



Second Consultation Paper for the Regulation of Aviation Services Charges in Malaysia

Civil Aviation Authority of Malaysia

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Glossary

Abbreviation	Full Term
AACE	Association for the Advancement of Cost Engineering
ACCC	Australian Competition and Consumer Commission
AERA	Airports Economic Regulatory Authority of India
ARR	Aggregate Revenue Requirement
ASC	Aviation Service Charges
BAA	British Airports Authority
BBB	Standard & Poor's Investment Grade Credit Rating (BBB)
BRC	Baseline Regulatory Commitments
CAAM	Civil Aviation Authority of Malaysia
CAAS	Civil Aviation Authority of Singapore
CAG	Changi Airport Group
CAP	Corrective Action Plan
CAPEX	Capital Expenditure
CCNZ	Commerce Commission New Zealand
CPI	Consumer Price Index
CSS	Core Service Standards
DIAL	Delhi International Airport Limited
EBITDA	Earnings Before Interest, Tax, Depreciation and Amortisation
EBITA	Earnings Before Interest, Tax and Amortisation
ERP	Enhanced Reporting Plan
Ex-ante	Prior to the Regulatory Period
Ex-post	End of the Regulatory Period
FY	Financial Year
GAL	Gatwick Airport Limited
IATA	International Air Transport Association
IBR	Incentive-Based Regulation



Abbreviation	Full Term
ICAO	International Civil Aviation Organisation
IGIA	Indira Gandhi International Airport
JHB	Senai International Airport
KPI	Key Performance Indicator
KTE	Kertih Airport
LTPP	Long-Term Price Path
MAHB	Malaysia Airports Holdings Berhad (sometimes referred to as “the Operator”)
MAVCOM	Malaysian Aviation Commission
MCA	Marginal Cost Assessment
MSL	Minimum Service Level
MYTP	Multi-Year Tariff Proposal
OA	Operating Agreement
OPEX	Operating Expenditure
PI	Performance Indicator
PSC	Passenger Service Charge
QoS	Quality of Service
RAB	Regulatory Asset Base
RPI	Regulated Performance Indicator
RP	Regulatory Period
RP1	Regulatory Period 1
RP2	Regulatory Period 2
RP3	Regulatory Period 3
RP4	Regulatory Period 4
SATS	Senai Airport Terminal Services Sdn Bhd
TMDSB	Tanjung Manis Development Sdn Bhd
TDSAT	Telecom Disputes Settlement and Appellate Tribunal
UKCAA	United Kingdom Civil Aviation Authority



Aviation / Regulatory Terms

Term	Definition
Building Block Model	A regulatory methodology that determines allowable revenue based on operating expenditure, capital expenditure, depreciation, and return on capital.
Ex-Ante	Assessment undertaken before the regulatory period or activity occurs.
Ex-Post	Assessment undertaken after the regulatory period or activity has occurred.
Event-Based Monitoring	Regulatory oversight triggered by material developments occurring outside scheduled review cycles.
Light-Touch Regulation	Regulatory approach relying primarily on transparency, disclosure and monitoring rather than direct price setting.
Re-Opener Mechanism	A process allowing regulatory determinations to be reconsidered when specified material events occur.
Shadow RAB	A parallel Regulatory Asset Base maintained as a reference benchmark alongside the Hybrid Framework.
Single Till	Airport pricing approach where both aeronautical and relevant non-aeronautical revenues are considered in determining airport charges.
True-Up	Ex-post reconciliation of forecast and actual outcomes to determine regulatory adjustments.



1 Executive Summary

- MAHB is entering a period of significant infrastructure investment. Considering MAHB's privatisation, its longer-term operating mandate and the need to address historical underinvestment require a regulatory framework that can support timely investment while maintaining appropriate safeguards for airport users.
- MAHB proposed an alternative Long-Term Price Path (LTPP) approach for RP2, based on a more flexible and longer-term regulatory model. In considering this proposal, CAAM has reassessed the suitability of the previously contemplated IBR framework considering the scale, timing and evolving nature of MAHB's investment programme, particularly where detailed expenditure and asset assumptions would otherwise need to be fixed before the investment programme is fully established.
- CAAM proposes the Hybrid Framework for RP2, drawing on selected features of MAHB's LTPP proposal while retaining the regulatory safeguards required to protect airport users. The framework would provide a longer-term regulatory outlook through successive five-year regulatory periods, with RP2 forming the initial baseline period. It is intended to provide greater price visibility and investment flexibility than the previously contemplated IBR approach, while maintaining appropriate expenditure assessment, performance accountability and regulatory oversight.
- The proposed framework is based on the principle of "bounded flexibility", MAHB would retain greater discretion over the timing, sequencing and delivery of its investment programme where agreed commitments and outcomes continue to be met. This flexibility would not extend to "material" changes (with pre-agreed thresholds) that undermine the regulatory baseline or the outcomes underpinning approved airport charges.
- The framework would retain strong ex-ante regulatory assessment. CAAM would continue to assess the necessity, prudence, efficiency and deliverability of proposed CAPEX and OPEX before establishing the regulatory baseline. Baseline Regulatory Commitments would translate the approved expenditure programme into identifiable investment, service and performance commitments against which subsequent delivery can be assessed.
- Regulatory governance would combine structured disclosures with continuous monitoring. Ex-ante, in-period and ex-post reporting would provide CAAM with ongoing visibility over expenditure, project delivery, service performance and emerging risks. Event-based monitoring would allow CAAM to respond to material developments without waiting for scheduled regulatory reviews.
- Change controls would define the boundaries of MAHB's delivery flexibility. Routine changes may remain within MAHB's management discretion, while material changes would require greater notification, justification or regulatory involvement. The proposed approach would preserve intended outcomes, maintain the integrity of the regulatory baseline and apply oversight proportionately to the significance of the change.
- Performance measurement would strengthen the link between expenditure and delivery outcomes. An enhanced version of the QoS framework (detailed in Section 7) would be complemented by Regulated



Performance Indicators and material project-level commitments, providing CAAM with greater visibility over CAPEX utilisation, project delivery and the operational and service outcomes

- Where material underperformance arises, regulatory intervention would increase progressively. CAAM proposes a graduated Escalation & Intervention framework ranging from normal oversight to systemic underperformance. The appropriate response would consider the materiality, persistence and breadth of the deviation, together with the extent to which circumstances were within MAHB's reasonable control. Additional intervention may be reduced where sustained recovery is demonstrated
- Experience under RP2 would inform the future regulatory direction. Subsequent regulatory periods would provide opportunities to recalibrate the framework as the asset base, investment programme and regulatory evidence base mature. Continued reliance on the Hybrid Framework, greater regulatory prescription or an eventual transition towards alternative regulatory mechanisms could be considered based on observed performance and the effectiveness of the framework
- The detailed calibration of the framework remains subject to consultation and further development. This Consultation Paper therefore focuses primarily on the proposed regulatory architecture and underlying principles. Detailed thresholds, performance metrics, reporting specifications, incentive arrangements, escalation triggers and reconciliation methodologies would be refined following stakeholder feedback and further assessment by CAAM.



2 Introduction

2.1 Background and Context

Malaysia's airport sector is entering a new phase pursuant to the privatisation of Malaysia Airports Holdings Berhad (MAHB) in February 2025 and the merger of the Malaysian Aviation Commission (MAVCOM) with Civil Aviation Authority of Malaysia (CAAM) in August 2025. Along with MAHB's long-term operating mandate under the new Operating Agreement (OA), these developments present a critical opportunity to establish a regulatory framework that supports the next phase of development of Malaysia's airport network.

A key consideration in this transition is the need to address the significant historical underinvestment in Malaysia's airport infrastructure. The sector is entering a period of substantial investment requirements, alongside changes in the airport asset base and the investment cycle. Addressing these requirements requires a regulatory framework that can facilitate investment while maintaining appropriate safeguards for stakeholder confidence. In particular, the framework needs to provide sufficient flexibility to support the financing and delivery of approved investments without compromising the principles of efficient expenditure, transparent pricing and regulatory accountability. In response to considerations, MAHB has proposed the adoption of a Long-Term Price Path (LTPP) framework based on a light-handed regulatory approach which places greater emphasis on long-term performance while affording MAHB the operational flexibility required to execute its investment programmes.

In evaluating this proposal, CAAM recognises the stakeholder consensus and shared preferences for the adoption of a full Incentive-Based Regulation (IBR) framework for Regulatory Period 2 (RP2), previously covering 2027-2029. While the principles underpinning IBR remain relevant, the scale and urgency of the investment requirements, arising from circumstances that have evolved since the previous framework was established, warrant greater flexibility in the regulatory approach. This includes considering the recovery of PSC for approved investment projects prior to their delivery, subject to appropriate conditions, safeguards and subsequent reconciliation.

Given that Passenger Service Charge (PSC) rates have remain unchanged since 2017, alongside the impending shifts in the airport asset base and investment cycle, CAAM proposes to reopen the regulatory framework and timeline for RP2 and consider an enhanced approach (hereafter referred to as the "Hybrid Framework") that reflects the evolving regulatory and operating environment. The proposed approach plans to provide a proportionate level of regulatory oversight during this transition, while establishing the foundations for a future transition towards a more mature framework as the asset base, investment cycle and supporting information development.

2.2 Impetus of an Enhanced Approach

The originally proposed RP2 framework was developed based on the operating outlook prevailing at the time. Since then, the environment in which MAHB operates has changed materially, particularly following its privatisation and the increased emphasis on MAHB's role in undertaking and delivering the investment required to develop and modernise the airport network. This change in investment responsibility, alongside the broader evolution of the sector, warrants a reassessment of whether the originally proposed regulatory arrangements remain appropriate for the next phase of airport development.

The anticipated scale of investment may result in significant changes to the Regulated Asset Base (RAB) over the coming period, with greater uncertainty around the timing, scale and deliverability of capital expenditure. This creates a need for the regulatory framework to appropriately recognise the investment



requirements of the airport network, while ensuring that expenditure remains prudent, efficient and aligned with demonstrated infrastructure needs.

At the same time, Malaysia's aviation sector remains exposed to developments outside the direct control of the airport operator or regulator. Global economic conditions, geopolitical tensions, fuel price movements, changes in government policy and aviation regulations, and developments in key international markets can materially affect passenger demand, airline capacity, route connectivity and airport operating costs. Given Malaysia's reliance on international connectivity and its links with major markets across the Asia-Pacific, ASEAN, China and the Middle East, external disruptions can transmit relatively quickly to the domestic aviation sector, resulting in material deviations in passenger volumes, revenues or costs from the assumptions underpinning a multi-year regulatory framework.

Altogether, these developments suggest that the regulatory framework should provide greater flexibility to respond to changes in the underlying operating and investment environment, while retaining appropriate regulatory discipline and accountability. The reassessment therefore considers how the framework can balance the need to facilitate necessary and efficient investment, manage risks arising from circumstances outside the operator's control, and protect airport users through appropriate oversight of expenditure, performance and returns.

2.3 Scope and Structure of this Consultation

This Consultation Paper seeks stakeholders' views on the proposed regulatory approach to establish a framework that supports the next phase of Malaysia's airport development. Stakeholders are also invited to identify alternative approaches, additional safeguards and regulatory oversight measures that may further strengthen the framework and facilitate its implementation.

This Consultation Paper sets out the proposed approach for initial stakeholder consideration, while recognising that certain elements will be further developed following stakeholder feedback and the receipt of additional information from MAHB. The Consultation Paper provides an opportunity for stakeholders to comment not only on the proposed components, but also on their appropriateness, interactions and whether additional measures are required to ensure the framework provides an appropriate balance between regulatory flexibility, accountability and protection of stakeholder interests.



