of that State, and in accordance with the terms of such permission or authorization.

The lack of an appropriate set of regulations in one contracting state jeopardizes the safety, security and economic status of international air navigation. The Civil Aviation (Surveillance and Collision Avoidance Systems) Regulations 2024 are therefore proposed to ensure fulfilment of state obligation and alignment of the Kenyan aviation system with international requirements and allow to Kenya effectively explore the potential economic and geopolitical benefits of participating in international air navigation.

4.0 Chapter Four – Evaluation of the Problem

4.1 Currency of the Civil Aviation (Surveillance and Collision Avoidance Systems) Regulations 2024

The Civil Aviation (Surveillance and Collision Avoidance Systems) Regulations were last gazetted vide Legal Notice No. 133 of 2018. ICAO has adopted a number of amendments to Annex 10 Volume IV to the Chicago convention on which the regulations are based hence operating standards and requirements have changed. As such, the Regulations promulgated in 2018 are no longer aligned to the ICAO standards. Kenya is therefore not compliant to the terms of the convention of which it is a signatory.

4.2 Sustainability of Civil Aviation System

4.2.1 International Obligation

While the International Civil Aviation Organization has a responsibility to adopt and amend from time to time, international standards and recommended practices and procedures dealing with Surveillance and Collision Avoidance Systems in accordance to Article 37 to the Chicago Convention, Kenya, as a contracting State has agreed to collaborate in securing the highest practicable degree of uniformity in its regulations, standards, procedures, and organization in relation to aircraft, personnel, airways and auxiliary services with those adopted and amended by ICAO.

To achieve effective compliance with terms of the Convention, State regulations should be comprehensive, clear, consistent and up to date. The regulations should conform with the Annexes to the Convention.

It is the responsibility of a State to develop and implement a process to ensure the timely amendment of the specific operating regulations, as necessary, in order to keep pace with the amendments to the Annexes to the Convention. The system in place should ensure that the regulations are issued at the appropriate level, as provided for by the civil aviation act. It is also required that the State ensures that the overall legislation is consistent and, in particular, that regulations are repealed when replaced by new ones.

At regional level, Kenya is a member of the East Africa Community treaty. The East Africa Community Civil Aviation Safety and Security Agency (EAC CASSOA) coordinates aviation activities at regional level and serves as the Regional Safety Oversight Organization. To achieve uniformity and standardization at Regional level, member states have agreed to jointly develop model EAC civil aviation regulations which member States should adopt. Regulations promulgated by member States therefore should reflect those developed at regional level.

4.2.2 Aviation Safety

Safety is a core value-offering of rapid and dependable air services, and international cooperation on aviation safety by governments and industry groups. Initiatives taken by ICAO in collaboration with contracting States have helped commercial air transport to become the safest way to travel.

Aviation Safety is the state in which risks associated with aviation activities, related to, or in direct support of the operation of aircraft, are reduced and controlled majorly through proactive means to an acceptable level.

ICAO working together with member States are currently working toward their agreed global safety target of zero fatalities by 2030, in tandem with the strengthening of their regulatory capacities, while pursuing a range of programmes and targets relevant to current core areas of global aviation safety planning, oversight, and risk mitigation.

Over the years, ICAO and its Member States have collaborated to develop uniform Standards and Recommended Practices (SARPs) and procedures for the safe and orderly development of international civil aviation as well as for sound and economical international air transport services. United by a common cause and commitment, ICAO and its Member States have been able to confront crucial issues and, to a great degree, overcome the challenges encountered.

A number of factors that are in play underline the importance of renewed commitment and political will on the part of governments—

- (a) an increased involvement of non-traditional sectors in civil aviation, necessitating a significantly heightened attention to matters of aviation safety within the context of wider policy initiatives;
- (b) increasing globalization of civil aviation itself, exemplified by foreign and multi-national ownership and alliances of airlines, joint marketing arrangements, multinational approaches to both technical and economic regulations, along with increasing interaction between domestic and international civil aircraft operations;
- (c) an increasing demand for flights and for the infrastructure and services that such demand generates. The growth of air transport is surpassing the capacity of many aerodromes and airspace utilization, causing authorities to reconsider concepts, processing methods and facilities. This presents the challenge of providing additional capacity while maintaining or even improving safety levels;
- (d) increasingly intense social, economic, political, environmental and other pressures on civil aviation policy, particularly at the national and regional

levels. Such pressures can result from rapid changes to socio-economic systems, which can have global effects (for example, rising expectations by society of safety levels). These pressures can also lead to conflicts such as those between safety and environmental obligations. In meeting environmental obligations, those relating to safety should not be compromised;

- (e) aviation safety is essential to ensure the healthy development of the air transport sector, which is a catalyst for sustainable development. Air transport impacts tourism and trade. It serves as the main mode of transportation to deliver humanitarian relief and response to crises and public health emergencies. It generates other socio-economic benefits which help eradicate poverty by creating jobs and enhancing air connectivity.

