फा. सं. ऐरा/25012/पीईआरएफ-एसटीडीएस/2009/खंड-III

F. No. AERA/25012/PERF-STDS/2009/Vol-III

परामर्श पत्र संख्या 03/ 2025-26

CONSULTATION PAPER NO.: 03/2025-26

सत्यमेव जयते

नागर विमानन मंत्रालय

Ministry of Civil Aviation

भारतीय विमानपत्तन आर्थिक विनियामक प्राधिकरण

Airports Economic Regulatory Authority of India

प्रमुख हवाई अड्डों के लिए सेवा की गुणवत्ता, निरंतरता और विश्वसनीयता तथा संबद्ध गतिविधियों के संबंध में कार्य-निष्पादन मानक तैयार करना।

Formulation of Performance Standards of Major Airports relating to Quality, Continuity and Reliability of Service and Associated Activities

जारी करने की तारीख: 18 अगस्त, 2025

Date of Issue: 18th August, 2025

PREFACE AND STAKEHOLDERS' CONSULTATION

The Ministry of Civil Aviation (MoCA) is responsible for formulation of national policies and programmes for the development and regulation of the civil aviation sector in the country. MoCA is responsible for the administration of the **Airports Economic Regulatory Authority of India Act, 2008,** Bharatiya Vayuyan Adhiniyam, 2024 and various other legislations pertaining to the aviation sector in the country.

The Parliament of India enacted the **"Airports Economic Regulatory Authority of India Act, 2008"** (hereinafter referred to as the 'Act') for the establishment of the **Airports Economic Regulatory Authority of India (AERA)** to regulate tariff and other charges for the aeronautical services rendered at airports and to monitor the set performance standards of airports and for matters connected therewith or incidental thereto. Accordingly, AERA was formally established by the Government of India (GoI) vide its Notification No. GSR 317(E) dated 12th May, 2009 with the primary objective of carrying out the functions as stipulated in the Act. The provisions of the Act came into force w.e.f. 1st January, 2009 (except for Chapter III and Chapter IV which came into force w.e.f. 1st September, 2009). Chapter VII of the AERA Act, 2008 titled **"Miscellaneous"** mentions the functions of the Central Government in respect of performance standards of major airports as:

- *"51 (1) Power to make rules. — (1) The Central Government may, by notification in the Official Gazette, make rules for carrying out the provisions of this Act*
- *51 (2) In particular, and without prejudice to the generality of the foregoing power, such rules may provide for all or any of the following matters, namely: —*

  > *"51 (2) (f) the performance standards relating to the quality, continuity and reliability of the service to be monitored under clause (d) of sub-section (1) of section 13;"*

Chapter III of the AERA Act, 2008 titled **"Powers and Functions of the Authority"** further details the functions of the AERA in respect of performance standards of major airports as:

- *"13 (1) (a) (ii) to determine the tariff for the aeronautical services taking into consideration — the service provided, its quality and other relevant factors;"*
- *"13 (1) (d) to monitor the set performance standards relating to quality, continuity and reliability of service as may be specified by the Central Government or any authority authorized by it in this behalf;"*
- *"14 (1) (a) Where the Authority considers it expedient so to do, it may by order in writing—call upon any service provider at any time to furnish in writing such information or explanation relating to its functions as the Authority may require to access the performance of the service provider;"*
- *"14 (4) The Authority shall have the power to issue such directions to monitor the performance of the service providers as it may consider necessary for proper functioning by service providers."*

Thus, as per Section 51 of the AERA Act, 2008, the Central Government will make rules on performance standards relating to the quality, continuity and reliability of the service which shall be monitored by AERA and taken into consideration while determining tariffs for aeronautical services as per Section 13 of the AERA Act, 2008.

It is noted that the aviation sector has evolved significantly over the past decade in terms of passenger volumes, infrastructure capacity, use of technology and service expectations. Innovations such as Digi Yatra, self-baggage drop, and e-gates, along with evolving policy protocols, have further transformed

the operating environment. This growth has been accompanied by investments in airport development and operations, financed through user charges.

Concomitant with these investments has been an evolution in passenger expectations on quality, continuity and reliability of services at the airport. As users of upgraded infrastructure funded through tariffs, passengers expect service quality that is commensurate with the investments and the resultant airport charges for the facilities provided. Where infrastructure is funded through regulated tariffs, it is imperative that corresponding obligations be placed on airports to ensure delivery of commensurate levels of service.

In view of the above, the Ministry of Civil Aviation (MoCA) has taken a decision to establish a uniform set of performance standards at major airports in the country. MoCA entrusted Airports Economic Regulatory Authority of India (AERA) to undertake an assessment and prepare a framework for performance standards at airports. In compliance with this directive, AERA undertook a detailed study encompassing multiple dimensions, including existing service quality requirements at Indian airports, international service quality benchmarks, and global regulatory frameworks governing airport performance. AERA has formulated framework for performance standards at major airports and duly apprised the Ministry of Civil Aviation on it. Accordingly, a draft Consultation Paper has been formulated for the aforesaid framework of performance standards.

Draft consultation paper for these uniform performance standards relating to quality, continuity and reliability of services at major airports and their monitoring aims to improve transparency, reliability, and accountability for ensuring that the service delivery keeps pace with the sector's rapid transformation and it continues to meet the needs of airport users effectively. In addition, these will be linked to airport tariffs through a balanced framework that incorporates both rebates for non-compliance and incentives for encouraging continuous service improvement for exceeding benchmarks while ensuring compliances.

MoCA vide letter no. AV-24026/2/2015-AD dated 29 July 2025 directed AERA to release this Consultation Paper and to carry out the public consultation process with the stakeholders. The written comments on Consultation Paper No. 03/2025-26 dated 18 August 2025, are invited from the stakeholders, preferably in electronic form, at the following address:

Director (P&S, Tariff)
Airports Economic Regulatory Authority of India (AERA)
3rd Floor, Udaan Bhawan,
Safdarjung Airport,
New Delhi – 110003.
Email: director-ps@aera.gov.in, rajan.gupta1@aera.gov.in, inderpal.s@aera.gov.in, copy to secretary@aera.gov.in

Stakeholders' consultation meeting	09/09/2025
Last Date for submission of comments	24/09/2025

Comments will be posted on AERA's website: www.aera.gov.in. In accordance with MoCA's letter no. AV-24026/2/2015-AD dated 29 July 2025, after completion of this consultation exercise by AERA on behalf of MoCA and after its due finalization, MoCA shall notify Rules for Performance Standards at major airports under section 51(2)(f) of the AERA Act, 2008.

For any clarification/ information, Director (P&S, Tariff) may be contacted at email:director-ps@aera.gov.in / telephone: 011-24695043.

LIST OF ABBREVIATIONS

Abbreviation	Expansion
AAI	Airports Authority of India
A/C	Aircraft
ACI	Airports Council International
ACCC	Australian Competition and Consumer Commission
AEDs	Automated External Defibrillators
AERA	Airports Economic Regulatory Authority of India
AERA Act	Airports Economic Regulatory Authority of India Act, 2008 (as amended by Airports Economic Regulatory Authority of India (Amendment) Act, 2019 and 2021
ANA	Aeroportos de Portugal
AOCC	Airport Operations Control Centre
AOC	Airline Operators Committee
AODB	Airport Operational Database
ARFF	Aircraft Rescue and Fire Fighting
ARR	Aggregate Revenue Requirement
ASQ	Airport Service Quality
ATC	Air Traffic Control
ATFM	Air Traffic Flow Management
ATM	Air Traffic Management
ATM	Automated Teller Machine
ATRS	Automated Tray Retrieval System
A320	Airbus A320
BCAS	Bureau of Civil Aviation Security
BIAL	Bangalore International Airport Limited
BoI	Bureau of Immigration
B737	Boeing 737
CAA	Civil Aviation Authority
CA	Concession Agreement
CAPEX	Capital Expenditure
CCSIA	Chaudhary Charan Singh International Airport
CCTV	Closed-Circuit Television
CIQ	Checking time in queue
CISF	Central Industrial Security Force
CNS	Communication, Navigation, and Surveillance
COD	Commercial Operations Date
CSMIA	Chhatrapati Shivaji Maharaj International Airport
CTX	Computed Tomography X-ray
DFMD	Door Frame Metal Detector
DGCA	Directorate General of Civil Aviation
DIAL	Delhi International Airport Limited
DISCOMs	Distribution Companies
ETD	Estimated Time of Departure
FIDS	Flight Information Display System

Abbreviation	Expansion
FRoR	Fair Rate of Return
FTI	Fast Track Immigration
GHAs	Ground Handling Agencies
GoI	Government of India
GSR	General Statutory Rules
HHMD	Hand-Held Metal Detector
HIAL	Hyderabad International Airport Limited
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
ID	Identity Document
IGIA	Indira Gandhi International Airport
ILS	Instrument Landing System
IRVR	Instrument Runway Visual Range
JV	Joint Venture
JVC	Joint Venture Company
KIA	Kempegowda International Airport
KLIA	Kuala Lumpur International Airport
KPIs	Key Performance Indicators
LGBIA	Lokpriya Gopinath Bordoloi International Airport
MAVCOM	Malaysian Aviation Commission
MCT	Minimum Connect Time
MIAL	Mumbai International Airport Limited
MIA	Manohar International Airport
mins	Minutes
MoCA	Ministry of Civil Aviation
MoP	Ministry of Power
mppa	Million Passenger Per Annum
MYTO	Multi-Year Tariff Order
MYTP	Multi-Year Tariff Proposal
NAR	Non-Aeronautical Revenue
NCAP	National Civil Aviation Policy
NIA	Noida International Airport
NMIA	Navi Mumbai International Airport
NPT	Normative Processing Time
NSCBIA	Netaji Subhash Chandra Bose International Airport
O&M	Operations & Maintenance
OMDA	Operation, Management, and Development Agreement
OPEX	Operational Expenditure
PBB	Passenger Boarding Bridges
PPP	Public-Private Partnerships
Pax	Passenger(s)
PRM	Persons with Reduced Mobility
QoS	Quality of Service
RAB	Regulatory Asset Base

Abbreviation	Expansion
RGIA	Rajiv Gandhi International Airport
SBD	Self-Bag Drop
SCADA	Supervisory Control and Data Acquisition
secs	Seconds
SHA	Security Hold Area
SLAs	Service Level Agreements
SMR	Surface Movement Radar
STD	Scheduled Time of Departure
SVPIA	Sardar Vallabhbhai Patel International Airport
TRAI	Telecom Regulatory Authority of India
TTP	Trusted Travellers' Programme
UDF	User Development Fee
UK	United Kingdom
Wi-Fi	Wireless Fidelity
X-BIS	X-ray Baggage Inspection System

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

1 BACKGROUND

Airport services are characterised by natural monopoly or limited competition, wherein users have limited options on service providers. In such an environment, the role of the regulator extends beyond tariff determination to ensuring that services are delivered efficiently, transparently, and to a standard that meets both operational and user expectations.

While pricing frameworks have traditionally been a central focus of regulatory oversight, the quality of service delivered is equally critical, as it directly influences user satisfaction and the overall efficiency of airport operations. In environments where competitive alternatives are limited, performance monitoring serves as a proactive mechanism to support continuous service enhancement. Accordingly, there exists a compelling need to establish a structured, uniform, enforceable framework of service quality standards across all major Airports in India – comprising both objective metrics and user-centric indicators – that can be embedded within tariff regulation through ongoing performance monitoring. Such standards are instrumental in safeguarding passenger interests, enhancing accountability, and promoting continuous improvement across airport operations.

In furtherance of this regulatory objective, the formulation and monitoring of service quality standards form an indispensable adjunct to economic regulation.

1.1 LEGAL FRAMEWORK

1.1.1 The Ministry of Civil Aviation (MoCA) is responsible for formulation of national policies and programmes for the development and regulation of the Civil Aviation sector in the country. MoCA is responsible for the administration of the Airports Economic Regulatory Authority of India Act, 2008, Bharatiya Vayuyan Adhiniyam, 2024 and various other legislations pertaining to the aviation Sector in the country.

1.1.2 The Parliament of India enacted the "Airports Economic Regulatory Authority of India Act, 2008" (hereinafter referred to as the 'Act') for the establishment of the Airports Economic Regulatory Authority of India (AERA) to regulate tariff and other charges for the aeronautical services rendered at airports and to monitor the set performance standards of airports and for matters connected therewith or incidental thereto. Accordingly, AERA was formally established by the Government of India (GoI) vide its Notification No. GSR 317(E) dated 12th May, 2009 with the primary objective of carrying out the functions as stipulated in the Act. The provisions of the Act came into force w.e.f. 1st January, 2009 (except for Chapter III and Chapter IV which came into force w.e.f. 1st September, 2009).

1.1.3 Chapter VII of the AERA Act, 2008 titled "Miscellaneous" mentions the functions of the Central Government in respect of performance standards of major airports as:

- *"51 (1) Power to make rules. — (1) The Central Government may, by notification in the Official Gazette, make rules for carrying out the provisions of this Act*
- *51 (2) In particular, and without prejudice to the generality of the foregoing power, such rules may provide for all or any of the following matters, namely: —*

  "51 (2) (f) the performance standards relating to the quality, continuity and reliability of the service to be monitored under clause (d) of sub-section (1) of section 13;"

1.1.4 Chapter III of the AERA Act, 2008 titled "Powers and Functions of the Authority" further details the functions of the AERA in respect of performance standards of major airports as:

- *"13 (1) (a) (ii) to determine the tariff for the aeronautical services taking into consideration — the service provided, its quality and other relevant factors;"*
- *"13 (1) (d) to monitor the set performance standards relating to quality, continuity and reliability of service as may be specified by the Central Government or any authority authorized by it in this behalf;"*
- *"14 (1) (a) Where the Authority considers it expedient so to do, it may by order in writing— call upon any service provider at any time to furnish in writing such information or explanation relating to its functions as the Authority may require to access the performance of the service provider;"*
- *"14 (4) The Authority shall have the power to issue such directions to monitor the performance of the service providers as it may consider necessary for proper functioning by service providers."*

1.1.5 Thus, as per Section 51 of the AERA Act, 2008, the Central Government will make rules on performance standards relating to the quality, continuity and reliability of the service which shall be monitored by AERA and taken into consideration while determining the tariffs for the aeronautical services as per Section 13 of the AERA Act, 2008.

1.1.6 In view of the above, the Ministry of Civil Aviation (MoCA) has taken a decision to establish a uniform set of performance standards at major airports in the country. MoCA entrusted Airports Economic Regulatory Authority of India (AERA) to undertake an assessment and prepare a framework for performance standards at airports. AERA had appointed an independent consultant, i.e., M/s KPMG in India, to support in providing inputs for formulation of the performance standards for major airports. Accordingly, the aforesaid consultant has assisted in analyzing documents, international benchmarks and conducted 8 airport site visits to gather inputs for the Authority.

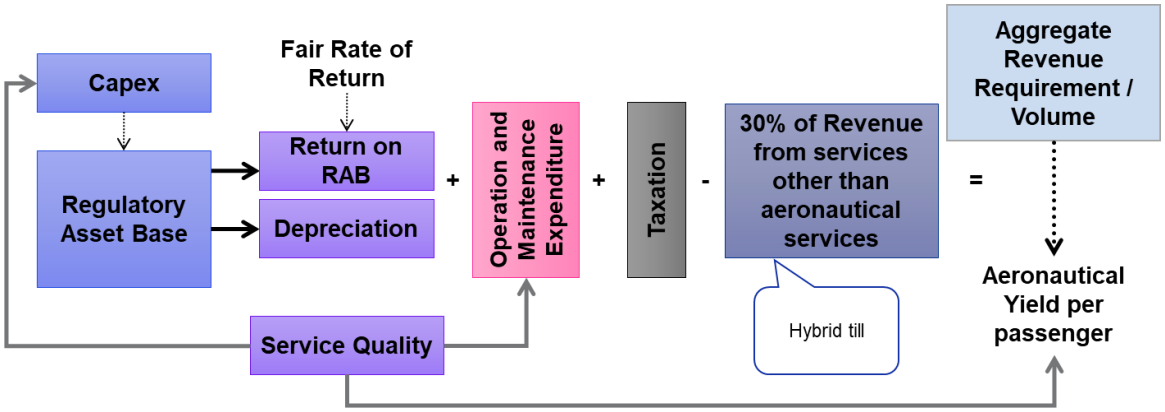
1.1.7 In accordance with MoCA's letter no. AV-24026/2/2015-AD dated 29 July 2025, AERA has released this Consultation Paper to facilitate stakeholder consultation process. After completion of this consultation exercise by AERA on behalf of MoCA and after its due finalization, MoCA shall notify Rules for Performance Standards at major airports under section 51(2)(f) of the AERA Act, 2008.

1.2 EXISTING PERFORMANCE MONITORING MECHANISM

1.2.1 AERA had released Direction No. 05/2010-11 dated 28.02.2011, *"Terms and conditions for Determination of Tariff for Airport Operators",* which stipulates the Objective and Subjective Key Performance Indicators (KPIs) as given in Annexure 13.6, its measurement mechanism, measurement frequency and also defines the service quality rebate term for adjustment in tariffs in case of default in the KPIs.

1.2.2 As per clause 4.2 of the Direction No. 05/2010-11 dated 28.02.2011, *"Terms and conditions for Determination of Tariff for Airport Operators"* and subsequent amendments through Order No. 14/2016-17 dated 12 January 2017*,* the service quality is an integral part of the tariff determination process as reproduced below:

Figure 1: Service quality within the framework of Regulatory Building Blocks of AERA



1.3 NEED FOR THE NEW PERFORMANCE STANDARDS

While a performance monitoring mechanism is currently in place but the same is not effective as the monitoring is being done by airport operator or a third-party contracted by the airport operator. There is a need for an independent third-party assessor to undertake monitoring of performance parameters. Further, the evolving landscape of Indian aviation, especially technological advancements, has brought to light opportunities for enhancing the existing framework to better reflect current operational realities and passenger expectations. Over the years, valuable operational experience and stakeholder feedback have underscored the need for refining service quality benchmarks to ensure they remain responsive and comprehensive. Instances such as increased passenger volumes, dynamic queuing patterns, and occasional service disruptions, even at airports deemed compliant, highlight the need for a more nuanced and granular approach to performance assessment. Feedback from passengers and stakeholders has been instrumental in identifying areas where service delivery could be further aligned with expectations.

One area of focus is the existing reliance on aggregate satisfaction scores, which, while useful, may not always capture specific service–level challenges. Introducing more detailed and targeted indicators can enhance the ability to identify improvement areas, support timely interventions, and foster a more responsive service environment.

Additionally, airport infrastructure and service delivery standards have undergone significant evolution over the past decade driven by new concessions, enhanced passenger expectations, increased traffic volumes, technological advancements and changes in regulatory and security protocols. These include emergence of several airports concessioned out on JVC/ leased out/ private or PPP mode with their own Service Level Agreements (SLAs) and Key Performance Indicators (KPIs) in concession agreements, advancements in technology such as Digi-Yatra, self-check-in, self-baggage drop and emigration e-gates, as well as evolving customer expectations. The performance standards at the airports thus need to evolve to align with the changed operating environment.

In light of the above, there is a need to establish a uniform set of performance standards for Indian airports. A Consultation Paper has accordingly been formulated on the aforesaid set of performance standards relating to quality, continuity and reliability of services at major airports and its monitoring. These uniform performance standards aim to improve transparency, reliability, and accountability, ensuring that service delivery keeps pace with the sector's rapid transformation and continues to meet the needs of airport users effectively. In addition, these

will be linked to airport tariffs through a balanced framework that incorporates both rebates for non-compliance and incentives for exceeding benchmarks–ensuring compliance while encouraging continuous service improvement.

1.4 SERVICE QUALITY REQUIREMENTS: INDIAN PERSPECTIVE

1.4.1 Service quality obligations in airport concession agreements have typically been included as part of the concessionaire's contractual obligations to ensure adequate levels of performance across passenger experience and operational parameters. A review of the existing concession agreements highlights some variations in formulation and enforcements of these standards.

1.4.2 Notwithstanding the differences arising from the structures of concession agreements or the lack of concession agreements, there exists a compelling case for establishing a uniform baseline of service quality standards applicable across all airports to be monitored by AERA in accordance with the AERA Act. The fundamental obligation to ensure consistent, reliable, and user-oriented service must remain a regulatory constant. The absence of a harmonised framework not only impedes effective oversight but also results in an uneven passenger experience and regulatory asymmetry. A uniform set of service quality parameters are required to ensure consistent quality of user services, comparability in performance, and accountability across the sector.

1.4.3 A detailed review has been undertaken of the existing service quality requirement for Indian airports.

Indira Gandhi International Airport (IGIA), Delhi and Chhatrapati Shivaji Maharaj International Airport (CSMIA), Mumbai

1.4.4 The OMDA for IGIA, Delhi and CSMIA, Mumbai with the Concessioning Authority, Airports Authority of India (AAI) outlines specific service standards. Key points include:

- Schedule 3 of the OMDA specifies 13 Performance Area covering 22 Objective Performance Measures (As mentioned in Annexure 13.7.1).
- Schedule 4 of the OMDA includes 23 subjective parameters under 7 categories, which are assessed through the AETRA, now ACI-ASQ survey, with a target rating of 3.75 or higher. (As mentioned in Annexure 13.7.2).
- The airports submit their quarterly compliance reports to the concessioning authority, AAI. Failure to meet these standards can result in liquidated damages of up to 4% of airport revenue payable to AAI.

Kempegowda International Airport, Bengaluru (KIA) and Rajiv Gandhi International Airport, Hyderabad (RGIA)

1.4.5 Clause 9.2 of the Concession Agreements for KIA, Bengaluru and RGIA, Hyderabad airports outline the service standards. Passenger satisfaction is evaluated based on 18 elements (as specified in Annexure 13.8) in the IATA Global Airport Monitor service standards, now replaced by ACI ASQ survey, with the airports required to achieve a minimum score of 3.5 on the elements they control. Persistent failure to meet these standards can lead to the imposition of liquidated damages by the concessioning authority, Govt. of India.

1.4.6 In addition, the clause 9.2.9 of the Concession Agreement provides for the transition to a regulatory framework established by AERA, once such standards and oversight mechanisms are formally in place.

"Clause 9.2.9: From the date the IRA has power to review, monitor and set standards and penalties and regulate any such related activities at the Airport, BIAL shall be required, instead of the provisions of Articles 9.2.1 to 9.2.7, to comply with all such regulations framed by IRA."

Sardar Vallabhbhai Patel International Airport (SVPIA), Ahmedabad; Chaudhary Charan Singh International Airport (CCSIA), Lucknow; Jaipur International Airport; Lokpriya Gopinath Bordoloi International Airport (LGBIA), Guwahati; Thiruvananthapuram International Airport; and Mangaluru International Airport

1.4.7 The Concession Agreements of these airports with the Concessioning Authority, Airports Authority of India (AAI) outline specific service quality requirements (Key Performance Indicators), as detailed in Schedule H and Article 23. Key points include:

- The Objective Quality of Service Parameters are 27 in number, and benchmarks are specified. Section 1.2 of Schedule H of Concession Agreement outlines the Measurement Mechanism of Objective Performance Parameters (As specified in Annexure 13.9.1)
- The Subjective Quality of Service Parameters are 34 in number (As specified in Annexure 13.9.2), and benchmarks are included, to be assessed through the ACI-ASQ survey. The airports must achieve and maintain a rating of at least 4.5 out of 5 or shall appear within the top 20 percentile of all airports in its category in the world within 5 years from the COD and maintain the same throughout the rest of the concession period.
- As per the Concession Agreement, the Airport Operator submits a monthly report to the Concessioning Authority, AAI on compliance with the Service Quality Requirements within 15 days of the end of each calendar month. As per Clause 23.9 of the Concession Agreement, any shortfall in average performance during a quarter will result in damages, determined in consultation with AERA, and adjusted against the aeronautical charges.

Greenfield Airport – Navi Mumbai International Airport (NMIA)

1.4.8 The Concession Agreements for NMIA with Concessioning Authority, CIDCO outline specific service quality requirements (Key Performance Indicators). Key points include:

- The Objective Service Parameters are 23 in number, and benchmarks are specified in Section 1, Annex 1 of Schedule I of the Concession Agreement of NMIA (As specified in Annexure 13.10.1).
- The Subjective Service Parameters are 14 in number, and benchmarks are included in Section 2, Annex 1 of Schedule I of the Concession Agreement of NMIA (As specified in Annexure 13.10.2).
- As per the Concession Agreement, the Airport Operator is required to submit a quarterly report to the Concessioning Authority, CIDCO on compliance with the Service Quality Requirements within 21 days of the end of each quarter. As per Clause 22.9 of the Concession Agreement, any shortfall in average performance during a quarter will result in damages, determined in consultation with AERA, and adjusted against the aeronautical charges.

Greenfield Airports – Noida International Airport (NIA) and Manohar International Airport (MIA), Mopa (Goa)

1.4.9 The Concession Agreements for these Greenfield airports outline specific service quality requirements (Key Performance Indicators), as detailed in their respective Concession Agreements. Key points include:

- The Objective Service Parameters are 20 in number, and benchmarks are specified in Section 1, Annex 1 of Schedule L of the Concession Agreement of NIA and Mopa Goa Airport (As specified in Annexure 13.11.1).
- The Subjective Service Parameters are 14 in number, and benchmarks are included in Section 2, Annex 1 of Schedule L of the Concession Agreement of NIA and Mopa Goa Airport (As specified in Annexure 13.11.2).
- As per the Concession Agreement, the Airport Operator submits a quarterly (NIA) / monthly (MIA) report to their respective Concessioning Authority on compliance with the Service Quality Requirements. As per Clause 26.9 of their respective Concession Agreement, any shortfall in performance during a quarter will result in damages, as determined by AERA, and adjusted against the aeronautical charges.

Airports Authority of India

1.4.10 Airports operated by the Airports Authority of India (AAI) are currently guided by the service quality requirements outlined in the existing AERA guidelines, as well as the provisions of the National Civil Aviation Policy, 2016 (NCAP). As per the NCAP, AAI airports handling more than 1.5 million passengers per annum (mppa) are expected to achieve an Airport Service Quality (ASQ) rating of 4.5 or higher, while those with lower traffic volumes are expected to maintain a rating of at least 4.0. AAI, currently, undertakes the quarterly ACI ASQ survey for its airports and submits to AERA the results.

1.5 APPLICATION OF PERFORMANCE STANDARDS ACROSS AIRPORTS

1.5.1 It is noted that the provisions of the performance measures, targets and measurement mechanism differs among the various Concession Agreements and OMDA. A uniform set of service quality parameters are required to ensure consistent quality of user services.

1.5.2 The performance standards and its monitoring mechanism outlined as part of this document shall be applicable to all major airports regardless of any differing provisions contained in the CA/ OMDA with respect to the performance standards and its monitoring mechanism. It is clarified that the aforesaid will not in any manner release any concessionaire from its obligations under their respective agreements.

1.6 SERVICE QUALITY REQUIREMENTS: GLOBAL PERSPECTIVE

A comparative assessment of airport regulatory frameworks across worldwide indicate that service quality oversight has increasingly become an integral component of economic regulation. While approaches vary in structure and metrics, a number of common principles emerge such as use of performance-based rebates and incentives, independent monitoring, and evolution of standards with time.

Civil Aviation Authority, UK

1.6.1 In the UK, from the first review carried out for charges effective 1991, the CAA has progressively intensified the attention it gives to service quality. It encouraged the development of Service Level Agreements (SLAs) between airports and airlines. In 2003 it went further and introduced penalties, payable to airlines.
In its revision of charges in 2024 for London Heathrow airport, CAA has imposed service standards in up to 20 Financial parameters (As specified in Annexure 13.12.1) and 15 Reputational parameters (As specified in Annexure 13.12.2), depending on the terminal. Failure to achieve these standards can lead to rebates. Overall, up to 7% of revenue could become payable on account of failure to achieve standards. In addition, high performance in certain standards could result in a bonus to the airport operator of up to 1.44% of revenue.

Malaysia

1.6.2 The Malaysian Aviation Commission (MAVCOM) announced the Airports QoS Framework in October 2016 to guide airports in operating efficiently while providing convenience for passengers, airlines, ground handling operators, and other airport users, with the following objectives:

- Enhance passenger comfort at the airport.
- Ensure consumer service levels are prioritized.
- Facilitate improved airport user experience for passengers and other users such as airlines and ground handlers.

This Framework sets standards and Key Performance Indicators (KPIs) for Kaula Lumpur International Airport Terminal 1 and Terminal 2. There are a total of 28 service quality elements under four categories (As specified in Annexure 13.13):

1. Passenger comfort and facilities
2. Queuing times
3. Passenger and baggage flows
4. Operator and staff facilities

In case of non-achievement of the performance standards, the rebate is capped at 5% of the total turnover of the airport operator. The rebate is payable on quarterly basis to the Malaysian Aviation Commission (MAVCOM).

Australia

1.6.3 The Australian Competition and Consumer Commission (ACCC) monitors and evaluates the quality of certain prescribed airport services and facilities at Brisbane, Melbourne, Perth, and Sydney airports.

1.6.4 The Airports Regulations require monitored airports to provide the ACCC with specific records. Part 8 of the Quality of Service Monitoring lists 16 aspects of airport services and facilities that the ACCC monitors, such as security inspection. Schedule 2 lists 53 corresponding matters about which airport operators must keep records, like the number of security clearance systems in use. The focus on performance monitoring is on the airports' supply of aeronautical, car parking and landside transport access services.

1.6.5 The ACCC evaluates each aspect against criteria set out in the Guideline for Quality of Service Monitoring at Airports using objective and subjective data. This data produces a single quality rating for each airport evaluated on a scale of 1 to 5 as shown in Table 1 below:

Table 1: Ratings of satisfaction for airports services and facilities

Ratings	1-1.49	1.5-2.49	2.5-3.49	3.5-4.49	4.5-5
Description	Very poor	Poor	Satisfactory	Good	Excellent

Source: ACCC 2014 guidelines, p6

1.6.6 The above ratings do not result in penalty or incentive to the airport operator but helps ACCC identify if airports are exploiting limited competition, guiding the Australian Government on potential regulatory needs to protect consumers and ensure efficiency. The monitoring is limited in its ability to address behaviour that is detrimental to consumers. This transparency aids airlines in negotiating prices and service standards with airports.

Portugal

1.6.7 The Airport Service Quality Regime outlined in ANA's Concession Contract establishes two main categories of performance indicators to ensure high standards in airport operations: Availability of airport infrastructure and Passenger satisfaction levels.

1.6.8 **Infrastructure Availability Indicators:** This category includes 8 key indicators that measure the technical availability/ uptime of critical airport infrastructure and equipment. Most indicators are tracked automatically through ANA's systems, ensuring continuous monitoring. In some cases, such as queue wait times, manual monitoring is used based on predefined sampling during operational hours.

1.6.9 **Passenger Satisfaction Indicators:** Passenger satisfaction is assessed through the Airport Service Quality (ASQ) Survey conducted quarterly by Airports Council International (ACI). The survey evaluates 34 parameters across various airport services and facilities, using a 1 (poor) to 5 (excellent) rating scale. These indicators are divided into two groups:

(a) Indicators with Penalties: If any of these indicators score below 2.5 in a quarter, a penalty is applied to that quarter's regulated revenue.

(b) Indicators Requiring Corrective Action: If these indicators fall below a score of 3 out of 5 for two consecutive quarters, ANA must submit a corrective action plan to INAC within three months of the survey results.

Singapore

1.6.10 Changi Airport, Singapore is awarded the World's Best Airport as per the Skytrax Rankings in 2025 and for the past several years. The Skytrax rating is derived from comprehensive customer feedback, collected through surveys covering 44 distinct areas of passenger experience (As Specified in Annexure 13.14)

1.6.11 Changi Airport has been at the forefront of the passenger experience through various operational excellence initiatives. Some of these include the FAST Check-in, Baggage Tracking system, etc.

1.7 SERVICE QUALITY REQUIREMENT: OTHER INDIAN REGULATORY BODIES

Telecom Regulatory Authority of India (TRAI)

1.7.1 TRAI released the revised Regulations namely "The Standards of Quality of Service of Access (Wirelines and Wireless) and Broadband (Wireline and Wireless) Service Regulations, 2024 (06 of 2024)' in August 2024 by merging the service quality standards for cellular telephone service, broadband service and wireless data services. These regulations are applicable for Access (Fixed and Mobile) and Broadband services. The salient features of the revised service quality framework for telecom sector are given below.

1.7.2 **Selection of QoS Parameters based on customer experience:** QoS parameters have been streamlined and prioritized based on their impact on consumer experience and alignment with current global benchmarks, ensuring relevance and effectiveness in performance evaluation.

1.7.3 **Monthly QoS Monitoring:** TRAI has shifted from quarterly to monthly monitoring of Quality of Service (QoS) performance for mobile services. This change is aimed at ensuring prompt identification and resolution of network-related issues. A six-month transition period has been provided to service providers for seamless adaptation.

1.7.4 **Mandatory Disclosure of QoS Metrics on website:** To foster transparency and empower consumers, service providers are required to publish QoS performance data on their official websites. This initiative ensures that consumers have access to reliable information regarding service quality.

1.7.5 **Granular Performance Monitoring at Cell Level:** TRAI has mandated cell-level data collection for critical parameters such as network availability, call drop rate, and voice packet drop rates (uplink and downlink). This approach is to enable more precise and localized performance assessment.

1.7.6 **Mandated System Upgradation for Real-Time Automated Monitoring:** Service providers are directed to upgrade their systems to support online, real-time monitoring and automated reporting of QoS metrics. The requirement is to enhance regulatory compliance and ensure reliability.

1.7.7 **Mandated Six Sigma Quality Management Practices**: Recognizing that QoS is a continuous improvement process, TRAI has instructed service providers to implement Six Sigma quality management frameworks. This is intended to drive systematic and sustained improvements in service delivery.

1.7.8 **Graded Penalties for Repeated Violations:** To ensure accountability and timely corrective action, the TRAI has a graded penalty mechanism. Financial disincentives are imposed for non-compliance with QoS standards, with increasing penalties for repeated violations.

Performance Assessment Practices for DISCOMs

1.7.9 Based on The Electricity (Rights of Consumer Rules), 2020, the Ministry of Power (MoP) has launched Consumer Service Rating of DISCOMs (CSRD) in 2021 which releases an Annual Report to develop a comprehensive strategy to enhance consumer satisfaction and promote cross-disciplinary learning. The details of the CSRD are given below.

1.7.10 **Comprehensive Performance Evaluation Framework:** DISCOMs are evaluated through a structured grading methodology that encompasses four key operational parameters, collectively accounting for 100 marks. These parameters are:

- Operational Reliability – 45 marks
- Connections and Other Services – 10 marks
- Metering, Billing, and Collection – 35 marks
- Fault Rectification and Grievance Redressal – 10 marks

1.7.11 **Granular Assessment Through Sub-Parameters:** A total of 23 sub-parameters have been defined under the four main categories. Each sub-parameter is assessed individually to ensure a detailed and multidimensional evaluation of DISCOMs' operational performance.