3 Benchmark of Airport Operators Worldwide

The privatisation of MAHB provides an important context for the design of the next regulatory framework. The privatisation was intended to support MAHB's long-term transformation by enabling a longer-term approach to decision-making and capital investment, accelerating critical infrastructure upgrades and improving operational efficiencies. However, private ownership does not remove the underlying monopoly characteristics of airport infrastructure or the need to protect airport users. Instead, it increases the importance of a regulatory framework that preserves commercial and investment flexibility while ensuring that airport charges, expenditure and service outcomes remain transparent, efficient and subject to credible oversight.

International experience in airport economic regulation provides a useful comparative basis for assessing alternative regulatory approaches and the safeguards used to support effective oversight. The focus of this section is to examine the regulatory frameworks adopted by privatised airports and the safeguards used to balance commercial flexibility with accountability. This section therefore considers how regulators in Australia, the United Kingdom, India and Singapore have approached transparency, expenditure oversight, performance monitoring, stakeholder engagement and regulatory intervention under different regulatory models, ranging from light-touch regulation to full IBR.

3.1.1 Overview of the Selected Airports

The selected airports were chosen to represent a spectrum of regulatory frameworks while also reflecting characteristics relevant to MAHB's circumstances. These include privatisation, geographical context, and the commercial operation of significant airport infrastructure assets. While the selected airports are not directly comparable to MAHB in all respects, including market dynamics, asset maturity and investment scale, they provide useful examples of how different regulatory approaches and safeguards have been applied in practice.

Table 1: Overview of Benchmarked Frameworks by Airports

Airport	Regulator Government Authority	Regulatory Model	Current ASC / Price-Setting Approach
Sydney Airport, Australia	Australian Competition and Consumer Commission (ACCC)	Light-handed regulation (price monitoring)	ASC are principally determined through commercial negotiations. There is no price cap on the ASC.
Gatwick Airport, United Kingdom	UK Civil Aviation Authority (CAA)	Commitments Framework	ASC is subject to a price ceiling set through a package of negotiated binding licence commitments.
Indira Gandhi International Airport, India	Airports Economic Regulatory Authority of India (AERA)	Incentive-Based Regulation	ASC is determined by AERA through a formal building-block Aggregate Revenue Requirement (ARR) methodology and reconciled through an ex-post "true-up".
Changi Airport, Singapore	Civil Aviation Authority of Singapore (CAAS)	Incentive-Based Regulation	ASC is determined by CAAS through a formal revenue requirement methodology.



3.1.2 Sydney Airport

3.1.2.1 Background

Sydney is a useful comparator because it operates under one of the world's most established examples of a light-handed airport economic regulatory framework. Following the Productivity Commission's 2002 review, Australia replaced CPI-X price-cap regulation with a light-handed monitoring regime.¹ The review considered that a monitoring-based framework would better promote efficient investment and operational efficiency. Since then, the ACCC monitors and reports on prices, costs, profits and quality of service, but does not approve charges before they take effect.² The Productivity Commission's reaffirmed this approach in 2019, finding the monitored airports had not systematically exercised market power and had earned reasonable returns.³ The framework is supported by a broader competition-law backstop under Part IIIA of the Competition and Consumer Act 2010, under which access disputes may be subject to arbitration where the relevant statutory criteria are satisfied.⁴

Sydney Airport is also directly relevant to MAHB because its regulatory transition occurred alongside privatisation. In 2002, the Australian Government privatised Sydney Airport through a long-term lease arrangement. Following the removal of price-cap regulation, airport charges became increasingly determined through commercial negotiations between airports and airlines, supported by ACCC monitoring of prices, profitability and service quality rather than ex-ante tariff approval.

The model was tested through both the Covid-19 pandemic and Sydney Airport's \$23.6 billion acquisition in 2022.⁵ Despite these events, Sydney Airport has continued investing at scale, including a five-year \$6 billion capital works programme covering a major expansion of the T2/T3 terminal precinct and the T1 Operations Precinct.⁶ At the same time, their credit profile has also remained resilient, with a stated commitment to maintaining a strong BBB/Baa2 investment-grade rating.⁷

On the other hand, concerns remain regarding the effectiveness of monitoring as a constraint on market power. **The ACCC stated that “Monitoring regimes can influence behaviour if there is a credible threat of regulation and this threat may have constrained behaviour in the past when the airports were first privatised. However, we do not consider that the current regime is effective in constraining behaviour.”**⁸ The 2024-25 Monitoring Report also lends weight to these concerns as Sydney Airport recorded the highest aeronautical operating profit, return on aeronautical assets and revenue per passenger among the monitored airports.² The ACCC Commissioner warned that the airports' resumed capital expenditure programmes are likely to increase charges to airlines and passengers without any mechanism to assess whether such expenditure is efficient.⁹

¹ [Economic regulation | Department of Infrastructure, Transport, Regional Development, Communications, Sport and the Arts](#)

² [Airport monitoring report 2024-25](#)

³ [Economic Regulation of Airports - Inquiry report](#)

⁴ [Australian airport regulation | Ofgem RPI-X@20 Web Forum](#)

⁵ [Sydney Aviation Alliance completes acquisition of Sydney Airport - Investor Daily](#)

⁶ [Sydney Airport Traffic and Operational Performance Q4 2025](#)

⁷ [Sydney-Airport_Fact-sheet.pdf](#)

⁸ [Effective airport regulation needed - Note: Reissued with amended headline | ACCC](#)

⁹ [Major airports increase infrastructure investment, but higher costs will likely flow through to passengers | ACCC](#)



3.1.2.2 Key Financial and Operational Indicators

The indicators presented below will provide contextual information on Sydney Airport's key financial and operational indicators.

Table 2: Key Financial and Operational Indicators for Sydney Airport

Indicator	FY2023-24	FY2024-25
Aeronautical Operating Profit	RM 1,648.12 million	RM 1,687.98 million
Return on Aeronautical Assets	20.2%	20.8%
Number of Passengers	40.5 million	41.8 million
Aeronautical Revenue	RM 3,438.37 million	RM 3,551.61 million
Aeronautical Revenue per Passenger	RM 84.42	RM 85.02
Investment per Passenger	~RM 15.77	~RM 20.66 ¹⁰

Source: [Airport monitoring report 2023-24](#); [Airport monitoring report 2024-25](#)

3.1.2.3 Current Governance Framework

- **Monitoring/disclosure procedure:** Sydney Airport is legally required to submit annual data to the ACCC covering:
 - aeronautical revenue and cost data by service category;
 - operating profit on an EBITA basis;
 - capital expenditure on aeronautical facilities;
 - quality-of-service data drawn from ACCC-administrated passenger/airline surveys and objective operational measures that, rated on a five-point scale.

These data are compiled annually into a publicly released Airport Monitoring Report and an accompanying regulatory-accounts spreadsheet containing the underlying financial and quality-of-service time series. Disclosure of ground transport access services remains voluntary rather than mandatory (flagged as a transparency gap by the ACCC).¹¹

- **Penalty/incentive mechanism:** The ACCC cannot fine or reward the airport based the outcomes of its monitoring but compliance with the disclosure of the monitoring framework is mandatory. Under regulations 30 and 31 of the Airports Regulations 2024, airport-operator companies are required to keep and report specified records within prescribed timeframes.¹² Failure to comply may constitute an offence under s156(5) of the Airports Act 1996, imposing a strict-liability penalty of 50 penalty units.¹³ As of 1 July 2026, one penalty unit is equivalent to \$364.¹⁴ The only mechanism in the Australian model carrying a financial consequence tied to price or access terms is the Part IIIA National Access Regime,

¹⁰ Based on conversion rate of 1 AUD = RM 2.8889 (21 Aug 2026)

¹¹ [Airport monitoring | ACCC](#)

¹² [Airports Regulations 2024 - REG 31 Giving information to ACCC](#)

¹³ [Airports Act 1996 - SECT 156 Record - keeping and giving of information](#)

¹⁴ [Penalty units | Australian Financial Security Authority](#)



which sits outside airport-specific law and activates only if commercial negotiation fails with an airline successfully applying for declaration.¹⁵

- **Investment review protocol:** The sole ex-ante check involves Federal Ministerial approval for the airport's Master Plan and, for individual major development, a Major Development Plan (land-use approval, not an economic or cost-efficiency review).¹⁶ All financial data is reviewed by the ACCC only annually and only after the relevant financial year has closed so, the model is entirely ex-post.
- **Past escalation/intervention:** The Virgin Blue IIIA declaration and subsequent arbitration remains the clearest historical instance of the Australian backstop being involved against Sydney Airport.¹⁷ No airport-specific negotiate regime has been created since, as the Productivity Commission's 2019 Inquiry explicitly recommended against it, concluding it would have few benefits and substantial risks.³ Sydney Airport has not, to date, been subject to any ACCC enforcement action under the current monitoring model. This absence of intervention is consistent with the Commission's 2019 finding that the airport has not exercised its market power, notwithstanding the same inquiry flagging Sydney's persistently elevated per-passenger charges as an area warranting continued vigilance.

3.1.3 Gatwick Airport

3.1.3.1 Background

Gatwick Airport is privately owned and operated by Gatwick Airport Limited. It represents one of the most developed examples of a hybrid regulatory model. Following the Competition Commission's 2009 decision requiring British Airports Authority (BAA) to divest Gatwick, the airport became a standalone operator and was subsequently assessed by the CAA as not possessing sufficient market power to justify traditional price-cap regulation.^{18 19} Rather than being deregulated entirely, Gatwick transitioned to the Commitments Framework, under which price, service quality, investment commitments and consultation arrangements are negotiated between the airport and airlines.²⁰ It demonstrates how a privately owned airport operator can be given commercial and investment flexibility while remaining subject to binding price, service-quality, investment and consultation commitments overseen by the CAA.

The has operated through significant industry disruptions, including Covid-19, while supporting a £2 billion five-year Capital Investment Plan (2025-2029).²¹ The framework's built-in flexibility has also allowed the commitments to be varied, subject to a supermajority consent threshold of operators carrying at least 67% of passengers and at least 50% of responding operators, without requiring a full review.²² However, the framework's most significant test to date concerns Gatwick's Northern Runway project. After a multi-year planning process, the Secretary of State for Transport granted development consent for the project in September 2025, clearing the way for a privately financed £2.2 billion investments projected to create over 14,000 jobs.²³ The multi-year gap illustrates that large strategic capital decisions remain subject to a separate statutory planning-control process, distinct from the regulator's own oversight.

¹⁵ [How access to infrastructure services is regulated | ACCC](#)

¹⁶ [Major development plans](#)

¹⁷ [ACCC welcomes commercial resolution of access dispute between Virgin Blue and Sydney Airport | ACCC](#)

¹⁸ [Ferrovial's BAA sells Gatwick Airport | Reuters](#)

¹⁹ [Gatwick - Market Power Assessments Non-Confidential Version](#)

²⁰ [Company | Our Licence and Regulation | London Gatwick Airport](#)

²¹ [London Gatwick reports strong performance for 2024, as it prepares for further growth](#)

²² [Economic regulation of Gatwick Airport Limited: Final Decision on extending the current commitments](#)

²³ [Northern Runway Plans | London Gatwick Airport](#)



The principal criticism of the model concerns CAPEX governance. In its formal response, easyJet (Gatwick's largest airline customer) argued that GAL's proposed price cap could be 40% too high, allowing for excessive profits.²⁴ Separately, the Gatwick Airport Consultative Committee formally told the CAA it had "significant dissatisfaction" with the airport's capital-investment consultation process, citing a disconnect between planned and actual expenditure."²⁵ The CAA's CAP3113 Final Decision acknowledges this gap, committing to examine broader CAPEX governance arrangements as part of its next framework review. Gatwick's most recent results show early signs of margin pressure, with profit falling 2.4% and EBITDA falling 1.2%.²⁶

3.1.3.2 Key Financial and Operational Indicators

The indicators presented below will provide contextual information on Gatwick Airport's key financial and operational indicators.