The State has the responsibility to regulate and supervise all aviation activities within Kenya to ensure the safe, efficient and regular operation of air services.

As such, for the State to effectively oversight aviation activities in Kenya, it must be supported with a robust and up to date regulations. The lack of up to date Surveillance and Collision Avoidance Systems regulations therefore introduces a gap in requirements to be implemented by Communication, Navigation and Surveillance (CNS) services providers and limits the State in undertaking its oversight responsibility over persons or organizations providing or intending to provide CNS services.

4.2.3 Operational rights from other jurisdictions

Kenya's Geopolitical location attracts interest from all quarters. A number of airlines and air operators operating into, out of and through Kenya have home in States that have standardized their regulations with SARPS adopted and amended by the International Civil Aviation Organization. Kenya as a State therefore stands to gain if operational rights and State regulations mirror those of jurisdictions of the target operators. The way to achieve this uniformity is by bringing Kenyan regulations as close as possible with SARPS adopted and amended by ICAO.

4.2.4 Reduction of Cost of Doing Business

The regulatory framework in place may encourages or discourage people and organizations from doing business. The sustainability of the civil aviation system is increasingly linked to the cost of doing business. Civil aviation is a cost intensive venture requiring huge sums of money to procure aviation systems, establish the requisite infrastructure, purchase aircraft and run an airline to name a few. A poorly regulated industry may never thrive owing to the negative perception associated with it, the associated high cost of doing business, high insurance premiums and the losses resulting from doing business in such an environment.

To reduce unwarranted losses, high cost of doing business and an unstable business environment, proper regulations are required. A robust regulatory framework goes a long way in assuring investors that they can invest without worrying about the possibility of their investment suddenly going down the drain because of preventable incidents, accidents, flight delays, unwarranted competition and inefficiencies in air navigation services provision. Robust regulations provide the confidence, cushion and order necessary to gain such confidence.

Establishing robust regulations for CNS service providers also assures air operators that the Kenyan airspace is safe, well-structured and designed to accommodate optimum aircraft volumes, the CNS service providers' personnel are adequately qualified before being assigned operational and maintenance tasks, the services and facilities provided meet international standards and ensure continuity of air navigation service provision.

5.0 Chapter Five – Stakeholder Consultation

5.1 Legal requirements relating to public participation and consultation

The need to amend the Civil Aviation (Surveillance and Collision Avoidance Systems) Regulations, 2018, was necessitated by a series of ICAO State Letters informing the State of amendments to Annex 10, Volume IV that would become effective on specified dates. Kenya as a contracting State was therefore required to bring its regulations into uniformity with the adopted and amended SARPS.

Public participation plays a crucial role in democratic governance by ensuring transparency, inclusivity, and accountability in decision-making processes. The Constitution of Kenya 2010, places emphasis on public participation as a fundamental principle of governance. Article 10 of the Kenya Constitution outlines the values and principles of governance, including public participation, which is crucial for achieving accountability, transparency, and public involvement in decision-making processes.

In addition, Article 118 of the constitution establishes the right to public participation in legislative and other processes of the State, ensuring that the public has an opportunity to participate in matters that affect them directly.

The requirement for public participation applies to regulation making too. As such, before the draft regulations would be forwarded for promulgation, a series of stakeholder/public engagement was conducted.

5.2 The Process of Public Consultation

The first of a series of stakeholder meeting was physically held at the Ole Sereni Hotel in Nairobi on 30th April 2019. The second Stakeholders meeting was hybrid (both physically at Four Points Hotel and virtually) between 14th – 18th June 2021. The third public engagement was a physical meeting with stakeholders held at the Emara Ole Sereni Hotel between 14th and 15th February 2022.

