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FOURTEENTH AIR NAVIGATION CONFERENCE

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Agenda Item 2: Timely and safe use of new technologies

2.2: Addressing safety risks related to evolving aviation technologies

**SANCTIONED SKIES: THE NEGATIVE IMPACT OF
POLITICAL SANCTIONS ON GLOBAL AIR NAVIGATION**

(Presented by Iran (Islamic Republic of))

EXECUTIVE SUMMARY

This paper presents challenges and consequences of the sanctions imposed on Iran's aviation sector on global air navigation. Iran's sanctions have had a profound impact on global air navigation, particularly for countries reliant on Iranian airspace for overflight purposes. The restrictions imposed by sanctions not only disrupt air traffic flow and increase operational costs but also hinder the import of essential new technologies crucial for the advancement of air navigation systems. This paper explores the adverse effects of sanctions on Iran, emphasizing the challenges faced in importing new technologies necessary for enhancing the efficiency and safety of global air navigation. Addressing these limitations is crucial for ensuring the continued development and performance of air navigation systems worldwide.

This working paper sets the stage for exploring how sanctions have hindered Iran's progress in adopting innovative solutions for air navigation and underscores the importance of addressing these limitations to enhance global aviation safety and efficiency. The study recommends removal of sanctions to promote cooperation and capacity building in Iran's aviation sector to ensure safe and efficient global air navigation.

Action: The Conference is invited to:

- a) acknowledge the adverse effect of sanctions on the global aviation safety;
- b) establish a working group to conduct a thorough study of the adverse effects of sanctions imposed by some specific countries on the global aviation industries;
- c) encourage ICAO to utilize all available resources to alleviate sanctions within the aviation sector;
- d) propose the formation of specialized panels to investigate the detrimental effects of embargoes on the global aviation industry; and
- e) encourage ICAO to establish a working group to investigate the legal effects of sanctions which are against the Chicago Convention and to explore how sanctions can prevent ICAO from achieving its goals.

1. INTRODUCTION

1.1 Iran's geopolitical significance in connecting East and West in global air navigation is undeniable. However, the imposition of sanctions on Iran has had significant repercussions on the performance and development of global air navigation, particularly for countries needing to utilize Iranian airspace for overflight purposes. This working paper aims to outline the adverse effects of sanctions on Iran and its impact on global air navigation.

2. ADVERSE EFFECTS OF POLITICAL SANCTIONS ON GLOBAL AIR NAVIGATION

2.1 **Disruption of Air Traffic Flow:** The imposition of sanctions on Iran can disrupt the smooth flow of air traffic, leading to operational inefficiencies in global air navigation systems. Airlines may face challenges in maintaining optimal flight schedules and routes, impacting overall air traffic management. This disruption can result in delays, increased fuel consumption, and higher operational costs for airlines navigating through the region.

2.2 **Increased Flight Costs:** Sanctions restricting the use of Iranian airspace can force airlines to take longer flight routes to bypass the region, resulting in higher fuel consumption and increased operational costs. The additional distance travelled to avoid Iranian airspace can lead to significant financial burdens for airlines, affecting their competitiveness and profitability. These increased flight costs can ultimately be passed on to passengers through higher ticket prices, impacting the affordability of air travel.

2.3 **Limited Airspace Options:** Sanctions on Iran can limit airspace options for airlines, reducing the flexibility in flight planning and operations. Airlines may face constraints in choosing optimal routes, leading to suboptimal flight paths and longer travel times. This limitation in airspace options can hinder airlines' ability to adapt to changing weather conditions, air traffic congestion, or other operational factors, impacting the efficiency of air navigation systems.

2.4 **Delayed Flights:** Restrictions on using Iranian airspace can result in delays in flight schedules, affecting the punctuality and reliability of air travel services. Airlines may experience increased turnaround times at airports due to longer flight routes, leading to disruptions in their operational schedules. These delays can cause inconvenience for travellers and additional operational challenges for airlines.

2.5 **Safety Concerns:** The limited access to Iranian airspace due to sanctions may raise safety concerns for airlines, as alternative routes may not offer the same level of safety, security and infrastructure. Airlines may be forced to navigate through unfamiliar airspace or regions with potentially higher risks, compromising the safety of air travel operations. The lack of access to well-established air traffic control systems and communication networks in some neighbouring airspace can pose challenges for airlines in ensuring the safe and efficient flow of air traffic.

2.6 **Operational Challenges:** Sanctions on Iran can pose operational challenges for airlines, requiring them to adapt to new flight paths, procedures and regulations. Airlines may need to invest additional resources in training pilots, updating navigation systems, and coordinating with air traffic control authorities to comply with the restrictions imposed on Iranian airspace. These operational challenges can lead to increased administrative burdens, delays in flight planning and disruptions in the seamless coordination of air traffic management systems.

2.7 **Economic Impact:** The imposition of sanctions on Iran can have significant economic repercussions on the global aviation industry, affecting airlines, airports and related businesses. Airlines

operating in the region may experience financial losses due to increased operational costs, reduced efficiency in flight operations and potential disruptions in air travel services.

2.8 **Regulatory Compliance:** Sanctions may necessitate additional regulatory compliance measures for airlines operating in the region, adding to the complexity of air navigation regulations and procedures. Airlines navigating through Iranian airspace may be required to adhere to specific restrictions, reporting requirements and safety protocols imposed by international aviation authorities.

2.9 **Airspace Congestion:** Restrictions on Iranian airspace can lead to increased congestion in neighbouring airspace regions, affecting air traffic management and coordination. Airlines diverting from Iranian airspace may concentrate air traffic in alternative routes, leading to overcrowding, delays and potential safety risks in surrounding airspace sectors. The increased congestion resulting from sanctions can strain air traffic control systems, communication networks and navigation infrastructure, impacting the overall efficiency and safety of global air navigation operations.