1.7.12 **Circle-Wise Data Collection for Enhanced Granularity:** To ensure data accuracy and regional relevance, DISCOMs are required to submit circle-wise data for most parameters. This approach enables a high-resolution view of performance across different geographic and administrative zones.

1.7.13 **Holistic Grading System to Encourage Performance Excellence:** Based on the cumulative scores derived from the evaluation of submitted data, DISCOMs are assigned one of the following seven performance grades:

A+, A, B+, B, C+, C, and D.

This tiered grading structure is designed to foster healthy competition among DISCOMs and incentivize continuous improvement in service delivery.

1.7.14 **Focus on Operational Transparency and Accountability:** The grading methodology promotes transparency in operations and holds DISCOMs accountable for their performance across critical service dimensions, thereby aligning with broader goals of consumer satisfaction and infrastructure reliability.

1.8 INSIGHTS FROM AIRPORT VISITS

1.8.1 As part of the study, the Consultant had undertaken visit to 8 Indian Airports namely, IGIA, Delhi; KIA, Bengaluru; RGIA, Hyderabad; SVPIA, Ahmedabad; NSCBIA, Kolkata; Trivandrum International Airport; Jay Prakash Narayan International Airport, Patna; Jaipur International Airport.

Activities Performed During Airport Visits

1.8.2 **Understanding of passenger journey and various touchpoints:** A detailed walkthroughs of airport including terminal areas was undertaken to understand the various passenger touchpoints at the airport and to gain understanding of the real-time passenger processing at key touchpoints including check-in, immigration, and security. Special attention was given to the deployment and operational effectiveness of advanced technologies such as Digi Yatra-enabled processes, Automated E-gates for Immigration, Automated Tray Retrieval Systems (ATRS), etc.

1.8.3 **Infrastructure and Facility Inspection:** A review of terminal infrastructure was carried out covering the performance related aspects of cleanliness, passenger amenities including trolleys, buggy services, wheelchairs, signage, and seating.

1.8.4 **Passenger Feedback Survey:** Structured surveys were administered to passengers at both arrival and departure areas to gather insights into their experiences, expectations, and concerns.

1.8.5 **Stakeholder Meetings:** Meetings were held with key airport stakeholders including the Airport Manager, Airlines, AOCC personnel, CISF, IT, Safety, and Terminal Operations teams. These interactions facilitated a deeper understanding of operational challenges and ongoing initiatives.

1.8.6 **AOCC Visit:** The Airport Operations Control Center (AOCC) was visited to review integrated airport management processes and understand the possible data sources for the performance monitoring. Further emphasis was placed on leveraging technology for real-time data collection to enhance operational efficiency, such as through the implementation of the Airport Predictive Operations Centre, which supports proactive performance monitoring and optimization.

1.9 SUMMARY

1.9.1 The preceding analysis underscores the critical need for a uniform, harmonized, forward-looking framework of service quality standards that reflects the evolving dynamics of airport operations in India and aligns with global best practices.

1.9.2 Drawing from operational insights during site visits and comparative benchmarks, a comprehensive and uniform set of performance parameters has been developed. These standards are designed to ensure consistency, transparency, and accountability across all major airports, while also incentivizing continuous improvement.

1.9.3 The following sections outline these performance parameters, both objective and subjective, along with their measurement mechanisms, targets, rebate and incentive mechanism, reporting and monitoring framework.

1.10 PROPOSAL REGARDING PROPOSED PERFORMANCE STANDARDS

Based on the material before it and its analysis, following is proposed:

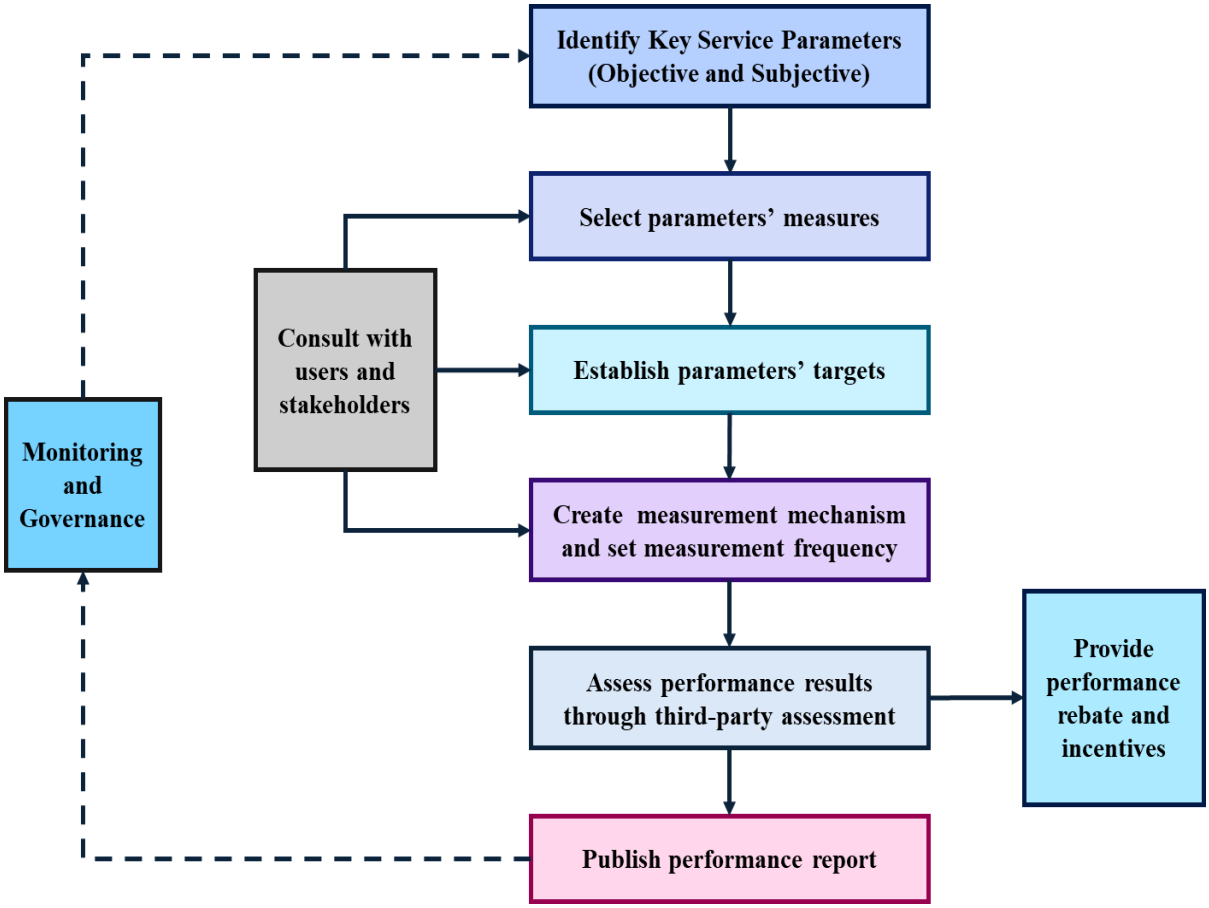
1.10.1 The performance standards and its monitoring mechanism outlined as part of this document shall be applicable to all major airports regardless of any differing provisions contained in the CA/ OMDA with respect to the performance standards and its monitoring mechanism. However, it is clarified that the aforesaid will not in any manner release any concessionaire from its obligations under their respective agreements.

2 OBJECTIVES OF THE PROPOSED PERFORMANCE STANDARDS

2.1 FRAMEWORK FOR FORMULATION OF REVISED PERFORMANCE STANDARDS

2.1.1 ICAO framework of performance standards formulation process has been adopted as illustrated in Figure 2 to formulate the performance standards relating to quality, continuity and reliability of service and associated activities.

Figure 2: Performance standard formulation process flow diagram



2.1.2 Details of the steps are given below:

(a) Key Service Parameters: In identifying the service parameters, a structured review of airport processes was undertaken to identify passenger touchpoints which significantly impact service quality. Data collected from site visits to 8 Indian airports across the country was analysed while framing the service parameters. Service parameters included as part of various concession agreements, past guidelines and the approaches followed by other regulatory authorities and airports worldwide were reviewed.

(b) Parameters' Measures: For each service parameter, various measures were assessed taking into account the nature of service parameter (Objective and Subjective). For objective parameters, the potential measurement mechanism was assessed while selecting parameter's measures.

(c) Parameters' Targets: Specific targets have been assigned to each identified service parameter to enable monitoring and enforcement. These targets have been established with reference to a combination of factors such as operational context, existing obligations, global benchmarks etc.

(d) Measurement Mechanism and Set Frequency: To support effective oversight, a measurement mechanism has been proposed for each parameter, detailing the source, method and frequency of data collection. Wherever feasible, parameters have been linked to automated systems and verifiable records to minimise subjectivity and enhance reliability.

While the long-term objective is for a fully automated, technology driven monitoring system for service quality, it was noted that the current technological systems may yet not offer complete reliability across all parameters and airport environments. Accordingly, a hybrid approach has been adopted in the interim, combining technology-based data capture with manual verification and oversight. This approach enables timely and accurate measurement. The hybrid mechanism has been structured to progressively move towards automation as systems mature.

(e) Performance Results: AERA will appoint a third party to support monitoring of service quality at airports. The third party shall undertake measurement of performance against the defined parameters and submit its analysis to the AERA including computation of rebates and incentives.

(f) Performance Report: AERA shall issue periodic orders on service quality performance, applicable rebates and incentives with revision in tariffs for individual airports.

This performance assessment shall be regularly monitored and governed to track performance, ensure the process is achieving its objectives and targets, and update as necessary.

2.2 OBJECTIVES OF THE UNIFORM PERFORMANCE STANDARDS

The service quality standards have been formulated with the objective of establishing a uniform, comprehensive, future-ready, reliable and technologically enabled framework for the monitoring and enhancement of airport service delivery resulting in noticeable improvements in service quality for passengers. The standards aim to:

(i) Provide a clear and enforceable set of benchmarks uniformly applicable across all major passenger touch points;

(ii) Ensure reliability in performance measurement through a combination of technology systems and human assessment;

(iii) Embed flexibility to accommodate evolving technologies, operating models, and user expectations;

(iv) Incorporate both objective data and passenger perception to provide a holistic view of service quality; and

(v) Support continuous improvement through a balanced system of incentives and corrective measures.

2.2.1 **Comprehensive**

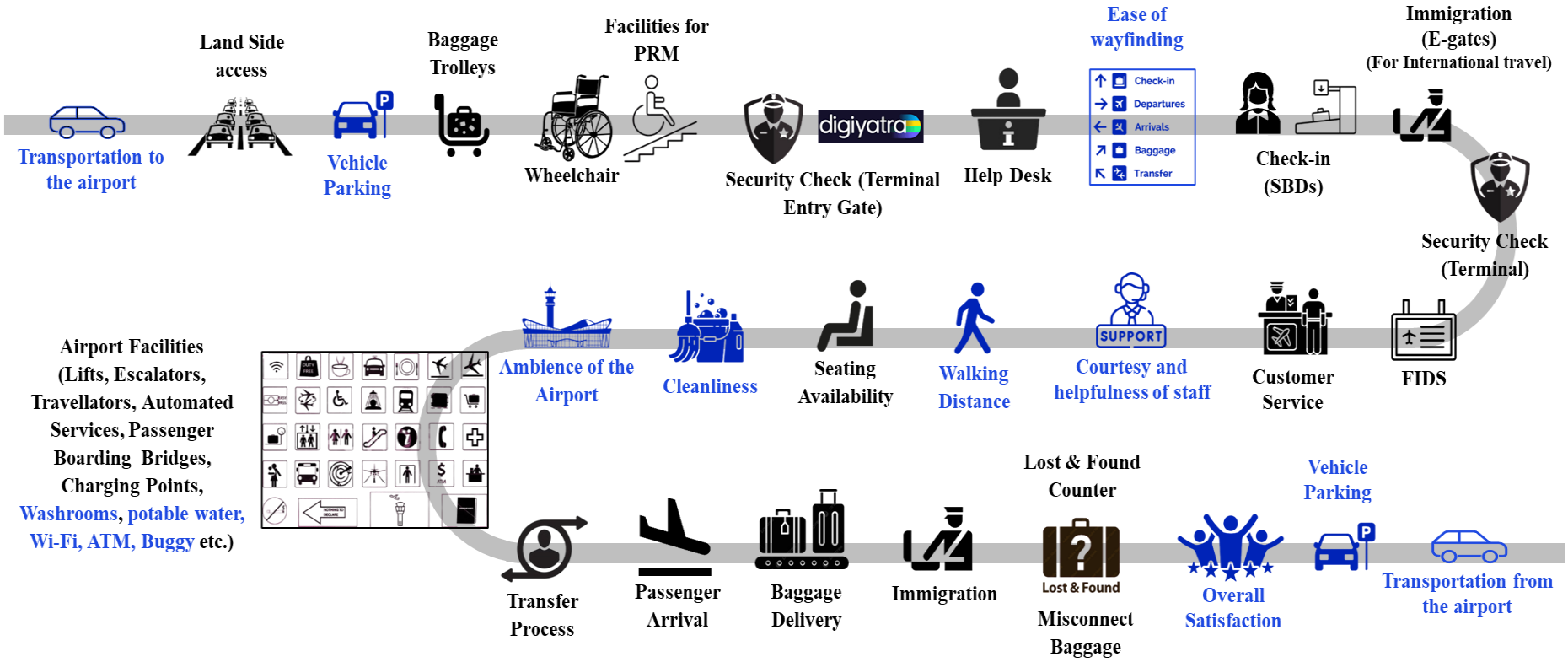
The new performance standards aim to encompass all aspects of passenger touchpoints at airports for all types of passengers - arriving, departing, and connecting. The scope covers the entire passenger journey from arrival at the airport to departure, including but not limited to the key checkpoints such as:

- **Kerbside**: The initial point of contact where passengers arrive at the airport.
- **Vehicle Parking**: The area where both arriving and departing passengers park their vehicles.
- **Terminal Entry**: The entrance to the terminal where passengers begin their airport experience.
- **Check-in**: The process of passengers checking in their flights and dropping off their baggage.
- **Immigration/ Emigration**: The checkpoint for international passengers to clear immigration/ emigration formalities.
- **Security Check**: The area where passengers undergo security screening.
- **Security Hold Area (SHA)**: The waiting area after security check where passengers remain before boarding.
- **Transfer Area**: The zone for passengers transferring between flights.
- **Departure Gates**: The gates where passengers board their flights.
- **Baggage Reclaim**: The area where arriving passengers collect their checked baggage.

Additionally, the guidelines define parameters to collect information that will later be used to evaluate passenger needs and improve operational efficiency at the airport

The following journey map outlines key touchpoints that encompass the passenger journey, and which translate into specific performance standards.

Figure 3: Passenger Journey and touchpoints for performance assessment



*** Add on Airport facilities include Medical Facilities, Digital Information Centers, Cloak Room, Sensory rooms, Baby care rooms, etc.**

*** Objective Parameters**
*** Subjective Parameters**

2.2.2 Future Ready

The new performance standards have been designed to be future-ready incorporating advancements in technology such as *Digi-Yatra, immigration e-gates* and *self – baggage drops*. These technologies were not available when the earlier performance standard guidelines were framed.

Furthermore, the framework includes specific future-ready service quality parameters for the purposes of information gathering and collecting performance data. These parameters will be utilized in the future for defining additional performance standards, ensuring a forward-looking approach to service quality.

- **Digi-Yatra and other digital initiatives:** Digi Yatra is India's flagship digital air travel initiative. It enables seamless, paperless travel using facial recognition technology linked to a Digi Yatra ID. As outlined in the official Digi Yatra Guidelines the system supports:
  - Entry through e-gates at various touchpoints – terminal entry gate, security check (terminal) and boarding gates
  - Biometric-based clearance and processes
  - Real-time validation of boarding passes

  The initiative is already operational at several airports and is being expanded at all airports in India.

Figure 4: Digi-Yatra gate

- **Immigration E-gates:** India has introduced Fast Track Immigration under the Trusted Travellers' Programme (FTI-TTP), which includes biometric-enabled e-gates at select international terminals. As on May 2025, FTI-TTP is available at 8 airports, that is, *IGIA, Delhi, CSIA, Mumbai, KIA, Bengaluru, RGIA, Hyderabad, Cochin International Airport, SVPIA, Ahmedabad, Chennai International Airport, NSCBIA, Kolkata*. While still in phased implementation, this system is expected to significantly reduce congestion and manual checks at immigration counters.

Figure 5: Immigration e-gates

- **Self-Bag Drop (SBD) System:** A self-service technology used at airports that allows passengers to check in their luggage. These automated systems streamline the check-in process by enabling travelers to tag and deposit their luggage at designated kiosks, reducing wait times and enhancing airport efficiency. Several airports in India have implemented self-service/ assisted SBD to complement the traditional check-in counters, thereby improving the efficiency of the terminal.

Figure 6: Self-Bag Drop (SBD) System

By integrating these technologies, the guidelines aim to streamline processes, enhance passenger experience, and improve operational efficiency.

2.2.3 Reliable

The service quality standards have been framed to address past concerns regarding the reliability and verifiability of performance assessments. Earlier frameworks often relied heavily on manual reporting and airport-declared data, which rendered outcomes susceptible to human error, inconsistency, and limited regulatory confidence. In contrast, the current standards employ a hybrid approach which uses technology systems wherever feasible, significantly reducing the scope for subjective interpretation or manual inaccuracies. Parameters have been selected and defined in a manner that ensures the underlying data is verifiable and reliable. This

shift towards evidence-based, technology-enabled monitoring enhances the reliability of assessments and strengthens the overall integrity of regulatory oversight.

2.2.4 **Technology enabled**

Technology has played a key role in enhancing service quality and performance assessment at airports. Queue management systems, sensor-based monitoring, and digital reporting tools offer significant potential to enable real-time visibility of service delivery at scale. However, it is equally recognised that current deployments vary widely across airports and, in many cases, suffer from inconsistencies in data accuracy and verifiability especially when deployed across varied and dynamic airport environments. These limitations necessitate a cautious and calibrated approach to the reliance placed on technology for regulatory purposes at this stage.

Accordingly, the immediate performance assessment approach adopts a hybrid model, leveraging existing technological capabilities while supplementing them with manual assessments to ensure robustness and verifiability. This approach ensures early adoption without compromising the reliability of performance evaluation. Over the longer term, the framework envisions a transition towards fully automated data capture and real-time performance monitoring. As part of this evolution, AERA will also develop its own systems to interface directly with airport infrastructure, enabling independent data acquisition and enhancing the transparency, consistency, and timeliness of regulatory oversight.

2.3 PROPOSAL REGARDING OBJECTIVES OF THE PROPOSED PERFORMANCE STANDARDS

Based on the material before it and its analysis, following is proposed regarding objectives of the proposed performance standards:

2.3.1 A uniform, comprehensive, future-ready, reliable and technologically enabled performance standards framework that enhances passenger experience across all airport touchpoints through a technologically advanced and inclusive approach.

2.3.2 The integration of emerging technologies like Self-Bag Drop, Immigration E-gates, and Digi-Yatra to create a seamless, efficient, and future-ready airport experience.

2.3.3 A robust and standardized data monitoring framework to ensure reliable, accurate, and consistent performance measurement for enhanced transparency and operational excellence.

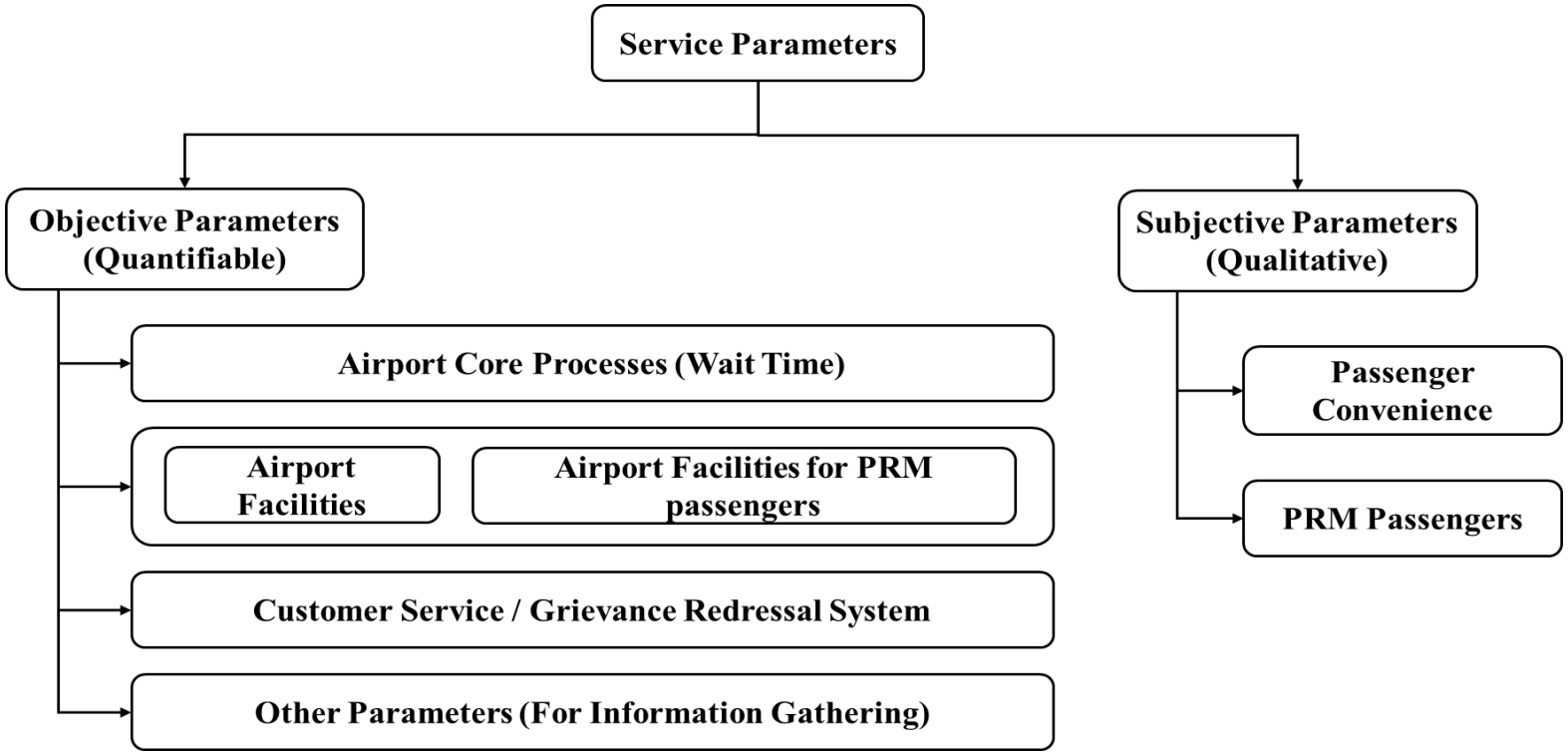
2.3.4 A phased technology adoption strategy to enhance service quality monitoring - starting with immediate integration of available tools and progressing toward long-term deployment of advanced innovations.

3 CATEGORIZATION OF THE SERVICE PARAMETERS

3.1 OVERVIEW OF SERVICE PARAMETERS

3.1.1 The service quality standards have been categorised into Objective and Subjective parameters to enable a comprehensive assessment framework. Objective parameters are linked to quantifiable data and measurable indicators such as queue times, baggage delivery time, and availability of core airport facilities. Subjective parameters will capture user perception and experience through structured passenger surveys. This dual structure recognises that both operational efficiency and the perceived quality of service play an important role in determining overall passenger satisfaction.

Figure 7: Categorization of the Service Parameters



The proposed parameters in the service quality standards are categorized into two types:

(a) Objective Parameters: These parameters are characterized by their basis in measurable, observable, and verifiable data. These parameters are quantitative and provide a factual basis for analysis and decision-making. Key features include:

- **Quantitative Nature:** They involve numerical data that can be measured and compared, ensuring consistency and reliability in assessments.
- **Standardization:** These parameters are collected using standardized methods and tools, reducing the potential for personal bias and ensuring uniformity.
- **Verifiability:** The data can be independently verified and validated, providing a solid foundation for evidence-based decision-making.
- **Reproducibility:** Objective parameters can be consistently reproduced under similar conditions, making them reliable for longitudinal studies and comparisons.

(b) Subjective Parameters: These parameters are characterized by their reliance on personal opinions, interpretations, and perceptions. These parameters are inherently qualitative and can vary significantly between different individuals or groups. Key features include:

- **Qualitative Nature:** They capture the nuanced and complex aspects of human experiences and perceptions, which are not easily quantifiable.
- **Personal and Contextual:** These are influenced by individual backgrounds, contexts, and personal experiences, making them unique to each respondent.
- **Flexibility:** They allow for a wide range of responses, providing rich, detailed insights that can highlight diverse perspectives and experiences.
- **Interpretative:** The data collected through subjective parameters often require interpretation and analysis to understand underlying themes and sentiments.

3.2 RATIONALIZATION AND RESTRUCTURING OF SERVICE PARAMETERS IN THE REVISED PERFORMANCE STANDARDS

Formulation of Parameters

3.2.1 Following extensive deliberations and multiple rounds of consultation with key government stakeholders and based on the feedback received, the Authority has finalized a structured framework comprising 32 objective parameters. Among these, 17 parameters are dedicated to information gathering, while the remaining 15 pertain to core airport operational processes. In addition, 18 subjective parameters have been identified to enable qualitative assessment. This comprehensive set of parameters reflects a balanced and methodical approach to performance evaluation, integrating both data-driven insights and experiential feedback.

3.2.2 **Expansion and Diversification of Objective Performance Parameters:** The number of objective parameters has been increased from 16 to 32 to better reflect the evolving operational landscape of airports. Many service aspects that were previously assessed subjectively are shifted to objective and can be measured more accurately through data-driven methods. This shift enhances transparency, accountability, and consistency in performance evaluation.

3.2.3 **Classification of Objective Parameters into Core and Informational:** Out of the 32 objective parameters, 15 have been identified as core parameters that directly impact airport operations and service delivery. The remaining 17 parameters are included primarily for

information gathering, with the intent to support future improvements and strategic planning. This classification ensures that immediate operational priorities are addressed while also preparing for long-term enhancements.

3.2.4 **Rationalization and Clubbing of Parameters:** Some objective parameters, such as *passenger arrival, baggage delivery for domestic and international flights,* have been clubbed to avoid redundancy and streamline monitoring. This approach ensures clarity in reporting while maintaining comprehensive coverage of key performance areas.

3.2.5 **Streamlining Subjective Feedback for Enhanced Response Quality:** The number of subjective parameters has been reduced from 34 to 18 to improve the quality and reliability of passenger feedback. Excessive questioning can lead to survey fatigue, resulting in random or inconsistent responses. By focusing on fewer, more meaningful subjective parameters, the revised standards aim to capture more accurate and actionable insights.

3.2.6 **Reclassification of Subjective to Objective Parameters:** Several parameters previously categorized as subjective – such as *waiting times, baggage delivery speed, and availability of trolleys* – have been moved to the objective section, as they are measurable through operational data. This reclassification enhances the precision of performance tracking and reduces reliance on perception-based assessments.

3.3 OBJECTIVE PARAMETERS (QUANTIFIABLE)

The below sections outline the specific objective parameters to evaluate the quality of service provided at major airports. These parameters are quantifiable and measurable.

These parameters are to be assessed and reported against the targets specified in the proposed measures and metrics detailed in Annexure 13.1. The performance of these parameters should be calculated using the relevant formulas outlined in the proposed measurement mechanism and against the specified frequency as described in Chapter 5. Additionally, the rebates and incentives for the applicable parameters among these parameters are to be calculated through the formulas specified in Chapter 8.

3.4 CATEGORIZATION OF OBJECTIVE PARAMETERS

For the purposes of this section, the objective parameters are grouped into the following categories:

(1) Airport Core Processes (Wait time)

(2) Airport Facilities (including for PRM passengers)

(3) Customer Service / Grievance Redressal System

(4) Other Parameters (for Information gathering only)

3.4.1 **Airport Core processes:** The parameters outlined in this category are designed to calculate the wait time or queue time for various processes at the airport.

Departure processes

(1) Security Check (Terminal Entry Gate)

i. Conventional / Traditional

ii. Digi-Yatra

(2) Check-In

i. Economy class

ii. Business class

iii. Self-Bag Drop (SBDs)

(3) Immigration / Emigration

(4) Security Check (Terminal) – Departure Pre-embarkation

Arrival processes

(5) Baggage Delivery (Domestic and International)

i. First Bag

ii. Last Bag (Code C and Code E)

(6) Passenger Arrival (Domestic and International)

3.4.2 **Airport Facilities:** The parameters outlined in this section determine the availability and uptime percentage of various airport facilities, including those specifically designed for Persons with Reduced Mobility (PRM) passengers.

(1) Uptime of Flight Information Display System (FIDS)

(2) Uptime of Lifts, Escalators and Travellators

(3) Uptime of Automated Services (As per list in Schedule 5.3.3(a))

(4) Availability of Passenger Boarding Bridges (Domestic / International)

(5) Availability of Baggage Trolleys

(6) Seating Availability (at Boarding Gates)

(7) Facilities for PRM Passenger (As per Checklist in Schedule 5.3.7(a))

(8) Availability of Wheelchairs (Pre-booked)

3.4.3 **Customer Service / Grievance Redressal System:** The parameters outlined in this section determine the effectiveness and efficiency of the provided Services at the airport.

(1) Help desks

i. Help Desk Counters located at Check-in, SHA and Arrival with necessary infrastructure

ii. Availability of Personnel at all Helpdesks

iii. Percentage (%) of written complaints uploaded on Air-Sewa within specified time

3.4.4 **Other parameters (for Information gathering only):** This category includes parameters intended for information gathering, which may contribute to future targets.

(1) Minimum Connect Time (MCT) – Transfer Process

i. Domestic to Domestic

ii. Domestic to International

iii. International to Domestic

iv. International to International

(2) No. of Misconnect

i. Passenger

ii. Baggage

(3) Land Side access

(4) Passenger Boarding Bridges Utilization

(5) Availability of the Medical Facilities (As per Checklist 5.5.5(a))

(6) Availability of Digital Information Centers

(7) Availability of Cloak Room/ Extended Baggage Storage

(8) Lost and Found Services

i. Availability of Personnel at Lost and Found Service Counters

ii. Percentage (%) of Complaints Resolved

(9) Availability of Baby care rooms

(10) Availability of Sensory rooms

(11) Availability of Operational Charging Points

(12) Availability of Wheelchairs (Not Pre-booked)

(13) Uptime of Digi-Yatra and Immigration e-gates

(14) Cargo Services

(15) Operational Resilience

(16) Technology

(17) Sustainability

3.5 SUBJECTIVE PARAMETERS (QUALITATIVE)

The importance of subjective parameters is also emphasized to assess the quality of services at airports. These parameters capture the qualitative aspects of passenger experience, which are often based on personal perceptions and experiences. These parameters are essential for understanding the holistic experience of passengers, ensuring that the services provided not only meet technical standards but also align with passenger expectations and comfort.

The performance of these parameters should be measured against the survey questionnaires and target ratings specified in Section 6.2 and Section 6.3. Additionally, the rebates and incentives for the applicable parameters among these parameters are to be calculated through the formulas specified in Chapter 8.

3.6 CATEGORIZATION OF THE SUBJECTIVE PARAMETER:

For the purposes of this section, the subjective parameters are grouped into the following categories:

3.6.1 **Passenger Convenience**

(1) Cleanliness of the overall Airport

(2) Availability of Basic Facilities at the Airport (including Wi-fi)

(3) Courtesy and Helpfulness of the Airport Staff

(4) Ease of Wayfinding within the Airport

(5) Transportation between the Terminals

(6) Ambience of the Airport

(7) Transportation to / from the Airport

(8) Flight Information Display System (FIDS) Location throughout the Airport

(9) Walking Distance within the Terminal

(10) Availability of free Buggy Services at the Airport

(11) Availability of free Potable Water

(12) Value for Money

(13) Services of Udan Yatri Cafe

(14) Bank / ATM facilities or Money Changers

(15) Vehicle Parking at the Airport

(16) Overall Satisfaction with the Airport

3.6.2 **For PRM Passengers**

(1) Persons with Reduced Mobility (PRM): Airport Infrastructure

(2) Persons with Reduced Mobility (PRM): Overall Satisfaction with the Airport

3.7 PROPOSAL REGARDING CATEGORIZATION OF THE SERVICE PARAMETERS

Based on the material before it and its analysis, the following is proposed regarding categorization of the service parameters:

3.7.1 **Categorization Summary**: The service parameters are categorized into:

(1) Objective Parameters (Quantifiable): 32 parameters in total; and

(2) Subjective Parameters (Qualitative): 18 parameters in total.

3.7.2 The Objective Parameters include a total of 32 parameters covering:

- Airport Core Processes (Wait time): 6 parameters
- Airport Facilities (including for PRM passengers): 8 parameters
- Customer Service / Grievance Redressal System: 1 parameter
- Other parameters (for Information gathering only): 17 parameters

3.7.3 The Subjective Parameters include a total of 18 parameters covering

- Passenger Convenience: 16 parameters
- For PRM Passengers: 2 parameters

4 AIRPORT CATEGORIES FOR PERFORMANCE STANDARDS

4.1 PROPOSED AIRPORT CATEGORIES FOR PERFORMANCE STANDARDS

4.1.1 To ensure a more tailored and effective application of the proposed service quality standards, airports are categorized into two categories based on their annual passenger traffic:

1) Category A airports are those that handled 6 million or more passengers per annum (≥ 6 MPPA) during the financial year immediately preceding the performance assessment period. This passenger count includes arriving, departing, and connecting passengers.

2) Category B airports are those that handled less than 6 million passengers per annum (< 6 MPPA) during the financial year immediately preceding the performance assessment period. This passenger count includes arriving, departing, and connecting passengers.

4.1.2 This classification recognizes that the applicability and relevance of service parameters vary significantly with airport scale and complexity. Smaller airports typically operate with limited infrastructure and simpler layouts, necessitating a differentiated approach to regulation and performance expectations.

4.2 STRATEGIC CONSIDERATIONS FOR SEGMENTED AIRPORT PERFORMANCE STANDARDS

To ensure the effective and context-sensitive application of operational and infrastructural standards, airports have been categorized into two distinct groups based on their scale of operations and passenger traffic volumes.

4.2.1 **Ease of Regulation and Performance Measurement:** Airports with lower passenger volumes typically operate with simpler layouts, lesser facilities, and few operational complexities. Imposing the same level of regulatory rigor and performance measurement as required for high-traffic airports may lead to inefficiencies and administrative burdens. By allowing for differentiated targets, the framework ensures that compliance remains achievable and meaningful.

4.2.2 **Cost Optimization for Smaller Airports:** For smaller airports, although passenger traffic is relatively low, the capital expenditure (capex) and associated operational costs required can lead to disproportionately high tariffs for passengers. It is recognized that the objective of performance standards is to drive service quality while keeping airport costs reasonable. To support this balance, certain targets are relaxed for smaller airports, enabling cost optimization without compromising the intent of regulatory oversight.