In each of the engagements, comments and input from stakeholders was taken and incorporated into the regulations as appropriate and the outcome presented in the succeeding engagement forum. To conclude stakeholder engagement, the Authority organized for a final regulations validation workshop at the Panari Hotel in Nairobi between 6th and 8th May 2024 to allow stakeholders to confirm that the Authority had considered and incorporated their comments and input in the final drafts of the regulations. This was the final activity that paved way for the regulation review to proceed to the next stage.

5.3 Public Notice and awareness

All stakeholders' engagement fora were advertised at least 21 days before being held in at least major local daily in accordance with applicable requirements for stakeholder engagement. Additionally, formal notice of the same was posted on the KCAA official

website. All sets of regulations to be discussed during the public participation fora were well spelt out in the adverts. An online registration form was provided on the website in addition to a form to collect stakeholder comments which was uploaded alongside the regulations on the KCAA website www.kcaa.or.ke.

5.4 Public participation forum

The physical stakeholder engagement was conducted at the Ole Sereni Hotel in Nairobi on 30th April 2019 and attended by 102 participants. The hybrid stakeholder engagement held between 14th and 18th June 2021 attracted a total attendance of 718 members of the public and aviation stakeholders. The Stakeholder engagement reports, Local daily newspaper adverts, copies of signed or digital attendance lists as applicable, Matrices containing input from stakeholders and how the same were incorporated in the regulations form annexures to this report.

5.5 Analysis and Feedback

The Authority received many memoranda from the industry and general public using the forms provided to collect stakeholder feedback. Some memoranda were delivered physically, in writing or through email. Memoranda received before stakeholder meetings were analysed, the Authority's response documented in a matrix and the same presented during the physical or virtual stakeholder engagement sessions.

Every additional effort was made to analyse each comment and give feedback to every input received from stakeholders initially on the floor of the physical or virtual engagement during question-and-answer sessions which came immediately after regulation presentations, or in writing where stakeholder input and comments were received in writing or after the engagement sessions.

For stakeholder input and comments requiring substantial analysis and amendment to draft regulations, the stakeholders were invited to shed more light on their comments and requests through physical/virtual meetings, in writing or email. Their input was then discussed and analysed together with the regulation drafters and where consensus was reached, the regulations were either re-drafted to incorporate their input or retained in cases where taking the stakeholder comments would contravene ICAO standards or international standards and practices.

At all stages of regulation making, the Authority kept in touch with stakeholders to ensure that they were fully involved and part of the process.

6.0 Chapter Six– Cost Benefit Analysis

6.1 Costs and Benefits Generally

The benefits that will accrue from promulgation of new Civil Aviation (Surveillance and Collision Avoidance Systems) Regulations, 2024 outweighs any costs to be incurred mainly by the air navigation services provider and air operators. The costs are mainly related to initial implementation costs to achieve compliance with the regulatory requirements and ensuring that all Surveillance and Collision Avoidance Systems comply with the standards. Requirements for routine flight and ground inspection ensure that the Surveillance and Collision Avoidance Systems conform to the international standards and the service provider will incur costs owing to the need for their regular maintenance of the systems.

It is however, impossible to fully quantify the cost that goes into ensuring that aviation safety which is a cardinal element of all civil aviation activities is maintained at all times. Furthermore, standards to be complied with the promulgation of these regulations have been meticulously studied and tried at international level. The results of such trials and tests have proven that the benefits accrued are worth the cost hence the adoption of the standards and recommended practices into ICAO Annex 10 Volume IV.

Table 1 below summarizes the problems promulgation of new regulations is supposed to treat, the proposed amendments as well as the attached benefits and costs.

Table 1: Cost Benefit analysis

PROBLEM	PROPOSED REFORM	BENEFITS	COST
Generic citation	Citation amended for currency		NIL
New/Missing terminologies in the Interpretation	Incorporation of the new terminologies from the ICAO Annex Amendments and also missing terminologies in the Regulations	Giving the correct meaning of technical terms used in the regulations eliminates the possibility of mis-interpretation or mis-understanding by the target group and enhances compliance and safety	NIL
Bulky regulations as a result of	All schedules moved from the Regulations and developed as a Manual of	Compliance with rulemaking requirements	NIL