Table 3: Key Financial and Operational Indicators for Gatwick Airport

Indicator	2024	2025
Aeronautical Operating Profit	RM 2,284.30 million	RM 2,284.30 million
EBITDA	RM 3,154.30 million	RM 3,114.00 million
Number of Passengers	43.2 million	42.8 million
Revenue per Passenger	~ RM 144.41	~ RM 146.01
Capital Investment per Passenger	~ RM 22.47	~ RM 24.84 ²⁷

Source: [Gatwick Airport Annual Report \(2024\)](#); [Gatwick Airport Annual Report \(2025\)](#)

3.1.3.3 Current Governance Framework

- **Monitoring/disclosure procedure:** Monthly, Gatwick Airport publishes a performance report covering CSS results, Airline Service Standards, special-assistance metrics and On-Time Performance. Quarterly, they calculate and pay the Core Service Rebate, due within one month of quarter-end. Annually, by 31 July, GAL submits a price-monitoring report comparing actual net and gross yield against the airport's Maximum Gross Yield, with the rebate reconciliation finalised by 31 August. The airport also discloses a Financial Information Commitment statement equivalent to statutory Annual Report and Accounts detail (e.g. OPEX, CAPEX, fixed asset base, revenue), together with a directors' formal confirmation of adequate financial resources. Twice yearly, GAL and airlines hold a mandatory stakeholder meeting on operational resilience, alongside updates to the Continuity of Service Plan.²⁸
- **Penalty/incentive mechanism:** Core Service Standards (CSS) comprise approximately 20 published metrics spanning passenger satisfaction, security queue times, airline operational measures and special assistance, each carrying an individual target and maximum rebate percentage. Gatwick must

²⁴ [easyJet Response to CAP2554](#)

²⁵ [Second Consultation on Extending the Current Commitments CAP3012](#)

²⁶ [Gatwick Airport Annual Report \(2025\)](#)

²⁷ Based on conversion rate of 1 GBP = RM 5.5203 (21 Aug 2026)

²⁸ [Gatwick licence and monitoring](#)



pay airlines an automatic quarterly Core Service Rebate, capped at 7% of Core Service Charge revenue per year, calculated per terminal. Airline Service Standards (e.g. check-in queue time, arrivals-bag delivery time) carry a further individual reduction applied to a specific airline's own rebate entitlement where that airline itself under-delivers. Runway-availability outages carry tiered fixed-fee penalties (£100,000 for outages of 15-45 minutes; £200,000 for outages exceeding 45 minutes), capped at 0.5% of the annual rebate. Six consecutive months of underperformance against any single CSS metric triggers a mandatory, CAA/Consultative-Committee-reviewed improvement plan.¹⁸

- **Investment review protocol:** GAL commits to a minimum average capital investment of at least £120 million per annum and a floor of £1.2 billion over April 2019-March 2029, waivable only with the consent of operators. GAL is also required to consult airlines annually on its capital investment plans but the CAA does not independently pre-approve individual projects.²¹
- **Past escalation/intervention:** The CAA retains a standing power to re-assess Gatwick's market power and reimpose full price-cap regulation. This power has not been exercised to date. The primary escalation channel observed in practice has sustained stakeholder pressure (easyJet and the Consultative Committee) feeding into the scheduled 2027-2028 review.

3.1.4 Indira Gandhi International Airport

3.1.4.1 Background

Delhi's Indira Gandhi International Airport (IGIA) is a leading example of a full building-block IBR framework. Following privatisation in 2006 and the establishment of AERA in 2008, airport tariffs became subject to detailed regulatory review through multi-year control periods.²⁹ The airport is now in its Fourth Control Period (FY2024-25 to FY2028-29), with AERA's Tariff Order issued on 28 March 2025 following a formal Consultation Paper published on 31 January 2025.³⁰ The framework was adopted to provide a transparent and defensible basis for regulating newly privatised monopoly airports. It has supported significant investment, including a major capacity expansion, which raised the airport's design capacity from 66 million to 100 million passengers at a project cost of approximately Rs 9,800 crore.³¹ Under this framework, the airport submits forecasts and financing assumptions which are reviewed by the regulator before tariffs are determined. The model's central design feature is an ex-post "true-up" reconciling actual outcomes against forecast at each Control Period reset. This was intended to give the regulated entity long-run revenue certainty even where individual-period forecasts prove inaccurate.

However, Delhi International Airport Limited (DIAL), the operator of IGIA, experience illustrates several challenges associated with a full building-block model:

- 1) Tariff decisions have frequently been litigated, particularly in relation to the cost of capital and other regulatory assumptions, creating multi-year uncertainty.³²
- 2) India's Parliament has publicly criticised AERA for delays, inconsistent methodologies and susceptibility to political influence.³³

Against these costs, the model has delivered specific and measurable protections. AERA's tentative CAPEX ceiling benchmarks (approximately Rs 65,000 per square metre for terminal buildings and Rs 4,700 per square metre for runway works) provide a concrete reference point against which their capital cost claims

²⁹ [GMR Airports Limited: Our Company Overview & Mission](#)

³⁰ [MYTP for fourth control period.pdf](#)

³¹ [Moody's affirms stable outlook rating for Delhi International Airport | Company News - Business Standard](#)

³² [Airport Privatisation India: Legal Framework](#)

³³ ['Skyrocketing' airfare, lack of tariff regulation dominates PAC meeting - The Tribune](#)



are tested before admission to the Regulatory Asset Base. This is a safeguard against the “gold-plating” risk that has been raised as a concern.³⁴ Independent rating agency analysis also credits DIAL’s regulatory and concession structure with contributing to strong financial ring-fencing, providing strong protections against inappropriate cash extraction and supporting long-term financial resilience.”³⁵

3.1.4.2 Key Financial and Operational Indicators

The indicators presented below will provide contextual information on IGIA’s key financial and operational indicators.

Table 4: Key Financial and Operational Indicators for Indira Gandhi International Airport

Indicator	FY2023-24	FY2024-25
Loss after Taxation	RM 76.36 million	RM 412.69 million
Number of Passengers	73.7 million	79.3 million
Aeronautical Revenue per Passenger	RM 29.23	RM 30.57 ³⁶

Source: [Annual Report 2023-24](#); [Annual Report 2024-25](#)

3.1.4.3 Current Governance Framework

- **Monitoring/disclosure procedure:** At each Control Period reset, DIAL must file:

- the Multi-Year Tariff Proposal (MYTP);
- audited annual financial statements;
- asset-wise depreciation schedules;
- traffic forecasts and their underlying assumptions;
- project-level capital-expenditure execution reports.

AERA separately commissions and publishes dedicated technical studies (e.g. studies on the allocation of assets between aeronautical and non-aeronautical categories) disclosing the underlying RAB composition and methodology in full. All Consultation Papers and final Tariff Orders are published on AERA’s website for stakeholder review and comment prior to finalisation, subject to appeal to Telecom Disputes Settlement and Appellate Tribunal (TDSAT).³⁷

- **Penalty/incentive mechanism:** Quality of Service (QoS) is a formally named building block within AERA’s tariff-setting methodology, alongside CAPEX, OPEX and the Fair Rate of Return and Traffic Forecasts. The principal financial penalty mechanism is the true-up itself. Any CAPEX or OPEX found to be inflated or inconsistent with AERA’s benchmark ceilings is disallowed from the RAB or Aggregate Revenue Requirement, meaning shareholders bear the cost of any disallowed spending.³⁸
- **Investment review protocol:** DIAL must submit the MYTP at the start of each five-year Control Period. AERA reviews it for completeness, commissions independent third-party technical studies to test CAPEX claims against normative benchmark ceilings and publishes a tentative building-block position for public consultation before issuing a binding Tariff Order. A formal ex-post true-up is then applied at

³⁴ [AERA moots tentative ceiling for airports’ capital costs](#)

³⁵ [Press Release - India Ratings and Research](#)

³⁶ Based on conversion rate of 1 INR = RM 0.042277 (derived from 100 INR = RM 4.2277) (21 Aug 2026)

³⁷ [TDSAT redefines aeronautical tariff setting in Indian Airports - Lexology](#)

³⁸ [Normative Approach to Building Blocks in Economic Regulation.pdf](#)



the following Control Period rests, adjusting the ARR for any under- or over-recovery from the prior period, together with carrying costs.

- **Past escalation/intervention:** The escalation that exists is judicial where airlines and DIAL have, on separate occasions, appealed specific AERA building-block determinations to TDSAT, with the Tribunal on occasion requiring AERA to redo elements of its calculation to meet a scientific and objective standard. The FY2024-24 to FY2025-26 loss-to-profit reversal is a documented instance of the regulatory mechanism materially altering the airport's reported financial performance without any corresponding change in the underlying business.

3.1.5 Changi Airport

3.1.5.1 Background

Changi Airport is operated by Changi Airport Group (Singapore) Pte. Ltd. (CAG), which is wholly owned by the Singapore Government. Prior to corporatisation in 2009, Changi Airport was operated directly by CAAS, with airport management and regulatory functions housed within the same organisation. In 2009, Singapore separated these functions through the establishment of CAG, allowing airport operations to be managed on a more commercial basis while retaining independent regulatory oversight through CAAS. It currently operates under an incentive-based regulatory framework administered by the CAAS, which regulates aeronautical charges, service quality and airport performance.

The airport is currently subject to the Fourth Regulatory Period (FY2025/26 to FY2036/37), with the CAAS issuing its latest determination on aeronautical charges on 28 March 2025 following a review of CAG's regulatory proposal.³⁹ The framework has supported significant investment, including the development of Terminal 4 and the ongoing Terminal 5 and Changi East expansion programme. More recently, Changi Airport announced plans to invest approximately S\$3 billion over the period 2025 to 2030 to expand capacity, strengthen operational resilience and improve passenger experience. Airport charges will be progressively increased between 2025 and 2030 to fund these investments, recover infrastructure expenditure incurred during the Covid-19 pandemic and cater for higher operating costs.⁴⁰

The framework was also tested during the Covid-19 pandemic, which placed significant pressure on airport traffic, revenues and investment programmes across the aviation sector. During this period, CAAS noted that planned increases in passenger fees and airline charges were suspended to support airline recovery and maintain Singapore's competitiveness as a global aviation hub. The subsequent Fourth Regulatory Period determination incorporated gradual tariff adjustments, reflecting both ongoing investment requirements and the need to recover investments undertaken during the pandemic period.⁴¹

3.1.5.2 Key Financial and Operational Indicators

Changi Airport has been excluded from the key financial and operational indicators assessment as the publicly available financial disclosures are reported at the CAG level and do not separately disclose airport-specific aeronautical financial and capital expenditure information.