4.2.3 **Operational Complexity and Infrastructure Requirements:** Larger airports typically manage a broader range of operational challenges, including complex airside layouts, longer walking distances to gates, hub-and-spoke connectivity, and significant cargo handling volumes. These aspects necessitate more comprehensive planning and infrastructure. In contrast, smaller airports generally have simpler airside layouts and operate point-to-point services with limited cargo, rendering many of the related service parameters either irrelevant or inapplicable.

4.2.4 Accordingly, parameters relating to aforementioned points are made optional or excluded for Category B airports to reflect the differences in operations between Category A and Category B airports. Parameters relating to technology, customer services and accessibility are uniformly applied across both categories as provided below.

4.2.5 **Uniformity in Technology–Driven Passenger Facilitation:** Certain technology-related parameters, such as Digi-Yatra, Self-Bag Drop (SBD) systems, and immigration e-gates, enhance the passenger facilitation, reduce processing time, and improve overall efficiency of the airport. These technologies offer standardized services across both large and small airports. Therefore, uniform metrics are proposed for Technology–Driven Passenger Facilitation.

4.2.6 **Consistency in Customer Services and Accessibility:** Passenger-facing services, such as help desks, PRM (Persons with Reduced Mobility) assistance, and other essential amenities are fundamental to ensuring accessibility, inclusivity, and a positive travel experience. These parameters are uniformly applied across all airport categories, as they represent the minimum acceptable standard of service that every passenger, regardless of airport size or location, should expect.

4.3 COMPARISON OF PROPOSED PARAMETERS ACROSS AIRPORT CATEGORIES

4.3.1 All parameters proposed in Chapter 3 are fully applicable to Category A airports.

4.3.2 For Category B airports, the applicability of parameters is as follows:

- **Unchanged Parameters:** Certain parameters remain unchanged and are applied to Category B as in Category A.
- **Modified targets:** Some parameters have modified proposed targets, offering slightly less stringent targets
- **Optional Parameters:** Certain parameters are designated as optional, allowing for discretionary implementation based on specific airport conditions.
- **Not applicable:** Certain parameters are deemed not applicable, due to the limited infrastructure or operational scope of these airports.

4.3.3 Detailed information on the parameters and their respective targets applicable for Category A and Category B airports is provided in Annexure 13.1, Section 6.2 and Section 6.3 while a brief summary is presented in the table below:

Table 2: Parameters Distribution Across Airport Categories

Category of Parameters	Category A Airports	Category B Airports			
		Modified targets	Unchanged	Optional	Not Applicable
Objective Parameters					
Airport Core processes	6	4	2		
Airport Facilities (including for PRM passengers)	8	1	7		
Customer Service / Grievance Redressal System	1		1		
Other Parameters (for Information gathering only)	17		9	4	4

Category of Parameters	Category A Airports	Category B Airports			
		Modified targets	Unchanged	Optional	Not Applicable
Subjective Parameters					
Passenger Convenience	16		14		2
For PRM Passengers	2		2		
Total no. of Parameters	**50**	**5**	**35**	**4**	**6**

4.4 UNIFORMITY OF SERVICE PARAMETERS ACROSS AIRPORT CATEGORIES

4.4.1 To ensure consistency in performance evaluation and service delivery, the service parameters defined under the performance standards for Category A airports are uniform across all airports within this category. Similarly, the service parameters applicable to Category B airports are standardized and remain consistent across all airports classified under Category B. This uniformity enables equitable benchmarking, facilitates regulatory oversight, and promotes a consistent passenger experience across airports of similar scale and operational complexity.

4.5 PROPOSAL REGARDING AIRPORT CATEGORIES FOR PERFORMANCE STANDARDS

Based on the material before it and its analysis, the following is proposed regarding Airport Categories for Performance Standards:

4.5.1 To ensure practical and proportionate service quality standards, the airports are classified into Category A (≥6 million passengers annually) and Category B (<6 million). This allows for tailored implementation, with higher standards for larger, more complex airports and flexible, context-sensitive parameters for smaller ones.

4.5.2 A segmented framework for airport performance standards, tailoring regulatory, operational, and infrastructural requirements based on airport size and complexity, while maintaining uniformity in technology, customer service, and accessibility

4.5.3 Detailed information on the parameters and their respective targets applicable for Category A and Category B airports is provided in Annexure 13.1, Section 6.2 and Section 6.3.

4.5.4 The adoption of uniform service parameters under performance standards across all airports within each respective category to ensure consistency in evaluation and passenger experience.

5 OBJECTIVE SERVICE QUALITY PARAMETERS AND ITS MEASUREMENT FRAMEWORK

5.1 OVERVIEW OF MEASUREMENT FRAMEWORK

5.1.1 This chapter gives the details of the various Objective Parameters under each category with a brief explanation of the parameter, its measurement mechanism, computation of performance score and measurement frequency with the data sources. AERA will be responsible for monitoring the set performance standards. It is noted that AERA will be appointing a third-party assessor to assist it with the monitoring mechanism.

5.1.2 While this chapter has given the measurement mechanism for each parameter, it is clarified that the third-party assessor may apply the methodology with suitable modification to address practical implementation issues specific to each airport. Any such modifications must be clearly documented and communicated to AERA by the third-party assessor.

5.1.3 The third-party assessor will conduct the assessment for all objective parameters that are linked to rebates and incentives every month.

5.1.4 For objective parameters under information gathering where rebates or incentives do not apply, the third-party assessor will conduct the assessment once a year to begin with. During this interim period, airport operators will be responsible for conducting monthly assessments of these parameters and submit the results to the third-party assessor. As the system evolves and matures, the third-party assessor will eventually take over the responsibility of conducting the assessment every month for all objective parameters, regardless of their linkage to rebates or incentives.

5.2 AIRPORT CORE PROCESSES (WAIT TIME)

Departure processes:

5.2.1 **Security Check (Terminal Entry Gate)**

(a) Parameter Explanation: The process of Security Check at Terminal Entry Gate involves verifying passengers' ID proof and flight information at the terminal entry gate during their departure journey.

The security check at the terminal entry gate is conducted through the following methods:

i. Traditional – Process undertaken by CISF staff (As shown in Figure 8)

ii. Technology – Process undertaken through Digi-Yatra system (As shown in Figure 9)

Figure 8: Traditional Security Check (Terminal Entry Gate)

Figure 9: Digi Yatra Security Check (Terminal Entry Gate)

(b) Measurement Mechanism:

The measurement shall be done for the selected queue on the basis of the following methodology:

During the **"sample hour"** of the selected day, queuing time shall be measured every 10-minutes beginning hh:mm (hh is the hour and mm are the minutes), hh:mm+10, hh:mm+20, hh:mm+30, hh:mm+40, hh:mm+50 where mm lies between 0 and 9, resulting in six readings per hour for the persons joining the selected queue. The queuing time will be measured for 80% of the total queues at the start of the Sample Hour for that particular process.

For each measurement, the queuing time will be calculated as:

$$Q = B - A$$

Where:

- A is the time a passenger joins the respective security queue after the measurement period has begun;

  For instance, if the measurement starts at 00:20 and the passenger joins the queue at 00:26, then "A" will be recorded as 00:26.

- B is the time that passenger shows the boarding pass/ identification document to the security personnel or stands in front of the Digi-Yatra gate for biometric scanning;

  For instance, if the passenger presents their passenger boarding pass/ identification document to the security personnel or stands in front of the Digi-Yatra gate for biometric scanning at 00:32, then "B" will be recorded as 00:32.

- Q is the Queuing Time;

  For example, in the scenario above, Q will be 6 minutes, calculated as 00:32 (B) - 00:26 (A) for the measurement starting at 00:20.

It is clarified that the queuing time measurement excludes the processing time at the security check, as processing time varies from passenger to passenger.

For instance, if the sample hour is 14:00 to 15:00 hours, measurement is taken at 14:00, 14:10, 14:20, 14:30, 14:40, 14:50 for measuring the queuing time as given below.

Table 3: Illustration of Queuing Time Measurement Mechanism for a Specific Queue

Sample Hour	14:00 – 15:00 hours					
Measuring time	14:00	14:10	14:20	14:30	14:40	14:50
Passenger joins the respective queue (A)	14:02	14:10	14:26	14:35	14:40	14:58
Passenger shows the boarding pass/ Identification document to the security personnel (B)	14:09	14:19	14:32	14:39	14:56	15:02
Queuing Time (Q)	7 minutes	9 minutes	6 minutes	4 minutes	16 minutes	4 minutes

The performance percentage (%) figures for the proposed parameter will be calculated as follows:

i. Identify the number of passengers measured during the measurement mechanism process which were processed within the target queuing time.

ii. Then, divide this number by the total number of passengers measured during the measurement mechanism process and express the result as a percentage (%).

The performance percentage (%) figures for the proposed parameter will be calculated on a monthly basis for each terminal as well as the airport as a whole. For the purpose of determining any applicable rebate, the airport-wide performance percentage (%) will be considered.

For instance, in case an airport has three terminals, then the performance percentage will be computed as shown below on a monthly basis for each terminal and the airport as a whole.

Table 4: Illustration of calculation of Performance Percentage for the proposed parameter

Particulars		**Terminal 1**	**Terminal 2**	**Terminal 3**	**Total Airport-wide**
No. of sampled passengers processed within Target Queuing Time during the month	A	48	97	74	219
Total no. of sampled passengers measured during the process during the month	B	50	100	80	230
Performance Percentage for the proposed parameter for the month	C = A/B*100	$\frac{48}{50} \times 100 = 96\%$	$\frac{97}{100} \times 100 = 97\%$	$\frac{74}{80} \times 100 = 92.5\%$	$\frac{219}{230} \times 100 = 95.2\%$

Automated queue time measurement – Future implementation with Normative Processing Time

Pending the future implementation of the Automated Queue Time Measurement System, the measurement of queuing time shall continue to be conducted in accordance with the existing procedures outlined above. In the future, automated queue time measurement mechanism for queue-related parameters will be assessed once the necessary technology is implemented by the airport operator and achieves satisfactory accuracy. This technology may include CCTV with image recognition capabilities among other developing technologies. The computation methodology for Normative Processing Time is detailed in Annexure 13.5 .

(c) Measurement Frequency:

This measurement will happen during the 'sample hours' on 7 selected days of the month. AERA may decide to prescribe these days to include significant events, festivals, and peak travel days.

"**Sample hours**" will be identified for each terminal as the specific hour that falls one to two hours prior to the busiest hour of the selected day. This determination will be made based on the flight schedule specific to each terminal by the third-party assessor depending upon the observed passenger reporting pattern. It is noted that there may be multiple busy hours during the day for a given terminal, in such case the "Sample hours" shall be identified by third party with an intimation to the airport operator. Consequently, each queue will have a total of **42 readings per month** (6 readings/hour at every 10 minutes interval * 7 days) during the Sample Hour.

Measurement will be undertaken for all the queues and data will be collated terminal-wise (in case of multiple terminals) as well as airport-wise.

Additionally, AERA would reserve the right to conduct random assessment of the airports through third party assessors as deemed necessary. The data obtained from these random assessments will also be incorporated into the performance determination.

(d) Data Source: Traditionally, queuing time and other performance parameters have been measured through manual observation and reporting. This method can result in disputes between stakeholders and requires safeguards to be built to avoid potential errors. Ideally, such assessments ought to be driven by automated systems that provide objective, continuous and verifiable data streams. However, at present, the reliability and integration of these systems remain inadequate to support regulatory intervention.

Consequently, as a short-term approach, the analysis of CCTV footage covering relevant operational areas and queues to assess performance is proposed. This measurement shall be conducted by a third-party assessor through manual review of the recorded CCTV footage of the respective area for the identified Sample Hours. In case the recorded CCTV footage is not yet available, manual measures may be provisionally used with the understanding that such reliance shall diminish progressively as CCTV feeds become available.

In recognition of the considerations associated with use of CCTV footage, discussions with DGCA, BCAS and other govt. stakeholders were undertaken to address data privacy requirements, safety or operational considerations. Following this consultation, the approach on the proposed use of CCTV footage has in-principle been agreed upon.

5.2.2 **Check-In**

(a) Parameter Explanation: The check-in process at the airport involves passengers presenting their identification and flight details at the check-in counter or kiosk to receive their boarding pass and check in their luggage. The proposed parameter includes separate timings for Economy Class, Business Class and Self-Bag drop.

Figure 10: Check-In (Self-Bag drop, Separate Business Class Counter)

(b) Measurement Mechanism:

The measurement shall be done for the selected queues on the basis of the following methodology:

During the **"sample hour"** of the selected day, queuing time shall be measured every 10-minutes beginning hh:mm, hh:mm+10, hh:mm+20, hh:mm+30, hh:mm+40, hh:mm+50 where mm lies between 0 and 9, resulting in six readings per hour for the person joining each queue. The queuing time will be measured for 80% of the total queues at the start of the Sample Hour for that particular process.

For each measurement, the queuing time will be calculated as:

$$Q = B - A$$

Where:

- Q is the Queuing Time
- A is the time a passenger joins the respective check-in or SBD queue after the measurement period has begun
- B is the time the passenger presents to the check-in staff for check-in process or at the SBD system

It is clarified that the queuing time measurement excludes the processing time at the check-in counters or SBD system, as processing time varies from passenger to passenger.

The performance percentage (%) figures will be computed as given in Section 5.2.1(b).

Example: Example for the above computation can be referred in Section 5.2.1(b).

Normative Processing Time will be computed as given in Annexure 13.5.

(c) Measurement Frequency: The measurement frequency will be as given in Section 5.2.1(c)

(d) Data Source: As given in Section 5.2.1(d).

5.2.3 **Immigration / Emigration**

(a) Parameter Explanation: The immigration process at the airport involves passengers presenting their travel documents, such as passports and visas, to immigration officers for verification of identity and purpose of visit. The emigration process is similar, where passengers' documents are checked to ensure they are authorized to leave the country.

The time measured spans from when a passenger joins the queue until they present themselves at the immigration counter. This measurement does not include the processing time at the immigration counter, as this processing time varies from passenger to passenger.

(b) Measurement Mechanism:

The measurement shall be done for selected queues on the basis of the following methodology:

During the **"sample hour"** of the selected day, queuing time shall be measured every 10-minutes beginning hh:mm, hh:mm+10, hh:mm+20, hh:mm+30, hh:mm+40, hh:mm+50 where mm lies between 0 and 9, resulting in six readings per hour for the person joining each queue. The queuing time will be measured for 80% of the total queues at the start of the Sample Hour for that particular process.

For each measurement, the queuing time will be calculated as:

$$Q = B - A$$

Where:

- Q is the Queuing Time;
- A is the time a passenger enters the defined entry point to immigration queue; the start point of the queue shall include any uni-queue or maze system (structured queueing arrangements designed to streamline passenger flow) prior to the entry into the immigration area; the entry point into the security area may be defined by AERA to include passenger holding area prior to entry into the immigration area, if required;
- B is the time the passenger presents to the immigration officer.

It is clarified that the queuing time measurement excludes the processing time at the immigration counters.

The performance percentage (%) figures will be computed as given in Section 5.2.1(b).

Normative Processing Time will be computed as given in Annexure 13.5.

Example: As specified in Section 5.2.1(b).

(c) Measurement Frequency: The measurement frequency will be as given in Section 5.2.1(c).

(d) Data Source: As given in Section 5.2.1(d).

5.2.4 **Security Check (Terminal) – Departure Pre-embarkation**

(a) Parameter Explanation: The Central Industrial Security Force (CISF) security process at Indian airport terminals involves passengers undergoing a screening where their hand baggage is scanned through X-ray machines (XBIS/ATRS/CTX), and they pass through a

metal detector (DFMD), full-body scanner (where available), followed by manual frisking with a hand-held metal detector (HHMD).

(b) Measurement Mechanism:

The measurement shall be done for selected queues on the basis of the following methodology:

During the **"sample hour"** of the selected day, queuing time shall be measured every 10-minutes beginning hh:mm, hh:mm+10, hh:mm+20, hh:mm+30, hh:mm+40, hh:mm+50 where mm lies between 0 and 9, resulting in six readings per hour for the person joining each queue. The queuing time will be measured for 80% of the total queues at the start of the Sample Hour for that particular process.

For each measurement, the queuing time will be calculated as:

$$Q = B - A$$

Where:

- Q is the Queuing Time;
- A is the time a passenger enters the defined entry point to security queue; the start point of the queue shall include any uni-queue or maze system (structured queueing arrangements designed to streamline passenger flow) prior to the entry into the security check area; the entry point into the security area may be defined by AERA to include passenger holding area prior to entry into the security check area, if required;
- B is the time the passenger presents to the security personnel for their physical screening.

It is clarified that the measurement time does not include the processing time taken by the CISF for manual frisking of the passenger, as this processing time varies from passenger to passenger.

The performance percentage (%) figures will be computed as given in Section 5.2.1(b).

Normative Processing Time will be computed separately for ATRS and X-BIS separately as given in Annexure 13.5.

Example: As specified in Section 5.2.1(b).

(c) Measurement Frequency: The measurement frequency will be as given in Section 5.2.1(c).

(d) Data Source: As given in Section 5.2.1(d).

Arrival processes

5.2.5 **Baggage Delivery (Domestic and International)**

(a) Parameter Explanation: This process measures the time taken for baggage to be transported from the aircraft's arrival to the baggage belt. It is measured separately for domestic and international flights. This parameter is crucial for assessing the efficiency of baggage handling operations and ensuring a satisfactory passenger experience.

(b) Measurement Mechanism and Data Source: To measure the time taken for the first and last bags to reach the baggage belt, the following procedures will be implemented:

i. **First Bag Measurement:** Measure the time from the aircraft's on-block time until the first bag appears on the baggage belt.

ii. **Last Bag Measurement:** Measure the time from the aircraft's on-block time until the last bag appears on the baggage belt.

iii. **On-blocks Time Data:** Data for the on-blocks time will be obtained from the Airport Operations Control Center (AOCC) for each flight.

To measure the first bag and last bag time, following methodology of data collection are proposed for measuring performance:

i. **Data Collection by airport operators:** For both first and last bag timings, a barcode reader will be made available at each baggage belt which shall be used to scan the baggage tags of the first and last bag when they are loaded on the belt. Additionally, a mechanism will be set up to collect the information in the AOCC for the flight when the first and last bags are reported. The consolidated data shall be shared with the Third-Party Assessor and shall be used to assess any significant variations from manual assessment mentioned below.

ii. **Data Collection by third-party assessor:** A manual assessment of the first and last bag timings will be conducted for all the flights during the busiest hour for each terminal, separately for domestic and international flights.

The performance percentage (%) figures for the proposed parameter will be calculated as follows:

i. Identify the number of flights whose bags were processed within the target time in the sample hour;

ii. Then, divide this number by the total number of flights in the sample hour and express the result as a percentage (%).

These performance percentage (%) figures will be calculated on a monthly basis for each method, separately for the first bag and last bag timings, and differentiated between domestic and international flights.

(c) Measurement Frequency:

i. **Data collection by Airport Operator:** Data will be collected for all flights from AOCC.

ii. **Data Collection by Third-Party assessor:** The measurement will happen during the 'sample hours' on 7 selected days of the month. AERA may decide to prescribe these days to include significant events, festivals, and peak travel days.

"Sample hours" will be identified for each terminal as the busiest hour of the selected day. This determination will be made based on the domestic and international flight schedule for the airport.

Additionally, AERA shall have the right to conduct random assessment of the airports as deemed necessary. The data obtained from these random assessments will also be incorporated into the performance determination.

(d) Additional Conditions:

- The airport operator should install a CCTV camera for each baggage belt whose footage should be made available to the Third-Party assessor, if required.
- The airport operator should ensure that a prominent display is installed at each baggage belt in the terminal, showing the expected first bag and last bag times for each flight as per these guidelines to the passengers, along with the aircraft's actual time of arrival.
- The airport operator should install feedback kiosks at every baggage carousel belt. These kiosks should allow passengers to record the time they received their baggage by first scanning their boarding pass to indicate whether they received their baggage within the stipulated time. The stipulated time should be clearly specified on this feedback kiosk.

It is noted that as per some industry practices the arrival time of the first bag is measured from the moment the first passenger reaches the baggage belt, rather than from the aircraft's on-blocks time. This approach is being considered to be adopted in the future and feedback from stakeholders on this approach is sought as well.

5.2.6 **Passenger Arrival (Domestic and International)**

(a) Parameter Explanation: This process measures the time taken for passengers to reach the terminal building entry gate from the aircraft's arrival.

(b) Measurement Mechanism:

The measurement shall be done on the basis of following methodology:

The deboarding time for each flight in the 'sample hour' shall be calculated as:

$$D = B - A$$

Where:

- D is the Deboarding Time;
- A is the aircraft arrival time (on-block time) as per AOCC;
- B is the time at which the first arriving passenger enters the terminal building (through first bus or aerobridge).

Table 5: Illustration of Deboarding Time calculation

Sample Hour	17:00 – 18:00 hours
Aircraft Arrival Time as per AOCC (A)	17:35
Time at which the first arriving passenger enters the terminal building (B)	17: 46
Deboarding time (D)	11 minutes

The performance percentage (%) figures for the set standard will be calculated by:

i. Identifying the number of flights in the sample hour for which passenger arrives within the target time;

ii. This number will then be divided by the total number of flights in the sample hour and expressed as a percentage (%).

These performance percentage (%) figures will be calculated on a monthly basis separately for domestic and international flights.

Table 6: Illustration of calculation of Performance Percentage for the proposed parameter

Proposed Target Arrival Time	15 Minutes
No. of flights for which pax arrived within the Target Time	72
Total no. of Flights measured during the process	75
Performance Percentage	$\frac{72}{75} \times 100\% = 96\%$

(c) Measurement Frequency:

The measurement will happen during the 'sample hours' on 7 selected days of the month. AERA may decide to prescribe these days to include significant events, festivals, and peak travel days.

"Sample hours" will be identified for each terminal as the busiest hour of the selected day. This determination will be made based on the domestic and international flight schedule for the airport.

Additionally, AERA reserves the right to conduct random assessment of the airports as deemed necessary. The data obtained from these random assessments will also be incorporated into the performance determination.

(d) Data Source: Aircraft arrival time (on-block time) will be obtained from the AOCC. The time at which the first arriving passenger enters the terminal building (through first bus or aerobridge) will be obtained by third-party assessor through manual review of the recorded CCTV footage of the respective area for the identified Sample Hours.

5.3 AIRPORT FACILITIES

5.3.1 Uptime of Flight Information Display System (FIDS)

(a) Parameter Explanation:

Flight Information Display System (FIDS) provide essential flight information for passenger convenience. This service ensures reliable access to real-time flight information, including scheduled and estimated departure times (ETD and STD), gate assignments, and flight status updates, helping passengers stay informed throughout their journey.

The uptime of these assets refers to the percentage (%) of time these assets are operational and available for use by passengers.

Figure 11: Flight Information Display System

(b) Measurement Mechanism:

The uptime for the asset, Flight Information Display Systems, shall be measured as per following steps:

The available time for a specific asset is the actual operational hours excluding the planned maintenance time. Planned maintenance shall be as per the OEM manual/ maintenance plan of the airport and as communicated by airport operator in advance. After computing the available time for each specific asset, sum total of the available time for all assets is computed. ln symbolic terms, this is expressed as:

$$Total\ Available\ Time_j = \sum_{k=1}^{n} T_{k,j}$$

Where:

- Total Available Time$_j$ is the sum total of the available time for all assets in month j;
- n is the total number of assets included in the parameter;
- k denotes a specific asset included in the parameter such that k=1,2,...,n;
- $T_{k,j}$ is the available time for asset k in month j (i.e. actual operational hours excluding the planned maintenance time);

The downtime for a specific asset is defined as the period it is unavailable for use, excluding planned maintenance and non-operational hours. The total downtime for all assets included in the parameter is then summed. In symbolic terms, this is expressed as:

$$Total\ downtime_j = \sum_{k=1}^{n} U_{k,j}$$

Where:

- Total downtime$_j$ is the total downtime for all the assets in month j;
- n is the total number of assets included in the parameter;
- k denotes a specific asset included in the parameter such that k=1,2,...,n;
- $U_{k,j}$ is the downtime for asset k in month j;

Calculate availability for parameter i in month j as:

$$Uptime_{i,j} or\ Performance_{i,j} = 100 \times \left(1 - \frac{\sum_{k=1}^{n} U_{k,j}}{\sum_{k=1}^{n} T_{k,j}}\right)$$

Where:

- $Uptime_{i,j}$ or $Performance_{i,j}$ is the percentage (%) uptime of the parameter in month j;
- n is the total number of assets included in the parameter;
- k denotes a specific asset included in the parameter such that k=1,2,...,n;
- $U_{k,j}$ is the downtime for asset k in month j;
- $T_{k,j}$ is the available time for asset k in month j (i.e. actual operational hours excluding the planned maintenance time);

In the below example, wherein the parameter has three assets, the uptime/ performance percentage for the particular month is 98.7%.

Table 7: Illustration of percentage (%) uptime/ performance of a particular asset for the month

Particulars		Asset 1	Asset 2	Asset 3	Total
Operational hours	A	540 hours	540 hours	540 hours	**1620 hours**
Planned Maintenance time	B	20 hours	15 hours	5 hours	**40 hours**
Total Available time	C = A – B	520 hours	525 hours	535 hours	**1580 hours**
Total Downtime	D	5 hours	7 hours	8 hours	**20 hours**
Uptime (in %age)/ Performance score for the month		$100\% \times \left(1 - \frac{20}{1580}\right) = \mathbf{98.7\%}$			

(c) Measurement Frequency: The performance score shall be calculated for every month. Measurements will be taken during the airport's operational hours of the airport.

"Airport Operational Hours" refer to the officially designated time period during which an airport is open and available for aircraft operations, passenger processing, and associated services. These hours encompass the functioning of all critical airport systems and facilities, including airside and terminal operations, security screening, baggage handling, and passenger facilitation services. Operational hours are determined based on scheduled flight activity, regulatory requirements, and stakeholder coordination, and may vary across airports depending on their scale, category, and traffic patterns.

(d) Data Source: This measurement shall be conducted by the Third-Party assessor using SCADA System, IT logs, Maintenance logs (if SCADA not available) as provided by the airport.

5.3.2 **Uptime of Lifts, Escalators and Travellators**

(a) Parameter Explanation:

Lifts, Escalators, and Travellators ensure seamless vertical and horizontal transportation for passengers, providing quick and efficient access to different floors and long distances within the airport.

The uptime of these assets refers to the percentage (%) of time these assets are operational and available for use by passengers.

(b) Measurement Mechanism: The uptime/ performance percentage for the parameter shall be measured as in section 5.3.1(b).

Example: As specified in section 5.3.1(b).

(c) Measurement Frequency: As in section 5.3.1(c).

(d) Data Source: As in section 5.3.1(d).

5.3.3 **Uptime of Automated Services**

(a) Parameter Explanation:

Automated Services include the inbound baggage system, outbound baggage system, X-ray machines, and public announcement system.

The uptime of these assets refers to the percentage (%) of time these assets are operational and available for use by passengers.

(b) Measurement Mechanism: The uptime/ performance percentage for the parameter shall be measured as in section 5.3.1(b).

(c) Measurement Frequency: As in section 5.3.1(c).

(d) Data Source: As in section 5.3.1(d).

5.3.4 **Availability of Passenger Boarding Bridges (Domestic / International)**

(a) Parameter Explanation: This metric evaluates the efficiency and reliability of the airport in meeting the Passenger Boarding Bridge (aerobridge) requirements requested by airlines. Meeting aerobridge requirements contributes to a smoother and more comfortable experience for passengers, as they can board and deboard aircraft directly through the aerobridge without the need for buses or other transportation methods.

(b) Measurement Mechanism:

- Determine the total number of aircraft movements for which airlines requested the use of an aerobridge.
- Identify the number of aircraft movements for which the aerobridge requirement was successfully met.
- The performance percentage (%) is calculated by dividing the number of aircraft movements for which the aerobridge requirement was met by the total number of aircraft movements for which aerobridge requests were made, and then expressing this figure as a percentage (%).

- Airlines or the Airport Operations Control (AOC) can voluntarily submit to the AERA or the Third-Party Assessor the requests for boarding bridges that were not met by the airports. This submission is intended to verify the data provided collected from the airport operator.

(c) Measurement Frequency: The performance score shall be calculated for every month. Measurements will be taken during the airport's operational hours of the airport.

(d) Data Source: The data will be collected by the Third-Party Assessor from Airport Operational Database (AODB), Stand & Gate Management System of the airport.

5.3.5 **Availability of Baggage Trolleys:**

(a) Parameter Explanation: Baggage trolleys must be available at designated locations (Terminal entrances and exits, Arrival and departure halls, Baggage claim areas, Parking zones and drop-off points, Public transport access points (e.g., metro stations, bus bays), Check-in counters and airline service desks) within the airport for a specified percentage of time (As specified in Annexure 13.1).

(b) Measurement Mechanism:

- The designated locations of the baggage trolleys for each airport will be determined by the Third-Party assessor in consultation with the airport operator and guidance from AERA. Manual checks of baggage trolleys will be conducted at designated locations.
- The number of baggage trolleys available at designated locations (Departure Entry Gates, Baggage Reclaim Belt, Car Park) at any given point in time, even after meeting the requirement of that particular location, should not fall below a minimum of 50 trolleys for Category A airports and minimum of 25 trolleys for Category B airports. It is clarified that the number of baggage trolleys required to achieve satisfactory service quality can be significantly higher. The aforementioned target is the minimum number that should remain available at any given point in time.

(c) Measurement Frequency:

This measurement will happen during the 'sample hours' on 7 selected days of the month. AERA may decide to prescribe these days to include significant events, festivals, and peak travel days.

"**Sample hours**" will be identified for each terminal as the specific hour that falls one to two hours prior to the busiest hour of the selected day. This determination will be made based on the flight schedule specific to each terminal by the third-party assessor depending upon the observed passenger reporting pattern.

Additionally, AERA reserves the right to conduct random assessment of the airports as deemed necessary. The data obtained from these random assessments will also be incorporated into the performance determination.

(d) Data Source:

i. **Manual method through physical site visit**: This measurement shall be conducted by a third-party assessor manually during the sample hours through physical site visit. The performance score will be based on the availability of the minimum baggage trolleys as described above during the site visit.

ii. **Manual method using recorded CCTV footage:** The airport operators are mandated to install a CCTV camera for each of the designated areas for trolleys within 1 year of the notification of these guidelines. Once the cameras are installed, this measurement shall be conducted by a third-party assessor through manual review of the recorded CCTV footage of the respective area for the identified Sample Hours. The performance score for this parameter is defined as the percentage of sample hours during which the minimum required number of baggage trolleys are available at each designated location within the airport.

5.3.6 **Seating Availability (at Boarding Gates):**

(a) Parameter Explanation: The seats provided at the boarding gates of the terminal should be above a specific percentage (%) of the designated peak hour passengers capacity (As specified in Annexure 13.1) of the terminal. This ensures comfort and convenience for passengers, especially during busy times. Adequate seating availability is crucial for maintaining passenger satisfaction and reducing congestion in waiting areas.

(b) Measurement Mechanism: The total number of seats at the boarding gates in the Security Hold Area (SHA), will be counted manually for each terminal separately. The designated peak hour passengers capacity of each terminal will be provided by the airport operator. The performance percentage (%) is calculated by dividing the total number of seats at the boarding gates of each terminal with the designated peak hour passengers capacity of the respective terminal, and then expressing this figure as a percentage (%). The performance percentage (%) for this parameter will be computed terminal-wise as well as airport as a whole. However, for the purpose of determining any applicable rebate, only the airport-wide performance percentage (%) will be considered.

(c) Measurement Frequency: The performance score shall be calculated for every month. Measurements will be taken once every month.

(d) Data Source: This measurement shall be conducted by a third-party auditor manually during their site visit.

5.3.7 **Facilities for Person with Reduced Mobility (PRM) Passengers:**

(a) Parameter Explanation: Essential facilities as per PRM Passenger facility Checklist must be available for all Passengers with Reduced Mobility (PRM) 100% of the time. This ensures accessibility and convenience for PRM passengers throughout their airport experience.

PRM Checklist for adherence as per Accessibility Standards and Guidelines for Civil Aviation, 2022:

- Manned dedicated pick-up and drop-off zone for PRM passengers along the city-side kerb;
- Accessible airport approach, terminal entry, and interior areas via ramps / Lifts;
- Demarkation of Priority Space for PRM passengers at Terminal Entry, Security and Baggage Delivery areas;
- Designated seating for PRM passengers at check-in area, and SHA near the boarding gates;
- Dedicated sections for PRM passengers adjacent to Help desks;
- Accessible Washrooms for PRM passengers;

- PRM signage across airport;

(b) Measurement Mechanism: The third-party assessor will undertake a manual survey of the airport to ensure the airport is in adherence to the above checklist. The performance score will be based on the availability of the PRM infrastructure outlined above during the site visit.

(c) Measurement Frequency: The performance score shall be calculated for every month. Measurements will be taken once every month.

(d) Data Source: This measurement shall be conducted by a third-party assessor manually during their site visit.

5.3.8 **Availability of Wheelchairs (Pre-booked):**

(a) Parameter Explanation: Pre-booked wheelchair availability refers to the assurance that wheelchairs reserved in advance by PRM passengers are available 100% of the time within the specified timeframe upon their arrival at the terminal. To support this, a dedicated counter or area must be available at the terminal entry gate, providing immediate wheelchair assistance and facilitating a smooth and timely experience for PRM passengers throughout their journey.

It is noted that the primary responsibility for providing pre-booked wheelchairs lies with the airlines. The Directorate General of Civil Aviation (DGCA) is developing guidelines to ensure airlines take suitable actions to meet this requirement. If airlines are unable to provide the pre-booked wheelchairs within the set standard time, the airport operator will supply the necessary wheelchairs free of charge from their stock. Airports may seek reimbursement for the cost of providing these wheelchairs if the airline fails to do so within the specified time.

Figure 12: Wheelchairs

(b) Measurement Mechanism:

- The airport operator will gather from the airlines flight-specific details of the number of pre-booked wheelchair assistance requests made by passengers. This information will enable the airport operators to effectively plan and meet the wheelchair requirements at the airport.

- The Airport Operator shall implement a system at the airport to monitor and track wheelchair assistance requests made by passengers.

  The general requirements for this system are as follows:

  1. **Passenger Request:** Passengers should be able to raise the request for wheelchair through multiple channels at the airport including:

     i. Entry point to the terminal building near the drop-off spot for the PRM passengers

     ii. **Help Desk:** At the airport's PRM (Person with Reduced Mobility) help desk.

     iii. **Kiosks:** Self-service kiosks, if available located at various points in the airport.

  Passengers shall receive their wheelchairs from the designated help desk or kiosks located at the point where the request was raised.