schedules containing many diagrams, figures and tables	Implementing Standards.		
Conflicting use of CNS provider in reference to Security of CNS facilities	Amendment of the Regulations to reflect the requirement of the air navigation services provider to establish and implement appropriate security provisions for CNS systems	Change removes the conflict with the provisions of the Civil Aviation (Security) regulations and provides clarity to facilitate compliance and enhance safety	NIL
New ICAO Annex 10 Volume IV standards not available in the Regulations	Amendment of the Regulations to include the standards as amended in ICAO Annex 10 Vol IV since 2018.	(a) Improved safety due to improved capabilities offered by ACAS X_a/X_o, which are expected to reduce the probability of near mid-air collision and reduce the rate of unnecessary alerts (b) A positive impact on environment expected due reduced fuel consumption and noise impact (c) Improved efficiency in aircraft operations (d) Enhanced capacity	New avionics for aircrafts which are not ACAS X _a /X _o compliant

6.2 Consideration of the available options

Table 2: Alternative Approaches to Civil Aviation (Surveillance and Collision Avoidance Systems) Regulations

Option	Impact
Option One: Maintenance of the Status Quo	(a) Maintaining status quo means that no regulations are developed, thus the challenges of currency and keeping up with the international obligations and requirements will not be addressed. (b) Kenya won't be complying with terms of the Convention to which it is a signatory and hence will attract ICAO Universal Safety Oversight – continuous Monitoring Approach (USOAP-CMA) Audit findings. (c) Lack of regulations that are current will place Kenya behind other States with more current and robust regulations thereby denying the State the much desired investment in the aviation industry. (d) Safety in the Kenyan Airspace may be compromised resulting in incidents and accidents
Option Two: Administrative measures	Involves issuance of directives and circulars to the various entities and hoping that they will be implemented. Administrative measures do not have the force of law and may be challenged in court of law.
Option Three: Promulgating the Civil Aviation (Surveillance and Collision Avoidance Systems) Regulations 2024	Promulgation of the Civil Aviation (Surveillance and Collision Avoidance Systems) Regulations 2024 will enhance safety by ensuring that Kenya; (a) Secures the highest practical degree of uniformity in regulations, standards, procedures and organization in relation to aircraft, personnel, airways and auxiliary services in all matters in which such uniformity will facilitate and improve air navigation (b) Achieves a high effective implementation of standards and recommended practices by ensuring that there is compliance with ICAO standards

Option	Impact
	(c) Has clear regulations that don't need legal interpretation for someone to comply as required (d) Can effectively regulate and oversight the CNS service provider's compliance with the regulations

6.3 Impact analysis of the available Options

Table 3: Impact analysis of Civil Aviation (Surveillance and Collision Avoidance Systems) Regulations options

Aviation Sector	Option one: Maintenance of the Status Quo	Option two: Administrative measures	Option three: Promulgating the Civil Aviation (Surveillance and Collision Avoidance Systems) Regulations 2024
ANS Provider	Maintaining the current regulations poses the following challenges: 1. Difficulty in attracting international clients who are not assured of aviation safety in Kenya hence choosing to route over longer routes that pass over States perceived to run safer aviation activities. 2. Safety standards may be outdated, increasing the likelihood of accidents and incidents. 3. Operational inefficiencies due a deficiency in	Involves issuance of directives and circulars to the various entities and hoping that they will be implemented. 1. Administrative measures do not have the force of law and may be challenged in court of law. 2. Administrative documents lack the same legal standing as formal regulations and mainly contain procedural information. Dependence on administrative documents may lead to uncertainty in compliance. 3. Without a framework of formal regulations,	1. Promulgation of these Regulations will establish and enhance safety standards, reducing the risk of accidents and incidents. 2. These Regulations will carry legal weight, hence they will be clear that compliance is a requirement. Air Navigation Service providers will therefore know that they will be held accountable for non-compliance, thereby improving overall industry adherence to safety practices.