3.1.5.3 Current Governance Framework

- **Monitoring/disclosure procedure:** Changi Airport Group is required to prepare and submit regulatory and financial information to CAAS throughout the regulatory cycle, including during regulatory-period

³⁹ [Airport economic regulation | Civil Aviation Authority of Singapore](#)

⁴⁰ [Changi Airport to invest S\\$3 billion over next six years to strengthen Singapore's position as a global air hub](#)

⁴¹ [Changi Airport to invest S\\$3 billion over next six years to strengthen Singapore's position as a global air hub](#)



price reviews, mid-term reviews and other reviews initiated by CAAS. The information required to submit includes⁴²:

- (i) **Regulatory asset information**, including the RAB, security asset base, non-aeronautical asset base and the associated asset valuation methodologies
 - (ii) **Costs, revenues and tariff information**, including aeronautical and non-aeronautical revenues, operating costs, revenue projections, aeronautical revenue yield calculations and proposed aeronautical charge schedules
 - (iii) **Capital expenditure information**, including projected and actual aeronautical and security-related capital expenditure, changes in work-in-progress assets, working capital requirements and progress reports on material investment projects
 - (iv) **Business plans and supporting assumptions**, including business development strategies, traffic forecasts, demand assumptions, cost and revenue projections, together with the assumptions, justifications and calculations supporting proposed tariffs
 - (v) **Operational statistics**, including actual and projected passenger volumes, aircraft movements, cargo throughput and other airport operating metrics
 - (vi) **Service quality and performance information**, including records required for monitoring compliance with CAAS service standards and airport performance obligations.
- **Penalty/incentive mechanism**: The framework allows CAAS to establish performance incentive schemes as part of a regulatory determination, with any resulting adjustment affecting the airport operator's allowable aeronautical revenue. However, the specific structure and performance metrics of the mechanism are not publicly disclosed in the regulatory framework.
 - **Investment review protocol**: Changi Airport is subject to a formal ex-ante review process at the commencement of each regulatory period. CAAS requires the airport operator to submit proposals covering information as listed above. Most importantly, CAG is required to submit both projected and actual capital expenditure information, allowing CAAS to review delivery against approved assumptions and consider variances as part of subsequent regulatory assessments and determinations. Major charge revisions are reviewed and approved by CAAS, providing an independent check on cost recovery and investment plans before charges are implemented.
 - **Past escalation/intervention**: The Singapore framework contains formal escalation mechanisms through mid-term reviews, price variation triggers and determination re-openers. CAAS may amend, revoke or replace an existing determination where a price variation trigger occurs or where material changes in cost conditions or capital expenditure requirements arise due to external events beyond the airport operator's control. ⁴³A practical example was observed during the COVID-19 pandemic, when previously planned airport charge increases were suspended to support airlines and airport users. Following the recovery in passenger traffic, CAAS approved a revised charge path under the Fourth Regulatory Period to recover deferred infrastructure expenditure incurred during the pandemic period.⁴⁴

3.1.6 Other Airports

In addition to the airports discussed above, several other international airport regulatory frameworks have also been reviewed.

Table 5: Summary of Findings from Other Airports

⁴² [Civil Aviation Authority of Singapore \(Price Control of Aeronautical Charges\) Rules 2009 - Singapore Statutes Online](#)

⁴³ [Civil Aviation Authority of Singapore \(Price Control of Aeronautical Charges\) Rules 2009 - Singapore Statutes Online](#)

⁴⁴ [Changi Airport to invest S\\$3 billion over next six years to strengthen Singapore's position as a global air hub](#)



Airport	Regulatory Model	Key Disclosure Requirements	Notable Guardrails
Auckland, Wellington & Christchurch Airports	Light-handed model	- Mandatory annual disclosure of profitability, expenditure and quality-performance measures under a standardised Information Disclosure Determination - Additional forward-looking pricing and demand-forecast disclosure at each 5-yearly Price Setting Event - Regulator mandates a detailed, standardised reporting template every airport must follow⁴⁵	Disclosure regime supported by the credible threat of regulatory intervention. For example, Auckland Airport reduced charges by approximately NZ\$150 million in 2025 following the Commission's assessment that returns were excessive. ⁴⁶
Hong Kong International Airport	Hybrid (no independent economic regulator)	- Annual Report and audited financial statements to the Government as sole shareholder - Legislative Council Brief (incl. independent benchmarking studies) disclosed publicly ahead of major charge changes	Ring-fenced Airport Construction Fee, which is a separately approved and disclosed financing charge, insulating mega-project financing from the general tariff. ⁴⁷
Canada's National Airports System (e.g. Toronto Pearson, Vancouver)	Effectively unregulated on price (airport authorities have full autonomy)	- Audited financial reporting to Transport Canada tied to ground-lease compliance and progressive, revenue-based rent calculations - Boards are locally nominated by stakeholder groups, adding a layer of public accountability	As non-share-capital corporations with no shareholders, all financial surpluses must legally be reinvested in the airport (no shareholder profit-maximisation incentive) ⁴⁸
Major US hub airports (e.g. Austin-Bergstrom + most airports operating under Airline Use and Lease Agreements)	Self-regulating (airports can set rates unilaterally only in the absence of agreement)	- Airports publish audited Annual Comprehensive Financial Reports and, whenever issuing revenue bonds, an Official Statement disclosing financial projections and risk factors - Disclosure obligations flow from capital-markets and public-accounting law⁴⁹	Majority-in-Interest clauses give airlines a contractually enforceable approval right over major capital projects to be recovered through airline rates. ⁵⁰

⁴⁵ [Current information disclosure requirements for airports | Commerce Commission](#)

⁴⁶ [Our role in airports | Commerce Commission](#)

⁴⁷ [Legco Legislative Council Brief: Proposed Amendments to the Scheme of Airport Charges](#)

⁴⁸ [Canadian Airport Model - Canadian Airports Council](#)

⁴⁹ [Airport Financial Reporting](#)

⁵⁰ [Airport Business Practices and their Impact on Airline Competition, October 1999](#)



3.2 Lessons Learnt

The international benchmarking indicates that successful light-touch regulation is not characterised by minimal oversight, but by strong transparency, stakeholder engagement and credible regulatory safeguards. While a light-touch framework can provide greater flexibility and reduce regulatory burden compared to a full IBR regime, its effectiveness depends on robust disclosure requirements, structured performance monitoring, clear escalation pathways and periodic regulatory reviews.

These lessons are particularly relevant following MAHB's privatisation. The stated rationale for the transaction includes enabling a longer-term approach to decision-making and capital investment, accelerating critical infrastructure upgrades, improving operational efficiency, and enhancing passenger service levels. CAAM's regulatory framework should support these intended benefits. The regulatory framework should provide MAHB with appropriate flexibility to make commercial and investment decisions without requiring detailed ex-ante regulatory approval of individual projects. At the same time, greater commercial flexibility should be accompanied by appropriate regulatory oversight and credible regulatory backstop. The framework should provide assurance that a privately owned airport operator continues to deliver efficient expenditure, timely investment delivery and measurable benefits to airlines and passengers.

Accordingly, the proposed Malaysian framework should link regulatory flexibility to demonstrated performance. Where MAHB delivers efficient investment and agreed outcomes, the framework should preserve managerial flexibility. Where expenditure is unsupported, projects are materially delayed, service outcomes deteriorate or disclosure obligations are not met, CAAM should be able to apply graduated intervention and, where necessary, strengthen regulatory controls in the subsequent review.

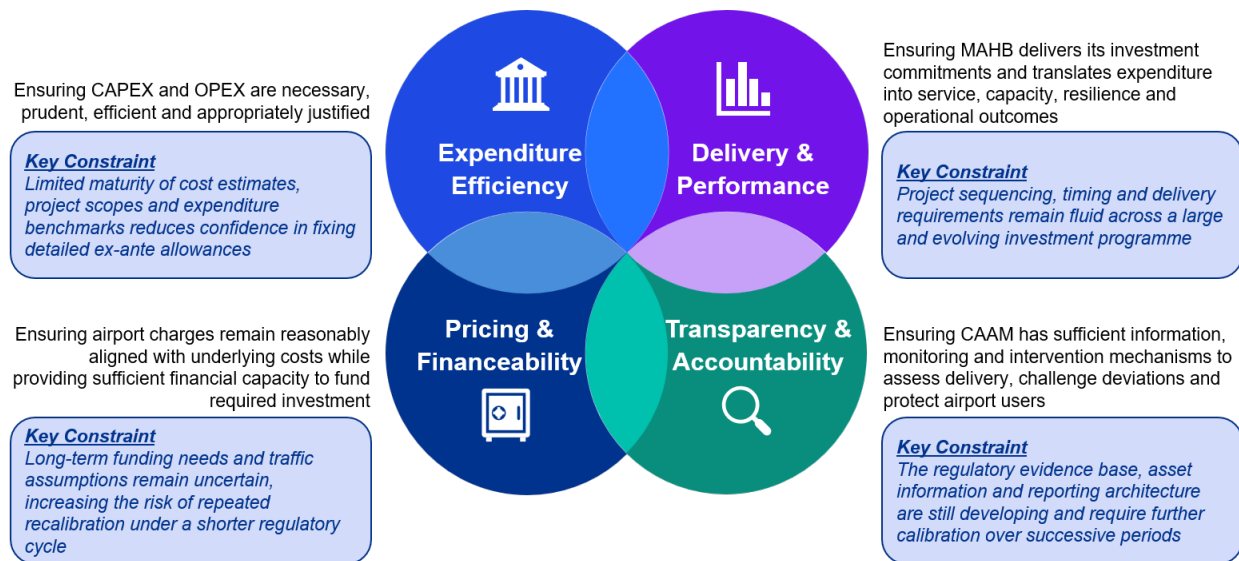
Key Takeaway

- MAHB's privatisation is intended to address historical underinvestment, support long-term investment, infrastructure upgrades, operational efficiency and improved service outcomes. However, international experience demonstrates that privatisation does not imply minimal regulatory oversight.
- Light-touch frameworks remain underpinned by robust disclosure requirements, performance monitoring, stakeholder engagement and credible regulatory safeguards. Many also incorporate features commonly associated with incentive-based regulation to ensure the framework remains sufficiently disciplined and does not become overly permissive.
- CAAM should therefore preserve MAHB's commercial and investment flexibility while maintaining sufficient oversight to ensure efficient expenditure, timely investment delivery and continued service quality improvements.

4 Proposed Interim Hybrid Framework

CAAM continues to support the underlying objectives associated with the IBR, including efficient expenditure, transparent pricing and improved service performance. However, the regulatory framework must also reflect the prevailing operating and investment environment. Given the current stage of development of Malaysia's airport network, the scale of the investment programme expected to be undertaken by MAHB, and the associated uncertainty around its timing and delivery, the proposed Hybrid Framework is considered the most appropriate framework for the present period. It provides a practical basis for establishing longer-term price visibility while retaining the regulatory discipline and oversight necessary to support efficient investment and service outcomes. Figure 1 summarised CAAM's core regulatory concerns and the prevailing constraints that may make a pure IBR framework less suitable for RP2 (and subsequent RPs).

Figure 1: Core regulatory concerns and key constraints



Under the previously contemplated IBR approach, airport charges would be determined over a relatively shorter regulatory period based on forecasts of the operator's efficient costs, capital requirements and returns. While such an approach can provide strong expenditure discipline, the present investment environment introduces greater uncertainty around the timing, sequencing and ultimate delivery profile of a substantial multi-year capital programme. Applying a conventional IBR framework immediately under these circumstances could require detailed regulatory assumptions to be fixed before the investment programme and asset base are fully established, notwithstanding the need for critical investments to proceed within the current period.

The proposed Hybrid Framework is intended to provide a longer-term trajectory for airport charges across a 15-year horizon, structured through successive five-year regulatory periods detailed in Section 5.1. The longer horizon is intended to provide MAHB and airport users with greater visibility over the expected direction of airport charges and reduce the degree of pricing uncertainty associated with shorter regulatory cycles. At the same time, the five-year regulatory periods provide defined opportunities for CAAM to review performance, assess changes in the operating and investment environment and calibrate the framework where necessary. This period will also allow CAAM to progressively strengthen the evidence base and



regulatory parameters required to assess the appropriate longer-term framework. IBR therefore remains a potential future option, with the Hybrid Framework providing an opportunity to calibrate the regulatory framework appropriately before any future transition is considered.

The change in regulatory framework would primarily affect the form of oversight, while several core regulatory features previously contemplated under IBR would be preserved. CAAM would continue to participate directly in determining the appropriate price trajectory, assessing the reasonableness of expenditure and investment requirements, establishing service and performance expectations, and monitoring MAHB's delivery against agreed commitments. The Hybrid Framework is not intended to operate as a pure monitoring-only regime, nor would MAHB have unrestricted discretion over the investment programme underpinning the approved price trajectory.

The principal modification is the degree of flexibility afforded to MAHB in delivering its investment programme. Rather than relying on detailed project-by-project regulatory approval throughout the period, the proposed framework would provide MAHB with "bounded-flexibility" to optimise timing, sequencing and composition of investments within the defined regulatory parameters. This flexibility would be accompanied by appropriate commitments, disclosure requirements, performance monitoring, change controls and graduated regulatory intervention where material or persistent deviations from the ex-ante plan develop.