  2. **Centralized Database for Request Logging:** All wheelchair requests will be logged into a centralized database managed by the airport's service team. Each request will include details such as: Passenger name and contact information, Flight details (airline, flight number, arrival/departure time), Request time and date and whether the request is pre-booked at the time of flight booking or it is not pre-booked.

  3. **Service Request / Ticket Issuance, Monitoring and Fulfillment:** Upon receiving a request, a service request or ticket will be generated. Passengers will receive a notification message on their phone as confirmation. The time the service request is raised, it will be the start time for the request. The system will track the status of each request in real-time. PRM service staff will update the status as they fulfill the requests (e.g., "In Progress," "Completed"). Once the wheelchair is provided to the passenger, the service request will be closed, and that time will be noted. The time taken from the moment a request is made to the time it is fulfilled will be recorded.

- The performance percentage (%) figures will be calculated on a monthly basis as a percentage (%) of pre-booked wheelchair requests that are fulfilled within the set standard time frame out of the total number of pre-booked wheelchair requests.

(c) Measurement Frequency: The performance score shall be calculated for every month. Measurements will be taken during the airport's operational hours of the airport.

(d) Data Source: This measurement will be conducted by a third-party assessor who will obtain and review the database of wheelchair requests as described above.

5.4 CUSTOMER SERVICE / GRIEVANCE REDRESSAL SYSTEM

5.4.1 **Help Desks:**

5.4.1.1 Help Desk Counters located at Check-in, SHA and Arrivals with necessary infrastructure

(a) Parameter Explanation: An airport help desk, serves as a central point of contact for passengers seeking assistance, guidance, and information within the airport. These desks provide a variety of services including flight information, gate locations, airline inquiries, handling lost and found services, and other general airport information. The primary

motive of airport help desks is to ensure passengers have access to the necessary information and support to make their travel experience smooth and stress-free.

The help desk service at each terminal of the airport should be strategically positioned in easily accessible locations. Specifically, there should be at least one help desk in each of the following areas: Check-In area, the Arrival Hall, and the Security Hold Area (SHA).

At each of the helpdesk, following necessary infrastructure include:

- All help desks should be interconnected to facilitate efficient communication and coordination.
- The customer helpline number of that airport should be clearly displayed at each help desk for general inquiries and assistance. Additionally, the airport should ensure that the customer helpline numbers are prominently displayed on various System and at various locations throughout the airport to maximize visibility.
- There must be a prominently displayed helpline number for lost and found services, allowing passengers to easily report lost items.
- Information about the various passenger facilities available at the airport should be prominently displayed at each help desk.
- Dedicated sections for Persons with Reduced Mobility (PRM) passengers should be located adjacent to the help desks to provide specialized assistance. The PRM help desk should prominently display the set standard time as per these guidelines for obtaining the pre-booked wheelchair.
- Separate sections equipped with digital means (e.g., tablets) for submitting complaints should be available next to the help desks, ensuring passengers can easily register their grievances. This section should prominently display information about the Air Sewa portal, enabling passengers to easily register any complaints.

(b) Measurement Mechanism: The Third-Party assessor will undertake the assessment of the necessary infrastructure available at the airport during the physical site visit. The performance score will be based on the availability of the necessary infrastructure outlined above at the helpdesks during the site visit.

(c) Measurement Frequency: The performance score shall be calculated for every month. Measurements will be taken once every month.

(d) Data Source: This measurement shall be conducted by a third-party assessor through a manually review of the available infrastructure at all the helpdesks at all the terminals of the airport.

5.4.1.2 Availability of Personnel at all Helpdesks

(a) Parameter Explanation: All help desks at the airports must be staffed by knowledgeable and well-trained personnel at all times. These personnel should be capable of providing accurate information and assistance to passengers.

Figure 13: Help Desks

(b) Measurement Mechanism: The performance score for this parameter is defined as the percentage of sample hours during which the personnel is available at all the helpdesks.

(c) Measurement Frequency: The measurement frequency will be as given in Section 5.3.5(c).

(d) Data Source: This measurement shall be conducted by a third-party assessor through manual review of the recorded CCTV footage of the respective area for the identified Sample Hours.

5.4.1.3 Percentage (%) of written complaints uploaded on Air-Sewa within specified time

(a) Parameter Explanation: The airport shall upload all written complaints registered through various channels to the Air Sewa portal on behalf of the passengers.

These channels include:

- Airport Website
- Airport Mobile Application (if available)
- Complaint Registers (digital tabs or physical registers)
- Email to official airport email address

Each airport should have a dedicated section for grievance redressal/ registering complaints on its website and on its mobile application (if available). This section should be easily accessible from the home page and prominently displayed within the website's design.

(b) Measurement Mechanism:

The third-party assessor will check the airport records for the time each written complaint is received and the time it is uploaded to the Air-Sewa portal.

The performance percentage (%) figures for the proposed parameter will be calculated as follows:

i. Identify the number of written complaints uploaded within the specified time frames

ii. Then, divide this number by the total number of written complaints received and express the result as a percentage (%).

(c) Measurement Frequency: The performance score shall be calculated for every month. Measurements will be taken once every month.

(d) Data Source: The third-party assessor will obtain the written complaints from the airport operator received through its airport website, airport mobile applicable (if available), complaint registers (digital tabs/ physical) and email to official mail id of airport.

5.5 OTHER PARAMETERS (FOR INFORMATION GATHERING)

5.5.1 Minimum Connect Time (MCT) - Transfer Process

(a) Parameter Explanation: The Minimum Connect Time (MCT) parameter defines the minimum amount of time required for passengers and their baggage to transfer from one flight to another within an airport. This process encompasses several key stages.

- **Disembarkation:** Passengers must first disembark from their arriving flight. This involves exiting the aircraft and entering the terminal building.
- **Terminal Navigation:** Once inside the terminal, passengers need to navigate through the airport to reach their connecting flight's departure gate. This may include passing through security checks, immigration, and customs, especially for international transfers.
- **Boarding the Connecting Flight:** Passengers must arrive at the departure gate in time to board their connecting flight.
- **Baggage Transfer:** Simultaneously, the checked baggage must be transferred from the arriving aircraft to the connecting flight. This involves unloading the baggage, transporting it through the airport's baggage handling system, and loading it onto the connecting flight.

The MCT parameter is defined for different types of transfers:

- Domestic to Domestic
- Domestic to International
- International to Domestic
- International to International

(b) Measurement Mechanism:

- **Minimum Connect Times (MCT):** The minimum connecting time will be defined and measured as per IATA Resolution 765, which specifies “the shortest time interval required to transfer a passenger and their luggage from one flight to a connecting flight, in a specific location.”
- The MCT will be established based on the information provided by the Airline Operators Committee (AOC), Airport Operator, or Airline to IATA / airline users.

(c) Measurement Frequency: The data will be obtained from the Airport Operator or AOC as per the frequency given in section 5.1.3.

(d) Data Source: The data will be collected by the Third-Party Assessor from Airport Operator/ AOC/ Airlines.

5.5.2 **No. of Misconnect Passengers and No. of Misconnect Baggage**

(a) Parameter Explanation:

i. **"No. of Misconnect Passengers"** at an airport refers to a traveler who misses their connecting flight due to various reasons such as delays, cancellations, or other disruptions during their journey. The parameter measures the number of Misconnect Passengers during the month.

ii. **"No. of Misconnect Baggage"** at an airport refers to luggage that fails to arrive at its final destination due to issues with connecting flights. Alternatively, even if a passenger successfully makes their connection, the baggage might not be transferred to the next flight in time, also leading to a misconnection. The parameter measures the number of Misconnect Baggage during the month.

(b) Measurement Mechanism: The Airport Operator must maintain monthly records of misconnect passengers and misconnect baggage in collaboration with the airlines. For misconnect passengers, typical data sources will include flight manifests, passenger check-in records, and gate departure logs. The performance score for the parameter Misconnect Passengers and Misconnect Baggage measures the number of misconnect passengers and number of misconnect baggage respectively during the month.

(c) Measurement Frequency: The data will be obtained from the Airport Operator as per the frequency given in section 5.1.3.

(d) Data Source: The data will be collected by the Third-Party Assessor from Airport Operator.

5.5.3 **Land Side Access**

(a) Parameter Explanation: Land side access refers to the travel time on the terminal frontage road, which is the duration it takes for vehicles to traverse the road directly in front of the terminal, used for passenger drop-off and pick-up. This is measured by the standard that 95% of vehicles should take less than 10 minutes to travel from the entry to the exit barrier of the terminal frontage road. The specific entry and exit boundaries for each airport will be determined by the third-party assessor, to ensure consistency and contextual relevance in measurement across different airport layouts.

(b) Measurement Mechanism:

The measurement shall be done on the basis of following methodology:

During the **"sample hour"** of the selected day, travel time shall be measured every 10-minutes time interval beginning hh:mm, hh:mm+10, hh:mm+20, hh:mm+30, hh:mm+40, hh:mm+50 where mm lies between 0 and 9, resulting in six readings per hour for the vehicle entering each lane.

For each measurement, the travelling time shall be calculated as:

$$Q = B - A$$

Where:

- Q is the Vehicle travel Time on the terminal frontage road for a particular vehicle;

- A is the time of the particular vehicle to enter the respective lane after the measurement period has begun;
- B is the time of the particular vehicle to exit that respective lane.

Table 8: Illustration of Travelling Time Measurement for a specific lane

Sample Hour	14:00 – 15:00 hours					
Measuring time	14:00	14:10	14:20	14:30	14:40	14:50
Entering Time of the Particular vehicle (A)	14:02	14:10	14:26	14:35	14:40	14:58
Exit Time of the Particular vehicle (B)	14:09	14:19	14:32	14:39	14:56	15:02
Queuing Time (Q)	7 minutes	9 minutes	6 minutes	4 minutes	16 minutes	4 minutes

The performance percentage (%) figures for set standard shall be calculated by:

i. Identify the number of vehicles measured during the measurement mechanism process which were processed within the set standard time.

ii. Then, divide this number by the total number of vehicles measured during the measurement mechanism process and express the result as a percentage (%).

The performance percentage (%) figures for the proposed parameter will be calculated on a monthly basis for each terminal and the airport as a whole.

Table 9: Illustration of calculation of Performance Percentage for the proposed parameter

Proposed Target Vehicle travel Time on the terminal frontage road	8 Minutes
No. of vehicles processed within Target Queuing Time	4
Total no. of vehicles measured during the process	5
Performance Percentage	$\frac{4}{5} \times 100\% = 80\%$

(c) Measurement Frequency: The measurement frequency will be as given in Section 5.2.1(c) and as per section 5.1.3.

(d) Data Source: As given in Section 5.2.1(d).

5.5.4 **Passenger Boarding Bridges Utilization**

(a) Parameter Explanation: This metric assesses the utilization of passenger boarding bridges relative to the total number of eligible flights.

(b) Measurement Mechanism:

- Determine the total number of aircraft movements for which passenger boarding bridge was utilized.

- Identify the total number of aircraft movements eligible for aerobridge use. Eligible aircraft movements are those involving aircraft that are compatible with the use of the aerobridge facility.
- The performance percentage (%) is calculated by dividing the total number of aircraft movements for which passenger boarding bridge was utilized by the total number of aircraft movements eligible for aerobridge use, and then expressing this figure as a percentage (%).

(c) Measurement Frequency: Measurements will be taken as per the frequency given in section 5.1.3.

(d) Data Source: The data will be collected by the Third-Party Assessor from Airport Operational Database (AODB), Stand & Gate Management System of the airport.

5.5.5 **Availability of Medical facilities**

(a) Parameter Explanation: In accordance with SARPs of Annex 9 - Facilitation, Chapter 6, section C of ICAO each airport is required to maintain adequate medical facilities, including first-aid services and establish expeditious referral arrangements for more serious/ emergency cases.

Checklist of key Medical facilities include:

- **First Aid:** Availability of first aid stations at strategic locations (Help desks, Security Checkpoints, Immigration and Customs Areas etc.) throughout the airport equipped with essential medical supplies.
- **Medical Room:** Availability of a dedicated medical room equipped with necessary medical equipment to handle emergencies and provide immediate care.
- **Pharmacy:** Availability of a pharmacy shop that is 100% operational during the airport's operational hours.
- **Automated External Defibrillators (AEDs):** Automated External Defibrillators (AEDs) placed at strategic locations throughout the terminal to provide immediate assistance in case of cardiac emergencies. They should be available at accessible locations such as terminal gates, security checkpoints, security hold area, etc. to ensure response to emergencies can be initiated within 3 minutes from anywhere within the terminal.
- **Ambulift:** Availability of specialized vehicles to assist passengers with medical conditions in boarding and deboarding

(b) Measurement Mechanism: The third-party assessor will undertake a manual survey of the airport to ensure the airport is in adherence to the above checklist. The performance score will be based on the availability of the medical facilities as outlined above during the site visit.

(c) Measurement Frequency: The performance score shall be calculated for every month. Measurements will be taken as per the frequency given in section 5.1.3.

(d) Data Source: This measurement shall be conducted manually during site visit as per section 5.1.3.

5.5.6 **Availability of Digital Information Centers**

(a) Parameter Explanation: Digital Information Centers are centralized digital device, such as tablets, strategically located (Check-in, SHA, and Arrival) throughout the airport terminal for easy access by passengers. These centres are connected to the central customer care team or help desks to provide comprehensive assistance to passengers.

Key Features:

- **Audio or Video Call Assistance:** Enables passengers to seek help through audio or video calls from customer care team or help desks.
- **Prominent Helpline Numbers:** Clearly displays helpline numbers for lost and found, customer support, etc.
- **Complaint Section:** Allows passengers to lodge complaints easily.
- **Feedback Section:** Provides a platform for passengers to share their feedback.
- **Terminal Layout:** Offers detailed terminal maps to assist with navigation.

(b) Measurement Mechanism: The third-party assessor will undertake a manual survey of the airport to ensure the Digital Information Centers are operational and all functionalities are available.

(c) Measurement Frequency: Measurements will be taken as per the frequency given in section 5.1.3.

(d) Data Source: This measurement shall be conducted manually during site visit.

5.5.7 **Availability of Cloak Room/ Extended Baggage Storage**

(a) Parameter Explanation: This parameter refers to the availability of designated facilities within airports where passengers can securely store their luggage for short or extended periods.

(b) Measurement Mechanism: The third-party assessor will undertake a manual survey of the airport to ensure the Clock Room/ Extended Baggage Storage are operational.

(c) Measurement Frequency: Measurements will be taken as per the frequency given in section 5.1.3.

(d) Data Source: This measurement shall be conducted manually during site visit.

5.5.8 **Lost and Found Services**

(a) Parameter Explanation: The Lost and Found Services are a critical component of passenger support operations at the airport, aimed at efficiently managing and resolving issues related to misplaced or recovered items. This service encompasses the availability of trained personnel at the Lost and Found counter and the effectiveness of complaint resolution processes.

To ensure optimal service delivery:

(i) Availability of Personnel at Lost and Found Service Counters: The Lost and Found counter must be staffed at all times during airport operating hours. Personnel should be qualified to handle passenger inquiries with professionalism, empathy, and efficiency.

Their presence ensures timely assistance and enhances passenger confidence in the airport's support services.

(ii) Percentage (%) of Complaints Resolved: A key performance indicator for this service is the percentage (%) of complaints resolved within a defined timeframe (As specified in Annexure 13.1). The service must maintain a comprehensive and up-to-date log of all reported and recovered items, enabling swift tracking and return. High resolution rates reflect the effectiveness of the system and contribute to overall passenger satisfaction.

(b) Measurement Mechanism: The performance score for this parameter is defined as the percentage of sample hours during which the personnel is available at all the helpdesks. The third-party assessor will check airport records for the time each complaint is registered.

The performance percentage (%) figures for the proposed parameter will be calculated as follows:

i. Identify the number of complaints resolved within the specified time frames.

ii. Then, divide this number by the total number of complaints registered and express the result as a percentage.

(c) Measurement Frequency: Measurements will be taken as per the frequency given in section 5.1.3.

(d) Data Source: This measurement shall be conducted manually during site visit.

5.5.9 **Availability of Baby Care Rooms**

(a) Parameter Explanation: This parameter relates to the availability of designated areas within airports equipped to support the needs of parents traveling with their infants. These rooms should be strategically located in accessible areas such as SHA, Arrivals and near restrooms. They provide facilities for breastfeeding, diaper changing, and other infant care activities, ensuring privacy and comfort. Baby care rooms typically include amenities like changing tables, feeding chairs and wash basins.

(b) Measurement Mechanism: The third-party assessor will undertake a manual survey of the airport to ensure the Baby Care Rooms are operational.

(c) Measurement Frequency: Measurements will be taken as per the frequency given in section 5.1.3.

(d) Data Source: This measurement shall be conducted manually during site visit.

5.5.10 **Availability of Sensory Rooms**

(a) Parameter Explanation: This parameter relates to the availability of designated areas within airports equipped to support the needs of neurodivergent passengers. These rooms should be strategically located in accessible areas such as SHA and Arrivals. They are designed to provide facilities that cater to the sensory needs of passengers, offering a calming environment to help manage sensory overload and enhance their travel experience.

(b) Measurement Mechanism: The third-party assessor will undertake a manual survey of the airport of the Sensory Rooms.

(c) Measurement Frequency: Measurements will be taken as per the frequency given in section 5.1.3.

(d) Data Source: This measurement shall be conducted manually during site visit.

5.5.11 **Availability of Operational Charging Points**

(a) Parameter explanation: This parameter relates to the availability of sufficient number of operational charging points where passengers can conveniently charge their electronic devices. These points are located in accessible areas such as waiting lounges, and near boarding gates to ensure convenience for travelers. They provide a mix of USB ports and power outlets to accommodate various devices.

(b) Measurement Mechanism: The total number of charging points available for passenger usage shall be noted and percentage (%) of charging points which are operational shall be assessed. The measurement shall be based on a randomly selected 5% sample of the charging points available across terminal including waiting areas, boarding gates, arrivals, departures etc for passenger usage.

(c) Measurement Frequency: Measurements will be taken as per the frequency given in section 5.1.3.

(d) Data Source: As in section 5.3.1(d).

5.5.12 **Availability of Wheelchairs (Not Prebooked)**

(a) Parameter Explanation: This parameter covers Passengers with Reduced Mobility (PRM) who have not pre-booked wheelchairs receive one within a specified time frame. While airlines hold the primary responsibility for providing wheelchairs, the airport operator will step in to supply additional wheelchairs free of charge from their stock if the airlines are unable to do so.

(b) Measurement Mechanism:

- Measurement mechanism will be as per section 5.3.8(b).
- The performance percentage (%) figures will be calculated on a monthly basis as a percentage (%) of Not Pre-booked wheelchair requests that are fulfilled within the set standard time frame out of the total number of Not Pre-booked wheelchair requests.

(c) Measurement Frequency: The performance score shall be calculated as per the frequency given in section 5.1.3. Measurements will be taken during the airport's operational hours of the airport.

(d) Data Source: This measurement will be conducted by obtaining and reviewing the database of wheelchair requests as described above.

5.5.13 **Uptime of Digi-Yatra and Immigration e-gates**

(a) Parameter Explanation:

Digi-Yatra System is designed to provide a seamless and paperless travel experience for domestic passengers. It uses facial recognition technology to authenticate passengers at various touchpoints, including entry gates, security checks, and boarding gates.

Immigration E-gates are automated systems used to expedite the immigration process for international passengers. These gates use biometric data, such as facial recognition or

fingerprint / document scanning, to verify the identity of passengers and allow them to pass through immigration quickly.

The uptime of these assets refers to the percentage (%) of time these gates are operational and available for use by passengers.

(b) Measurement Mechanism: Measurement mechanism will be as per section 5.3.1(b).

(c) Measurement Frequency: Measurement frequency will be as per section 5.3.1(c) and section 5.1.3.

(d) Data Source: Data Source will be as per section 5.3.1(d).

5.5.14 **Cargo Services**

(a) Parameter Explanation: Cargo services at airports encompass the comprehensive management of goods and freight, including efficient handling and temporary storage, customs clearance to ensure regulatory compliance, and security screening to maintain safety. These services also involve coordination with airlines and logistics providers to streamline transportation, along with managing documentation and real-time tracking to ensure transparency and accountability.

The processing time (dwell time) of export and import cargo services includes the time for unloading, customs clearance, security screening, storing, and loading, step by step respectively.

(b) Measurement Mechanism: The measurement of the export and import cargo dwell time will be done as per standard industry practices.

(c) Measurement Frequency: The performance score shall be calculated as per the frequency given in section 5.1.3. Measurements will be taken during the airport's operational hours of the airport.

(d) Data Source: This measurement shall be conducted using cargo database as provided by the cargo terminal operators.

5.5.15 **Operational Resilience**

(a) Parameter Explanation: Operational Resilience refers to an airport's ability to maintain and quickly recover operations during significant disruptions.

Key parameters include:

i. **Material Events:** Events that impact operations such as:

- Staff shortages or industrial actions.
- Closure of runways, taxiways, or manoeuvring areas.
- Failures in runway/taxiway lighting or other critical equipment.
- Unavailability of bad weather equipment during adverse conditions
- Accident of any kind

ii. **Relevant Bad Weather Equipment:** Includes System and equipment for low visibility procedures (e.g., ILS, IRVR, SMR).

iii. **Material Operational Impact:**

- **Arrivals:** Flow rate restrictions and reduced actual movements compared to reference movements.
- **Departures:** Reduced actual movements compared to reference movements during disruptions.

(b) Measurement Mechanism: The Airport Operator will submit to the Third-Party Assessor and AERA, the Operational Resilience Plan prepared in collaboration with the airport stakeholders.

In the event of a significant operational disruption lasting more than four consecutive hours within a 24-hour period which results in congestion and/ or inconvenience to passengers or airport services and where such disruption is attributable to the airport operator, AERA may impose a monthly rebate for each service quality parameter that was adversely impacted during the affected period. This penalty shall apply irrespective of whether the airport operator achieves the overall monthly target for those parameters.

5.5.16 **Technology**

(a) Parameter Explanation: This parameter measures the adoption of passenger processing technologies implemented at the airport and the green airport accreditation as per MoCA guidelines (as available). The measures include:

- Percentage (%) of passengers using Digi-Yatra
- Percentage (%) of passengers using SBDs
- Percentage (%) of international passengers using Immigration E-gates

(b) Measurement Mechanism:

The performance percentage (%) figures for the proposed parameter will be calculated as follows:

i. Identify the number of passengers using the particular passenger processing technology (Digi-Yatra, SBDs, Immigration).

ii. Then, divide this number by the total number of passengers and express the result as a percentage (%).

The performance percentage (%) figures for the proposed parameter will be calculated for the airport as a whole.

(c) Measurement Frequency: The performance score shall be calculated as per the frequency given in section 5.1.3.

(d) Data Source: This measurement shall be conducted by the Third-Party assessor using the data shared by the airport operator

5.5.17 **Sustainability**

(a) Parameter Explanation: This parameter measures the adoption of the green airport accreditation as per MoCA guidelines (as available).

(b) Measurement Mechanism:
The Green Accreditation of Airport will be published once Ministry of Civil Aviation (MoCA) issues the relevant guidelines.

(c) Measurement Frequency: The performance score shall be calculated as per the frequency given in section 5.1.3.

(d) Data Source: This measurement shall be conducted by the Third-Party assessor using the data shared by the airport operator.

5.6 RATIONALE FOR CHANGES TO OBJECTIVE PARAMETERS FROM THE EXISTING PERFORMANCE STANDARDS IN AERA GUIDELINES

Addition of new parameters in the revised performance standards

5.6.1 **Security Check – Terminal Entry Gate (Traditional and Digi Yatra):** This parameter has been introduced in the performance standards to address a critical touchpoint in the passenger journey that significantly influences overall service quality. Serving as the first major interface between the passenger and airport operations, the entry gate security check often experiences queue formation and congestion, directly impacting passenger perception and satisfaction. This strategic addition supports the objective of comprehensiveness as detailed in the Section 2.2.1 above to deliver reasonable passenger experience across all stages of airport processes.

5.6.2 **Check-In: Self-Baggage Drop:** This parameter has been added to the performance standards to reflect its growing importance in modern airport operations. As more airports adopt self-service/ assisted baggage drop systems to improve efficiency and passenger convenience, this step has become essential for reducing wait times and speeding up the check-in process. Including it in the standards ensures that performance tracking keeps up with the shift toward automation and supports a smoother, more technology-driven passenger experience. Further, it was noted that this parameter is already included in the objective performance parameters of Navi Mumbai International Airport.

5.6.3 **Seating Availability (Boarding Gates):** This parameter has been added to the performance standards to address a critical aspect of passenger comfort and experience during the final stage of the pre-boarding process. Given that passengers often arrive well in advance and tend to complete all formalities before proceeding to the boarding gates, the availability of adequate and accessible seating becomes essential in managing their wait time and reducing travel-related anxiety. Further, it was noted that this parameter is already included in the objective performance parameters of 6 AAI PPP airports.

5.6.4 **Availability of Wheelchairs:** This parameter has been added to the performance standards to provide focused attention to one of the most essential services for Persons with Reduced Mobility (PRM). While the existing guidelines included a general parameter titled 'Facilities for Disabled Passengers', it did not specify the requirement of wheelchairs separately. By introducing this parameter separately, the revised standards ensure that airports are specifically assessed on their ability to provide timely and adequate wheelchair support, thereby enhancing accessibility and comfort for PRM passengers. This targeted inclusion reflects a commitment to inclusivity and aligns with global best practices in accessible airport infrastructure.

5.6.5 **Help Desks:** This parameter has been introduced in the revised performance standards as the singular and comprehensive metric under the Customer Services / Grievance Redressal System, replacing the existing parameters *'Handling of Complaints'* and *'Response to Phone Calls'*. This strategic consolidation reflects the evolving nature of passenger engagement, where the help desk serves as the most immediate and accessible point of contact for addressing a wide range of passenger concerns. The parameter has been structured into three sub-components – its locations at Arrival, Departure, and SHA; the availability of personnel; and the integration with

the 'Air Sewa' portal for real-time complaint registration, ensuring a holistic approach to service delivery and grievance management. The help desk also caters to Persons with Reduced Mobility (PRM) through dedicated support areas and prominently displays essential contact information such as Lost and Found services. Given its central role in facilitating direct, accountable, and inclusive passenger support, the 'Help Desks' parameter sufficiently encapsulates all critical aspects of customer service and grievance redressal.

Revision of parameters from the existing performance standards

5.6.6 **Immigration / Emigration:** The timing for this parameter has been revised from 10 minutes to 12 minutes in the updated performance standards to better reflect operational realities while maintaining a reasonable service expectation. This adjustment is based on empirical observations conducted during airport visits, where it was noted that the average processing time per passenger during peak hours exceeded the previously defined threshold. The revised timing offers a more practical and achievable benchmark, ensuring that performance assessments remain grounded in actual passenger flow dynamics while still upholding service quality standards

5.6.7 **Security Check (Terminal) – Departure Pre-embarkation:** The timing for this parameter has been revised from 5 minutes to 10 minutes in the performance standards to reflect a more realistic and operationally feasible benchmark while still ensuring a reasonable experience for passengers. This adjustment is based on empirical observations made during airport visits, where the average time taken per passenger during peak hours was found to exceed the previously defined threshold.

5.6.8 **Baggage Delivery – Last Bag:** The timing for this parameter has been updated in the revised performance standards to introduce a more structured and aircraft-specific approach, with separate benchmarks for Code C and Code E aircraft operations. The revised timings – *First Bag: 15 minutes for international flights, Last Bag: 30 minutes for Code C and 35 minutes for Code E for domestic flights, and 40 minutes for Code C and 45 minutes for Code E for international flights* – are based on operational insights and reflect the varying handling complexities associated with different aircraft types and flight categories. This categorization ensures a more realistic and equitable assessment of baggage delivery performance, aligning service expectations with actual ground handling capabilities while still prioritizing timely baggage return and passenger satisfaction.

5.6.9 **Passenger Arrival:** This parameter has been revised to adopt a more practical and operator-relevant measurement approach. Previously measured from 'arrival to kerbside', the updated criterion now captures the time from *'on-block to entry into the terminal building for the first passenger'*. This change reflects a more accurate and controllable segment of the passenger journey, as activities beyond terminal entry – such as personal delays or discretionary stops – fall outside the airport operator's scope of influence. Correspondingly, the timing has been rationalized from 35 minutes (domestic) and 45 minutes (international) to a uniform *15 minutes* for both, as the revised metric focuses solely on the initial disembarkation and terminal entry process. This adjustment ensures a more meaningful, measurable, and fair evaluation of airport performance.

5.6.10 In the revised performance standards, all asset-related parameters under the **'Airport Facilities'** category have been updated from measuring mere '**Availability'** to tracking actual **'Uptime'**. This shift reflects a more meaningful and performance-oriented approach, recognizing that while essential facilities are present across all airports, their operational status and reliability

are what truly impact passenger experience. By focusing on uptime, the revised standards ensure that the functionality and continuous serviceability of critical infrastructure such as escalators, elevators, FIDS, and other assets are consistently monitored and maintained, thereby promoting higher service quality and operational accountability.

Deletion of parameters from the existing performance standards

5.6.11 **Parking Bays:** This parameter has been excluded from the existing performance standards as it no longer serves as a differentiating metric in evaluating airport infrastructure. In the current aviation landscape, the provision of aircraft parking bays as per the Air Traffic Flow Management – Collaborative Decision Making (C-ATFM) has become a fundamental and universally adopted requirement across airports. The parameter however would continue to be monitored through various other medium while assessing operational capacity of the airports.

5.6.12 **Handling of Complaints and Response to Phone Calls:** These parameters have been removed from the existing performance standards to align with the centralized grievance redressal mechanism established by the MoCA through the 'Air Sewa' portal. Under this parameter, 'Air Sewa' will serve as the unified platform for passengers to lodge and track complaints across all airports. The revised standards introduce a more relevant parameter that mandates airports to facilitate the integration of complaints into the 'Air Sewa' system and ensure the availability of infrastructure - such as Help desks (kiosks or digital interfaces, if applicable) that enables passengers to easily register their concerns through the designated platform.

5.7 COMPARISON TO OBJECTIVE PARAMETERS IN CONCESSION AGREEMENTS OF DIFFERENT AIRPORTS

IGIA, Delhi and CSMIA, Mumbai as per OMDA

5.7.1 The key differences include:

- 2 parameters, namely *"Transfer Passengers – Minimum Connect Times"* and *"Cargo Services"*, are included in Information Gathering section with modified targets.
- 2 parameters, *"Cleanliness"* and *"Car Parking"*, are classified under Subjective Parameters due to their qualitative nature.
- Certain parameters have been merged to eliminate redundancy, including *Availability of Wheelchairs* with *Assistance for the Disabled* and *Check-in* with *Queue Waiting Time during Check-in*
- 5 parameters have been removed/ regrouped based on relevance / monitoring through other medium, namely "*Handling of Complaints", "Response to Phone Calls", "Repair Completion Time", "Runway Systems"* and "*Availability of Taxis"*
- The remaining parameters are similar for the objective category, with some maintaining their original targets and others revised to reflect updated performance benchmarks.

SVPIA, Ahmedabad, CCSIA, Lucknow, Jaipur International Airport, LGBIA, Guwahati, Thiruvananthapuram International Airport and Mangaluru International Airport

5.7.2 The key differences include:

- 3 parameters, *"Car Parking", "Cleanliness"* and *"Buggy Services"* have been classified under Subjective Parameters due to their qualitative nature.

- 1 parameter, namely *"Transit / Transfer Passengers – Minimum Connect Times"* in included in Information Gathering section with modified targets.
- Certain parameters with multiple performance measures like *"Baggage delivery"* and *"Passenger boarding bridges"* have been combined to eliminate redundancy
- 6 parameters, namely "Handling of Complaints", "Ambient conditions in the Passenger terminals", "Repair Completion Time", "Runway Operational Safety", "Availability of Taxi", "ARFF" have been removed/ regrouped based on relevance and monitoring through other medium.
- The remaining parameters are similar under the objective category, with some maintaining their original targets and others revised to reflect updated performance benchmarks.

Navi Mumbai International Airport

5.7.3 The key differences include:

- 2 parameters, namely "Transfer Passengers - Minimum Connect Times" and "Land Side access", are included in the Information Gathering section with modified targets.
- 6 parameters, namely *"Handling of Complaints", "Response to phone calls", "Repair Completion Time", "Runway Systems", "Taxis" and "Parking Bays"* have been removed/ regrouped based on relevance and monitoring through other medium :
- 2 parameters, *"Cleanliness"* and *"Vehicle Parking",* have been classified under Subjective Parameters due to their qualitative nature.
- The remaining parameters are similar under the objective category, with some maintaining their original targets and others revised to reflect updated performance benchmarks.

Noida International Airport and Manohar International Airport, MOPA (GOA)

5.7.4 The key differences include:

- 2 parameters, namely *"Transfer Passengers - Minimum Connect Times"* and *"Land Side access"*, have been included in the Information Gathering section with modified targets.
- 5 parameters *"Handling of Complaints", "Response to phone calls", "Repair Completion Time", "Taxis" and "Parking Bays"* have been removed/ regrouped based on relevance and monitoring through other medium.
- 1 parameter, *"Vehicle Parking",* have been classified under Subjective Parameters due to their qualitative nature.
- The remaining parameters are similar under the objective category, with some maintaining their original targets and others revised to reflect updated performance benchmarks.

5.8 PROPOSAL REGARDING THE OBJECTIVE PARAMETERS

Based on the material before it and its analysis, the following is proposed regarding the Objective Service Quality Parameters and its Measurement Framework:

5.8.1 The brief explanation of each parameter, its measurement mechanism, computation of performance score and measurement frequency with the data sources for Airport Core Processes (Wait Time), Airport Facilities, Customer Service / Grievance Redressal System and Other Parameters (For Information Gathering) is given in Section 5.2, Section 5.3, Section 5.4 and Section 5.5 respectively.

5.8.2 For the parameter Operational Resilience under the category of Information Gathering, the rebate is applicable in case of default as per Section 5.5.15.

5.8.3 While this chapter has given the measurement mechanism for each parameter, it is clarified that the third-party assessor may apply the methodology with suitable modification to address practical implementation issues specific to each airport. Any such modifications must be clearly documented and communicated to AERA by the third-party assessor.

6 SUBJECTIVE SERVICE QUALITY PARAMETERS: ASSESSMENT SURVEY FRAMEWORK AND EVALUATION METHODOLOGY

6.1 SURVEY METHODOLOGY FOR EVALUATING SUBJECTIVE SERVICE PARAMETERS

6.1.1 The Subjective Parameters will be measured through a survey-based approach as given in this chapter.

6.1.2 The survey shall be conducted using the following approach:

(a) The survey questionnaire will be conducted using a rating scale of 1 to 5 wherein:

i. Rating 1 represents extremely poor

ii. Rating 2 represents poor

iii. Rating 3 represents average

iv. Rating 4 represents good

v. Rating 5 represents excellent

(b) The implementation of the survey-based assessment of subjective parameters shall be based on the category of airports as outlined in Section 6.2. Accordingly, certain subjective parameters along with its survey questionnaires and associated performance evaluations may not be applicable to Category B Airports, considering the differences in operational scale, infrastructure and passenger traffic characteristics specific to such airports.