Aviation Sector	Option one: Maintenance of the Status Quo	Option two: Administrative measures	Option three: Promulgating the Civil Aviation (Surveillance and Collision Avoidance Systems) Regulations 2024
	addressing current industry practices and emerging technologies, the use of which would make flight more efficient and environmental friendly. 4. The industry may find it difficult to implement new technology which would increase airspace throughput and enhance safety. 5. Stakeholders, including passengers and industry partners, may lose confidence in the safety and reliability of air transport services. 6. Non-compliance with regulations can lead to legal challenges and increased liability for air operators.	there may be variations in how administrative documents are interpreted and applied across the industry. 4. The process of developing administrative documents may not normally involve the same level of stakeholder consultation potentially resulting in overlooked stakeholder concerns or needs. 5. Administrative documents may not impose clear accountability measures, making it difficult to hold persons responsible for non-compliance. 6. Persons may find it challenging to comply with administrative documents if they lack the rigor and specificity that formal regulations provide. 7. Administrative documents may not provide the comprehensive guidance and training	3. The New regulations promote uniformity across the aviation sector, ensuring that all ANS providers adhere to the same standards, which enhances safety and operational efficiency. 4. Well-defined regulations provide clear guidance for ANS providers, helping them understand their responsibilities and the requirements they must meet for compliance. 5. The Civil Aviation (Surveillance and Collision Avoidance Systems) regulations will enhance confidence among industry players by demonstrating a commitment to safety and regulatory compliance. 6. Updated regulations will

Aviation Sector	Option one: Maintenance of the Status Quo	Option two: Administrative measures	Option three: Promulgating the Civil Aviation (Surveillance and Collision Avoidance Systems) Regulations 2024
		necessary for effective implementation, leading to gaps in knowledge and skills among maintenance personnel. 8. Relying on administrative documents may lead to a fragmented approach to regulation, with varying practices that hinder safety and efficiency across the aviation sector. 9. Stakeholders may resist adopting administrative documents that lack the authority and clarity of formal regulations, resulting in a lack of commitment to compliance.	address new technologies, practices, and safety concerns, ensuring that the regulatory framework remains relevant and effective. 7. By using regulations aligned with international standards, the ANS provider can facilitate smoother operations. 8. A robust regulatory framework can promote a safer and more efficient aviation environment though effective air navigation services.
Air Operators	Maintaining the current regulations poses the following challenges: 1. Denies the operators the benefit of enjoying new technology that can transform their business model 2. Denies operators the benefits accrued from choosing the	1. Air operators need clear regulations and guidelines. Administrative documents lack the same legal standing as formal regulations and mainly contain procedural information. Dependence on administrative documents may lead	1. Promulgation of these Regulations will establish and enhance safety standards, reducing the risk of accidents and incidents. 2. These Regulations will carry legal weight, and hence clear that

Aviation Sector	Option one: Maintenance of the Status Quo	Option two: Administrative measures	Option three: Promulgating the Civil Aviation (Surveillance and Collision Avoidance Systems) Regulations 2024
	most optimum route for lack of assurance of the safety of their aircraft while transiting or operating in Kenya. - Safety standards may be outdated, increasing the likelihood of accidents and incident. - Operational inefficiencies due to deficiencies in addressing current industry practices and emerging technologies, the use of which would make flight more efficient and environmental friendly. - Air operators may find it difficult to implement new technology since there are no supporting regulations. - Air operators, their passengers and industry partners, may lose confidence in the safety and	to uncertainty in compliance. - Without a framework of formal regulations, there may be variations in how administrative documents are interpreted and applied across different air operators. - The process of developing administrative documents may not normally involve the same level of stakeholder consultation as formal regulatory development, potentially resulting in overlooked stakeholder concerns or needs. - Administrative documents may not impose clear accountability measures, making it difficult to hold persons responsible for non-compliance. - Persons may find it challenging to comply with administrative	compliance is a requirement. Operators therefore know that they will be held accountable for non-compliance, thereby improving overall industry adherence to safety practices. - The New regulations promote uniformity across the aviation sector, ensuring that all operators adhere to the same standards, which enhances safety and operational efficiency. - Well-defined regulations provide clear guidance for air operators, helping them understand their responsibilities and the requirements they must meet for compliance.

Aviation Sector	Option one: Maintenance of the Status Quo	Option two: Administrative measures	Option three: Promulgating the Civil Aviation (Surveillance and Collision Avoidance Systems) Regulations 2024
	reliability of air transport services. 7. Unclear regulations can lead to legal challenges and increased liability for airlines.	documents if they lack the rigor and specificity that formal regulations provide. 6. Administrative documents may not provide the comprehensive guidance and training necessary for effective implementation, leading to gaps in knowledge and skills among air operator personnel. 7. Relying on administrative documents may lead to a fragmented approach to regulation, with varying practices that hinder safety and efficiency across the aviation sector. 8. Operators may resist adopting administrative documents that lack the authority and clarity of formal regulations, resulting in a lack of commitment to compliance.	5. The Civil Aviation (Surveillance and Collision Avoidance Systems) regulations will enhance confidence among air operators by demonstrating a commitment to safety and regulatory compliance. 6. Updated regulations will address new technologies, practices, and safety concerns, ensuring that the regulatory framework remains relevant and effective. 7. By aligning regulations with international standards, the CAA can facilitate smoother operations and acceptance by foreign aviation authorities,