The proposed Hybrid Framework consequently seeks to balance three objectives; providing greater long-term price visibility for airport users, allowing sufficient flexibility for MAHB to deliver an efficient and responsive investment portfolio, and maintaining effective regulatory oversight over expenditure, service quality and the outcomes underpinning airport charges. The framework is intended to preserve these protections while avoiding unnecessary rigidity during a period in which the airport investment programme and underlying asset base are expected to evolve materially.

In developing the proposed framework, CAAM has also considered the principles of economic oversight set out in ICAO Doc 9082, which recognise that the form of economic oversight should reflect the specific circumstances of each State while supporting cost-relatedness, transparency, consultation with users, efficient investment and appropriate performance management. CAAM has also considered the need for regulatory intervention to remain proportionate to the nature and significance of the issues identified. These considerations are reflected in the proposed Hybrid Framework, which seeks to maintain effective regulatory oversight while providing sufficient flexibility to respond to Malaysia's (and MAHB's) present operating and investment environment. Furthermore, as part of this regulatory approach, CAAM would retain the existing single-till treatment for airport charge determination. The regulatory treatment of aeronautical and relevant non-aeronautical revenues would therefore remain unchanged.

The remainder of this Consultation Paper sets out the preliminary architecture through which these principles would operate, including the proposed regulatory timeline and governance arrangements, expenditure assessment and monitoring mechanisms, delivery flexibility and change-control arrangements, and the safeguards available to CAAM where agreed commitments are not being delivered.

4.1 Key Components of the Hybrid Framework

The proposed Hybrid Framework would be supported by a series of regulatory mechanisms intended to operate together across each regulatory period. Collectively, these mechanisms seek to provide MAHB with sufficient flexibility to manage and optimise delivery of its investment programme, while ensuring that CAAM retains appropriate visibility over expenditure, service performance and achievement of the commitments underpinning the approved price trajectory.



The framework is underpinned by the principle of “bounded flexibility”. MAHB would retain greater discretion over routine investment and delivery decisions where agreed commitments continue to be met. Where material or persistent deviations arise, regulatory oversight may progressively increase through enhanced reporting, assurance, change-control requirements and, where appropriate, economic or other regulatory consequences.

The proposed framework comprises the following key components outlined in Table 6, explored further across the remaining sections of this paper.

Table 6: Defining elements of the Hybrid Framework

Component	Intended Role within the Hybrid Framework
Baseline Regulatory Commitments	Establishes the investment, service and performance commitments against which MAHB’s delivery would be assessed over each regulatory period
Flexibility & Change Control	Defines the boundaries within which MAHB may modify the timing, sequencing, scope or composition of its investment programme without undermining agreed commitments
Performance Measurement	Establishes the project and portfolio-level measures used to assess expenditure delivery, project execution, service performance and achievement of intended outcomes
Regulatory Governance	Establishes the regulatory cycle through which CAAM would periodically review MAHB’s performance and maintain oversight throughout each five-year regulatory period, and defines the information, disclosures and assurance arrangements required to provide CAAM with sufficient and reliable evidence to undertake its regulatory assessments
Escalation & Intervention	Provides a graduated framework for regulatory intervention where material, persistent or widespread deviations from agreed commitments arise
Incentives & Economic Consequences	Establishes mechanisms that encourage efficient delivery while providing appropriate consequences for inefficient expenditure, under-delivery or persistent non-compliance
End-of-period reconciliation	Assesses overall delivery at the end of each RP and determine the appropriate treatment of efficiencies, outstanding commitments, material deviations and implications for the subsequent period

These components are intended to form a continuous regulatory lifecycle. At the beginning of each RP, the relevant commitments and performance expectations would be established. MAHB would then retain bounded flexibility to manage delivery within the agreed framework, supported by ongoing regulatory reporting and periodic assessment. Where delivery remains consistent with agreed commitments, normal Hybrid Framework flexibility would be maintained. Conversely, material or persistent deviations may result in progressively stronger regulatory intervention. At the end of each period, performance would be reconciled and used to inform the calibration of the subsequent regulatory period.

The precise design of certain elements, including performance metrics, materiality thresholds, escalation triggers, reporting specification, incentive parameters and reconciliation methodologies, will be further developed as the framework is refined. The purpose of the preliminary architecture is therefore to establish



the principal regulatory mechanisms and their intended interaction before detailed implementation arrangements are finalised.

4.2 Stakeholder Questions

Consultation Questions:

- 1 Do you consider the Hybrid Framework a necessary enhanced approach to the IBR Framework in addressing the evolving operating environment and challenges faced by MAHB?
- 2 Do you agree with the proposed 15-year Hybrid Framework, under which PSC adjustments would be considered at five-year intervals to provide greater regulatory certainty while smoothing the overall PSC trajectory?
- 3 Are there any alternative regulatory approaches that CAAM should consider in place of, or alongside, the proposed Hybrid Framework? Please provide examples where similar approaches have been adopted in other jurisdictions.
- 4 Do you agree with the principle of providing MAHB with conditional flexibility to manage the timing, sequencing and composition of its investment program, subject to regulatory commitments and oversight?



5 Regulatory Governance

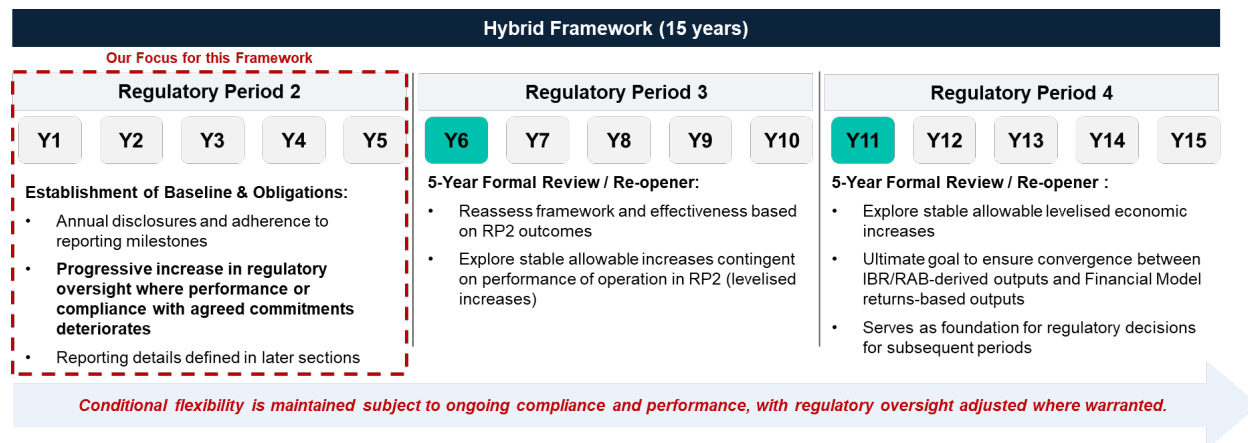
5.1 Hybrid Framework Timeline Overview

The proposed Hybrid Framework would span across 15 years, structured around three consecutive five-year regulatory periods. The Hybrid Framework intends to provide greater regulatory certainty over the long term to support the efficient delivery of major airport infrastructure investments, while allowing CAAM sufficient opportunity to assess the effectiveness of the framework as the airport asset base and operating environment evolves.

RP2 would establish the initial regulatory baseline and the core architecture of the Hybrid Framework, which serves as the foundation for RP3 and RP4. A five-year regulatory period is proposed to provide a longer investment horizon for major airport projects and greater stability in the PSC trajectory, while retaining a defined point at which CAAM can reassess the regulatory position. Following each regulatory period, CAAM will recalibrate the PSC trajectory to reflect prevailing investment requirements, asset base conditions, and operational performance.

Within each RP, annual monitoring and interim confidence checkpoints would provide ongoing visibility to CAAM over expenditure management, performance outcomes and regulatory compliance. This enables CAAM to respond proportionately to developments while preserving regulatory certainty provided by the Hybrid Framework.

Figure 2: Overview of the Hybrid Framework Timeline



Regulatory Period 2 (Years 1–5) – Establishment and Baseline Period

RP2 will span 2026–2030 and will serve as the baseline period for the first five years of the 15-year Hybrid Framework. This represents an adjustment from the previously agreed RP2 period of 2027–2029, following consideration of MAHB's proposed five-year CAPEX envelope and the need to establish the Hybrid Framework over a period that aligns with its proposed investment programme. The revised 2026–2030 period therefore provides a consistent regulatory horizon for establishing the baseline, assessing the proposed CAPEX programme and setting the regulatory obligations that will underpin subsequent periods of the Hybrid Framework.

2026 will serve as a transitional year into the Hybrid Framework. This approach recognises the arrangements established under RP1 while allowing CAAM to transition to the revised regulatory framework



without requiring an abrupt change. The substantive RP2 regulatory arrangements, including the planned adjustment to the PSC, would take effect from 2027.

Regulatory Periods 3 and 4 (Years 6–15) – Consolidation, Calibration and Longer-Term Direction

RP3 and RP4 will continue to operate within the overarching framework established in RP2, with any changes introduced through the five-year review points supported by evidence that outline changes in the underlying regulatory environment or the airport operator's operating context. The framework can be progressively calibrated based on observed outcomes at each formal review period rather than relying solely on assumptions established at the outset of RP2.

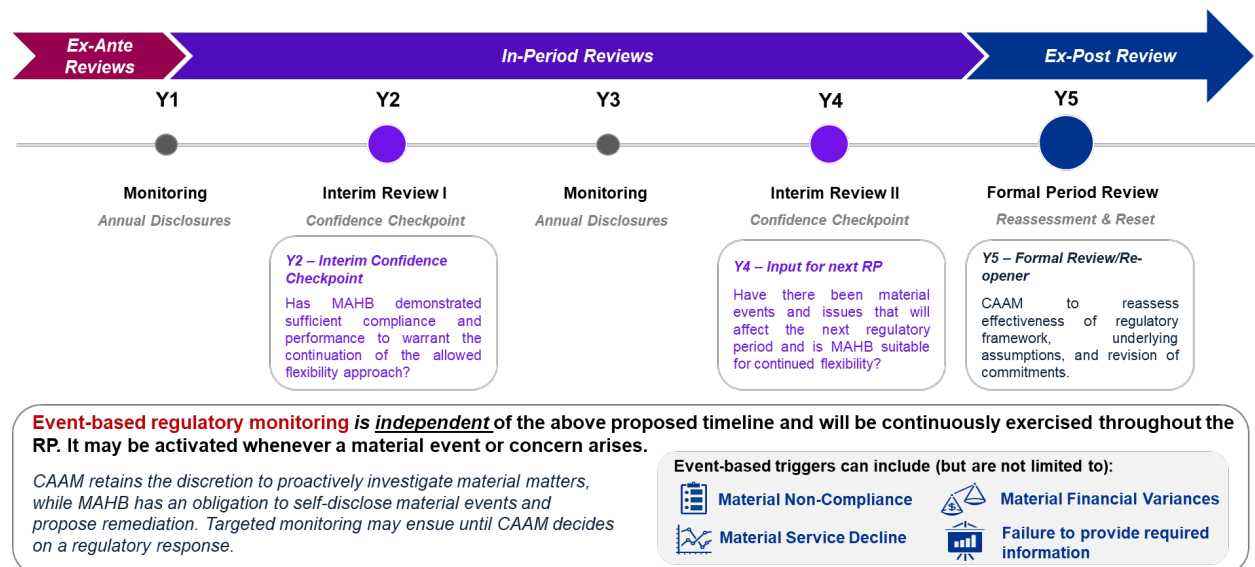
By the later stages of the 15-year Hybrid Framework, the evidence on the maturity of the RAB, expenditure management efficiency and effectiveness of the regulatory mechanisms would form the cornerstones for considering the longer-term regulatory direction beyond the Hybrid Framework.