(c) The survey shall be conducted through interviews with a minimum of 400 interviews every month (including departing, arriving, and transfer passengers combined), ensuring representation of both domestic and international passengers at each airport as per section 6.1.3. The number of interviews to be conducted in the current year will be determined based on the annual traffic of the airport from the previous year and will be evenly distributed across 12 months.

(d) The survey questionnaires should be provided in English, Hindi, and local languages based on the specific locations to ensure accessibility.

(e) The interviews will be conducted in specific locations; for departing passengers, the interviews will be conducted at the gate or gate area before boarding the aircraft and for arriving passengers at the arrivals hall before they leave the terminal.

(f) Passengers will be selected randomly and without bias, ensuring no demographic bias in the selection process for the interview.

6.1.3 During the initial phase, the third-party assessor will conduct monthly surveys for all subjective parameters that are linked to rebates and incentives. For subjective parameters not associated with rebates or incentives, the third-party assessor will conduct the survey annually. For parameters where rebates and incentives do not apply, the airport operator will carry out monthly survey assessments and submit the survey results to the third-party assessor. As the system evolves and matures, the third-party assessor will eventually take over the responsibility of conducting monthly surveys for all subjective parameters, regardless of their linkage to rebates or incentives.

6.1.4 The interviews will be conducted during the peak hours in each terminal for both domestic and international flights, as determined by their respective flight schedule, for at least seven days a month.

6.1.5 The performance percentage (%) score for subjective parameters used in rebate computation shall be calculated as the percentage of passengers who rate the parameters as 4 or 5 on the rating scale, out of the total number of passengers surveyed.

6.1.6 The performance percentage (%) score for subjective parameters used in incentive computation shall be calculated as the percentage of passengers who rate the parameters as 5 on the rating scale, out of the total number of passengers surveyed.

6.1.7 The surveys will be administered by a third-party assessor, who will authenticate passengers by scanning their boarding passes before they participate in the survey. Additionally, the surveys will be completed directly by the passengers themselves.

6.1.8 The list of subjective parameters on which rebate is applicable and the proposed rebate is given in Annexure 13.3.

6.1.9 The list of subjective parameters on which incentive is applicable and the proposed incentive is given in Annexure 13.4.

6.1.10 The Table 10 below outlines the survey questionnaire for the subjective parameters, specifying the types of passengers to whom the questions will be directed, the measurement criteria, and the target ratings.

Table 10: Survey Questionnaire for Subjective Parameters: Passenger Type, Measurement Criteria, and Target Ratings

S. No.	Subjective Parameters	Questions Asked	Types of Passengers	Measures	Proposed Target (For Category A Airports)	Proposed Target (For Category B Airports)
6.2	**SUBJECTIVE PARAMETERS FOR PASSENGER CONVENIENCE**					
S1	Cleanliness of the overall Airport	How satisfied are you with the cleanliness of the overall airport including the terminal, toilets / washrooms, etc.?	Arriving, Departing and Connecting passengers	% of passengers rating the parameter as 4 or 5	90%	90%
S2	Availability of Basic Facilities at the Airport (including Wi-fi)	How would you rate the availability of basic facilities at the airport, such as adequate number of washrooms, baby care rooms, Wi-Fi, signage to helpdesks, overall seating, and operational charging points?	Arriving, Departing and Connecting passengers	% of passengers rating the parameter as 4 or 5	90%	90%
S3	Courtesy and Helpfulness of Airport Staff	Have you sought assistance from any airport staff during your time at the airport (e.g., staff at the customer helpdesk, or other service points)?	Arriving, Departing and Connecting passengers	Information Gathering	Yes / No	Yes / No
		If yes, how would you rate the courtesy and helpfulness of that particular airport staff?	Arriving, Departing and Connecting passengers	% of passengers rating the parameter as 4 or 5	90%	90%

S. No.	Subjective Parameters	Questions Asked	Types of Passengers	Measures	Proposed Target (For Category A Airports)	Proposed Target (For Category B Airports)
S4	Ease of Wayfinding within the Airport	How would you rate the ease of finding your way within the overall airport premises?	Arriving, Departing and Connecting passengers	% of passengers rating the parameter as 4 or 5	90%	90%
S5	Transportation between the Terminals	If you have travelled between different terminals today, how would you rate the availability and wait times of shuttle services or other transportation options between the terminals?	Connecting passengers (applicable to airports with multiple terminals)	% of passengers rating the parameter as 4 or 5	90%	90%
S6	Ambience of the Airport	How would you rate the overall ambience of the airport, considering factors such as comfort, temperature, congestion, noise levels, and the aesthetics of the exterior?	Arriving, Departing and Connecting passengers	% of passengers rating the parameter as 4 or 5	90%	90%
S7	Transportation to / from the Airport	How satisfied are you with the available transportation options, considering the number of choices, their availability, and wait times?	Arriving and Departing passengers	% of passengers rating the parameter as 4 or 5	90%	90%

S. No.	Subjective Parameters	Questions Asked	Types of Passengers	Measures	Proposed Target (For Category A Airports)	Proposed Target (For Category B Airports)
S8	Flight Information Display System (FIDS) Location throughout the Airport	Are Flight Information Display Service (FIDS) System available at various locations throughout the airport, such as the check-in area, boarding gates, baggage claim areas, food courts, lounges, and arrival halls?	Arriving, Departing and Connecting passengers	Information Gathering	Yes / No	Yes / No
		If they are not, where do you think FIDS System should be added to better serve passengers?	Arriving, Departing and Connecting passengers	Information Gathering	Passenger to fill the response	Passenger to fill the response
		If they are, how satisfied are you with FIDS availability and placement?	Arriving, Departing and Connecting passengers	% of passengers rating the parameter as 4 or 5	90%	90%
S9	Walking distance within the Terminal	How satisfied are you with the walking distances within the terminal?	Arriving, Departing and Connecting passengers	% of passengers rating the parameter as 4 or 5	90%	Not Applicable

S. No.	Subjective Parameters	Questions Asked	Types of Passengers	Measures	Proposed Target (For Category A Airports)	Proposed Target (For Category B Airports)
S10	Availability of free Buggy Services	If you have availed the buggy service at the airport, how would you rate the waiting time and ease of access to buggies at specific buggy points within the terminal?	Arriving, Departing and Connecting passengers (applicable to airports where buggy service is available)	% of passengers rating the parameter as 4 or 5	90%	Not Applicable
S11	Availability of free Potable Water	How satisfied are you with the availability and accessibility of free potable water at various locations throughout the airport – such as check-in areas, boarding gates, baggage claim zones, and food courts?	Arriving, Departing and Connecting passengers	% of passengers rating the parameter as 4 or 5	90%	90%
S12	Value for Money	How would you rate the value for money of the services such as food and beverage, retail, duty free, lounge, car park and taxi services at the airport?	Arriving, Departing and Connecting passengers	% of passengers rating the parameter as 4 or 5	90%	90%

S. No.	Subjective Parameters	Questions Asked	Types of Passengers	Measures	Proposed Target (For Category A Airports)	Proposed Target (For Category B Airports)
S13	Services of Udan Yatri Cafe	If you have availed food services at the Udan Yatri Cafe, how would you rate your experience in terms of food quality and service?	Arriving, Departing and Connecting passengers (applicable to airports where Udan Yatri Cafe is available)	% of passengers rating the parameter as 4 or 5	90%	90%
S14	Bank / ATM facilities or Money Changers	If you have availed any facilities such as bank services, ATMs, or money changers during your visit to the airport, how would you rate the facility?	Arriving, Departing and Connecting passengers	% of passengers rating the parameter as 4 or 5	90%	90%
S15	Vehicle Parking at the Airport	Have you used the parking facilities at the airport? If yes, how satisfied are you with the parking facilities and the time required to find a parking spot at the airport?	Arriving and Departing passengers	% of passengers rating the parameter as 4 or 5	90%	90%
S16	Overall Satisfaction with the Airport	How would you rate your overall experience at the airport today, taking into account the ease of check-in, immigration / emigration, security check, and transfer process?	Arriving, Departing and Connecting passengers	% of passengers rating the parameter as 4 or 5	90%	90%

S. No.	Subjective Parameters	Questions Asked	Types of Passengers	Measures	Proposed Target (For Category A Airports)	Proposed Target (For Category B Airports)
6.3	**SUBJECTIVE PARAMETERS FOR PRM PASSENGERS**					
S17	Person with reduced mobility (PRM): Airport Infrastructure	Did you take PRM/ / wheelchair services at the airport? If yes, thinking about the lifts, PRM toilets, PRM signage, dedicated PRM lanes, how would you rate the accessibility of the airport infrastructure for PRM or those requiring wheelchairs?	Arriving, Departing and Connecting passengers	% of passengers rating the parameter as 4 or 5	90%	90%
S18	PRM Passenger: Overall Satisfaction with the Airport	How would you rate the assistance provided for PRM or those requiring wheelchairs?	Arriving, Departing and Connecting passengers	% of passengers rating the parameter as 4 or 5	90%	90%

6.4 RATIONALE FOR CHANGES TO SUBJECTIVE PARAMETERS FROM THE EXISTING PERFORMANCE STANDARDS IN AERA GUIDELINES

Addition of new parameters in the revised performance standards

6.4.1 **Availability of Buggy Services:** This parameter has been incorporated into the revised performance standards to enhance mobility support for passengers who may face challenges navigating large terminal spaces, particularly elderly individuals. As airports continue to expand in scale and complexity, the provision of efficient and accessible intra-terminal transport becomes increasingly vital to ensuring a seamless and inclusive passenger experience.

6.4.2 **Availability of Free Potable Water:** Access to clean and safe drinking water is a fundamental necessity, particularly in high-traffic environments such as airports where passengers may spend extended periods. Its inclusion reinforces the airport's responsibility to provide essential amenities that contribute to a comfortable and dignified travel experience for all passengers.

6.4.3 **Transportation Between the Terminals:** This parameter has been added to the revised performance standards to ensure efficient and accessible inter-terminal connectivity, particularly for transit passengers whose connecting flights depart from a different terminal. This parameter is applicable to airports with multiple terminals or where domestic and international operations are handled separately. In such cases, the availability of a reliable mode of transport between terminals is essential to facilitate smooth passenger transfers, reduce transit time, and enhance the overall travel experience. Its inclusion reflects a commitment to operational efficiency and passenger-centric service design, especially in increasingly complex airport infrastructures.

6.4.4 **Services of Udan Yatri Cafe:** This parameter has been added to the revised performance standards as it reflects a strategic enhancement of passenger-centric services, specifically food and beverage services, within airport infrastructure. The UDAN Yatri Cafe serves as a vital touchpoint offering hygienic, highly affordable, and accessible food options, directly contributing to passenger satisfaction and overall service quality. Its inclusion aligns with government initiatives to promote inclusive and equitable infrastructure under the UDAN scheme, ensuring that airports uphold consistent standards in delivering essential amenities to travelers across all regions.

Revision of parameters from the existing performance standards

6.4.5 **Value for Money:** The parameters *Value for Money of Parking Facilities, Restaurant/Eating Facilities, and Shopping Facilities* have been consolidated into a single parameter - "Value for Money" – to streamline feedback collection and reduce redundancy. This unified parameter captures the overall passenger perception of pricing fairness across key commercial services, offering an efficient measure of perceived value without diluting the quality of insights.

6.4.6 **Courtesy and Helpfulness of Airport Staff:** The parameters related to staff behavior – *Courtesy and Helpfulness of Check-in Staff, Inspection Staff, Security Staff, and General Airport Staff* – have been reclassified into one parameter: "Courtesy and Helpfulness of Airport Staff". This change simplifies the evaluation process as it captures only passenger experience with airport personnel.

Deletion of parameters from the existing performance standards

6.4.7 **Feeling of Being Safe and Secure:** This parameter has been removed as safety and security are fundamental regulatory obligations governed by aviation authorities. Since passengers may

not be fully aware of the extensive security protocols in place, subjective assessment of this aspect does not yield meaningful or actionable insights.

6.4.8 **Ease of Making Connections with Other Flights:** This parameter has been removed due to its dependency on airline operations, terminal configurations, and individual itineraries, factors largely beyond the control of airport operators. Its subjective nature limits its effectiveness as a standardized performance metric.

6.4.9 **Restaurant/Eating Facilities:** This parameter has been removed as food and beverage services, while important, are already addressed through infrastructure planning and commercial agreements. Subjective feedback in this area varies widely based on personal taste and does not consistently reflect airport service quality.

6.4.10 **Shopping Facilities:** This parameter has been removed because shopping offerings differ significantly across airports based on size, passenger demographics, and vendor presence. Subjective evaluation of shopping experiences does not provide a reliable measure of airport performance.

6.4.11 **Business/Executive Lounges:** This parameter has been removed as lounge access is typically limited to specific passenger segments and managed by airlines or third-party providers. Including it in airport-wide performance standards would not offer a representative view of the overall passenger experience.

6.4.12 **Customs Inspection:** This parameter has been removed as customs procedures, including the operation of green and red channels, fall under the jurisdiction of customs authorities and are not managed by airport operators. Since the airport has limited or no control over the inspection process, including it in performance evaluation would not provide a fair or actionable measure of airport service quality

6.4.13 Parameters such as *Availability of Baggage Carts/Trolleys, Waiting Time in Check-in Queue/Line, Waiting Time at Passport/ID Inspection, Comfort of Waiting/Gate Areas, and Speed of Baggage Delivery Service* have been removed from the subjective section as they are already addressed through objective performance metrics in the revised standards. This avoids duplication, enhances clarity, and ensures that subjective feedback focuses on areas not already covered by measurable operational data.

6.5 RATIONALE FOR CHANGES TO SUBJECTIVE PARAMETERS IN CONCESSION AGREEMENTS OF DIFFERENT AIRPORTS

IGIA, Delhi and CSMIA, Mumbai as per OMDA

6.5.1 The key differences include:

- Certain parameters such as *'Ease of making connections'* is being measured through subjective parameters of *'Transportation between the Terminals'* and objective parameters such as *'No. of Misconnect Passengers'* and *'No. of Misconnect Baggage'*.
- Certain parameters such as *'Comfortable waiting/gate areas,' 'Speed of baggage delivery service,' 'Waiting time at check-in'* and *'Efficiency of check-in'* are included as part of Objective Parameters due to their quantitative nature.
- Additionally, parameters related to non-aeronautical services, including *'Restaurant/eating facilities,' 'Shopping facilities,'* and *'Business facilities,'* and "*'Business / Executive lounges"* have been removed.

- Some parameters have been regrouped under a broader category, such as *'Value for Money,'* to streamline the assessment.
- The remaining parameters are similar for the subjective category in their original form or rephrased for clarity and consistency.

KIA, Bengaluru and RGIA, Hyderabad

6.5.2 The key differences include:

- Certain parameters such as '*Availability of connections to the same and different continent, 'sense of security'* and '*Custom Inspections'* is being measured through subjective parameter of *'Overall Satisfaction with the Airport'*.
- Certain parameters such as *'Ease of making connections with other flights,'* is being measured through subjective parameters such as *'Transportation between the Terminals'* and objective parameters such as *'No. of Misconnect Passengers'* and *'No. of Misconnect Baggage'*.
- Additionally, parameters related to non-aeronautical services, including *'Restaurant and eating facilities,'* and *'Shopping facilities,'* have been removed.
- Furthermore, select parameters like '*Passport Inspection'* and *'Baggage delivery service'* are included in objective performance metrics.
- The remaining parameters are similar for the subjective category in their original form or rephrased for clarity and consistency.

SVPIA, Ahmedabad, CCSIA, Lucknow, Jaipur International Airport, LGBIA, Guwahati, Thiruvananthapuram International Airport and Mangaluru International Airport

6.5.3 The subjective parameters for SVPIA, Ahmedabad, CCSIA, Lucknow, Jaipur International Airport, LGBIA, Guwahati, Thiruvananthapuram International Airport and Mangaluru International Airport are same as those in the existing AERA guidelines. Therefore, the comparison of the proposed subjective parameters with existing AERA guidelines is applicable to these airports as well which can be referred in section 6.4.

Navi Mumbai International Airport, Noida International Airport and Manohar International Airport, MOPA (GOA)

6.5.4 The key differences include:

- Certain parameters such as *'Ease of making connections with other flights'* is being measured through subjective parameters of *'Transportation between the Terminals'* and objective parameters such as *'No. of Misconnect Passengers'* and *'No. of Misconnect Baggage'*.
- Additionally, parameters related to non-aeronautical services, including *'Restaurant/eating facilities,' 'Shopping facilities,'* and *'Business facilities,'* have been removed.
- Some parameters have been regrouped under a broader category, such as *'Value for Money,'* to streamline the assessment.
- Furthermore, select parameters like *'Availability of Baggage carts'* is included in objective performance metrics.

- The remaining parameters are similar for the subjective category in their original form or rephrased for clarity and consistency.

6.6 PROPOSAL REGARDING THE SUBJECTIVE SERVICE QUALITY PARAMETERS: ASSESSMENT SURVEY FRAMEWORK AND EVALUATION METHODOLOGY

Based on the material before it and its analysis, the following is proposed regarding the Subjective Service Quality Parameters: Assessment Survey Framework and Evaluation Methodology:

6.6.1 The Subjective Parameters will be measured through a survey-based approach based on a predefined questionnaire outlined in the section 6.2 for Passenger Convenience and section 6.3 PRM Passengers.

6.6.2 A standardized survey using a 1 to 5 rating scale will be conducted to assess passenger satisfaction as per the approach given in section 6.1.2.

6.6.3 The performance percentage (%) score for subjective parameters used in rebate computation shall be calculated as per Section 6.1.5 and the performance percentage (%) score for subjective parameters used in incentive computation shall be calculated as per Section 6.1.6.

6.6.4 Surveys will be administered by a third-party assessor during peak hours at designated terminal locations. Passengers will be randomly selected and authenticated via boarding pass scans.

7 TARGETS

7.1 PERFORMANCE EVALUATION AGAINST MONTHLY TARGETS

7.1.1 The airport operator will meet the target for the measures if following is true:
$Performance_{i,j} \geq Target_{i,j}$

Where:

- $Performance_{i,j}$ is the monthly recorded performance of measure i in month j; and
- $Target_{i,j}$ is the relevant target of measure i in month j.

7.1.2 For each measure i, $Performance_{i,j}$ is defined in the relevant paragraphs of Section 5 for Objective Parameters and Section 6 for Subjective Parameters. The targets for each parameter are set out in Annexure 13.1 for Objective Parameters and Section 6 for Subjective Parameters.

7.1.3 The table below provides an illustrative example of how performance measures are evaluated against their respective targets. In this example, the targets are met for O1(a), O1(b), O2(b), and O3, while the target is not met for O2(a).

Table 11: Sample Performance Measures and Target Evaluation for a Given Month

S. No.	Performance Parameter	Measures	Proposed Target for Category A Airports	Performance score for the month	Target met for the month? (MPS_i is 0 if target met (Yes) and 1 if target not met (No))
Airport Core Process					
O1(a)	Security Check (Terminal Entry Gate) - Traditional	Waiting Time (mins) in Queue (from entry in queue to presenting to CISF Staff)	95% < 10 mins	99% < 10 mins	Yes

S. No.	Performance Parameter	Measures	Proposed Target for Category A Airports	Performance score for the month	Target met for the month? (MPS_i is 0 if target met (Yes) and 1 if target not met (No))
O1(b)	Security Check (Terminal Entry Gate) – Digi-Yatra	Waiting Time (mins) in Queue (from entry in queue to presenting at Digi-Yatra gate)	95% < 5 mins	99% < 5 mins	Yes
O2(a)	Check-In	Waiting Time (mins) in Queue (from entry to presenting to staff for check-in)	Economy: 95% < 20 mins Business: 95% < 5 mins	Economy: 94% < 20 mins Business: 93% < 5 mins	No
O2(b)	Check-In (Self-Baggage Drop)	Waiting Time (mins) in Queue (from entry to presenting to SBD counters)	SBDs: 95% < 5 mins	SBDs: 99% < 5 mins	Yes
O3	Security Check (Terminal) - Departure Pre-embarkation	Maximum waiting time (from entry in queue to presenting to security staff for frisking)	95% < 10 min	99% < 10 min	Yes

7.2 PROPOSAL REGARDING TARGETS

Based on the material before it and its analysis, the following is proposed regarding targets:

7.2.1 The airport operator will meet the target for measures if the performance of the parameter exceeds the specified target value as given in Section 7.1.

8 REBATE AND INCENTIVE MECHANISM

8.1 OVERVIEW OF REBATE AND INCENTIVE MECHANISM

8.1.1 To promote accountability and continuous enhancement of airport services, this chapter introduces a structured Rebate and Incentive Mechanism.

8.1.2 Under this mechanism, rebates shall be applied in cases of non-compliance with established performance standards. Conversely, incentives will be granted to operators who exceed defined benchmarks of performance parameters.

8.1.3 By aligning financial outcomes with performance parameters, this approach not only enforces compliance but also fosters a culture of continuous improvement across all major airports.

8.2 SERVICE QUALITY REBATE MECHANISM

8.2.1 The Service Quality Rebate mechanism is an adjustment to the airport tariffs in the event that the Airport Operator(s) does not achieve certain targets of the service quality standards specified in this document.

8.2.2 The Objective and Subjective parameters shall be monitored monthly. In the event that the Airport Operator(s) performance does not meet the Target as specified in Section 7.1 in any month, a percentage (%) rebate shall be applicable for each default parameter as given in Annexure 13.1 and Annexure 13.3 for Objective and Subjective parameters respectively (details are also given in the table below). A total maximum rebate of 5% is applicable across all parameters, with 4% rebate on objective parameters and 1% rebate on subjective parameters.

Table 12: Proposed rebate for objective and subjective parameters

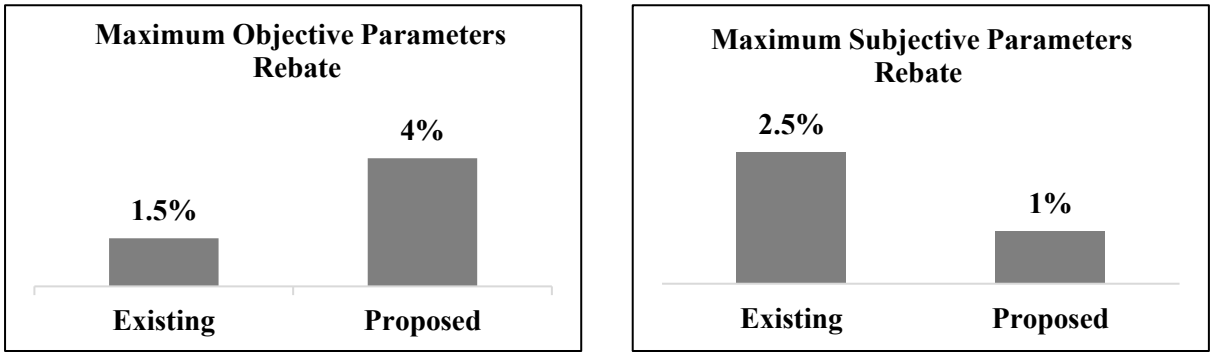
S. No.	Parameters	Rebate
	Objective Parameters - Airport Core Process Rebate Sub-total	**1.80%**
O1(a)	Security Check (Terminal Entry Gate) - Traditional	0.25%
O1(b)	Security Check (Terminal Entry Gate) – Digi-Yatra	
O2(a)	Check-In – Economy class	0.25%
O2(a)	Check-In – Business class	
O2(b)	Check-In (Self-Baggage Drop)	
O3	Immigration / Emigration	0.25%
O4	Security Check (Terminal) - Departure Pre-embarkation	0.25%
O5(a)	Baggage Delivery (Domestic)	0.25%
O5(b)	Baggage Delivery (International)	0.25%
O6(a)	Passenger Arrival (Domestic)	0.15%
O6(b)	Passenger Arrival (International)	0.15%
	Objective Parameters - Airport Facilities Rebate Sub-total	**1.40%**

S. No.	Parameters	Rebate
O7	Uptime of Flight Information Display System (FIDS)	0.25%
O8	Uptime of Lifts, Escalators and Travellators	0.25%
O9	Uptime of Automated Services	0.25%
O10	Availability of Passenger Boarding Bridges (Domestic / International)	0.15%
O11	Availability of Baggage Trolleys	0.25%
O12	Seating Availability (at Boarding gates)	0.25%
	Objective Parameters - Airport Facilities for PRM Passenger Rebate Sub-total	**0.50%**
O13	Facilities for PRM Passenger (As per Checklist)	0.25%
O14	Availability of Wheelchairs (Pre-booked)	0.25%
	Objective Parameters - Customer Service/ Grievance redressal system Rebate Sub-total	**0.30%**
O15(a)	Help desks (Counters located at check-in, SHA and arrivals)	0.10%
O15(b)	Help Desks (Availability of Personnel at all helpdesks)	0.10%
O15(c)	Help Desks (Percentage (%) of written complaints uploaded on Air-Sewa)	0.10%
	Total Objective Parameters Rebate	**4.00%**
	Subjective Parameters - Passenger Convenience Rebate Sub-total	**1.00%**
S1	Cleanliness	0.25%
S2	Availability of basic necessary facilities (including Wi-fi availability)	0.25%
S3	Courtesy and Helpfulness of Airport Staff	0.15%
S16	Overall Satisfaction with the Airport	0.35%
	Total Subjective Parameters Rebate	**1.00%**
	Total Overall Rebate	**5.00%**

Justification for revision in Rebate structure

8.2.3 In the revised framework, the rebate structure has been recalibrated to better align with the strategic objectives of ensuring transparency and reliability.

Figure 14: Revision of Rebate structure



8.2.4 The proposed increase in the maximum rebate for Objective Parameters from 1.5% to 4% is a strategic step to encourage measurable performance. Objective parameters are directly tied to operational outcomes and can be consistently tracked and compared. This enhancement aims to strengthen accountability through data-based performance tracking.

8.2.5 Conversely, the proposed reduction in the maximum rebate for Subjective Parameters to 1% (from the existing 2.5%) is based on the inherent variability and interpretive nature of these metrics. Subjective parameters, while valuable, are influenced by individual expectations, cultural differences, and situational factors, making them less consistent and more difficult to standardize. The revised rebate structure acknowledges that:

- Subjective feedback is inherently diverse and may not reflect uniform service quality
- Over-incentivizing subjective metrics could lead to disproportionate focus on perception management rather than substantive improvements through objective analysis
- A balanced approach is necessary to ensure that subjective assessments complement, rather than overshadow, objective performance indicators

By moderating the rebate for subjective parameters, the framework ensures that while user feedback remains an important input, it does not disproportionately influence the overall performance evaluation.

Reason for Lower Rebate in certain Parameters

8.2.6 The rebate for parameters like **Passenger Arrival (Domestic)** and **Passenger Arrival (International)** has been deliberately set at a lower rate of 0.15% in the revised performance standards. This decision reflects the complex and shared nature of these parameters, which are influenced not only by the airport operator's performance but also by the actions of airlines and ground handling agencies. Therefore, assigning a lower rebate ensures a more equitable and realistic performance evaluation framework.

8.2.7 The rebate for the **Availability of Passenger Boarding Bridges** parameter has been set at a lower rate of 0.15%. There is variability in the airline requests for PBB which is largely driven by airline operational preferences and not entirely within the control of the airport, therefore, a lower rebate ensures a more balanced and realistic assessment of performance.

8.2.8 The rebate for **Courtesy and Helpfulness of Airport Staff** has been set at 0.05% as this parameter only assesses the performance of airport staff among other multiple entities at the airport such as airline, ground handling, etc. Further, this parameter is also evaluated in the subjective parameter of *'Overall Satisfaction with the Airport'*.

Reason for Higher Rebate in certain Parameters

8.2.9 The rebate for the **Help Desks** parameter has been set at a higher value in the revised performance standards due to its critical role. This parameter encompasses three key sub-categories – *strategic location of help desks at SHA, Arrival, and Departure areas; availability of adequately personnel; and responsiveness to uploading complaints registered on Air Sewa* – all of which directly impact passenger satisfaction and service perception. Given the help desk's function as the primary touchpoint for addressing passenger queries, grievances, and real-time assistance needs, its consistent performance is essential. The higher rebate reflects the parameter's high operational relevance and its direct correlation with service quality and passenger-centric outcomes.

8.2.10 The rebate for the Overall Satisfaction with the Airport parameter has been set at a higher value in the revised performance standards, recognizing its comprehensive reflection of the passenger experience across all service touchpoints. This parameter serves as a key indicator of the cumulative effectiveness of airport operations. As it directly captures passenger perceptions and expectations, it holds significant weight in evaluating service quality.

Calculation of monthly rebate

8.2.11 The rebate Percentage (%) for all the objective and subjective parameters, where rebate is applicable, will be calculated on a monthly basis.

8.2.12 The monthly rebate applicable for month i for all parameters shall be calculated as per the formula mentioned below:

$$MR_i = \sum_{All\ paramater\ p} P_p \times MPS_{p,i}$$

Where:

(a) MR_i is the Monthly Rebate on all parameters for month i;

(b) P_p is the rebate for parameter p as specified in Annexure 13.1 and Annexure 13.3;

(c) $MPS_{p,i} = 0$ if the target for parameter p in month i is achieved;
$MPS_{p,i} = 1$ otherwise.

For instance, in the below example (in Table 13), the total Monthly Rebate on all parameters is 0.35%.

Table 13: Illustrative Calculation of Total Monthly Rebate (0.35%) across all Parameters

Parameters	Rebate (%)	Target achieved (MPS_i)	Monthly rebate (P_p * $MPS_{p,i}$)
Parameter 1	0.25%	0	0
Parameter 2	0.25%	1	0.25%
Parameter 3	0.10%	1	0.10%
Total Monthly Rebate on all parameters (MR_i)			**0.35%**

Total Rebate for the Review Period

8.2.13 The Total Rebate for all parameters applicable for the six-month Review Period r shall be calculated as per the formula mentioned below:

$$M_r = \frac{\sum_{i=1}^{i=6} MR_i}{6}$$

Where:

(a) M_r is the Total Rebate for the six-month Review Period r;

(b) MR_i is the Monthly Rebate for month i in the six-month Review Period r, calculated as described in Section 8.2.12;

For instance, in the below example (in Table 14), the Total Rebate for the six-month Review Period is 1.50%.

Table 14: Illustration of Total Rebate of 1.50% for the six-Month Review Period

Month	Monthly Rebate (MR_i) (%)
Month 1	2.00%
Month 2	3.00%
Month 3	1.00%
Month 4	0.00%
Month 5	2.00%
Month 6	1.00%
Total	**9.00%**
Total Rebate for Review Period r (M_r)	**1.50% (9.00%/6)**

8.2.14 The Total Rebate for a particular parameter p applicable for the six-month Review Period r shall be calculated as per the formula mentioned below:

$$K_{r,p} = \frac{\sum_{i=1}^{i=6} P_p \times MPS_{p,i}}{6}$$

Where:

(a) $K_{r,p}$ is the Total Rebate for parameter p in the six-month Review Period r;

(b) P_p is the rebate for parameter p as specified in Annexure 13.1 and Annexure 13.3 for Objective and Subjective parameters respectively;

(c) $MPS_{p,i} = 0$ if the target for parameter p in month i is achieved;

$MPS_{p,i} = 1$ otherwise.

For instance, in the below example (in Table 15), the Total Rebate for parameter p for the six-month Review Period is 0.125%.

Table 15: Illustration of Total Rebate for parameter p of 0.125% for the six-Month Review Period

Month	Rebate (%)	Target achieved (MPS_i)	Monthly rebate ($P_p * MPS_{p,i}$)
Month 1	0.25%	0	0%
Month 2		0	0%
Month 3		1	0.25%
Month 4		1	0.25%
Month 5		0	0%
Month 6		1	0.25%
Total			**0.75%**
Total Rebate for parameter p for the six-month Review Period ($K_{r,p}$)			**0.125% (0.75%/6)**

8.3 SERVICE QUALITY INCENTIVE MECHANISM

8.3.1 An incentive mechanism is a strategic approach designed to motivate and reward airport operators for achieving specific performance targets. The incentives have been proposed on parameters that are technology-oriented, aimed at improving airport efficiency, reducing congestion through effective liaison with other reserved services, and requiring continuous efforts for improvement by the airport.

8.3.2 The proposed incentive mechanism is a credit system that allows earned incentives to be used to offset applicable rebates at the airport.

8.3.3 In the event that the Airport Operator(s) performance exceeds the lower performance level as defined in Annexure 13.2 and Annexure 13.4 for Objective and Subjective parameters respectively, for the particular parameter in any month, a percentage (%) incentive shall be applicable for that parameter (details are also given in the table below). A total maximum incentive of 1.25% is applicable across all parameters, with a cap of 0.60% on objective parameters and 0.65% on subjective parameters.

Table 16: Proposed Incentive for Objective and Subjective Parameters

S. No.	Parameters	Rebate
	Objective Parameters - Airport Core Process Incentive Sub-Total	**0.60%**
O1(a)	Security Check (Terminal Entry Gate) - Traditional	0.15%
O1(b)	Security Check (Terminal Entry Gate) – Digi-Yatra	
O2(a)	Check-In – Economy class	0.15%
O2(a)	Check-In – Business class	

S. No.	Parameters	Rebate
O2(b)	Check-In (Self-Baggage Drop)	
O3	Immigration / Emigration	0.15%
O4	Security Check (Terminal) - Departure Pre-embarkation	0.15%
	Total Objective Parameters Incentive	**0.60%**
	Subjective Parameters – Passenger Convenience Incentive Sub-Total	**0.65%**
S1	Cleanliness	0.15%
S2	Availability of basic necessary facilities (including Wi-fi availability)	0.15%
S3	Courtesy and Helpfulness of Airport staff	0.10%
S13	Services of Udan Yatri Cafe	0.05%
S16	Overall Satisfaction with the Airport	0.20%
	Total Subjective Parameters Incentive	**0.65%**
	Total Overall Incentive	**1.25%**

8.3.4 The performance-based incentives have been introduced for objective parameters that rely on services managed by reserved services or airlines such as Security Check (Terminal Entry Gate), Immigration / Emigration, Security Check (Terminal) - Departure Pre-embarkation and Check-In. These services are critical to the overall passenger experience and operational efficiency, yet their performance depends on effective coordination by airport operator with third-party stakeholders. By linking incentives to these parameters, the framework encourages airport operators to proactively engage and collaborate with the respective service providers. The goal is to foster a shared commitment to exceeding service benchmarks.

Justification for Higher Incentive on Overall Satisfaction Parameter

8.3.5 The **Overall Satisfaction** with the Airport parameter has been assigned a higher incentive in the revised performance standards to actively promote a culture of excellence in passenger service delivery. By linking higher incentives to this parameter, the framework encourages airport operators to go beyond minimum standards and consistently strive for superior service quality that enhances passenger trust and satisfaction.