Aviation Sector	Option one: Maintenance of the Status Quo	Option two: Administrative measures	Option three: Promulgating the Civil Aviation (Surveillance and Collision Avoidance Systems) Regulations 2024
			improving global cooperation which is a benefit to air operators. 8. A robust regulatory framework can promote a safer and more efficient aviation environment, which can contribute to the growth of the aviation sector and the broader economy.
The State	1. A lack of robust regulations can deter investment in the aviation sector, stunting growth and economic development in the country and regional connectivity. 2. The public may not have a way to seek recourse against aviation activities that affect them 3. The State may lose its standing as a major aviation hub to other upcoming	1. Administrative documents lack the same legal standing as formal regulations and mainly contain procedural information. Depending on them may lead to uncertainty in enforcement and compliance. 2. Without a framework of formal regulations, the State may not be able to control the varied understanding and interpretation of administrative documents by target	1. Regulations will provide the public with a legal way to seek recourse against owners of aviation activities that affect them 2. A robust regulatory framework can promote a safer and more efficient aviation environment, which can contribute to the growth of the aviation sector

Aviation Sector	Option one: Maintenance of the Status Quo	Option two: Administrative measures	Option three: Promulgating the Civil Aviation (Surveillance and Collision Avoidance Systems) Regulations 2024
	markets with more robust regulatory frameworks.	persons or organizations. 3. The process of developing administrative documents may not normally involve the same level of stakeholder consultation as formal regulatory development, potentially resulting in overlooked stakeholder concerns or needs which may negatively affect the State's credibility. 4. Administrative documents may not impose clear accountability measures, making it difficult for the State to hold persons responsible for non-compliance. 5. Stakeholders may resist adopting administrative documents that lack the authority and clarity of formal regulations, resulting in a lack of commitment to compliance.	and the broader economy. 3. Provides the State with a basis on which to carry out oversight 4. Enables institution of enforcement action against violators 5. Enhances the Kenya's standing among peers 6. Enables compliance with international standards

Aviation Sector	Option one: Maintenance of the Status Quo	Option two: Administrative measures	Option three: Promulgating the Civil Aviation (Surveillance and Collision Avoidance Systems) Regulations 2024
The Authority	1. Makes it difficult on the part of the Authority to carry out effective oversight owing to deficiencies in the current regulations. 2. The Authority may lose credibility and trust among stakeholders for not initiating the amendment of regulations and bringing them to effect in a timely manner. 3. The authority may struggle to effectively oversee safety practices, leading to potential increase in accidents and incidents within the aviation sector. 4. The authority may face increased legal challenges and liabilities if accidents occur due to outdated or inadequate Surveillance and Collision Avoidance Systems regulations.	1. Administrative documents typically do not carry the same legal weight as formal regulations, making enforcement difficult and leading to uncertainty among stakeholders about compliance requirements. 2. Without formal Regulations, there may be inconsistencies in how the administrative documents are interpreted and applied across different industry players. 3. The process of developing administrative documents may not involve comprehensive consultations with all relevant stakeholders, potentially missing important input from industry experts, operators and consumers of air navigation services.	1. Promulgation of these Regulations will establish and enhance safety standards, reducing the risk of accidents and incidents. 2. These Regulations will carry legal weight, allowing the CAA to enforce compliance and hold persons accountable for non-compliance, thereby improving overall industry adherence to safety practices. 3. The New regulations promote uniformity across the aviation sector, ensuring that all air navigation services' providers adhere to the same standards, which enhances safety and operational efficiency. 4. Well-defined regulations provide clear