5.2 Regulatory Period Governance

The five-year regulatory governance framework operationalises the broader 15-year regulatory approach by establishing a structured governance cycle for monitoring, review and regulatory oversight. The framework adopts a two-tiered governance approach that combines scheduled regulatory assessments with continuous, event-based oversight throughout the regulatory period.

The objective of this approach is to provide sufficient regulatory visibility over operator performance while maintaining regulatory stability and allowing proportionate intervention where material issues arise. The framework is intended to progressively build regulatory confidence through transparent disclosures, ongoing monitoring and periodic reassessment, rather than treating regulatory review as a single point-in-time exercise.

Figure 3: Regulatory Governance Framework

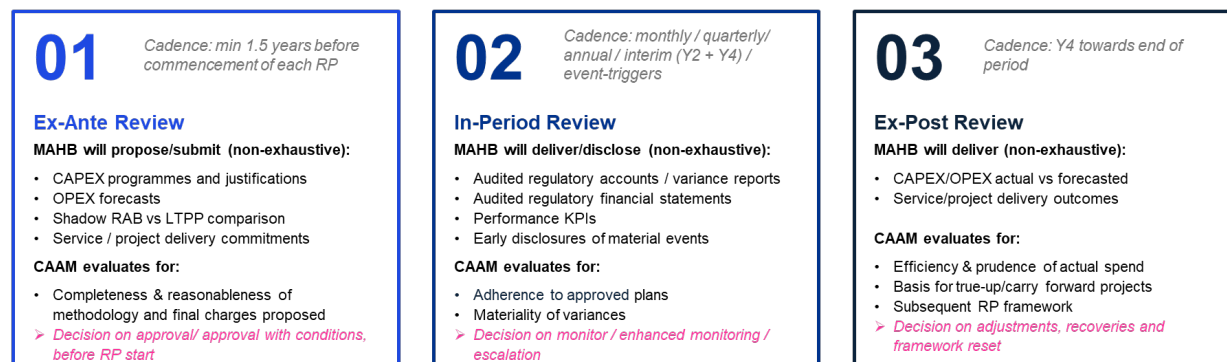




5.2.1 Layer 1 – Enhanced Disclosures

Structured regulatory disclosures form the first layer of regulatory governance, comprising ex-ante, in-period and ex-post disclosures. These disclosures provide the information required to assess the reasonableness of the operator's forecasts and commitments at the outset of the regulatory period, monitor delivery and emerging risks during the period, and evaluate actual outcomes against the assumptions that form the basis of the regulatory determination at the end of the period.

Figure 4: Summary of Non-Exhaustive Disclosures



5.2.1.1 Ex-Ante Regulatory Disclosures

Ex-ante disclosures should be submitted at least a year before the commencement of the RP to establish the regulatory baseline against which the operator's performance and delivery can subsequently be assessed. The objective is to enable sufficient visibility over the assumptions, forecasts, commitments and supporting evidence of the operator's regulatory proposal before the commencement of the regulatory period.

At this stage, MAHB would propose and submit to CAAM the following documents:

Table 7: Ex-Ante Submissions Considered

No.	Ex-Ante Disclosures	Key Content
1	Regulatory Proposal Document	• Sets out the airport operator's overall regulatory proposal and the basis for the proposed aviation service charges, including: ✓ Regulatory assumptions and forecasts – key assumptions, drivers and trends underpinning projected passenger volumes, revenue and cost breakdowns by regulated entities. ✓ Summary of CAPEX programmes and justification – proposed programmes, scope, cost and delivery timelines, including the rationale for investment, demand/capacity requirements, expected outcomes and benefits, and assessment of feasibility and deliverability. ✓ OPEX forecast and justification – historical OPEX trends, key cost drivers, proposed cost movements and supporting

No.	Ex-Ante Disclosures	Key Content
		efficiency/productivity analysis demonstrating the reasonableness of forecast expenditure. ✓ Historical performance and benchmarking – relevant historical trends and performance against regulatory commitments, benchmarks and/or comparable operators to establish the basis for future forecasts and commitments. ✓ Overall performance outcomes – expected operational and service-level outcomes arising from the proposed expenditure and investment programmes. ✓ Governance framework and methodologies – proposed methodologies, controls and governance arrangements underpinning the regulatory proposal. ✓ Proposed tariffs and economic impacts – proposed PSCs/tariffs, customer impacts and supporting economic impact assessment. ✓ Financeability – resulting financial position, funding requirements and assessment of financeability under the proposed regulatory parameters.
2	Relevant financial and economic models	• Separate models supporting the calculations and analysis presented in the Regulatory Proposal Document, including: ✓ Financial Model – supporting the projected financial statements, financing requirements, cash flows and resulting financeability under the proposed regulatory parameters. ✓ Regulated Asset Base Model – RAB constructed in accordance with the agreed building-block methodology, including opening RAB, CAPEX additions, depreciation, disposals and other relevant adjustments. Where a RAB assessment is required, the updated RAB model should be submitted alongside the relevant financial model to enable CAAM to assess and compare outcomes. ✓ Cost of Service Allocation Model – supporting the allocation of the approved revenue requirement across relevant airport services and/or customer groups in accordance with a reasonable basis and methodology. ✓ Tariff / PSC Model – supporting the derivation of proposed tariffs and PSCs from the applicable revenue requirement and cost allocation outcomes.
3	Assumptions Book	• Provides a transparent record of the key assumptions, methodologies, parameters and source data underpinning the regulatory proposal and model, including the basis for material forecasts and projections.



No.	Ex-Ante Disclosures	Key Content
4	CAPEX Programmes and Delivery Schedules	Provides detailed information on each proposed CAPEX programme, including scope, value and cost breakdown, rationale, expected outcomes, delivery milestones, implementation timelines and relevant performance commitments.
5	Other Supporting Evidence and Information as requested	Includes supporting studies, analyses, data and other information required by CAAM to validate material assumptions, assess deliverability and evaluate the proposed regulatory outcomes.

The disclosures should enable CAAM to assess the basis and deliverability of the regulatory proposal, with particular focus on material changes from the preceding period, key cost and demand drivers, efficiency assumptions, major capital projects, asset base movements and performance commitments.

The resulting baseline provides a clear reference point for subsequent monitoring and assessment, while allowing the airport operator flexibility in how it manages its business within the approved regulatory parameters.

5.2.1.2 In-Period Regulatory Disclosures

In-period disclosures provide ongoing visibility over delivery against the regulatory baseline. Reporting should focus on material variances, emerging risks and changes in the assumptions supporting the regulatory determination, rather than requiring a full re-submission of the regulatory proposal.

This may include material movements in operating and capital expenditure, project scope or delivery, traffic and demand, asset requirements and service performance. Where material deviations arise, the operator would provide an appropriate explanation of the underlying drivers and any mitigating actions.

The regulatory disclosures considered at this stage are detailed in Table 3.

Table 8: In-Period Review Cadences and Reporting Requirements

No.	Disclosure Cadence	Reporting Requirements & Content	Purpose
1	Monthly	Operational and service performance report – MSLs, regulated PIs / KPIs, traffic and key operational indicators; material incidents and breaches	Provide early visibility of operational performance and emerging service issues
2	Monthly	Project and milestone delivery report – status of material projects, expenditure, key milestones, schedule, scope and delivery risks.	Monitor progress against approved project plans and identify emerging delivery, cost overruns and scheduling risks.



No.	Disclosure Cadence	Reporting Requirements & Content	Purpose
3	Annual*	• Regulatory Accounts - regulated revenue, OPEX, CAPEX, RAB and regulatory adjustments, with reconciliation to the regulatory determination • Audited Financial Statements • CAPEX & Project Delivery Report - project expenditure, scope, milestones, delivery status and material variances • CAPEX & OPEX Utilisation and Variance Justifications • Annual Performance and MSL Report - performance outcomes, trends, breaches and remediation	Provide a comprehensive and independently supported assessment of financial, asset, investment and service performance against the regulatory baseline
4	At Confidence Checkpoints (Y2 & Y4) *	• Milestone Delivery Assessment Report for Committed Projects - project-by-project assessment of material projects and milestone delivery against approved plans • Detailed variance analysis and mitigation/remediation plans - material variances, root causes, impacts, mitigation measures and revised delivery plans • Regulated PI Progress – progress and outcomes achieved at checkpoints, corrective actions for deviations (if any) • Updated assumptions and outlook - changes to demand, OPEX, CAPEX, CAPEX programme requirements and other material regulatory assumptions • Other material events / emerging risks	Enable assessment of whether regulatory baselines, delivery commitments and underlying assumptions remain credible to determine a regulatory response moving forward
5	As required	• Regulatory Response / Corrective Action Submission – information, action plans, remediation measures or other submissions required by CAAM following a regulatory assessment • Pro gress / Compliance Reporting – evidence of implementation and progress against CAAM's directions	Ensure that the operator demonstrates compliance with CAAM's determine regulatory response and other requirements imposed following a regulatory assessment.

**Year 2 and Year 4 Confidence Checkpoints are additional assessments undertaken alongside routine disclosure requirements. It is not intended to duplicate or replace the operator's monthly, quarterly or annual reporting obligations. Information previously submitted*



may be incorporated by reference or through cumulative reconciliation, with the checkpoint submission focusing on enhanced analysis of material variances, project and milestone delivery, performance outcomes, mitigation measures and changes to the assumptions underpinning the regulatory determination.

In-period disclosures form the primary evidence base for the scheduled confidence checkpoints and enable CAAM to identify matters that may require escalation through Layer 2.

5.2.1.3 Ex-Post Regulatory Disclosures

Ex-post regulatory disclosures provide a retrospective assessment of actual outcomes against the regulatory baseline established for the regulatory period. The assessment enables CAAM to evaluate actual expenditure, investment delivery, asset base movements and performance outcomes, including the causes of any material variances from the regulatory determination.

The ex-post assessment should commence approximately one year prior to the conclusion of the regulatory period, drawing on information submitted through the in-period reporting process and progressively incorporating the latest available actual outcomes as the period approaches its conclusion. The assessment should be finalised at the conclusion of the regulatory period to provide a complete evidence base for the Formal Period Review.

While the ex-post assessment remains distinct from the ex-ante proposal for the subsequent regulatory period, the two processes will run concurrently towards the end of the regulatory period. MAHB should therefore submit the final ex-post assessment together with its ex-ante proposal (as expounded in Section 5.2.1.1) for the subsequent regulatory period, enabling CAAM to consider the proposed regulatory baseline alongside the actual outcomes and experience of the preceding period.