Justification for Lower Incentive in certain Parameters

8.3.6 The incentive for **Courtesy and Helpfulness of the Airport Staff** has been set at a lower rate in the revised performance standards due to the inherently subjective nature of interpersonal behavior. While courteous and helpful staff contribute positively to the passenger experience, individual conduct is influenced by personal disposition, cultural context, and situational dynamics, making it difficult to uniformly measure and incentivize across airports.

8.3.7 The incentive for **Services of Udan Yatri Cafe** has been set at a lower rate in the revised performance standards as its operational relevance is secondary to core airport functions such

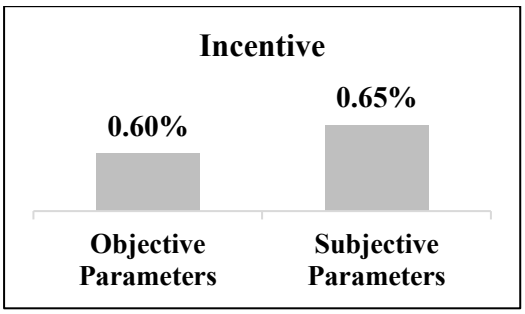
as safety, security, and passenger processing. While the cafe enhances the overall passenger experience by providing accessible and affordable dining options, its performance does not directly influence the airport's essential service delivery metrics. Given its standardized service model and limited variability in operational impact, the parameter is treated as a value-added amenity rather than a critical performance driver, thereby warranting a lower incentive weightage.

Justification for Incentive Structure

8.3.8 In the proposed incentive framework, the total incentive allocated to subjective parameters stands at 0.65%, which is slightly higher than the 0.60% allocated to objective parameters. This difference is primarily due to the higher weight assigned to the parameter measuring Overall Satisfaction with the Airport.

8.3.9 By offering a greater incentive for these perception-driven metrics, the airport operators are encouraged to prioritize initiatives that improve the overall ambiance, responsiveness, and user-friendliness of the airport environment.

Figure 15: Incentives for objective and subjective parameters



Calculation of incentives:

8.3.10 The incentive percentage (%) for all the objective and subjective parameters, where incentive is applicable will be calculated on a monthly basis.

8.3.11 The monthly incentive applicable for month i for all parameters shall be calculated as per the formula mentioned below:

$$MIT_i = \sum_{All\ parameters\ p} MI_p \times \left(\frac{Max[0, Min\left(UT_p, MP_p\right) - LT_p]}{UT_p - LT_p} \right)$$

Where:

(a) MIT_i is the total monthly incentive on all parameters p for month i;

(b) MI_p is the monthly maximum incentive on parameter p;

(c) UT_p is upper threshold limit for the parameter p, as specified in Annexure 13.2 and Annexure 13.4;

(d) LT_p is lower threshold limit for the parameter p, as specified in Annexure 13.2 and Annexure 13.4;

(e) MP_p is the monthly performance for the parameter p;

For instance, in the below example (in Table 17), the Monthly Incentive for all parameters is 0.29%.

Table 17: Illustrative Calculation of Total Monthly Incentive (0.29%) across all Parameters

Parameter	Max Incentive (MI_p)	Upper Threshold (UT_p)	Lower Threshold (LT_p)	Monthly Performance (MP_p)	Monthly Incentive $\left(MI_p \times \left(\frac{Max[0, Min\,(UT_p, MP_p) - LT_p]}{UT_p - LT_p}\right)\right)$
Parameter 1	0.15%	99%	97%	96%	0%
Parameter 2	0.15%	95%	90%	93%	0.09%
Parameter 3	0.20%	95%	90%	96%	0.20%
Total (MIT_i)					**0.29%**

- **Parameter 1** has a maximum incentive of 0.15%, an upper threshold of 99%, a lower threshold of 97%, and a monthly performance of 96%. The monthly incentive for Parameter 1 is calculated as:

$$0.15\% \times \left(\frac{Max[0, Min\,(99\%, 96\%) - 97\%]}{99\% - 97\%}\right) = 0.00\%$$

- **Parameter 2** has a maximum incentive of 0.15%, an upper threshold of 95%, a lower threshold of 90%, and a monthly performance of 93%. The monthly incentive for Parameter 2 is calculated as:

$$0.15\% \times \left(\frac{Max[0, Min\,(95\%, 93\%) - 90\%]}{95\% - 90\%}\right) = 0.15\% \times \left(\frac{3\%}{5\%}\right) = 0.09\%$$

- **Parameter 3** has a maximum incentive of 0.20%, an upper threshold of 95%, a lower threshold of 90%, and a monthly performance of 96%. The monthly incentive for Parameter 3 is calculated as:

$$0.20\% \times \left(\frac{Max[0, Min\,(95\%, 96\%) - 90\%]}{95\% - 90\%}\right) = 0.20\% \times \left(\frac{5\%}{5\%}\right) = 0.20\%$$

Total Incentive for the 6-month Review Period

8.3.12 The Total Incentive applicable for the six-month Review Period r shall be calculated as per the formula mentioned below:

$$N_r = \frac{\sum_{i=1}^{i=6} MIT_i}{6}$$

Where:

(a) N_r is the Total Incentive for the six-month Review Period r;

(b) MIT_i is the Total Monthly Incentive for month i in the six-month Review Period r, calculated as described in Section 8.3.11;

For instance, in the below example (in Table 18), the Total Incentive for the six-month Review Period is 0.30%.

Table 18: Illustration of Total Incentive of 0.30% for the six-Month Review Period

Month	Monthly Incentive (MIT_i) (%)
Month 1	0.45%
Month 2	0.60%
Month 3	0.15%
Month 4	0.00%
Month 5	0.30%
Month 6	0.30%
Total	**1.80%**
Total Incentive for Review Period r (N_r)	**0.30% (1.80%/6)**

8.4 ADJUSTED REBATE COMPUTATION AND CARRY-FORWARD INCENTIVE COMPUTATION

8.4.1 The incentives earned by the airport operator will be adjusted against the rebate applicable to compute the Adjusted Rebate while in case of remaining incentives, it will be carried forward to the next Review Period.

8.4.2 The Total Rebate for all parameters applicable for the six-month Review Period r where the default period in the Review Period r is equal to or more than 3 months shall be calculated as per the formula mentioned below:

$$MRJ_r = \sum_{All\ paramater\ p} K_{r,p} \qquad where\ default\ period \geq 3\ months$$

Where:

(a) MRJ_r is the total rebate for all parameters where default period is equal to or more than 3 months;

(b) $K_{r,p}$ is the Total Rebate for parameter p in the six-month Review Period r.

8.4.3 The Total Rebate for all parameters applicable for the six-month Review Period r where the default period in the Review Period r is less than 3 months shall be calculated as per the formula mentioned below:

$$MRI_r = \sum_{All\ paramater\ p} K_{r,p} \qquad where\ default\ period < 3\ months$$

Where:

(a) MRI_r is the total rebate for all parameters where default period is less than 3 months;

(b) $K_{r,p}$ is the Total Rebate for parameter p in the six-month Review Period r.

For instance, in the below example, the total rebate for all parameters where default period is less than 3 months is 0.55% and total rebate for all parameters where default period is equal to or more than 3 months is 0.10% for Review Period r.

Table 19: Illustration of Total Rebate Computation across different Default Periods

Parameter	Total rebate for the review period r ($K_{r,p}$)	Default Period (months)	Whether default period equal to or more than 3 months	Rebate for all parameters where default period is equal to or more than 3 months (MRJ_r)	Rebate for all parameters where default period is less than 3 months (MRI_r)
Parameter 1	0.25%	3	Yes	0.25%	0.00%
Parameter 2	0.30%	4	Yes	0.30%	0.00%
Parameter 3	0.10%	2	No	0.00%	0.10%
Total				**0.55%**	**0.10%**

8.4.4 The Adjusted Rebate for all parameters applicable for the six-month Review Period r shall be calculated as per the formula mentioned below:

$$AR_r = MRJ_r + Max\left(0, (MRI_r - N_r - CFI_r)\right)$$

Where:

(a) MRJ_r is the total rebate for all parameters where default period is equal to or more than 3 months;

(b) MRI_r is the total rebate for all parameters where default period is less than 3 months;

(c) N_r is the Total Incentive for the six-month Review Period r;

(d) CFI_r is the carry-forwarded incentive from the previous period applicable for Review Period r;

(e) AR_r is the Adjusted Rebate for all parameters applicable for the six-month Review Period r.

For instance,

- MRJ_r is the total rebate for all parameters where the default period is equal to or more than 3 months, which is 2.00%.
- MRI_r is the total rebate for all parameters where the default period is less than 3 months, which is 0.50%.
- N_r is the total incentive for the six-month review period, which is 0.60%.
- CFI_r is the carry-forwarded incentive from the previous period applicable for the review period, which is 0.20%.
- AR_r is the Adjusted Rebate for all parameters applicable for the six-month Review Period is 2.0% as follows:

$$AR_r = 2.00\% + Max\left(0, (0.50\% - 0.60\% - 0.20\%)\right) = 2.00\%$$

8.4.5 The Incentive Utilized in the Review Period r in year t shall be calculated as per the formula mentioned below:

$$IU_r = Min(MRI_r, N_r + CFI_r)$$

Where:

(a) IU_r is the Incentive Utilized in the six-month Review Period r;

(b) MRI_r is the total rebate for all parameters where default period is less than 3 months;

(c) N_r is the Total Incentive for the six-month Review Period r;

(d) CFI_r is the carry-forwarded incentive from the previous period applicable for Review Period r.

For instance,

- MRI_r is the total rebate for all parameters where the default period is less than 3 months, which is 0.50%.
- N_r is the total incentive for the six-month review period, which is 0.60%.
- CFI_r is the carry-forwarded incentive from the previous period applicable for the review period, which is 0.20%

$$IU_r = Min(0.50\%, 0.60\% + 0.20\%) = 0.50\%$$

8.4.6 If the earned incentive amount surpasses the rebate amount owed, the surplus incentive can be carried forward to the next evaluation period. This carry-forward incentive remains valid only for the next Review Period, that is, six months period. After this six-month period, any unused carry-forward incentive will expire and become obsolete. This ensures that incentives are utilized within a specified timeframe, promoting timely performance improvements and accountability. The Carry-forwarded Incentive to the next Review Period shall be calculated as per the formula mentioned below:

$$CFI_{r+1} = N_r + CFI_r - IU_r \; where \; CFI_r < IU_r$$

$$CFI_{r+1} = N_r \; where \; CFI_r > IU_r$$

Where:

(a) CFI_{r+1} is the Carry-forwarded Incentive to the next Review Period;

(b) N_r is the Total Incentive for the six-month Review Period r;

(c) CFI_r is the carry-forwarded incentive from the previous period applicable for Review Period r;

(d) IU_r is the Incentive Utilized in the six-month Review Period r.

For instance,

- N_r is the total incentive for the six-month review period, which is 0.60%.
- CFI_r is the carry-forwarded incentive from the previous period applicable for the review period, which is 0.20%.
- IU_r is the incentive utilized in the six-month review period, which is 0.50%.

Since, $CFI_r < IU_r$

$$CFI_{r+1} = N_r + CFI_r - IU_r = 0.60\% + 0.20\% - 0.50\% = 0.30\%$$

Therefore, the carry-forwarded incentive to the next review period is 0.30%.

8.4.7 In light of the proposal that any incentives granted to airports will ultimately be offset, AERA seeks stakeholder consultation to determine the mechanism for administering successive incentives earned by airports with no applicable rebate for a control period.

8.5 REVISION IN TARIFFS ON ACCOUNT OF ADJUSTED REBATE

8.5.1 The rebates and incentives will be computed for each month for all parameters. However, the aeronautical tariff revisions will be conducted for an aggregate six-month Review Period, based on the Adjusted Rebate. A Compliance Report will be published for this six-month Review Period, detailing the parameter-wise monthly rebates for all months, the aggregate Adjusted Rebate amount, and the revised tariffs for the airport operator.

8.5.2 The Adjusted Rebate as computed in section 8.4.4 for the Review Period r will be applied on the Projected Aggregate Revenue Requirement as per the Multi-Year Tariff Order (MYTO) for the corresponding period of the airport operator to compute the rebate amount. If the MYTO is not available for the said period, AERA will consider the ARR based on the previously available accounting half-year period.

8.5.3 It is clarified that the Projected Aggregate Revenue Requirement as per the Multi-Year Tariff Order (MYTO) of the airport operator will be based on the building blocks of that particular period without the adjustment of the over-recovery or under-recovery of previous control periods.

8.5.4 The illustration for the computation of the rebate amount for the review period is given below:

Table 20: Illustration of computation of rebate amount based on Adjusted Rebate and Projected ARR

Particulars	Units		Feb '26 – Jul '26
Projected ARR based on the building blocks of that particular period without the adjustment of the over-recovery or under-recovery of previous control periods	INR cr.	A	180
Adjusted Rebate for review period for adjustment in tariffs (%)	%	B	2%
Rebate amount	**INR cr.**	**C = A × B**	**3.6**

8.5.5 The computed rebate amount will be adjusted in the tariffs prospectively in the subsequent accounting half-year period. That is, the rebate amount of Feb '26 to Jul '26 will be adjusted from the revenues/ tariffs of Oct '26 to Mar '27. The percentage reduction in the tariffs (tariff reduction rate) on account of the rebate amount will be based on the projected revenues amount. The illustration for the computation of the tariff reduction rate is given below:

Table 21: Illustration of the computation of the prospective tariff reduction rate based on the rebate amount

Particulars	Units		Oct '26 – Mar '27
Projected total aeronautical revenues	INR cr.	A	225
Rebate amount for Feb '26 to Jul '26 adjusted in next accounting half-year	INR cr.	B	3.6
Tariff reduction rate	**%**	$\mathbf{C = \frac{B}{A}}$	**1.6%**

8.5.6 The revision in aeronautical tariffs will be based on the following scenarios:

(a) Scenario 1: If the User Development Fee (UDF) is applicable on Domestic and International passengers, then the UDF charges will be reduced.

(b) Scenario 2: If UDF is not applicable for Domestic Passengers, then landing charges will be reduced.

8.5.7 The reduction in the UDF and landing charges will be prospective and pro-rated based on the proportion of UDF and Landing revenues in the total projected aeronautical revenues of the respective accounting half-year period as per the Multi-Year Tariff Order (MYTO). If the MYTO is not available for the said period, AERA will consider the revenues based on the previously available accounting half-year period.

8.5.8 For example (shown in Table 22), if UDF and Landing charges comprise 50% and 40% respectively of the total aeronautical revenues for a particular year.

8.5.9 Under scenario 1, the Tariff Reduction Rate is applied on UDF on pro-rated basis. Under scenario 2, the Tariff Reduction Rate is applied on landing charges on pro-rated basis.

Table 22: Illustration of Adjusted Rebated on UDF and Landing Charges

Aeronautical charge	Adjusted Rebate applicable on aero revenues	Scenario 1 – UDF applicable			Scenario 2 – UDF not applicable		
		Charge	Rebate applicable on only UDF charges	Revised charges	Charge	Rebate applicable on only landing charges	Revised charge
Landing Charge	1.6%	400	0%	400	400	$\frac{1.6\%}{40\%} = 4\%$	384
UDF – Domestic		500	$\frac{1.6\%}{50\%} = 3.2\%$	484			
UDF – International		1000	$\frac{1.6\%}{50\%} = 3.2\%$	968			

8.6 TRUE-UP OF ARR ON ACCOUNT OF ADJUSTED REBATE

8.6.1 To reconcile any differences between the sum of rebates applied during the control period through tariff revisions and the total rebates the airport operator is required to pay according to the actual Aggregate Revenue Requirement as per the audited financial statements, a true-up exercise will be conducted along with the MYTP evaluation for the specific airport.

8.6.2 The Adjusted Rebate is calculated for the six-month review periods from February 1 to July 31 and August 1 to January 31. Meanwhile, the Actual Aggregate Revenue Requirement (ARR) and audited aeronautical revenues are determined for the accounting half-year periods from April 1 to September 30 and October 1 to March 31, respectively.

8.6.3 Therefore, the Adjusted Rebate for the review periods must be converted to Adjusted Rebate for the accounting half-year periods. The Adjusted Rebate for each accounting half-year period is then used to compute the rebate based on the respective Actual Aggregate Revenue Requirement (ARR) during true-up exercise.

8.6.4 The example below illustrates how the adjustment is made:

Table 23: Adjusted Rebate for Review Period conversion to Adjusted Rebate for accounting half-year periods

Sample Review Period	**Feb '26 - Jul '26**	**Aug '26 - Jan '27**	**Feb '27 - July '27**
	A	B	C
Adjusted Rebate for review period (%)	2.00%	3.00%	2.50%
Accounting half-year periods	**Apr '26 – Sept '26**	**Oct '26 – Mar '27**	
	$D = \frac{(A \times 4 + B \times 2)}{6}$	$D = \frac{(B \times 4 + C \times 2)}{6}$	
Adjusted Rebate for accounting half-year period for true-up based on actual ARR (%)	2.33%	2.83%	

8.6.5 The true-up process includes the reduction of the rebate from the Actual ARR from building blocks for the respective period without addition of the over-recovery or under-recovery of previous periods, resulting in a reduced ARR. This reduced ARR is then compared to the total audited aeronautical revenues to determine under-recovery or over-recovery for each half-year period.

8.6.6 The Table 24 below provides an example of a sample true-up exercise, illustrating the reconciliation process over multiple half-year periods

Table 24: Sample true-up - reconciliation process of Adjusted Rebate over multiple half-year periods

Particulars		YEAR 1		YEAR 2		YEAR 3		YEAR 4		YEAR 5		Total
		H1	H2	H1	H2	H1	H2	H1	H2	H1	H2	
Actual ARR from building blocks for the respective period without addition of the over-recovery or under-recovery of previous periods	A	160.0	160.0	175.0	175.0	175.0	175.0	175.0	175.0	175.0	175.0	**1720.0**
Adjusted Rebate for accounting half-year periods for true-up based on actual ARR (%)	B	2.33%	2.83%	2.67%	2.67%	2.33%	2.67%	2.33%	2.67%	2.33%	3.00%	
Rebate amount for adjustment in ARR (INR cr.)	C = A * B	3.7	4.5	4.7	4.7	4.1	4.7	4.1	4.7	4.1	5.3	**44.4**
ARR after reduction in rebate	D	156.3	155.5	170.3	170.3	170.9	170.3	170.9	170.3	170.9	169.8	**1675.6**
Total audited aero revenues (INR cr.)	E	130.0	135.0	139.0	143.0	147.0	151.0	155.0	159.0	163.0	167.0	**1489.0**
Under-recovery (+) / Over-recovery (-) after rebate	**F = D – E**	**26.3**	**20.5**	**31.3**	**27.3**	**23.9**	**19.3**	**15.9**	**11.3**	**7.9**	**2.8**	**186.6**

8.7 PROPOSAL REGARDING THE REBATE AND INCENTIVE MECHANISM

Based on the material before it and its analysis, the following is proposed regarding the Rebate and Incentive Mechanism:

8.7.1 Rebates and incentives for the parameters as given in section 8.2 and section 8.3 respectively will apply.

8.7.2 Adjusted Rebate for all parameters applicable for the six-month Review Period r shall be calculated as per section 8.4.4

8.7.3 Carry-forwarded Incentive to the next Review Period shall be calculated as per section 8.4.6

8.7.4 The Adjusted Rebate as computed in section 8.4.4 for the Review Period r will be applied on the Projected Aggregate Revenue Requirement for the corresponding period of the airport operator to compute the rebate amount.

8.7.5 The computed rebate amount will be adjusted in the tariffs prospectively in the subsequent accounting half-year period as given in section 8.5. The revision in aeronautical tariffs will be based on the following scenarios: Scenario 1: If the User Development Fee (UDF) is applicable on Domestic and International passengers, then the UDF charges will be reduced, Scenario 2: If UDF is not applicable for Domestic Passengers, then landing charges will be reduced.

8.7.6 To reconcile any differences between the sum of rebates applied during the control period through tariff revisions and the total rebates the airport operator is required to pay according to the actual Aggregate Revenue Requirement as per the audited financial statements, a true-up exercise will be conducted along with the MYTP evaluation for the specific airport as per section 8.6.

8.7.7 A calibrated rebate and incentive structure aligns with the operational significance and passenger-centric impact of each parameter. Parameters with limited controllability or lower influence on core service delivery have been assigned lower rebates, ensuring fairness in performance evaluation.

9 REPORTING AND ASSESSMENT FRAMEWORK

9.1 MONTHLY ASSESSMENT REPORT

9.1.1 Based on the performance monitoring mechanism detailed out in the Chapter 5 and Chapter 6, a Monthly Assessment Report will be prepared for a particular month. This report will include comprehensive information on parameter-wise rebates and incentives applicable for that period. It will also include the calculation of these rebates and incentives, along with detailed measurements and an analysis comparing actual performance against defined targets.

9.1.2 The Monthly Assessment Report for a particular month will be finalized by the end of the following month. The report will be made available to the airport operators.

Table 25: Timelines of the Monthly Assessment Report

S. No.	Activity	For the Month	Timelines
	For Review Period 1 – February 1 to July 31		
1	AERA to finalize the Monthly Assessment report	February	By March 31st
2		March	By April 30th
3		April	By May 31st
4		May	By June 30th
5		June	By July 31st
6		July	By August 31st
	For Review Period 2 – August 1 to January 31		
7	AERA to finalize the Monthly Assessment report	August	By September 30th
8		September	By October 31st
9		October	By November 30th
10		November	By December 31st
11		December	By January 31st
12		January	By February 28th

9.2 BIANNUAL TARIFF ADJUSTMENT AND REBATE COMPLIANCE ORDER

9.2.1 The aeronautical tariff revisions will be conducted for an aggregate six-month Review Period, based on the Adjusted Rebate. A Biannual Tariff Adjustment and Rebate Compliance Order will be published for this six-month Review Period, detailing the following:

(a) Compilation of all Monthly Assessment Reports within the six-month Review Period along with the total Adjusted Rebate amount for the six-month Review Period

(b) Revised aeronautical tariffs for all airports

9.2.2 The Biannual Tariff Adjustment and Rebate Compliance Order will be published on the AERA website and will be accessible to all relevant stakeholders, ensuring transparency and clarity. The Biannual Tariff Adjustment and Rebate Compliance Order will be published within 45 days of the end of the 6-month Review Period. The revised aeronautical tariffs will become

applicable within 15 days of the issuance of the Biannual Tariff Adjustment and Rebate Compliance Order.

9.2.3 The Review Period is defined as a six-month period, with the first half-year period running from February 1 to July 31, and the second half-year period running from August 1 to January 31. The Biannual Tariff Adjustment and Rebate Compliance Order for the first half-year Review Period will be released on September 15, and for the second half-year Review Period on March 15. The revised aeronautical tariffs will become applicable from October 1 for the first half-year Review Period and from April 1 for the second half-year Review Period. The revised aeronautical tariffs will remain applicable till March 31 for the first half-year Review Period and till September 30 for the second half-year Review Period. The first Review Period may be shorter than six months to ensure that subsequent Review Periods align with the defined schedule.

Table 26: Illustration of the timeline of the Biannual Review Period

Review Period (6 months)	
Review Period 1	February 1 to July 31
Tariff Adjustment and Rebate Compliance Order release	September 15
Revision in Aeronautical Tariffs	From October 1 onwards till March 31
Review Period 2	August 1 to January 31
Tariff Adjustment and Rebate Compliance Order release	March 15
Revision in Aeronautical Tariffs	From April 1 onwards till September 30

9.3 PROPOSAL REGARDING THE REPORTING AND ASSESSMENT FRAMEWORK

Based on the material before it and its analysis, the following is proposed regarding the Reporting and Assessment Framework:

9.3.1 Based on the performance monitoring mechanism detailed out in the Chapter 5 and Chapter 6, a Monthly Assessment Report will be prepared for a particular month covering comprehensive information on parameter-wise rebates and incentives applicable for that period along with detailed measurements and an analysis comparing actual performance against defined targets.

9.3.2 The Monthly Assessment Report for a particular month will be finalized by the end of the following month. The report will be made available to the airport operators.

9.3.3 The Review Period for performance assessment is defined as a six-month period, with the first half-year period running from February 1 to July 31, and the second half-year period running from August 1 to January 31.

9.3.4 The aeronautical tariff revisions will be undertaken for each Review Period as per the timeline given in Table 26 through the issue of a Biannual Tariff Adjustment and Rebate Compliance Order. This order will be published on the AERA website within 45 days after the review period and will be accessible to stakeholders, with revised tariffs becoming applicable 15 days post-publication.

10 MONITORING AND GOVERNANCE MECHANISM

10.1 MONITORING OF AIRPORT PERFORMANCE PARAMETERS THROUGH THIRD-PARTY ASSESSOR

10.1.1 AERA will appoint a Third-Party assessor to ensure independent, transparent and unbiased monitoring of the airport performance parameters. This helps in eliminating any potential conflicts of interest that might arise if the airport operators were to self-assess their performance.

10.1.2 Third-party assessor will be responsible for developing a performance measurement plan for each airport based on the guidance provided in this document on measurement mechanisms and data sources. They will collect and analyse data related to various performance indicators. This includes reviewing recorded CCTV footage for queue and wait times, undertaking passenger surveys, assessing the availability and infrastructure of helpdesks, conduct manual measurements of various parameters to complement system-generated data and verifying the functionality of PRM (Persons with Reduced Mobility) checklists, among other requirements.

10.1.3 Third-party assessor will compile the collected data to determine the applicability of rebates and incentives. They will prepare and submit to AERA the draft Monthly Assessment Report and draft Biannual Tariff Adjustment and Rebate Compliance Order. AERA will then review and issue the final Monthly Assessment Report and Biannual Tariff Adjustment and Rebate Compliance Order.

10.1.4 The payment for the services provided by these third-party assessors would be made by the government.

10.2 REVISION IN THE PERFORMANCE STANDARDS FOR AIRPORTS

10.2.1 The performance mechanism will undergo a review and revision from time to time. This will ensure that the mechanism remains up-to-date and continues to meet the evolving needs of airport operations and service standards.

10.2.2 The revision will be based on a comprehensive review of existing performance targets and measurement mechanisms. Stakeholder interaction and feedback will be integral to the revision process to ensure the performance mechanism remains relevant and effective.

10.2.3 A gradual transition of the necessary information-gathering parameters to rebate-holding parameters can be considered during the upcoming comprehensive review of the performance standards.

10.3 PROPOSAL REGARDING THE MONITORING AND GOVERNANCE MECHANISM

Based on the material before it and its analysis, the following is proposed regarding the Monitoring and Governance Mechanism:

10.3.1 To appoint independent Third-Party Assessors to monitor airport performance parameters in a transparent and unbiased manner. Third-Party Assessors will also be responsible for preparation and submission for AERA's approval the draft Monthly Assessment Report and draft Biannual Tariff Adjustment and Rebate Compliance Order.

10.3.2 To review and revise the airport performance mechanism from time to time to ensure it remains aligned with evolving operational needs and service standards.

11 SUMMARY OF PROPOSALS PUT FORTH FOR STAKEHOLDER CONSULTATION

11.1 Chapter 1: BACKGROUND

11.1.1 The performance standards and its monitoring mechanism outlined as part of this document shall be applicable to all major airports regardless of any differing provisions contained in the CA/ OMDA with respect to the performance standards and its monitoring mechanism. However, it is clarified that the aforesaid will not in any manner release any concessionaire from its obligations under their respective agreements. (refer to 1.10.1)

11.2 Chapter 2: OBJECTIVES OF THE PROPOSED PERFORMANCE STANDARDS

11.2.1 A uniform, comprehensive, future-ready, reliable and technologically enabled performance standards framework that enhances passenger experience across all airport touchpoints through a technologically advanced and inclusive approach. (refer to 2.3.1)

11.2.2 The integration of emerging technologies like Self-Bag Drop, Immigration E-gates, and Digi-Yatra to create a seamless, efficient, and future-ready airport experience. (refer to 2.3.2)

11.2.3 A robust and standardized data monitoring framework to ensure reliable, accurate, and consistent performance measurement for enhanced transparency and operational excellence. (refer to 2.3.3)

11.2.4 A phased technology adoption strategy to enhance service quality monitoring starting with immediate integration of available tools and progressing toward long-term deployment of advanced innovations. (refer to 2.3.4)

11.3 Chapter 3: CATEGORIZATION OF THE SERVICE PARAMETERS

11.3.1 Categorization Summary: The service parameters are categorized into:

1) Objective Parameters (Quantifiable): 32 parameters in total; and
2) Subjective Parameters (Qualitative): 18 parameters in total.

(refer to 3.7.1)

11.3.2 The Objective Parameters include a total of 32 parameters covering:

- Airport Core Processes (Wait time): 6 parameters
- Airport Facilities (including for PRM passengers): 8 parameters
- Customer Service / Grievance Redressal System: 1 parameter
- Other parameters (for Information gathering only): 17 parameters

(refer to 3.7.2)

11.3.3 The Subjective Parameters include a total of 18 parameters covering

- Passenger Convenience: 16 parameters
- For PRM Passengers: 2 parameters

(refer to 3.7.3)

11.4 Chapter 4: AIRPORT CATEGORIES FOR PERFORMANCE STANDARDS

11.4.1 To ensure practical and proportionate service quality standards, the airports are classified into Category A (≥6 million passengers annually) and Category B (<6 million). This allows for tailored implementation, with higher standards for larger, more complex airports and flexible, context-sensitive parameters for smaller ones. (refer to 4.5.1)

11.4.2 A segmented framework for airport performance standards, tailoring regulatory, operational, and infrastructural requirements based on airport size and complexity, while maintaining uniformity in technology, customer service, and accessibility. (refer to 4.5.2)

11.4.3 Detailed information on the parameters and their respective targets applicable for Category A and Category B airports is provided in Annexure 13.1, Section 6.2 and Section 6.3. (refer to 4.5.3)

11.4.4 The adoption of uniform service parameters under performance standards across all airports within each respective category to ensure consistency in evaluation and passenger experience. (refer to (refer to 4.5.4)

11.5 Chapter 5: OBJECTIVE SERVICE QUALITY PARAMETERS AND ITS MEASUREMENT FRAMEWORK

11.5.1 The brief explanation of each parameter, its measurement mechanism, computation of performance score and measurement frequency with the data sources for Airport Core Processes (Wait Time), Airport Facilities, Customer Service / Grievance Redressal System and Other Parameters (For Information Gathering) is given in Section 5.2, Section 5.3, Section 5.4 and Section 5.5 respectively. (refer to 5.8.1)

11.5.2 For the parameter Operational Resilience under the category of Information Gathering, the rebate is applicable in case of default as per Section 5.5.15. (refer to 5.8.2)

11.5.3 While this chapter has given the measurement mechanism for each parameter, it is clarified that the third-party assessor may apply the methodology with suitable modification to address practical implementation issues specific to each airport. Any such modifications must be clearly documented and communicated to AERA by the third-party assessor. (refer to5.8.3)

11.6 Chapter 6: SUBJECTIVE SERVICE QUALITY PARAMETERS: ASSESSMENT SURVEY FRAMEWORK AND EVALUATION METHODOLOGY

11.6.1 The Subjective Parameters will be measured through a survey-based approach based on a predefined questionnaire outlined in the section 6.2 for Passenger Convenience and section 6.3 PRM Passengers. (refer to 6.6.1)

11.6.2 A standardized survey using a 1 to 5 rating scale will be conducted to assess passenger satisfaction as per the approach given in section 6.1.2. (refer to 6.6.2)

11.6.3 The performance percentage (%) score for subjective parameters used in rebate computation shall be calculated as per Section 6.1.5 and the performance percentage (%) score for subjective parameters used in incentive computation shall be calculated as per Section 6.1.6. (refer to 6.6.3)

11.6.4 Surveys will be administered by a third-party assessor during peak hours at designated terminal locations. Passengers will be randomly selected and authenticated via boarding pass scans. (refer to 6.6.4)

11.7 Chapter 7: TARGETS

11.7.1 The airport operator will meet the target for measures if the performance of the parameter exceeds the specified target value as given in Section 7.1. (refer to 7.2.1)

11.8 Chapter 8: REBATE AND INCENTIVE MECHANISM

11.8.1 Rebates and incentives for the parameters as given in section 8.2 and section 8.3 respectively will apply. (refer to 8.7.1)

11.8.2 Adjusted Rebate for all parameters applicable for the six-month Review Period r shall be calculated as per section 8.4.4 (refer to 8.7.2)

11.8.3 Carry-forwarded Incentive to the next Review Period shall be calculated as per section 8.4.6 (refer to 8.7.3)

11.8.4 The Adjusted Rebate as computed in section 8.4.4 for the Review Period r will be applied on the Projected Aggregate Revenue Requirement for the corresponding period of the airport operator to compute the rebate amount. (refer to 8.7.4)

11.8.5 The computed rebate amount will be adjusted in the tariffs prospectively in the subsequent accounting half-year period as given in section 8.5. The revision in aeronautical tariffs will be based on the following scenarios: Scenario 1: If the User Development Fee (UDF) is applicable on Domestic and International passengers, then the UDF charges will be reduced, Scenario 2: If UDF is not applicable for Domestic Passengers, then landing charges will be reduced. (refer to 8.7.5)

11.8.6 To reconcile any differences between the sum of rebates applied during the control period through tariff revisions and the total rebates the airport operator is required to pay according to the actual Aggregate Revenue Requirement as per the audited financial statements, a true-up exercise will be conducted along with the MYTP evaluation for the specific airport as per section 8.6. (refer to 8.7.6)

11.8.7 A calibrated rebate and incentive structure aligns with the operational significance and passenger-centric impact of each parameter. Parameters with limited controllability or lower influence on core service delivery have been assigned lower rebates, ensuring fairness in performance evaluation. (refer to 8.7.7)

11.9 Chapter 9: REPORTING AND ASSESSMENT FRAMEWORK

11.9.1 Based on the performance monitoring mechanism detailed out in the Chapter 5 and Chapter 6, a Monthly Assessment Report will be prepared for a particular month covering comprehensive information on parameter-wise rebates and incentives applicable for that period along with detailed measurements and an analysis comparing actual performance against defined targets. (refer to 9.3.1)

11.9.2 The Monthly Assessment Report for a particular month will be finalized by the end of the following month. The report will be made available to the airport operators. (refer to 9.3.2)

11.9.3 The Review Period for performance assessment is defined as a six-month period, with the first half-year period running from February 1 to July 31, and the second half-year period running from August 1 to January 31. (refer to 9.3.3)

11.9.4 The aeronautical tariff revisions will be undertaken for each Review Period as per the timeline given in Table 26 through the issue of a Biannual Tariff Adjustment and Rebate Compliance

Order. This order will be published on the AERA website within 45 days after the review period and will be accessible to stakeholders, with revised tariffs becoming applicable 15 days post-publication. (refer to 9.3.4)

11.10 Chapter 10: MONITORING AND GOVERNANCE MECHANISM

11.10.1 To appoint independent Third-Party Assessors to monitor airport performance parameters in a transparent and unbiased manner. Third-Party Assessors will also be responsible for preparation and submission for AERA's approval the draft Monthly Assessment Report and draft Biannual Tariff Adjustment and Rebate Compliance Order. (refer to 10.3.1)

11.10.2 To review and revise the airport performance mechanism from time to time to ensure it remains aligned with evolving operational needs and service standards. (refer to 10.3.2)

12 STAKEHOLDERS' CONSULTATION TIMELINE

12.1.1 MoCA vide letter no. AV-24026/2/2015-AD dated 29 July 2025 directed AERA to release this Consultation Paper and to carry out the public consultation process with all the stakeholders. In pursuance of the same and in accordance with the provisions of Section 13(4) of the AERA Act 2008, the proposal contained in the Summary of Proposals (Chapter 11 above) read with the relevant discussion in the other chapters of the Paper is hereby put forth for Stakeholders' Consultation. However, it is clarified that the contents of this Consultation Paper may not be construed as any direction or decision or order of this Authority.