2.10 **Environmental Impact:** The longer flight routes necessitated by restrictions on Iranian airspace can result in increased carbon emissions and environmental impact, affecting sustainability goals in air transportation. Airlines diverting from Iranian airspace may consume more fuel, release higher levels of greenhouse gases, and contribute to environmental degradation through extended flight distances. The environmental impact of sanctions on Iran can undermine efforts to reduce carbon footprints, mitigate climate change and promote eco-friendly practices in the aviation industry. The additional fuel consumption and emissions resulting from longer flight routes can exacerbate environmental challenges and hinder progress towards achieving sustainable air navigation systems.

2.11 **Route Optimization Challenges:** Sanctions on Iran can impede route optimization efforts for airlines, affecting fuel efficiency, operational performance and cost-effectiveness in air navigation. Airlines may encounter challenges in optimizing flight paths, adjusting routes in real-time, and minimizing fuel consumption due to restrictions on using Iranian airspace. The limitations in route optimization resulting from sanctions can lead to suboptimal flight trajectories, increased operational costs, and reduced competitiveness for airlines navigating through the region. The inability to optimize flight routes efficiently can hinder airlines' efforts to enhance fuel efficiency, reduce emissions and improve overall operational performance in global air navigation systems.

2.12 **Air Traffic Control Coordination:** Sanctions may disrupt air traffic control coordination in the region, leading to inefficiencies in managing air traffic, ensuring safety and optimizing airspace utilization. Air traffic control authorities navigating through alternative routes to avoid Iranian airspace may face challenges in coordinating flight paths, monitoring air traffic flow and responding to dynamic operational conditions. The disruptions in air traffic control coordination resulting from sanctions can impact the efficiency of airspace management, communication protocols and navigation procedures. The lack of seamless coordination between air traffic control centers can lead to delays, congestion and safety risks in neighbouring airspace sectors, affecting the overall performance of global air navigation systems.

2.13 **Impact on Global Connectivity:** Restrictions on Iranian airspace can hinder global connectivity, affecting the seamless flow of air traffic between regions, continents and international airports. Airlines diverting from Iranian airspace may experience challenges in maintaining direct flight connections, efficient travel routes and convenient transit options for passengers. The impact on global connectivity resulting from sanctions can disrupt the interconnected network of air routes, flight schedules and aviation services, affecting the accessibility and reliability of air travel worldwide. The limitations in global connectivity imposed by sanctions can hinder international trade, tourism and cultural exchange, undermining the interconnectedness and accessibility of air transportation systems.

2.14 **Aviation Infrastructure Development:** Sanctions on Iran can impede the development of aviation infrastructure in the region, hindering progress in enhancing air navigation capabilities, safety standards and operational efficiency. The restrictions on using Iranian airspace may limit investments in airport facilities, air traffic control systems and navigation technologies, affecting the modernization and expansion of aviation infrastructure. The impact on aviation infrastructure development resulting from sanctions can slow down the implementation of critical projects, upgrades and improvements needed to support the growth of air transportation services. The lack of access to Iranian airspace can hinder the advancement of aviation infrastructure, navigation infrastructure and safety protocols, delaying the overall development of air navigation systems in the region.

2.15 **Airline Network Planning:** Sanctions on Iran can complicate airline network planning, requiring adjustments to route maps, flight schedules and operational strategies to navigate through alternative airspace regions. Airlines may need to re-evaluate their network planning decisions, route allocations and fleet deployment strategies in response to restrictions on using Iranian airspace. The challenges in airline network planning resulting from sanctions can impact the efficiency of flight operations, the reliability of air travel services and the competitiveness of airlines in the global market. The need for adjustments in network planning can lead to increased administrative costs, operational complexities and uncertainties in long-term strategic decision-making for airlines navigating through the region.

2.16 **International Cooperation:** Sanctions on Iran can strain international cooperation efforts in air navigation, affecting collaborative initiatives, airspace agreements and regulatory harmonization between countries. The imposition of sanctions may create barriers to effective communication, data sharing and coordination among aviation authorities, air traffic control centres and airlines operating in the region. The challenges in international cooperation resulting from sanctions can hinder joint efforts to enhance air navigation safety, optimize airspace utilization and promote best practices in global aviation standards. The strain on international cooperation efforts imposed by sanctions can impede progress in establishing common frameworks, interoperable systems and shared responsibilities for ensuring the efficiency and safety of air navigation systems worldwide.

2.17 **Uncertainty in Airspace Access:** Sanctions create uncertainty regarding airspace access over Iran, leading to challenges in long-term planning, operational decision-making, and strategic investments for airlines and aviation stakeholders. The lack of clarity on airspace access policies, restrictions and regulatory frameworks can create uncertainties for airlines navigating through the region. The uncertainty in airspace access resulting from sanctions can hinder airlines' ability to make informed decisions, allocate resources effectively and ensure the continuity of air travel services. The challenges in airspace access planning can impact the reliability of flight operations, the sustainability of air navigation systems and the resilience of aviation stakeholders in adapting to changing operational conditions and regulatory environments.

3. **CONCLUSION**

3.1 The disadvantages of sanctions on Iran extend beyond the country itself and have far-reaching implications for global air navigation systems. It is essential for stakeholders to address these challenges collaboratively, implement effective mitigation strategies and promote dialogue to ensure the continued safety, efficiency and development of air navigation systems worldwide. By recognizing the specific impacts of sanctions on global air navigation and working towards solutions to mitigate these effects, the aviation industry can navigate through these challenges and uphold the principles of safe, secure and sustainable air transportation for all.