The ex-post disclosures should include the following:

Table 9: Minimum Ex-Post Disclosure Documents

No.	Ex-Post Concluding Disclosures	Key Content
1	Regulatory outcome reconciliation	Actual vs approved OPEX, CAPEX and key regulatory assumptions
2	Investment delivery assessment	Actual delivery, expenditure and outcomes against approved investment programme
3	Performance outcomes assessment	Actual KPI / service outcomes against regulatory requirements
4	Material variance assessment	Material variances, causes and classification of factors driving variance
5	Implications for next RP	Key findings and implications for assumptions, targets or requirements in the subsequent period

5.2.2 Layer 2 – Continuous, event-based monitoring

The second layer comprises event-based regulatory monitoring, which operates independently of the scheduled review cycle. This provides CAAM with the ability to investigate and respond to material circumstances when they arise, rather than waiting for the next scheduled checkpoint. CAAM may initiate an investigation where it considers an event or deviation to be material to regulatory determination, with the following circumstances providing indicative triggers for consideration:



- **Material or persistent non-compliance with regulatory obligations:** This captures a failure by MAHB to meet a regulatory obligation established under the regulatory period, whether a specific commitment (e.g. QoS standards) or a procedural obligation (e.g. reporting requirements). The concern this addresses is that non-compliance which is either significant in scale or persistent over time may indicate a systemic issue with MAHB's delivery or governance, rather than an isolate shortfall that would ordinarily self-correct without regulatory intervention.
- **Material financial or expenditure variances:** This captures a significant divergence between MAHB's actual financial position or expenditure, and the position approved or forecasted under the regulatory period. This addresses the concern that a material finance variance may signal either inefficient expenditure that should not be recovered from airport users, or an emerging risk to MAHB's capacity to deliver its remaining commitments under the regulatory period.
- **Material deterioration in service performance:** This captures a significant deterioration in MAHB's service-quality performance relative to the commitments established at the ex-ante review. This addresses the concern that airport users should not be required to wait until the next scheduled checkpoint for CAAM to respond to a service failure that is already affecting passengers and airlines. A service decline of sufficient scale warrants investigation and, where appropriate, intervention as soon as it is identified.
- **Failure to provide required regulatory information:** This captures MAHB's non-compliance with its own disclosure obligations under Layer 1, whether through late, incomplete, or materially deficient reporting. This addresses the concern that CAAM's entire governance model depends on the timeliness and completeness of MAHB's disclosures. Where MAHB fails to provide the information required to assess its performance, this is treated as a trigger, since it directly undermines CAAM's ability to identify whether any of the other triggers above may also be present.
- **Significant changes in operating circumstances or external conditions:** This captures material shifts in the environment MAHB operates in that were not anticipated at the ex-ante review (e.g. sustained change in passenger traffic, change in government aviation policy, major disruption to route networks). Where the actual operating environment departs materially from baseline assumptions, a plan built on outdated conditions could either result in unfair consequences or allow under-delivery against commitments that are no longer realistic.
- **Other events that materially affect the assumptions underpinning the regulatory determination**

The identification of a potential trigger does not in itself require regulatory intervention. CAAM will determine whether the circumstances are sufficiently material to warrant investigation and, based on the findings, whether further regulatory action is required based on the details expanded in Section 8.



5.2.3 Regulatory Responses

The two-tiered governance framework provides CAAM with a range of regulatory responses depending on the outcome of scheduled reviews, disclosure assessments or event-based monitoring. The potential response may range from continued monitoring through to formal reassessment: The outcome of a checkpoint may be that the framework continues unchanged, that additional monitoring or information is required, or that a material issue warrants a more substantive regulatory response as illustrated in the table below.

Table 10: Regulatory Decision Pathways

No	Regulatory Response	Circumstance
1	Maintain	Performance and compliance remain broadly consistent with the regulatory framework
2	Enhance	Information is incomplete, inconsistent or insufficient for assessment; Emerging concern in a specific area
3	Corrective Action	Material under-performance, non-compliance or delivery concern that can be addressed by the operator
4	Targeted regulatory intervention	Material or persistent issue requiring regulatory intervention in the form of economic consequences
5	Formal reassessment / re-opener	Issue is sufficiently material to affect the continued appropriateness of the regulatory framework

This graduated approach ensures that regulatory intervention is commensurate with the issue identified. A material variance does not necessarily require regulatory determination to be reopened where the matter can be appropriately addressed through additional disclosure, enhanced monitoring or operator-submitted plan for remediation. Conversely, where an issue is material or has a broader impact on the assumptions underpinning the regulatory framework, CAAM would retain the ability to escalate its response, including through a formal reassessment where warranted (as explored in Section 8).



5.3 Stakeholder Questions

Consultation Questions:

- 5 Does the proposed combination of scheduled regulatory reviews and event-based monitoring strike an appropriate balance between regulatory oversight and operational flexibility for the airport operator?
- 6 Do you consider the proposed ex-ante and in-period reporting requirements sufficient to enable CAAM to assess performance against the regulatory baseline?
- 7 Do you consider the proposed Year 2 and Year 4 Confidence Checkpoints appropriate for assessing whether the regulatory baseline, delivery commitments and underlying assumptions remain credible? What additional information or analysis should be required at these checkpoints?
- 8 Are there any alternative or additional triggers/material circumstances that should be considered for continuous event-based monitoring?



6 Regulatory Baseline Assessments

The regulatory baseline assessment forms the foundation of the ex-ante regulatory process. It aims to establish an evidence-based view of the reasonable level of CAPEX and OPEX proposed as required by the airport operator to develop and maintain airport infrastructure over the regulatory period. The resulting regulatory baseline provides an important input to the determination of the expenditure envelope and consequently, has a direct bearing on costs that are ultimately reflected in the PSC.

The assessment establishes the level of expenditure that is considered efficient for the airport operator to deliver its required operations, investment and performance outcomes. It also establishes the reference point for the regulatory period, against which expenditure and performance will be monitored subsequently. Alongside the baseline, the regulatory framework determines upfront the flexibility and change-control mechanisms that will apply during the regulatory period, recognising that actual circumstances may differ from those anticipated at the ex-ante stage.

In this exercise, evaluation entails both the quantum and quality of the proposed CAPEX and OPEX. To establish a baseline rooted in reasonableness, efficiency, and transparency, the airport operator must demonstrate a clear "line of sight" linking all proposed expenditures directly to underlying risks, operational needs, and expected performance outcomes.

Proposed costs must be supported by robust evidence detailing exactly why, when, and how much investment is required. To verify this, CAAM will scrutinise:

- **Demand & Cost Drivers:** Traffic forecasts, capacity needs, and underlying cost variations.
- **Asset Management:** Current asset condition and lifecycle requirements.
- **Compliance & Operations:** Safety standards, operational mandates, and statutory obligations.
- **Project Execution:** Delivery scope, timing, and historical expenditure performance.

Where expenditure lacks substantiation, misaligns with identified needs, or fails to demonstrate efficiency, CAAM may adjust, exclude, or apply alternative regulatory treatments to the costs.

A well-established regulatory baseline provides the foundation for determining an appropriate expenditure envelope and PSC, while establishing a clear reference point for managing changes in circumstances throughout the regulatory period. By undertaking a rigorous assessment upfront, CAAM can provide greater assurance that regulated tariffs are supported by efficient and necessary expenditure and are proportionate to the service outcomes expected from the airport operator, while providing a structured basis to respond to changes in the operating environment without compromising regulatory discipline.



6.1 CAPEX and OPEX Evaluation

To support the ex-ante assessment, CAAM will evaluate the regulatory proposal as per the reporting requirements set out in Section 5.2.1.1. This includes a detailed CAPEX breakdown, milestone and expected outcome information for major projects, the financial model underpinning the expenditure proposal, and the supporting assumptions and basis used in the forecasts. Each submission serves a distinct purpose in enabling CAAM to assess the need, quantum, timing and efficiency of the proposed expenditure, as set out below.

Table 11: Detailed Assessment Methodology

Documents for Regulatory Baseline Evaluation	Assessment Methodology
Consolidated Regulatory Proposal	CAAM will use the consolidated proposal to assess the strategic rationale underpinning the airport operator's investment and operating requirements. This includes evaluating: • Whether MAHB's stated objectives and growth ambitions are supported by its proposed CAPEX and OPEX requirements • Whether external trends and changes in the operating context are appropriately reflected in the proposed investment and operating requirements • Whether external risks outside MAHB's control have been appropriately identified and reflected in key assumptions, major CAPEX proposals and proposed mitigation measures – subsequently considering providing allowances for this in the Hybrid Framework
CAPEX Project Breakdowns and Justification Documents	CAAM will scrutinise whether projects proposed: • Addresses a material and identifiable need directly related to the provision, operation or enhancement of airport infrastructure and services. • Delivers a quantifiable, and tangible benefit for inclusion into the operator's asset base • Represents efficient and proportionate expenditure, with project costs reasonably estimated, supported by evidence and benchmarked against comparable international airports where appropriate. • Prioritises material and urgent requirements, mainly on critical asset replacements, and safety and regulatory compliance matters.
Project Delivery Index Tracker	CAAM will use the Project Delivery Index Tracker to assess whether the proposed CAPEX programme is supported by clear, measurable and monitorable delivery commitments. This includes evaluating:



Documents for Regulatory Baseline Evaluation	Assessment Methodology
	• Whether project milestones are clearly defined and measurable, with appropriate target dates and delivery outcomes. • Whether milestones adequately capture key stages of project delivery, including planning, procurement, construction and commissioning where relevant. • Whether proposed expenditure phasing is appropriately aligned with project milestones and expected delivery outcomes. • Whether the proposed delivery commitments are specific to enable CAAM to track project progress and assess delivery against the approved CAPEX programme.
Financial Model & Supporting Assumptions	CAAM will use the financial model to: • Evaluate alternative expenditure and cost-recovery positions to assess their implications for regulated revenues and tariffs. • Assess the revenue requirement against minimum financeability thresholds • Assess OPEX growth and efficiency trends against underlying operating, traffic and cost drivers. • Identify discrepancies, anomalies and other deviations from the first-principles calculation of single-till regulatory profits. • Assess the economic and distributional impacts of proposed tariffs on passengers.

To finalise the regulatory baseline, CAAM will test the proposed CAPEX and OPEX through marginal cost assessments and cross-jurisdictional benchmarking. The resulting baseline formally establishes the approved expenditure alongside MAHB's specific project and outcome commitments for the regulatory period. Moving forward, this baseline serves as the definitive yardstick against which MAHB's actual delivery is measured. Any material deviations from the initial ex-ante assumptions will be managed through predefined flexibility and change-control mechanisms.



6.1.1 Marginal Cost Assessments (MCA)

Building on the CAPEX and OPEX evaluation, the Marginal Cost Assessment (MCA) would be used for establishing efficient CAPEX, where users pay for the exact resources on what they consume. By capturing the incremental cost of expanding or enhancing airport services, MCA encourages the optimal use of current infrastructure and provides clear economic signals for future capacity investments.

For example, as passenger demand grows and runway utilisation approaches capacity limits, congestion and aircraft delays may increase. In assessing the airport infrastructure investments, CAAM should not only consider the level of CAPEX incurred for capacity expansion or refurbishment works but also evaluate whether the investment has delivered the intended operational outcomes, such as increased capacity, reduced delays, improved service quality, and enhanced utilisation of airport assets. Consequently, the MC assessment framework fulfills two core objectives:

1. Aligning internal performance by tagging regulatory PIs directly to project CAPEX
2. Validating market efficiency by cross-checking proposed costs against international peers to guard against inflated capital forecasts.

CAAM is considering two complementary evaluation methodologies to assess the efficiency and prudence of proposed CAPEX investments.

Approach 1: Normalised Unit Cost & Performance Indicator (PI) Mapping

Approach 1 establishes the baseline internal efficiency of a project by normalising total expenditure and mapping it directly to approved Regulatory PIs.

- Core Function: Converts raw Capex into a normalised unit cost per increment of performance gain (e.g., Cost per additional peak-hour passenger capacity, Cost per minute of wait-time reduced or Baggage delivery wait time reduction).
- Strategic Utility: Mandatory for all capital projects. This approach incorporates ancillary costs into outcome-based unit-cost metrics to assess capital efficiency and support efficient tariff outcomes. It resolves scope gaps by absorbing unlisted secondary items (e.g., site preparation, utility hookups) directly into the primary outcome metric.

Approach 2: Cross-Jurisdictional International Benchmarking

Approach 2 evaluates whether the cost per unit of infrastructure deliverable falls within an acceptable international market band.

- Core Function: Converts deliverable metrics into standardised, cross-border units (e.g., MYR per runway meter, MYR per boarding gate) adjusted using Consumer Price Index (CPI) and regional input cost multipliers.
- Strategic Utility: Serves as an external sanity check on internal cost estimates, protecting the regulatory baseline against local market inefficiencies or inflated contractor pricing.

Recognising that not all CAPEX projects are suitable for international benchmarking due to differences in regional labour structures, site-specific physical constraints, project complexity, and variations in asset scope, CAAM would adopt a structured selection matrix to determine the most appropriate evaluation route for each investment proposal.