12.1.2 The Authority welcomes written evidence-based feedback, comments and suggestions from stakeholders on the proposal outlined in Chapter 11 (preferably in electronic form (editable "Microsoft Word" file)) latest by 24/09/2025.

12.1.3 In accordance with MoCA's letter no. AV-24026/2/2015-AD dated 29 July 2025, after completion of this consultation exercise by AERA on behalf of MoCA and after its due finalization, MoCA shall notify Rules for Performance Standards at major airports under section 51(2)(f) of the AERA Act, 2008.

Secretary
Airports Economic Regulatory Authority of India (AERA),
3rd Floor, Udaan Bhawan,
Safdarjung Airport,
New Delhi – 110003.
Email: director-ps@aera.gov.in, rajan.gupta1@aera.gov.in, inderpal.s@aera.gov.in, copy to secretary@aera.gov.in

(Chairperson)

13 ANNEXURES

13.1 ANNEXURE – 1: OBJECTIVE PARAMETERS MEASURES AND REBATE

S. No.	Performance Parameter	Measures	Proposed Target (For Category A Airports)	Proposed Target (For Category B Airports)	Maximum Rebate
Airport Core Process					
O1(a)	Security Check (Terminal Entry Gate) - Traditional	Waiting Time (mins) in Queue (from entry in queue to presenting to CISF Staff)	95% < 10 mins	90% < 10 mins	0.25%
O1(b)	Security Check (Terminal Entry Gate) – Digi-Yatra	Waiting Time (mins) in Queue (from entry in queue to presenting at Digi-Yatra gate)	95% < 5 mins	90% < 5 mins	
O2(a)	Check-In	Waiting Time (mins) in Queue (from entry to presenting to staff for check-in)	Economy: 95% < 20 mins Business: 95% < 5 mins	Economy: 90% < 20 mins Business: 90% < 5 mins	0.25%
O2(b)	Check-In (Self-Bag Drop)	Waiting Time (mins) in Queue (from entry to presenting to SBD counters)	SBDs: 95% < 5 mins	SBDs: 90% < 5 mins	
O3	Immigration / Emigration	Waiting Time (mins) in Queue (from entry in queue to presenting to immigration officer)	95% < 12 mins	90% < 12 mins	0.25%
O4	Security Check (Terminal) - Departure Pre-embarkation	Maximum waiting time (from entry in queue to presenting to security staff for frisking)	95% < 10 mins	90% < 10 mins	0.25%

S. No.	Performance Parameter	Measures	Proposed Target (For Category A Airports)	Proposed Target (For Category B Airports)	Maximum Rebate
O5(a)	Baggage Delivery (Domestic)	Time for bag delivery from aircraft arrival (on blocks time) for 95% of domestic flights	First Bag: 15 mins Last Bag: 35 mins (For Code C) Last Bag: 45 mins (For Code E)	First Bag: 15 mins Last Bag: 30 mins (For Code C) Last Bag: 45 mins (For Code E)	0.25%
O5(b)	Baggage Delivery (International)	Time for bag delivery from aircraft arrival (on blocks time) for 95% of international flights	First Bag: 15 mins Last Bag: 45 mins (For Code C) Last Bag: 50 mins (For Code E)	First Bag: 15 mins Last Bag: 40mins (For Code C) Last Bag: 45 mins (For Code E)	0.25%
O6(a)	Passenger Arrival (Domestic)	Time taken from on-block to entry in the terminal building for 95% of domestic flights	First Passenger: 95% < 15 mins	First Passenger: 95% < 15 mins	0.15%
O6(b)	Passenger Arrival (International)	Time taken from on-block to entry in the terminal building for 95% of international flights	First Passenger: 95% < 15 mins	First Passenger: 95% < 15 mins	0.15%
Airport Facilities					
O7	Uptime of Flight Information Display System (FIDS)	% of time operational	98%	98%	0.25%
O8	Uptime of Lifts, Escalators and Travellators	% of time operational	98%	98%	0.25%

S. No.	Performance Parameter	Measures	Proposed Target (For Category A Airports)	Proposed Target (For Category B Airports)	Maximum Rebate
O9	Uptime of Automated Services (As per list in Schedule 5.3.3(a))	% of time operational	98%	98%	0.25%
O10	Availability of Passenger Boarding Bridges (Domestic / International)	% of aircraft movements served to meet airline request	90%	90%	0.15%
O11	Availability of Baggage Trolleys	% of time available	100%	100%	0.25%
O12	Seating Availability (at Boarding gates)	% of departure Peak Hour Passengers	70%	50%	0.25%
Airport Facilities for Persons with Reduced Mobility (PRM) Passengers					
O13	Facilities for PRM Passenger (As per Checklist 5.3.7(a))	% time availability of assistance for PRM	100%	100%	0.25%
O14	Availability of Wheelchairs (Pre-booked)	% time availability of assistance for PRM	100% within 20 mins	100% within 20 mins	0.25%

S. No.	Performance Parameter	Measures	Proposed Target (For Category A Airports)	Proposed Target (For Category B Airports)	Maximum Rebate
Customer Service / Grievance Redressal System					
O15(a)	Help desks (Help Desk Counters located at check-in, SHA and arrivals with necessary infrastructure)	% time availability at Check-in, Security Hold Area (SHA), and Arrivals, equipped with the necessary infrastructure	100%	100%	0.10%
O15(b)	Help Desks (Availability of Personnel at all Helpdesks)	% time availability of Personnel	100%	100%	0.10%
O15(c)	Help Desks (Percentage (%) of written complaints uploaded on Air-Sewa within specified time)	% of written complaints uploaded on Air-Sewa within specified time	100% within 24 hours	100% within 24 hours	0.10%
Other Parameters (for Information gathering only)					
O16	Minimum Connect Time (MCT) - Transfer Process	Minimum Connect times (mins)	Domestic to Domestic: 60 mins Domestic to International: 75 mins International to Domestic: 75 mins	Optional	NA

S. No.	Performance Parameter	Measures	Proposed Target (For Category A Airports)	Proposed Target (For Category B Airports)	Maximum Rebate
			International to International: 60 mins		
O17(a)	No. of Misconnect - Passengers	No. of misconnect passengers per 1000 passengers	10	Optional	NA
O17(b)	No. of Misconnect - Baggage	No. of misconnect baggage per 1000 baggage	20	Optional	NA
O18	Land side access	Travel time on terminal frontage road (mins)	95% of vehicles < 10 mins	Not Applicable	NA
O19	Passenger Boarding Bridges Utilization	% of aircraft movements using boarding bridges out of total eligible flights	90%	Not Applicable	NA
O20	Availability of Medical Facilities (As per Checklist 5.5.5(a))	% time availability of assistance for patients	100 %	100 %	NA
O21	Availability of Digital Information Centers	% of time operational	100%	100%	NA
O22	Availability of Cloak Room / Extended Baggage Storage	% of time available	100%	Not Applicable	NA

S. No.	Performance Parameter	Measures	Proposed Target (For Category A Airports)	Proposed Target (For Category B Airports)	Maximum Rebate
O23(a)	Lost and Found Services	% time availability of Personnel at Lost and Found Services Counter	100%	100%	NA
O23(b)	Lost and Found Services	% of complaints resolved	100% within 7 Days	100% within 7 Days	NA
O24	Availability of Baby care rooms	% of time available	100%	Optional	NA
O25	Availability of Sensory rooms	% of time available	100%	Optional	NA
O26	Availability of Operational Charging Points	% of operational charging points relative to the no. of peak-hour departing passengers	20%	20%	NA
O27	Availability of Wheelchairs (Not Pre-booked)	% time availability of assistance for PRM	100% within 30 mins	100% within 30 mins	NA
O28	Uptime of Digi-Yatra and Immigration e-gates	% of time operational	99%	99%	NA

S. No.	Performance Parameter	Measures	Proposed Target (For Category A Airports)	Proposed Target (For Category B Airports)	Maximum Rebate
O29	Cargo Services	Average dwell time	For imports, maximum processing time of 24 hours as per NCAP, 2016 For exports, maximum processing time of 8 hours as per NCAP, 2016	Not Applicable	NA
O30	Operational Resilience	-	Submission of Operational Resilience Plan	Submission of Operational Resilience Plan	Applied if disruption attributable to airport operator
O31(a)	Technology	Percentage (%) of passengers using Digi-Yatra	Information gathering	Information gathering	NA
O31(b)	Technology	Percentage (%) of passengers using SBDs	Information gathering	Information gathering	NA
O31(c)	Technology	Percentage (%) of international passengers using Immigration E-gates	Information gathering	Information gathering	NA
O32	Sustainability	Green Accreditation of Airport as per MoCA guidelines (once notified)	Information gathering	Information gathering	NA

13.2 ANNEXURE – 2: OBJECTIVE PARAMETERS MEASURES AND INCENTIVE

S. No.	Performance Parameter	Measures	Lower threshold	Upper threshold	Maximum Incentive
O1(a)	Security Check (Terminal Entry Gate) - Traditional	Waiting Time (mins) in Queue (from entry in queue to presenting to CISF Staff)	96% < 10 mins	99% < 10 mins	0.15%
O1(b)	Security Check (Terminal Entry Gate) – Digi-Yatra	Waiting Time (mins) in Queue (from entry in queue to presenting at Digi-Yatra gate)	96% < 5 mins	99% < 5 mins	
O2(a)	Check-In	Waiting Time (mins) in Queue (from entry to presenting to staff for check-in)	Economy: 96% < 20 mins Business: 96% < 5 mins	Economy: 99% < 20 mins Business: 99% < 5 mins	0.15%
O2(b)	Check-In (Self-Baggage Drop)	Waiting Time (mins) in Queue (from entry to presenting to SBD counters)	SBDs: 96% < 5 mins	SBDs: 99% < 5 mins	
O3	Immigration / Emigration	Waiting Time (mins) in Queue (from entry in queue to presenting to immigration officer)	96% < 12 mins	99% < 12 mins	0.15%
O4	Security Check (Terminal) - Departure Pre-embarkation	Maximum waiting time (from entry in queue to presenting to security staff for frisking)	96% < 10 min	99% < 10 min	0.15%

13.3 ANNEXURE – 3: SUBJECTIVE PARAMETERS MEASURES AND REBATE

S. No.	Topics	Measures	Proposed Target	Maximum Rebate
S1	Cleanliness	% of passengers rating the parameter as 4 or 5	90%	0.25%
S2	Availability of Basic necessary facilities (including Wi-Fi Availability)	% of passengers rating the parameter as 4 or 5	90%	0.25%
S3	Courtesy and Helpfulness of the Airport Staff	% of passengers rating the parameter as 4 or 5	90%	0.15%
S16	Overall Satisfaction with the Airport	% of passengers rating the parameter as 4 or 5	90%	0.35%

13.4 ANNEXURE – 4: SUBJECTIVE PARAMETER MEASURES AND INCENTIVE

S. No.	Topics	Measure	Lower threshold	Upper threshold	Maximum Incentive
S1	Cleanliness	% of passengers rating the parameter as 5	90%	95%	0.15%
S2	Availability of Basic necessary facilities (including Wi-Fi Availability)	% of passengers rating the parameter as 5	90%	95%	0.15%
S3	Courtesy and Helpfulness of the Airport Staff	% of passengers rating the parameter as 5	90%	95%	0.10%
S13	Services of Udan Yatri Cafe	% of passengers rating the parameter as 5	90%	95%	0.05%
S16	Overall Satisfaction with the Airport	% of passengers rating the parameter as 5	90%	95%	0.20%

13.5 ANNEXURE – 5: NORMATIVE PROCESSING TIME COMPUTATION FOR FUTURE IMPLEMENTATION OF AUTOMATED QUEUE TIME MEASUREMENT SYSTEM

Computation of Normative Processing Time

The third-party assessor will use the data collected during the manual measurement to compute the Normative Processing Time. This data will be utilized when implementing an automated queue time measurement system in the future. The following formula will be applied to determine the Normative Processing Time:

a. Compute Queuing Time as per below:

$$Q_{t,i} = B_{t,i} - A_{t,i}$$

Where:

- $P_{t,i}$ is the no. of passengers in queue i at measurement period t
- $Q_{t,i}$ is the Queuing time of the queue i at measurement period t
- $A_{t,i}$ is the time a passenger joins the respective queue i after the observation period has begun at measurement period t
- $B_{t,i}$ is the time that passenger presents themselves to the operator for the queue i at measurement period t

b. Compute the Normative Processing Time as per below:

$$NPT = \frac{\sum_{t=1}^{t}\sum_{i=1}^{n} Q_{t,i} \times N_{t,i}}{\sum_{t=1}^{t}\sum_{i=1}^{n} P_{t,i}}$$

Where:

- $P_{t,i}$ is the no. of passengers in queue i at measurement period t
- $Q_{t,i}$ is the Queuing time of the queue i at measurement period t
- $N_{t,i}$ is the number of counters/ processors handling the queue i at measurement period t
- *i* is the total number of queues
- *t* is the total number of measurement period
- NPT is the Normative processing time

For instance, if there are 3 queues and six measurement period starts at 00:20 and the passenger joins the queue at 00:26, then "A" will be recorded as 00:26.

Table 27: Illustration of Normative Processing Time Calculation

Queue no.		t	t +10	t +20	t +30	t +40	t +50
1	$A_{t,i}$	14:02	14:10	14:26	14:35	14:40	14:58
	$B_{t,i}$	14:09	14:20	14:32	14:39	14:56	15:02
	$Q_{t,i}$	7 minutes	10 minutes	6 minutes	5 minutes	16 minutes	4 minutes
	$N_{t,i}$	2	1	3	2	1	1
	$P_{t,i}$	5	4	8	10	2	10
2	$A_{t,i}$	14:00	14:10	14:26	14:32	14:45	14:58
	$B_{t,i}$	14:09	14:15	14:30	14:39	14:53	15:00
	$Q_{t,i}$	9 minutes	5 minutes	4 minutes	5 minutes	8 minutes	2 minutes
	$N_{t,i}$	3	2	1	1	6	2
	$P_{t,i}$	6	4	8	8	5	10
3	$A_{t,i}$	14:03	14:12	14:20	14:35	14:44	14:58
	$B_{t,i}$	14:04	14:22	14:32	14:38	14:52	15:02
	$Q_{t,i}$	1 minute	10 minutes	12 minutes	3 minutes	8 minutes	4 minutes
	$N_{t,i}$	1	2	3	1	4	1
	$P_{t,i}$	10	8	4	10	5	4

$$NPT = \frac{(7 \times 2) + (10 \times 1) + (6 \times 3) + \cdots + (3 \times 1) + (8 \times 4) + (4 \times 1)}{(5 + 4 + 8 + \cdots + 10 + 5 + 4)} = \frac{266}{121} = 2.2\ minutes$$

Queue measurement mechanism proposed for future

13.5.1 In the future, automated queue time measurement mechanism for queue-related parameters will be assessed once the necessary technology is implemented by the airport operator and achieves satisfactory accuracy. This technology may include CCTV with image recognition capabilities among other developing technologies.

13.5.2 After the technology is in place, the computation of the performance percentage (%) figure will be indicatively revised as follows:

$$Q = \frac{P_i \times NPT}{N}$$

$$MQL = \frac{N \times Queue\ target}{NPT}$$

$$PBL = Max\ (P_i - MQL, 0)$$

Where:

- Q is the queue time;

- P_i is the number of passengers in queue i;
- NPT is the Normative Processing Time as computed in Section 5.2.1(b);
- N is the number of operators handling the particular queue; for example, for check-in, no. of operational check-in counters handling the respective queue will be the N;
- MQL is the maximum queue length;
- Queue Target is the target queue time for that particular parameter;
- PBL is the number of passengers beyond queue length.

The performance percentage (%) figure will be calculated as the number of passengers within the queue length:

$$Performance = (1 - \frac{PBL}{MQL}) \times 100$$

Table 28: Illustration of Future Queue Measurement Mechanism

NPT (Normative Processing Time)	0.8 minutes	2 minutes
No. of Passengers in a specific Queue (P_i)	8	8
No. of Operators handling the specific Queue (N)	1	1
Queue Time (Q)	$\left(\frac{8 \times 0.8}{1}\right) = 6.4\ minutes$	$\left(\frac{8 \times 2}{1}\right) = 16\ minutes$
Queue Target	10 minutes	10 minutes
Maximum Queue Length (MQL)	$\frac{1 \times 10\ minutes}{0.8\ minutes} = 12.5$	$\frac{1 \times 10\ minutes}{2\ minutes} = 5$
No. of Passengers beyond queue length (PBL)	Max (8 - 12.5, 0) = 0	Max (8 - 5, 0) = 3
Percentage of Pax within the queue length	$\left(1 - \frac{0}{12.5}\right) \times 100 = 100\%$	$\left(1 - \frac{3}{5}\right) \times 100 = 40\%$

13.5.3 AERA seeks stakeholder feedback on the proposed queue measurement mechanism to be implemented in future.

13.6 ANNEXURE – 6: SERVICE PARAMETERS AND BENCHMARKS IN THE EXISTING AERA GUIDELINES

13.6.1 Annexure – 6.1: Objective Quality of Service Parameters

Service Parameters	Measures	Benchmarks	Monthly Percentage Rebate
Airport Core Processes			
Security Check	Waiting time in queue	95% < 5 mins	0.25
Immigration	Checking time in queue for immigration	95% < 10 mins	0.25
Check-In	Maximum queuing time	Economy: 20 mins Business: 05 mins	0.25
Baggage Delivery (Domestic)	Time taken for bag delivery from aircraft arrival	First bag: 10 mins Last Bag: 30 mins	0.25
Baggage Delivery (International)	Time taken for bag delivery from aircraft arrival	First bag: 15 mins Last Bag: 40 mins	0.25
Passenger Arrival (International)	Time taken from aircraft arrival to kerbside	95% < 45 mins	0.25
Passenger Arrival (Domestic)	Time taken from aircraft arrival to kerbside	95% < 35 mins	0.25
Airport Facilities			
Parking Bays	% time available	99%	0.25
Passenger Boarding Bridges	% of aircraft movements served to meet airline request	90%	0.25
Availability of Flight Information	% time available	98%	0.25
Escalators, Lifts & Travelators	% time available	98%	0.25
Automated Services	% time available	98%	0.25
Baggage Trolleys	% time available	100%	0.25
Facilities for Disabled Passenger	% time availability of assistance for disabled	100% within 5 mins	0.25
Customer Service			
Handling of Complaints	% of complaints responded within specified time	100% within 2 working days	0.25
Response to Phone Calls	% of calls answered within specified time	90 % within 60 secs	0.25

13.6.2 **Annexure – 6.2: Subjective Quality of Service Parameters**

The subjective quality of service is assessed under the parameter "Overall satisfaction with the airport" as part of the ACI ASQ (Airport Service Quality) survey, which is conducted on a quarterly basis. The benchmark score for this parameter is either 3.5 or 3.75, as applicable. The rebate percentage is calculated on a quarterly basis in accordance with the achieved score. Additionally, the Airport Operator provides performance data for all measured parameters of the ACI ASQ survey, as provided below:

1) Overall satisfaction with the airport
2) Ground transportation to/from airport
3) Availability of parking facilities
4) Value for money of parking facilities
5) Availability of baggage carts/trolleys
6) Waiting time in check-in queue/line
7) Efficiency of check-in staff
8) Courtesy and helpfulness of check-in staff
9) Waiting time at passport/personal ID inspection
10) Courtesy and helpfulness of inspection staff
11) Courtesy and helpfulness of security staff
12) Thoroughness of security inspection
13) Waiting time at security inspection
14) Feeling of being safe and secure
15) Ease of finding your way through airport
16) Flight Information screens
17) Walking distance inside the terminal
18) Ease of making connections with other flights
19) Courtesy and helpfulness of airport staff (excluding check-in, passport control and security)
20) Restaurant/Eating facilities
21) Value for money of restaurant/eating facilities
22) Availability of bank/ATM facilities/money changers
23) Shopping facilities
24) Value for money of shopping facilities
25) Internet access/ Wi-fi
26) Business/Executive lounges
27) Availability of washrooms/toilets
28) Cleanliness of washrooms/toilets

29) Comfort of waiting/gate areas

30) Cleanliness of airport terminal

31) Ambience of the airport

32) Passport/Personal ID Inspection

33) Speed of baggage delivery service

34) Customs inspection

13.7 ANNEXURE – 7: SERVICE QUALITY REQUIREMENTS OF IGIA, DELHI and CSMIA, MUMBAI AS PER OMDA

13.7.1 Objective Service Quality Parameters

The airport operator is required to assess, on a quarterly basis, compliance with the Objective Service Quality Requirements as per Schedule 3 of OMDA as reproduced hereunder and submit compliance reports to AAI.

Performance Area	Performance Measure	Target
Transfer Process	Minimum connect times	Domestic/International: 60 minutes International/ International: 45 minutes
Terminal Services		
	Handling of complaints	100% of complaints responded to within 2 working days
	Response to phone calls	5% of calls answered within 20 seconds
	Availability of Flight Information	98% available
	Automated services	98% available
	Lifts, escalators etc.	98% available
	Repair completion time	95% of high priority complaints within 4 hours, 95% of others within 24 hours
	Baggage trolleys	100% availability
	Cleanliness	Achieve a satisfactory cleanliness rating for 95% of all inspections
	Availability of wheelchairs	100% of time within 5 minutes
	Assistance for the disabled	100% of time within 5 minutes
Check in	Maximum queuing time	5 minutes for business class 20 minutes for economy

Performance Area	Performance Measure	Target
Security check	Waiting time in queue	95% of passengers wait less than 10 minutes
CIQ	Checking time in queue	95% of passengers wait less than 20 minutes 95% of passengers wait less than 10 minutes
Baggage delivery	Time for bag delivery from aircraft arrival	Domestic- First bag 10 minutes, last bag 30 minutes from on blocks time International-First bag 15 minutes, last bag 40 minutes from on blocks time.
Passenger arrival process (International)	Time taken from aircraft arrival to kerbside	95% of passengers take less than 45 minutes
Passenger boarding bridges	% passengers served by boarding bridges	International - 90 % of annual passengers Domestic - 90 % of annual passengers travelling on A/C B737/A320 or larger unless not required by Airlines
Runway system	Delays to arriving / departing aircraft	Average annual delay per aircraft: 4 minutes or better based on provision of International Standard ATC procedures and equipment as per CNS/ATM agreement
Car parking	Average time taken to find parking space	95% of drivers take less than 5 minutes
	Average time to depart airport from parking space	95% of drivers take less than 5 minutes
Taxis	Maximum waiting time	95% of passengers wait less than 5 minutes 95% of passengers wait less than 3 minutes
Gate Lounges	Seating availability	Seats for 80% of gate lounge population
Cargo Services	Average dwell time	For imports, maximum processing time of 24 hours For exports, maximum processing time of 24 hours

Source: OMDA, Delhi, Mumbai

13.7.2 **Subjective Service Quality Parameters**

The airport operator is required to assess the subjective parameters as per Schedule 3 of OMDA as reproduced hereunder. As per Section 9.1.3 (a) (iii) of OMDA, these parameters are utilized to compute the Target Rating of 3.75. The rating of the Airport as per IATA/ ACI AETRA Passenger survey for the purposes of the Subjective Service Quality Requirements shall be a number between one (1) to five (5) arrived at on the basis of the below parameters.

1. Navigational Items – Ease of finding way through the airport / Sign posting – Flight Information Screens – Walking distances **2. Connectivity Items** – Ease of making connections with other flights – Ground transportation to / from airports. **3. Service Facilities** – Availability of baggage carts – Restaurant / eating facilities – Shopping facilities – Business facilities – Washrooms – Parking facilities	**4. Value for money** – Restaurant / eating facilities – Shopping facilities – Parking facilities **5. Service Delivery** – Courtesy, helpfulness of airport staff – Comfortable waiting / gate areas – Speed of baggage delivery service **6. Environmental factors** – Cleanliness of terminal – Ambience of the airport **7. Airline factors** – Waiting time at check-in – Efficiency of check-in – Courtesy, helpfulness of check-in staff – Business / Executive lounges

Source: OMDA, Delhi, Mumbai

13.8 ANNEXURE – 8: SERVICE QUALITY REQUIREMENTS OF KIA, BENGALURU AND RGIA, HYDERABAD AS PER CONCESSION AGREEMENT

Schedule 9 of the Concession Agreement outlines the subjective service quality requirements, specifying that the following elements/criteria are to be evaluated annually using the IATA Global Airport Monitor scoring system (ranging from one to five, where one indicates 'very poor' and five denotes 'excellent'):

1) Ease of finding your way;
2) Flight information screen;
3) Availability of connections to the same continent;
4) Availability of connections to another continent;
5) Ease of making connections;
6) Availability of baggage carts;
7) Courtesy of airport staff;
8) Restaurant and eating facilities;
9) Shopping facilities;
10) Washrooms;
11) Passport inspection;
12) Customs inspection;
13) Waiting areas/lounges;
14) Baggage delivery service;
15) Ground transportation to/from city;
16) Parking facilities;
17) Sense of security; and
18) Ambience of airport.

13.9 ANNEXURE – 9: SERVICE QUALITY REQUIREMENTS OF SVPIA, AHMEDABAD, CCSIA, LUCKNOW, JAIPUR INTERNATIONAL AIRPORT, LGBIA, GUWAHATI, THIRUVANANTHAPURAM INTERNATIONAL AIRPORT AND MANGALURU INTERNATIONAL AIRPORT AS PER CONCESSION AGREEMENT

13.9.1 Objective Service Quality Parameters

The airport operator has to ensure that the service provided in airport conform to the Key Performance Indicators as specified in Section 1.1 in Annex-I of Schedule H of the concession agreement as reproduced hereunder.

Sl. No.	Performance Indicator	Performance Measure	Minimum Performance Standard	Critical (Yes / No)
1.	Car Parking	a) Average time taken to find parking space including the time taken for payment of parking fee or collection of ticket b) Average time from parking slot to the exit gate including the time for payment of parking fee	a) 95% of the drivers take less than 5 minutes b) 95% of the drivers take less than 5 minutes	No
2.	Security Check	Waiting time in queue	95% of the peak hour passengers wait less than 5 minutes	Yes
3.	Check-in	Waiting time in queue	a) 95% of the business class passengers wait less than 5 minutes b) 95% of the economy class passengers wait less than 20 minutes	Yes
4.	Immigration	Waiting time in queue	a) 95% of the passengers wait less than 10 minutes	Yes

Sl. No.	Performance Indicator	Performance Measure	Minimum Performance Standard	Critical (Yes / No)
5.	Baggage delivery domestic	Time for baggage delivery from aircraft arrival	a) First bag will arrive on baggage belt within 10 minutes of aircraft on-blocks time, and b) Last Baggage will arrive on baggage belt within 30 minutes for Code C aircraft and 45 minutes for Code E of aircraft on-blocks time	Yes
6.	Baggage delivery domestic	% time available	Each baggage belt should be available at least 95% of the time	Yes
7.	Baggage delivery international	Time for baggage delivery from aircraft arrival	a) First bag will arrive on baggage belt within 15 minutes of aircraft on-blocks time, and b) Last Baggage will arrive on baggage belt within 40 minutes for Code C aircraft 45 minutes for Code E of aircraft on-blocks time	Yes
8.	Baggage delivery international	% time available	Each baggage belt should be available at least 95% of the time	Yes
9.	Passenger arrival process	Time from aircraft arrival to kerbside	a) International – 95% of passengers take less than 45 minutes b) Domestic – 95% of passengers take less than 35 minutes	Yes
10.	Passenger boarding bridges	Percentage time available	a) Each passenger boarding bridge should be available at least 95% of the time	Yes
		Availability for % of aircraft movements to meet airline request	b) The passenger boarding bridges should be available to 90% of the international passengers and to 90% of the domestic passengers travelling on aircrafts B737/A320 or larger unless not required by airlines	Yes

Sl. No.	Performance Indicator	Performance Measure	Minimum Performance Standard	Critical (Yes / No)
11.	Parking bays	Percentage time available	Each parking bay stand should be available at least 99% of the time	Yes
12.	Availability of Flight Information Display Systems (FIDS)	Percentage time available	Each FIDS should be available at least 98% of the time	No
13.	Availability of Baggage trolleys	Percentage time available	Baggage trolleys should be available 100% of the time	No
14.	Passengers requiring wheelchairs	Waiting time for provision of assistance	100 % of the departing passengers, needing a wheelchair, should not wait longer than 5 minutes	No
15.	Transit / Transfer Passengers	Minimum connect time for transit/transfer Passengers: i. Domestic / Domestic ii. Domestic / International iii. International / International	a) Minimum connect time to be not more than 60 minutes for 80% of the Domestic / Domestic Passengers b) Minimum connect time to be not more than 75 minutes for 80% of the Domestic / International Passengers c) Minimum connect time to be not more than 60 minutes for 80% of the International / International Passengers	No
16.	Escalators, elevators & travellators	Percentage time availability	Escalators, elevators & travellators should be available at least 98% of the time	No

Sl. No.	Performance Indicator	Performance Measure	Minimum Performance Standard	Critical (Yes / No)
17.	Automated services	Percentage time availability	Automated services should be available at least 98% of the time Automated services shall include but not limited to inbound baggage system, outbound baggage system, X-Ray machines and public announcement systems.	No
18.	Information / Complaint desks	Availability of personnel at Information / Complaint desks	Information / Complaint desks should be manned 100% of the time	No
19.	Ambient Conditions in the Passenger Terminals	Maintenance of ambient conditions in the passenger terminals	Temperature range in a Passenger Terminal to be 21 – 25 degree Celsius during operational hours in the Passenger areas, and Relative Humidity levels – correlated relative humidity to specified temperature range	No
20.	Runway operational safety	Number of runway incursions	Recording, investigating and minimizing runway incursions	Yes
21.	ARFF	Response time to incident	a) As specified by ICAO, achieve a response time of not exceeding 3 minutes to any point of each operational Runway, and to any other part of the movement area in optimum visibility and surface conditions b) Any other vehicles required to deliver the amounts of extinguishing agents should arrive no more than 1 minute after he first responding vehicle(s) (i.e. no more than 4 minutes after the first call) so as to provide continuous agent application	Yes

Sl. No.	Performance Indicator	Performance Measure	Minimum Performance Standard	Critical (Yes / No)
22.	Availability of taxi	Waiting time in queue	Queuing time for taxis will not be more than 5 minutes for 95% of the passengers	No
23.	Handling of complaints	Percentage of complaints responded within specified time	100% of the complaints responded within 2 working days	No
24.	Repair Completion Time	Percentage of repairs done within specified time	a) 95% of the high priority repair works should be addressed within 4 hours b) 95% of the others should be addressed within 4 hours	No
25.	Cleanliness	Ratings during cleanliness surveys	Achieve a satisfactory cleanliness rating for 95% of all inspections	No
26.	Gate Lounges	Seating Availability	As per IATA optimum level of service	No
27.	Buggy Service	Availability of buggies	Buggy services should be available at least 98% of the time	No

Source: Concession Agreement, AAI PPP Airports

13.9.2 **Subjective Service Quality Parameters**

For the measurement of the Subjective Performance Parameters, a passenger survey has to be conducted by the airport operator either through the ACI-ASQ Survey or through the independent expert agency. The parameters to be covered by the specified passenger survey will include all the measured parameters as per ACI-ASQ as specified in Section 1.3 in Annex-I of Schedule H of the concession agreement reproduced hereunder:

1) Overall satisfaction with the airport
2) Ground transportation to/from airport
3) Availability of parking facilities
4) Value for money of parking facilities
5) Availability of baggage carts/trolleys
6) Waiting time in check-in queue/line
7) Efficiency of check-in staff
8) Courtesy and helpfulness of check-in staff
9) Waiting time at passport/personal ID inspection
10) Courtesy and helpfulness of inspection staff
11) Courtesy and helpfulness of security staff
12) Thoroughness of security inspection
13) Waiting time at security inspection
14) Feeling of being safe and secure
15) Ease of finding your way through airport
16) Flight Information screens
17) Walking distance inside the terminal
18) Ease of making connections with other flights
19) Courtesy and helpfulness of airport staff (excluding check-in, passport control and security)
20) Restaurant/Eating facilities
21) Value for money of restaurant/eating facilities
22) Availability of bank/ATM facilities/money changers
23) Shopping facilities
24) Value for money of shopping facilities
25) Internet access/ Wi-fi
26) Business/Executive lounges
27) Availability of washrooms/toilets
28) Cleanliness of washrooms/toilets

29) Comfort of waiting/gate areas
30) Cleanliness of airport terminal
31) Ambience of the airport
32) Passport/Personal ID Inspection
33) Speed of baggage delivery service
34) Customs inspection

13.10 ANNEXURE – 10: SERVICE QUALITY REQUIREMENTS OF NAVI MUMBAI INTERNATIONAL AIRPORT AS PER CONCESSION AGREEMENT

13.10.1 **Objective Service Quality Parameters**

The airport operator has to ensure that the service provided in airport conform to the Key Performance Indicators as specified in Section 1 in Annex I of Schedule I of the concession agreement as reproduced hereunder.