Aviation Sector	Option one: Maintenance of the Status Quo	Option two: Administrative measures	Option three: Promulgating the Civil Aviation (Surveillance and Collision Avoidance Systems) Regulations 2024
	5. The authority may experience challenges in coordinating with other national and international regulatory bodies owing to different levels of compliance with international standards thereby complicating collaborative efforts to enhance aviation safety and security.	4. Administrative documents can sometimes lack the specificity and clarity needed to guide organizations effectively, leading to confusion about applicable standards and practices. 5. It may be challenging to hold persons accountable for non-compliance if the guidelines are not formally codified into regulation, which can lead to a lack of adherence to safety standards. 6. Relying on administrative documents can lead to a fragmented regulatory framework, where different persons may adopt varying practices that compromise overall safety and operational efficiency. 7. Administrative documents may not cover all necessary aspects of air navigation services	guidance for industry players, helping them to understand their responsibilities and the requirements they must meet for compliance. 5. The CAA can conduct more effective oversight and monitoring of the industry, facilitating better risk management and safety assurance. 6. The Civil Aviation (Surveillance and Collision Avoidance Systems) regulations will enhance confidence among stakeholders by demonstrating a commitment to safety and regulatory compliance. 7. Updated regulations will address new technologies, practices, and safety concerns,

Aviation Sector	Option one: Maintenance of the Status Quo	Option two: Administrative measures	Option three: Promulgating the Civil Aviation (Surveillance and Collision Avoidance Systems) Regulations 2024
		provision, leaving potential gaps that could jeopardize safety. 8. Stakeholders may be less likely to adhere to administrative guidelines that lack the authority of formal regulations, reducing the effectiveness of the intended safety measures.	ensuring that the regulatory framework remains relevant and effective. 8. A robust regulatory framework can promote a safer and more efficient aviation environment, which can contribute to the growth of the aviation sector and the broader economy.

6.4 Preferred Option

Based on the above analysis, it is clear that benefits of promulgating the Civil Aviation (Surveillance and Collision Avoidance Systems) Regulations, outweigh the costs and therefore the Kenya Civil Aviation Authority prefers option three over the other two other options.

7.0 Chapter Seven – Compliance and Implementation

As different aspects of the proposed Regulations are evaluated and analyzed, it is important to determine how compliance and implementation of the actual provisions will be achieved. It is the duty of the Regulator to assess the adequacy of the institutional framework and other incentives through which the Regulations will take effect, and design responsive implementation strategies that make the best use of them.

In an ideal situation an institution responsible for enforcement of the Regulations should have the capacity of co-ordination of institutional frameworks from a whole-of-government perspective, independent and sufficient authority, political support at a high political level, and integration into a broad concept of reform. KCAA has been implementing the current Regulations for over 5 years now and has demonstrated capacity to implement the proposed Regulations and has indeed put in place a plan as outlined in the Strategic Plan 2023-2028 of strengthening its institutional capacity to enable it enforce full compliance with the proposed Regulations.

8.0 Chapter Eight – Conclusions & Recommendations

8.1 Conclusions

Based on the above analysis, the following conclusions are drawn in respect of the draft Civil Aviation (Surveillance and Collision Avoidance Systems) Regulations, 2024:

- 8.1.1 Section 82 of the Civil Aviation Act empowers the Cabinet Secretary in Consultation to give effect to and for the better carrying out of the objects and purposes of this Act, to provide generally for regulating air navigation, air transport, air accident investigation and carrying out and giving effect to any convention.
- 8.1.2 Section 5 of the Statutory Instruments Act requires that a regulation making authority to conduct public consultations and drawing on the knowledge of persons having expertise in fields relevant to the proposed statutory instrument; and to ensure that persons likely to be affected by the proposed statutory instrument had an adequate opportunity to comment on its proposed content. Sections 6 and 7 require that RIA be prepared where a statutory instrument is likely to impose significant costs on the community. This RIA thus contains certain the following key elements:
 - (a) a statement of the objectives of the proposed legislation and the reasons.
 - (b) a statement explaining the effect of the proposed legislation.
 - (c) a statement of other practicable means of achieving those objectives, including other regulatory as well as non-regulatory options.

- (d) an assessment of the costs and benefits of the proposed statutory rule and of any other practicable means of achieving the same objectives; and
- (e) the reasons why the other means are not appropriate.

8.2 Recommendations

In view of the above conclusions, it is recommended that the draft Civil Aviation (Surveillance and Collision Avoidance Systems) Regulations 2024 be adopted.

9.0 Annexures

- 9.1 The Draft Civil Aviation (Surveillance and Collision Avoidance Systems) Regulations 2024
- 9.2 Matrix for stakeholder consultations
- 9.3 Stakeholder Conference attendance lists
- 9.4 Stakeholder Conference Reports
- 9.5 Stakeholder conference advertisements (Newspaper pullouts)