Performance Indicator	Performance Measure	Minimum Performance Standard			Critical (Yes/ No)
Transfer Process	Minimum connect times for 80% of the transfer passengers	Domestic/International: upto 75 minutes International/International: upto 60 minutes Domestic/Domestic: upto 60 minutes			No
Terminal Services	Handling of complaints	100% of complaints responded to within 2 working days			No
	Response to phone calls	90% of calls answered within 60 seconds			No
	Availability of Flight Information	98% availability			No
	Automated services	98% availability			No
	Lifts, escalators and travellators etc.	98% availability			No
	Repair completion time	95% of high priority complaints within 4 hours, 95% of others within 24 hours			No
	Baggage trolleys	100% availability			No
	Cleanliness	Achieve a satisfactory rating for 95% of all inspections			Yes
	Availability of wheelchairs	100% of time within 5 minutes			No
	Facilities for Disabled Passenger	100% of time within 5 minutes			No
Check-in	Maximum queuing time	***Service***	***Class***	***Parameter***	
		Traditional (Standard)	Business Class	5 minutes	Yes

Performance Indicator	Performance Measure	Minimum Performance Standard			Critical (Yes/ No)
		boarding pass	Economy Class	20 minutes	Yes
		Self – serving Boarding pass	Business Class	3 minutes	No
			Economy Class	5 minutes	No
		Self-service baggage drop (*As and when operational*)	Business Class	2 minutes	No
			Economy Class	2 minutes	No
Security check	Waiting time in queue	95% of Peak Hours passengers wait less than 5 minutes with an average dwell time at the security check point of 45 seconds per passenger			Yes
Immigration	Waiting time in queue	95% of passengers wait less than 10 minutes with an average dwell time at the immigration counter of 120 seconds per passenger			Yes
Baggage delivery	Time for bag delivery from aircraft arrival	Domestic – First bag 10 minutes, last bag 30 minutes from on blocks time International – First bag 15 minutes, last bag 40 minutes from on blocks time			Yes
Passenger arrival process	Time taken from aircraft arrival to kerbside	International – 95% of passengers take less than 45 minutes Domestic – 95% of passengers take less than 35 minutes			Yes
Passenger boarding bridges	% of aircraft movements served to meet airline request	International – 90% of annual passengers Domestic – 90% of annual passengers travelling on A/C B737/A320 or larger unless not required by Airlines			Yes
Parking Bays	% time available	99%			Yes

Performance Indicator	Performance Measure	Minimum Performance Standard	Critical (Yes/ No)
Runway system	Delays to arriving/departing aircraft	Average annual delay per aircraft: 4 minutes or better based on provision of International Standard ATC procedures and equipment as per CNS/ATM Agreement	Yes
Vehicle Parking	Average time taken to find parking space including the time taken for payment of parking fee or collection of ticket	95% of drivers take less than 5 minutes	No
	Average time from parking slot to the exit gate including the time for payment of parking fee	95% of drivers take less than 5 minutes	No
Taxis	Maximum waiting time	95% of passengers wait less than 5 minutes	No
Gate Lounges	Seating availability	80% of aircraft capacity	No
Land side access	Travel time on terminal frontage road	95% of vehicles to have travel time less than 8 (eight) minutes for the distance between the entry barrier and the exit barrier of the terminal frontage road up to 1,000 (one thousand) meters. If such distance of the terminal frontage road length exceeds 1,000 (one thousand) meters, then the 8 (eight) minutes should be increased by 1 (one) second for every 4 meter increase in the distance of 1,000 (one thousand) meters rounded up to the nearest minute	Yes

Source: Concession Agreement, NMIA

13.10.2 **Subjective Service Quality Parameters**

The subjective quality of service shall be measured for the airport operator on the parameter of "Overall satisfaction with the Airport" on the ACI ASQ survey to be conducted every quarter. The benchmark score for the parameter "Overall satisfaction with the airport" shall be at least equivalent to such score that the Airport is identified within top 20 (twenty) percentile of all airports in its category in the world.

The following items, as specified in Section 1 in Annex I of Schedule I of the concession agreement as reproduced hereunder, will be used to compute the rating.

(a) Navigational Items

(i) Ease of finding way through the Airport/ sign posting

(ii) Flight Information Screens

(iii) Walking distances

(b) Connectivity Items

(i) Ease of making connections with other flights

(ii) Ground transportation to / from airports

(c) Service Facilities

(i) Availability of baggage carts

(ii) Restaurant / eating facilities

(iii) Shopping facilities

(iv) Business facilities

(v) Washrooms

(vi) Parking facilities

(d) Value for money

(i) Restaurant/ eating facilities

(ii) Shopping facilities

(iii) Parking facilities

13.11 ANNEXURE – 11: SERVICE QUALITY REQUIREMENTS OF NOIDA INTERNATIONAL AIRPORT AND MANOHAR INTERNATIONAL AIRPORT, MOPA (GOA) AS PER THEIR RESPECTIVE CONCESSION AGREEMENT

13.11.1 Objective Service Quality Parameters

The airport operator has to ensure that the service provided in airport conform to the Key Performance Indicators as specified in Annex I of Schedule L of the concession agreement as reproduced hereunder.

Performance Indicator	Performance Measure	Minimum Performance Standard
Transfer Process	Minimum connect times for 80% of the transfer passengers	Domestic/International: 60 minutes International/International: 45 minutes Domestic/Domestic: 45 minutes
Terminal Services	Handling of complaints	100% of complaints responded to within 2 working days
	Response to phone calls	90% of calls answered within 60 seconds
	Availability of Flight Information	98% availability
	Automated services	98% availability
	Lifts, escalators etc.	98% availability
	Repair completion time	95% of high priority complaints within 4 hours, 95% of others within 24 hours
	Baggage Trolleys	100% availability
	Assistance for the differently abled	100% of time within 5 minutes
Check-in	Maximum queuing time	5 mins for business class 20 mins for economy
Security check	Number of security check lanes and associated equipment	Such that 95% of passengers wait less than 5 minutes with an average dwell time at the security check point of 45 seconds per passenger

Performance Indicator	Performance Measure	Minimum Performance Standard
Immigration	Checking time in queue for Immigration	Such that 95% of passengers wait less than 10 minutes with an average dwell time at the immigration counter of 120 seconds per passenger
Baggage delivery	Time for bag delivery from aircraft arrival	Domestic – First bag 10 minutes, last bag 30 minutes from on blocks time International – First bag 15 minutes, last bag 40 minutes from on blocks time
Passenger arrival process	Time taken from aircraft arrival to kerbside	International – 95% of passengers take less than 45 minutes Domestic – 95% of passengers take less than 35 minutes
Parking Bays	% time available	99%
Passenger boarding bridges	% airline requests for boarding bridges met	International – 90% Domestic – 90% of requests for B737 / A320 or larger aircrafts (Capped at the number of boarding bridges as per Schedule B)
Car Parking	Average time taken to find parking space including the time taken for payment of parking fee or collection of ticket	95% of drivers take less than 5 minutes
	Average time from parking slot to the exit gate including the time for payment of parking fee	95% of drivers take less than 5 minutes
Taxis	Maximum waiting time	95% of passengers wait less than 5 minutes
Gate Lounges	Seating availability	Seats for 80% of aircraft capacity
Land side access	Delay on terminal frontage road	95% of the vehicles to have delay less than 5 minutes

Source: Concession Agreement, Mopa(Goa) Airport

13.11.2 **Subjective Service Quality Parameters**

The subjective quality of service shall be measured for the airport operator on the parameter of "Overall satisfaction with the Airport" on the ACI ASQ survey to be conducted every quarter. The benchmark score for the parameter "Overall satisfaction with the airport" shall be at least equivalent to such score that the Airport is identified within top 20 (twenty) percentile of all airports in its category in the world.

The following items, as specified in Annex I of Schedule L of the concession agreement as reproduced hereunder, will be used to compute the rating.

(a) Navigational Items

(i) Ease of finding way through the Airport/ sign posting

(ii) Flight Information Screens

(iii) Walking distances

(b) Connectivity Items

(i) Ease of making connections with other flights

(ii) Ground transportation to / from airports

(c) Service Facilities

(i) Availability of baggage carts

(ii) Restaurant / eating facilities

(iii) Shopping facilities

(iv) Business facilities

(v) Washrooms

(vi) Parking facilities

(d) Value for money

(i) Restaurant/ eating facilities

(ii) Shopping facilities

(iii) Parking facilities

13.12 ANNEXURE – 12: SERVICE QUALITY PARAMETERS OF HEATHROW AIRPORT, LONDON AS ISSUED BY CIVIL AVIATION AUTHORITY, UK

13.12.1 **Financial Measures of Terminal along with its Metrics, Targets, Annual Rebates and Monthly Rebates**

i	Financial measures	Metrics	Time of day to measure performance	Target $_{i,j,a}$	$ANNMAX_i$ (%)		$R_{i,j}RY$ (%) = $ANNMAX_i$ (%) ÷ 6	
					T2 – T4	T5	T2 – T4	T5
F1	Cleanliness	Moving annual average QSM scores weighted by monthly passenger numbers	Unrestricted	4.15	0.40	0.40	0.0667	0.0667
F2	Wayfinding	Moving annual average QSM scores weighted by monthly passenger numbers	Unrestricted	4.20	0.40	0.40	0.0667	0.0667
F3	Helpfulness / attitude of security staff	Moving annual average QSM scores weighted by monthly passenger numbers	Unrestricted	4.10	0.20	0.20	0.0333	0.0333
F4	Wi-Fi performance	Moving annual average QSM scores weighted by monthly passenger numbers	Unrestricted	4.05	0.20	0.20	0.0333	0.0333
F5a	Security queue time – Central search	Percentage of queue times measured once every 15 minutes that are less than 5 minutes	05:00 to 22:30	95%	1.00	1.00	0.1667	0.1667
F5b		Percentage of queue times measured once every 15 minutes that are less than 10 minutes	05:00 to 22:30	99%				
F6	Security queue time – Transfer search	Percentage of queue times measured once every 15 minutes that are less than 10 minutes	05:00 to 22:30	95%	0.50	0.50	0.0833	0.0833

i	Financial measures	Metrics	Time of day to measure performance	Target $_{i,j,a}$	ANNMAX$_i$ (%)		$R_{i,j}$RY (%) = ANNMAX$_i$ (%) ÷ 6	
					T2 – T4	T5	T2 – T4	T5
F7	Security queue time – Staff search	Percentage of queue times measured once every 15 minutes that are less than 10 minutes	Agreed locally between the Licensee and AOC	95%	0.40	0.40	0.0667	0.0667
F9	Availability of lifts, escalators and travelators	Percentage of time serviceable and available for use, independent of any other measure	Agreed locally between the Licensee and AOC	99%	0.70	0.70	0.1167	0.1167
F10	Availability of check-in infrastructure	Percentage of time that (a) Self Service Bag Drop hardware and software and (b) Common Use Self-Service (CUSS) hardware, where any of these are provided by the Licensee, are serviceable and available for use, independent of any other measures.	Agreed locally between the Licensee and AOC	98%	0.50	0.50	0.0833	0.0833
F11	Availability of arrivals baggage carousels	Percentage of time serviceable and available for use, independent of any other measure	Agreed locally between the Licensee and AOC	99%	0.35	0.35	0.0583	0.0583
F12a	Availability of Terminal 5 track transit system	Percentage of one train serviceable and available for use, independent of any other measure	Agreed locally between the Licensee and AOC	99%	-	0.30	-	0.0500
F12b		Percentage of two trains serviceable and available for use, independent of any other measure		97%				

i	Financial measures	Metrics	Time of day to measure performance	Target $_{i,j,a}$	ANNMAX$_i$ (%)		$R_{i,j}$RY (%) = ANNMAX$_i$ (%) ÷ 6	
					T2 – T4	T5	T2 – T4	T5
F13	Availability of stands	Percentage of time serviceable and available for use, independent of any other measure	Agreed locally between the Licensee and AOC	99%	0.20	0.20	0.0333	0.0333
F14	Availability of jetties	Percentage of time serviceable and available for use	Agreed locally between the Licensee and AOC	99%	0.20	0.20	0.0333	0.0333
F15	Availability of fixed electrical ground power	Percentage of time serviceable and available for use	Agreed locally between the Licensee and AOC	99%	0.15	0.15	0.0250	0.0250
F16	Availability of stand entry guidance	Percentage of time serviceable and available for use	Agreed locally between the Licensee and AOC	99%	0.20	0.20	0.0333	0.0333
F17	Availability of pre-conditioned air	Percentage of time serviceable and available for use (Terminals 2, 3 and 5 only)	Agreed locally between the Licensee and AOC	98%	0.20	0.20	0.0333	0.0333
F18	Pier-served stand usage	Moving annual average percentage of passengers accessing a pier served stand (last 12 months)	Unrestricted	95%	0.30	-	0.0500	-
F20a	Hygiene safety testing	Percentage of Amber ATP test results resolved within 12 hours each month	Unrestricted	100%	0.20	0.20	0.0333	0.0333
20b		Percentage of Red ATP test results resolved within 2 hours each month	Unrestricted	100%				

i	Financial measures	Metrics	Time of day to measure performance	Target $_{i,}$	$ANNMAX_{CP}$ (%)	$R_{CP,j}RY$ (%) = $ANNMAX_{CP}$ (%) ÷ 6
F8	Control post vehicle queuing time	Percentage of vehicles at each control post group, measured as the average queue time for all vehicles in each 15-minute period, which have a waiting time of less than 15 minutes	Period agreed locally between the Licensee and the AOC	95%	0.40	0.0667
	CTA	CTA: CP5, CP8				
	Cargo	Cargo: CP10, CP10a, CP25a				
	Eastside	Eastside: CP12, CP16				
	Southside	Southside: CP24, CP24a				
	Terminal 5	Terminal 5: CP18, CP19, CP20				

i	Financial measures	Metrics	Target $_{i,}$	$MaxRebate_{ROI}$ (%)	Maximum cumulative movements deferred each day	0 to 3	4 to 5	6 to 7	8 to 9	10 to 11	12 to 13	14 to 15	16 to 17	18 to 19	20 or more
F19	Runway operational resilience	Maximum cumulative movements deferred each day	zero	0.50%	$v_{ARRd} + v_{DEPd}$ (£'000 in 2020 prices)	-	14.10	22.84	32.71	45.26	60.48	78.25	98.84	121.96	141.00

13.12.2 **Reputational Measures of Terminal along with its Metrics and Targets**

i	Reputational measures	Metric	Time of day to measure performance	Target $_{i,j,a}$
R1	Overall satisfaction	Moving annual average QSM scores weighted by monthly passenger numbers	Unrestricted	4.26
R2	Customer effort (ease)	Moving annual average percentage of passengers rating the journey was easy or very easy weighted by monthly passenger numbers	Unrestricted	91%
R3	Enjoy my time at the airport	Moving annual average percentage of passengers rating the journey was enjoyable or very enjoyable weighted by monthly passenger numbers	Unrestricted	80.5%
R4	Airport that meets my needs	Moving annual average percentage of passengers agreeing with statement weighted by monthly passenger numbers	Unrestricted	No target
R5	Feel safe and secure	Moving annual average percentage of passengers agreeing with statement weighted by monthly passenger numbers	Unrestricted	96%
R6	Ease of access to the airport	Moving annual average of scores among passengers arriving at the Airport by surface access each quarter	Unrestricted	4.44
R7	Helpfulness/attitude of airport staff	Moving annual average QSM scores weighted by monthly passenger numbers	Unrestricted	4.36
R8	Passengers with reduced mobility (PRM) – overall satisfaction	Moving annual average of SpA QSM scores collected amongst users of the Special Assistance Service at the Airport	Unrestricted	4.00
R9	Timely delivery from departures baggage system	Percentage of bags delivered from the baggage system to the baggage make up area (or facility) not less than 30 minutes before the scheduled time of departure of their intended flight.	Unrestricted	98%

i	Reputational measures	Metric	Time of day to measure performance	Target $_{i,j,a}$
R10	Baggage misconnect rate	Average of the number of bags per 1000 passengers, which miss their originally intended departing passenger flight.	Unrestricted	No target
R11	Departures flight punctuality	Average proportion of scheduled passenger flights taking off within 15 minutes of the scheduled departure time	Unrestricted	80.5%
R12	Airport departures management	Average time taken (across all departing passenger flights) between the Actual Start Request Time and the Actual Take-Off Time of an aircraft	Unrestricted	No target
R13	Airport arrivals management	Average time taken (across all arriving passenger flights) between the wheels of aircraft touching down on a runway and roll-retarding chocks being placed against the aircraft wheels, after the aircraft's brakes have been applied on stands	Unrestricted	No target
R14	Percentage of UK population within 3 hours (and one interchange) of Heathrow by public transport	Percentage of UK population who live within 3 hours (and one interchange) of the Airport by public transport based on current public transport routes	Unrestricted	No target
R15	Passenger injuries	Moving annual average number of passengers that are injured while travelling through the Airport each month, per one million passengers (excluding ill health)	Unrestricted	No target
R16a	Immigration queue times	Percentage of queuing times measured once every 15 minutes for non-EEA passengers using staffed immigration desks that are less than 45 minutes	05:00 – 22:30	95%
R16b		Percentage of queuing times measured once every 15 minutes for EEA passengers using staffed immigration desks that are less than 25 minutes	05:00 – 22:30	95%

13.13 ANNEXURE – 13: SERVICE QUALITY PARAMETERS FOR KUALA LUMPUR INTERNATIONAL AIRPORT AS PER MALAYSIAN AVIATION COMMISSION

No.	Service Quality Category	Service Quality Element	Measurement Mechanism Monthly	Target	Revenue at Risk (%)
1	Passenger Comfort and Facilities	Overall satisfaction with the airport	Survey responses from a representative sample of passengers	Compliance of at least 98% of the size of the survey	Results are for notification purposes only
		Overall satisfaction with the washrooms	Survey responses from a representative sample of passengers	Compliance of at least 93% of the size of the survey	0.30
		Cleanliness of the terminal	Survey responses from a representative sample of passengers	Compliance of at least 98% of the size of the survey	0.46
		Cleanliness of the washrooms	Independent inspection based on 20 items (as specified in Annexure 13.13.1)	(i) Compliance of at least 90% of the 20 items per washroom; and (ii) Compliance of at least 90% of the total washrooms inspected	0.30
		Flight information displays	Survey responses from a representative sample of passengers	Compliance of at least 96% of the size of the survey	0.11
		Availability of Wi-fi	Survey responses from a representative sample of passengers	Compliance of at least 91% of the size of the survey	0.28
		Ambience of the terminal	Survey responses from a representative sample of passengers	Compliance of at least 97% of the size of the survey	0.11
		Wayfinding	Survey responses from a representative sample of passengers	Compliance of at least 94% of the size of the survey	0.28

No.	Service Quality Category	Service Quality Element	Measurement Mechanism Monthly	Target	Revenue at Risk (%)
		Kerbside congestion	Survey responses from a representative sample of passengers	Compliance of at least 96% of the size of the survey	Results are for notification purposes only
2	Facilities for operator, airlines and staff	Availability of aerobridge	The Equipment Service Availability based on reports submitted by the Aerodrome Operator	99.5%	0.21
		Availability of aerobridge operator	The percentage of arrival flights where aerobridge operator was available 10 minutes before on-chock time based on the reports submitted by the Aerodrome Operator	95% of arrivals	0.10
			The percentage of arrival flights where aerobridge operator was available 5 minutes before on-chock time based on the reports submitted by the Aerodrome Operator	95% of arrivals	0.10
		Availability of VDGS	The Equipment Service Availability based on reports submitted by the Aerodrome Operator	99.5%	0.10

No.	Service Quality Category	Service Quality Element	Measurement Mechanism Monthly	Target	Revenue at Risk (%)
		Availability of ramp Wi-fi service	Independent inspection consisting of service availability, weekly on-site random checking of hot-spots and weekly device connectivity testing for baggage Reconciliation System	(i) The availability of ramp wi-fi service of at least 99.7% (ii) Signal Strength indication of "Good" which is -50 to -60 dBm or more than -50 dBm (iii) Successful authentication of Baggage Reconciliation System device	0.13
		Cleanliness of the staff washrooms	Independent inspection based on 19 items (as specified in Annexure 13.13.2)	(i) Compliance of at least 80% of the 20 items per washroom; and (ii) Compliance of at least 80% of the total washrooms inspected	0.22
3	Queuing times	Passenger security search – Gate screening	Automated queue monitoring system installed at KLIA T1	90% - passenger queues not more than 15 minutes	For KLIA T1 – 0.30
		Passenger security search – Centralized screening	Automated queue monitoring system installed at KLIA T1 and KLIA T2	95% - passenger queues not more than 10 minutes	For KLIA T2 - 0.52 For KLIA T1 – 0.22
		Transfer immigration queuing (manned counter)	Automated queue monitoring system installed at KLIA T1 and KLIA T2	90% - passenger queues not more than 10 minutes	Results are for notification and publication purposes only

No.	Service Quality Category	Service Quality Element	Measurement Mechanism Monthly	Target	Revenue at Risk (%)
		Transfer immigration queuing (automatic gate)	Automated queue monitoring system installed at KLIA T1 and KLIA T2	95% - passenger queues not more than 5 minutes	Results are for notification and publication purposes only
		Outbound immigration (manned counter)	Automated queue monitoring system installed at KLIA T1 and KLIA T2	85% - passenger queues not more than 20 minutes	Results are for notification and publication purposes only
		Outbound immigration (automatic gate)	Automated queue monitoring system installed at KLIA T1 and KLIA T2	95% - passenger queues not more than 5 minutes	Results are for notification and publication purposes only
		Outbound customs	Automated queue monitoring system installed at KLIA T1 and KLIA T2	95% - passenger queues not more than 10 minutes	Results are for notification and publication purposes only
		Inbound immigration (manned counter)	Automated queue monitoring system installed at KLIA T1 and KLIA T2	85% - passenger queues not more than 25 minutes	Results are for notification and publication purposes only
		Inbound immigration (automatic gate)	Automated queue monitoring system installed at KLIA T1 and KLIA T2	95% - passenger queues not more than 5 minutes	Results are for notification and publication purposes only

No.	Service Quality Category	Service Quality Element	Measurement Mechanism Monthly	Target	Revenue at Risk (%)
		Inbound customs	Automated queue monitoring system installed at KLIA T1 and KLIA T2	95% - passenger queues not more than 10 minutes	Results are for notification and publication purposes only
		Check-in	Automated queue monitoring system installed at KLIA T1 and KLIA T2	95% - passenger queues not more than 15 minutes	Results are for notification and publication purposes only
4	Passenger and baggage flows	Availability of 2 Aerotrain TTS (KLIA only)	The Equipment Service Availability based on reports submitted by the Aerodrome Operator	Availability of 2 trains for at least 98% of the duration of time the train is in service	0.25
		Availability of 1 Aerotrain TTS (KLIA only)	The Equipment Service Availability based on reports submitted by the Aerodrome Operator	Availability of 2 trains for at least 99.5% of the duration of time the train is in service	0.25
		Bussing services availability (KLIA only)	GPS-enabled tracking system on busses	99% - availability of bus	0.25
		Bussing services punctuality (KLIA only)	GPS-enabled tracking system on busses	99% - punctuality of bus based on a 4-minute interval	0.25
		Availability of lifts, escalators and walkalators	The Equipment Service Availability based on reports submitted by the Aerodrome Operator	Availability of lifts, escalators and walkalators for at least 99.5% of the duration of time the lifts, escalators and walkalators is in service	0.26

No.	Service Quality Category	Service Quality Element	Measurement Mechanism Monthly	Target	Revenue at Risk (%)
		Availability of BHS equipment	The Equipment Service Availability based on reports submitted by the Aerodrome Operator	Availability of BHS equipment for at least 99.5% of the duration of time the BHS equipment is in service	0.26
		Outbound Baggage	Reports submitted by the Aerodrome Operator on short shipment for all outbound baggage	(i) Compliance of at least 9,996 baggage for every 10,000 outbound baggage for KLIA; and (ii) Compliance of at least 9,999 baggage for every 10,000 outbound baggage for KLIA 2;	0.26
		Baggage retrieval – time to first bag	Reports submitted by the Aerodrome Operator on the arrival of the first baggage from on-chock to reclaim area	(i) Compliance of at least 85% inbound passenger flights receiving the last baggage no later than 20 minutes for main terminal building and 30 minutes for satellite building at KLIA; and (ii) Compliance of at least 85% inbound passenger flights receiving the last baggage no later than 25 minutes at KLIA2	0.25

No.	Service Quality Category	Service Quality Element	Measurement Mechanism Monthly	Target	Revenue at Risk (%)
		Baggage retrieval – time to last bag	Reports submitted by the Aerodrome Operator on the arrival of the last baggage from on-chock to reclaim area	(i) Compliance of at least 85% inbound passenger flights receiving the last baggage no later than 40 minutes for main terminal building and 50 minutes for satellite building at KLIA; and (ii) Compliance of at least 85% inbound passenger flights receiving the last baggage no later than 40 minutes at KLIA2	0.25

13.13.1 **Inspection Checklist for Washrooms at Kuala Lumpur International Airport**

Washroom overall	
1.	There is a working ventilation system
2.	The toilet is free from unpleasant smells
3.	There is sufficient lighting
4.	Floors are dry and free from slipping hazards
5.	Floors are free from cracks, damage, rubbish, or excess dirt or staining
6.	Walls are free from cracks, damage, or excess dirt or staining
7.	Waste and sanitary bins have spare capacity
Cubicles and urinals	
8.	All inspected cubicles and urinals have a working flush system
9.	All inspected toilet bowls are free from cracks, damage, or excess dirt or staining
10.	All inspected cubicles have toilet tissue available
11.	All inspected cubicles have a working door with a latch or lock, and free from excess dirt
12.	All inspected cubicles have a coat hook
13.	All inspected bidets are fully functional
Hand washing area	
14.	Clean water is available
15.	Washing basins are free from cracks or damage, watermarks or excessive dirt
16.	Taps are in working order
17.	Soap is available
18.	One or more hand dryers are available and in working order
19.	Mirrors are free from excess dirt or fingerprints
20.	Mirrors are free from crack or damage

13.13.2 **Inspection Checklist for Staff Washrooms at Kuala Lumpur International Airport**

Washroom overall	
1.	There is a working ventilation system
2.	The toilet is free from unpleasant smells
3.	There is sufficient lighting
4.	Floors are dry and free from slipping hazards
5.	Floors are free from cracks, damage, rubbish, or excess dirt or staining
6.	Walls are free from cracks, damage, or excess dirt or staining
7.	Waste and sanitary bins have spare capacity
Cubicles and urinals	
8.	All inspected cubicles and urinals have a working flush system
9.	All inspected toilet bowls are free from cracks, damage, or excess dirt or staining
10.	All inspected cubicles have toilet tissue available
11.	All inspected cubicles have a working door with a latch or lock, and free from excess dirt
12.	All inspected cubicles have a coat hook
13.	All inspected bidets are fully functional
Hand washing area	
14.	Clean water is available
15.	Washing basins are free from cracks or damage, watermarks or excessive dirt
16.	Taps are in working order
17.	Soap is available
18.	Mirrors are free from excess dirt or fingerprints
19.	Mirrors are free from crack or damage

13.14 ANNEXURE – 14: SKYTRAX WORLD AIRPORT AWARDS SURVEY TOPICS

The survey evaluates traveller experiences across different airport service and product key performance indicators - from check-in, arrivals, transfers, shopping, security and immigration through to departure at the gate.

1) Standard of Airport website

2) Standard of Airport APP

3) Getting to and from the Airport / Ease of Access

4) Public transport options / efficiency and prices

5) Taxi / Rideshare availability / prices

6) Availability of luggage trolleys (airside & landside)

7) Terminal comfort, ambience and design

8) Terminal cleanliness, floors, seating and public areas

9) Seating facilities throughout terminals

10) Immigration - queuing times / system / efficiency

11) Immigration - staff attitude

12) Security screening - queuing times / system / efficiency

13) Family security screening options

14) Courtesy and Attitude of Security staff

15) Check-In facilities, queuing systems / seating

16) Wayfinding and Terminal signage

17) Clarity of Boarding Calls / Airport PA's

18) Flight Info Screens - clarity / quality of information

19) Friendliness of Airport Staff

20) Language skills for Airport Staff

21) Ease of Transit through Airport

22) Location of Airline Lounges

23) Washroom / Shower facilities

24) Cleanliness of Washrooms

25) Nursery / baby care facilities

26) Hygiene standards

27) TV and Entertainment facilities

28) Quiet areas, Day rooms, Hotel facility, rest areas

29) Children's play area and facilities

30) Choice of Family friendly options

31) Choice of Shopping - tax free and other outlets

32) Choice of bars, cafes and restaurants

33) Prices in bars, cafes and restaurants

34) WiFi service - access / time provision

35) Power charging facilities

36) WiFi service - speed of service

37) Bureau de change facilities

38) ATM facilities

39) Smoking policy / Smoking lounges

40) Standards of PRM access and facilities

41) Baggage Delivery times

42) Priority Baggage Delivery efficiency

43) Lost luggage services

44) Perception of security and safety standards

13.15 ANNEXURE – 15: PROCEDURE FOR PREPARING QUARTERLY QUALITY OF SERVICE PERFORMANCE REPORT

The third-party assessor shall submit to AERA, semi-annually, a performance report on quality-of-service parameters. The performance report shall provide details on every objective and subjective parameter the benchmark achieved in every month, measured as per the approved performance measurement plan in the Multi Year Tariff Order.

For each quality-of-service parameter (objective and subjective) measured every month, the third-party assessor shall provide explanation including the following:

- Airport infrastructure or facilities included in measurement
- Data collection sources and process;
- Periodicity of measurement done every month;
- Calculation mechanism for achieved benchmark;
- Deviation from the performance measurement plan, if any;
- Reasons for underperformance, if any.

The achieved performance shall be summarized in the semi-annually quality of service performance reports in the specified Form F2 (a) and F2 (b).

The rebate, as applicable, shall be summarized in the semi-annually quality of service performance reports in the specified Form F3 (a) and F3 (b).

The incentive, as applicable, shall be summarized in the semi-annually quality of service performance reports in the specified Form F4 (a) and F4 (b).

Form F1 (a) – Information on Objective performance monitoring

S. no.	*Objective Parameter*	*Measure*	*Number & type of infra or facility to be monitored through each parameter*	*Data sources*	*Data collection process / methodology*	*Time period of monitoring every month*

Notes

1. *The number and type of infrastructure of facility shall identify relevant individual items to be monitored through the parameter e.g. number of parking bays and number of Flight Information Display System.*

2. *Data collection source & methodology shall identify in detail the process through which the data will be collected, manual or electronically, and the time period over which the monitoring will be done every month. For example, the monitoring of baggage delivery times shall specify the process through which the start and end times of the activity will be captured.*

Form F1 (b) – Information on Subjective performance monitoring

Particulars	
Sample size of passengers to be surveyed and rationale for the selected sample size	
Details on the periodicity of conducting surveys and rationale for such periodicity	
Details of agency administering the survey and supporting evidence of competitive procurement	

Notes

1. *Third-party assessor will have duty of care and AERA will have the right to interact with the agency on aspects related to inspection and verification under the section 13 (4) of AERA Act*
2. *The third-party assessor shall specify the survey methodology to be used, even if the standard ACI ASQ methodology is to be used.*

Form F2 (a) – Format to provide quarterly quality of service performance report on Objective Parameters

Quality of Service Parameters	*Target Benchmark*	*Achieved Benchmark (Month 1)*	*Achieved Benchmark (Month 2)*	*Achieved Benchmark (Month 3)*	*Achieved Benchmark (Month 4)*	*Achieved Benchmark (Month 5)*	*Achieved Benchmark (Month 6)*
Objective Parameters							
Parameter 1							
Parameter 2							
…							
Total		*To be calculated as per the guideline and formulae provided in the tariff order	*To be calculated as per the guideline and formulae provided in the tariff order	*To be calculated as per the guideline and formulae provided in the tariff order			

Form F2 (b) – Format to provide semi-annually quality of service performance report on Subjective Parameters

Quality of Service Parameters	*Target Benchmark*	*Achieved Benchmark (Month 1)*	*Achieved Benchmark (Month 2)*	*Achieved Benchmark (Month 3)*	*Achieved Benchmark (Month 4)*	*Achieved Benchmark (Month 5)*	*Achieved Benchmark (Month 6)*
Subjective Parameters							

Quality of Service Parameters	*Target Benchmark*	*Achieved Benchmark (Month 1)*	*Achieved Benchmark (Month 2)*	*Achieved Benchmark (Month 3)*	*Achieved Benchmark (Month 4)*	*Achieved Benchmark (Month 5)*	*Achieved Benchmark (Month 6)*
Parameter 1							
Parameter 2							
…							
Total		*To be calculated as per the guideline and formulae provided in the tariff order	*To be calculated as per the guideline and formulae provided in the tariff order	*To be calculated as per the guideline and formulae provided in the tariff order			

Form F3 (a) – Format to summarize rebate incidences on objective parameters in semi-annually quality of service performance report

Quality of Service Parameters	*Rebate incidence per half-year on under-performance*	*Calculated rebate incidence (Month 1)*	*Calculated rebate incidence (Month 2)*	*Calculated rebate incidence (Month 3)*	*Calculated rebate incidence (Month 4)*	*Calculated rebate incidence (Month 5)*	*Calculated rebate incidence (Month 6)*
Objective Parameters							
Parameter 1							
Parameter 2							
…							
Total		*To be calculated as per the guideline and formulae provided in the tariff order	*To be calculated as per the guideline and formulae provided in the tariff order	*To be calculated as per the guideline and formulae provided in the tariff order			

Form F3 (b) – Format to summarize rebate incidences on subjective parameters in semi-annually quality of service performance report

Quality of Service Parameters	*Rebate incidence per half-year on - under-performance*	*Calculated rebate incidence (Month 1)*	*Calculated rebate incidence (Month 2)*	*Calculated rebate incidence (Month 3)*	*Calculated rebate incidence (Month 4)*	*Calculated rebate incidence (Month 5)*	*Calculated rebate incidence (Month 6)*
Subjective Parameters							
Parameter 1							
Parameter 2							
…							
Total		*To be calculated as per the guideline	*To be calculated as per the guideline	*To be calculated as per the guideline			

Quality of Service Parameters	*Rebate incidence per half-year on - under-performance*	*Calculated rebate incidence (Month 1)*	*Calculated rebate incidence (Month 2)*	*Calculated rebate incidence (Month 3)*	*Calculated rebate incidence (Month 4)*	*Calculated rebate incidence (Month 5)*	*Calculated rebate incidence (Month 6)*
		and formulae provided in the tariff order	and formulae provided in the tariff order	and formulae provided in the tariff order			

Form F4 (a) – Format to summarize incentive incidences on objective parameters in semi-annually quality of service performance report

Quality of Service Parameters	*Incentive incidence per half-year on over-performance*	*Calculated Incentive incidence (Month 1)*	*Calculated Incentive incidence (Month 2)*	*Calculated Incentive incidence (Month 3)*	*Calculated Incentive incidence (Month 4)*	*Calculated Incentive incidence (Month 5)*	*Calculated Incentive incidence (Month 6)*
Objective Parameters							
Parameter 1							
Parameter 2							
…							
Total		*To be calculated as per the guideline and formulae provided in the tariff order	*To be calculated as per the guideline and formulae provided in the tariff order	*To be calculated as per the guideline and formulae provided in the tariff order			

Form F4 (b) – Format to summarize incentive incidences on subjective parameters in semi-annually quality of service performance report

Quality of Service Parameters	*Incentive incidence per half-year on over-performance*	*Calculated Incentive incidence (Month 1)*	*Calculated Incentive incidence (Month 2)*	*Calculated Incentive incidence (Month 3)*	*Calculated Incentive incidence (Month 4)*	*Calculated Incentive incidence (Month 5)*	*Calculated Incentive incidence (Month 6)*
Subjective Parameters							
Parameter 1							
Parameter 2							
…							
Total		*To be calculated as per the guideline and formulae provided in the tariff order	*To be calculated as per the guideline and formulae provided in the tariff order	*To be calculated as per the guideline and formulae provided in the tariff order			