Table 12: Project Classifications & Methodological Selection Matrix

Project Classification	Characteristics & Examples	Methodological Approach	Strategic Justification
Site-Specific / Unique Assets	Structural repairs, site remediation, specialised terminal refurbishments (e.g., restrooms).	Approach 1	Regional labor rate disparities and custom engineering requirements render international benchmarking unreliable. Value is validated strictly against internal PI gains.
Standardised Infrastructure	Apron construction, runway extensions, baggage handling units, standard gate modules.	Dual-Approach (<i>Approach 1 + Approach 2</i>)	Project deliverables are internationally comparable. Linking Capex to regulatory PIs and global peer ranges ensures comprehensive price-performance justification.

The following subsection outlines the baseline regulatory commitments established based on the MCA, which define MAHB's obligations for the forthcoming RP. As the MCA serves as the foundation for setting these commitments, it provides a comparison against which changes in operational efficiency, cost structure, and the overall value delivered to the aviation network can be assessed.

6.1.2 Baseline Regulatory Commitments (BRC)

The purpose of the key components under these commitments is to translate MAHB's proposed service standards, investment programme and delivery plans into a confirmed ex-ante reference for RP2. These commitments would be subject to CAAM's assessment before forming part of the regulatory baseline. Establishing the reference before the regulatory period begins would ensure that subsequent performance is assessed against the expectations in place when the CAPEX programme was proposed, rather than criteria developed after the results are known.

The framework would identify the projects, programmes, expenditure categories and commitments that warrant heightened regulatory attention due to their value, strategic importance, delivery risk or significance to the anticipated RP2 outcomes. Quantitative and qualitative materiality thresholds would also be determined in advance. These would distinguish routine adjustments within MAHB's ordinary management discretion from material changes to cost, scope, timing, outputs or delivery approach that require regulatory notification or further review.

Throughout the regulatory period, actual delivery would be compared with the confirmed baseline to measure the nature and extent of any deviation from the original commitments. This would support consistent monitoring and earlier identification of matters requiring intervention. Justified revisions may be considered through an agreed change-control process, but both the original commitment and any approved amendment should remain traceable to preserve accountability. Table below discussed how the submission details in section 5.1 are converted into commitments to hold MAHB accountable in RP2.



Table 13: Summary of Baseline Regulatory Commitments

Commitment	Description	Regulatory Reference Point
Project Level	Derived from the project-specific information and supporting justification submitted by MAHB and accepted through CAAM's expenditure evaluation process detailed in section 6.1. The commitment reflects the key elements of the proposal that are sufficiently material to form part of the regulatory baseline	The approved delivery position for each material project, including the core scope, delivery timeframe, expenditure envelope and outputs that CAAM expects to remain traceable throughout RP2
Operator Level	Derived from overall investment plan, portfolio delivery and operating assumptions accepted through CAAM's assessment of MAHB's overall regulatory proposal. These commitments are intended to assess MAHB's overall performance as the airport operator in delivering the investment programme and achieving the outcomes underpinning the approved regulatory position, rather than delivery of any single project.	The overall delivery position expected of MAHB across the RP, including the scale and pace of programme delivery, expenditure performance and broader service and operational obligations (measurement mechanisms and system further detailed in section 7.1.2)
Outcome Level	Derived from the underlying needs, benefits and regulatory outcomes used to justify the proposed expenditure. These commitments translate the rationale for the investment programme into measurable service, capacity, operational or other outcomes expected to be achieved during RP2.	Establishes the underlying regulatory purpose that the accepted expenditure programme is expected to achieve, meant to capture the service, capacity, operational, resilience or other benefits that supported CAAM's acceptance of the relevant expenditure. These outcomes would remain important even where MAHB modifies the specific means of delivery, ensuring that flexibility over project design, sequencing, or implementation does not dilute the benefits that originally justified the expenditure and corresponding price trajectory

6.2 Shadow RAB

As part of the regulatory framework, the airport operator will be required to maintain and submit a Shadow RAB model alongside its Hybrid Framework financial model. The Shadow RAB should be developed in accordance with the RAB methodology and guidelines set out in CAAM's Guideline for the Regulation of Aviation Service Charges in Malaysia for Regulatory Period 2. This provides a consistent reference point for assessing the asset base and associated revenue requirements under a conventional RAB approach, alongside the Hybrid Framework during this transitional period.

CAAM will maintain its own Shadow RAB model based on the agreed RAB methodology to independently validate MAHB's submission. CAAM's model will provide a cross-check of key RAB movements, as well as



the resulting revenue requirement. Any material differences between MAHB's Shadow RAB and CAAM's assessment will be reviewed and reconciled before the Shadow RAB position is used for regulatory purposes.

The Shadow RAB provides a parallel reference trajectory against which the Hybrid Framework position can be assessed over the regulatory period. Maintaining this parallel reference will allow CAAM to monitor how the Hybrid Framework outcomes compare with those that would arise under a conventional RAB approach as the asset base, expenditure profile and underlying information develop over time. While the two approaches may not necessarily converge, movements in the respective positions can provide an important sense check on the sustainability of the Hybrid Framework and whether regulated charges remain appropriately anchored to the underlying asset base and efficient costs.

6.3 Flexibility & Change Control

The proposed Hybrid Framework is intended to provide MAHB with sufficient flexibility to manage and optimise its expenditure programme over each RP. CAAM recognises that the timing, sequencing, scope and delivery approach of individual projects may evolve in response to changing operational requirements, procurement outcomes, technical considerations and other developments that may not have been fully foreseeable when the regulatory baseline was established. Accordingly, the Change Control architecture is intended to define the boundaries of MAHB's discretion to modify the investment programme during the RP. Accordingly, the Change Control architecture is intended to define the boundaries of MAHB's discretion to modify the investment programme during the RP by distinguishing between changes that may remain within ordinary management discretion and those that are sufficiently material to require notification, justification or prior approval by CAAM.

6.3.1 Considerations for Change Control Allowances

In determining the extent to which MAHB may make changes without prior notification to CAAM, three key considerations have been identified to define the boundaries of permissible change and the level of regulatory oversight that should apply as changes become more significant.

(i) Preserving Outcomes

Change Controls should ensure that flexibility in how MAHB delivers its investment programme does not result in a material change to the outcomes that the regulatory baseline was intended to secure. Changes to delivery method, sequencing or project design may be accommodated where the underlying outcome remains intact. Where a proposed change would materially alter, reduce or remove an intended outcome, a higher level of regulatory scrutiny should apply.

(ii) Baseline Integrity

The regulatory baseline should remain the primary reference point against which expenditure, delivery and performance are assessed throughout the regulatory period. A change to a project, delivery approach or sequencing should not, by itself, reset or replace the original baseline against which MAHB's commitments are assessed. Revisions to the baseline should therefore be limited to exceptional circumstances where there is a clear and sufficiently compelling basis for doing so, such as a force majeure event or other material development outside MAHB's reasonable control, rather than being used to accommodate cost increases, delays or under-delivery arising in the ordinary course. This preserves continuity of accountability even where the manner of delivery changes over time.



(iii) Proportionality

Regulatory scrutiny should be concentrated on changes that are material to the investment programme, regulatory commitments or intended outcomes. Changes to material projects, significant expenditure or key regulatory outcomes should therefore be subject to greater oversight, while routine or lower-value changes with limited implications for the overall regulatory position should remain subject to lighter-touch treatment. This allows regulatory attention to be directed towards matters with the greatest potential significance.

A further consideration is the extent to which expenditure within the approved regulatory envelope should be fungible across projects, programmes or expenditure categories. While some degree of flexibility may be necessary to allow MAHB to respond to changing delivery requirements, the expenditure envelope should not be treated as fully interchangeable where doing so could materially alter composition of the investment programme, weaken BRC or change the outcomes originally underpinning the regulatory baseline. Resulting protocols should therefore permit reasonable reallocation within defined boundaries, while subjecting more significant transfers or substitutions to greater regulatory scrutiny.

6.3.2 Change Control Architecture

Consistent with the considerations discussed in section 6.3.1, the Change Control Architecture adopts a tiered approach to distinguish between changes that may be undertaken within MAHB's management discretion and those that warrant a greater degree of regulatory involvement. As detailed in Table 14, the tiers are intended to provide clear differentiators for determining when a proposed change may proceed without prior approval, when notification and justification to CAAM would be required and when prior regulatory consideration or approval would be necessary. The applicable treatment would depend on the materiality of the change to the relevant BRC, expenditure profile, delivery expectations and intended regulatory outcomes

6.3.3 Pre-RP Change Control Agreement

The material projects, commitments and materiality thresholds relevant to Change Control design would be identified through the BRC stage (as detailed in section 6.1.2), established prior to each RP. Building on this baseline, the Change Control Agreement would set out the agreed process between MAHB and CAAM for how material changes arising during the RP are to be identified, assessed and treated.

The pre-RP arrangements would therefore seek to establish;

- **Project and commitment classification** – identifying and classifying project programmes and commitments according to their regulatory materiality, including those requiring heightened regulatory scrutiny (including Change Control and other regulatory accountability mechanisms discussed later in this Consultation Paper), and those that may remain subject to lower-intensity oversight
- **Change classification process** – establishing how proposed changes to cost, scope, timing, outputs or delivery approach will be assessed against the Change Control tiers, including the circumstances in which a change may remain within MAHB's management discretion or require greater regulatory involvement
- **Notification and engagement requirements** – defining when MAHB would be expected to notify CAAM, the timing of such notification, and whether regulatory engagement is required before the proposed change is implemented



- **Information and justification requirements** – setting out the supporting information required for material changes, including the rationale for the change, its impact on the relevant BRC, expenditure and delivery implications, and whether the intended regulatory outcome remains achievable
- **Regulatory treatment of changes** – clarifying the process (and timeline) through which notified changes would be acknowledged, reviewed, or approved, including potential treatment of substitutions, deferrals, de-scoping or reallocations affecting material projects or commitments
- **Treatment of cumulative changes** – ensuring that a series of individually smaller changes may be considered collectively where their combined effect materially alters the BRC or intended outcome

Establishing these process parameters prior to each RP is intended to provide clarity on both, the areas of the investment programme subject to focused regulatory attention and the procedures to be followed where changes to those areas become necessary.



Table 14: Change Control Architecture (Indicative)

Tier	Typical Characteristics	Regulatory Treatment	Operator Protocol	Example
Tier 1 – Minor / Routine Changes Change remains within the normal delivery flexibility and does not materially affect the regulatory baseline	▪ Limited cost or schedule variance within agreed tolerances ▪ Changes to procurement, phasing or technical approaches ▪ Minor scope refinements with no meaningful reduction in output ▪ No material impact on intended project outcomes ▪ No significant effect on other projects or overall CAPEX regime	Manage & Report – MAHB may proceed under its internal governance processes, with changes captured through routine regulatory reporting (as detailed in section 5)	No prior notification or approval required from CAAM	Equipment specification changes or construction sequencing shifts, while cost completion timing and intended capacity outcome remains substantially unchanged
Tier 2 – Material Changes Change materially alters a project baseline, but the underlying investment need and regulatory outcome remains substantially intact	▪ Cost or schedule variance exceeds agreed tolerances ▪ Material modification to project scope or outputs ▪ Significant reallocation of expenditure between projects or years ▪ Delivery remains possible, but against a meaningfully revised trajectory ▪ Potential knock-on effects across the wider investment programme	Notify & Justify – MAHB provides CAAM with the rationale, impact assessment, and revised delivery plan, demonstrating that the original or an equivalent regulatory outcome remains achievable	Prior notification and justification to CAAM, but generally no prior approval	A terminal upgrade is delayed by a year and redesigned at a higher cost, but the committed passenger capacity improvement remains expected within the RP
Tier 3 – Fundamental Change Change materially alters or removes the commitment or outcomes that formed part of the basis for the Hybrid Framework	▪ Cancellation or significant de-scoping of a material project ▪ Project delivery moved outside of the RP ▪ Substitution with an investment serving a materially different purpose ▪ Material reduction in the service, capacity or asset outcome ▪ Significant reprioritisation of CAPEX across airports or investment categories	Review & Consent – Change becomes subject to formal CAAM review and the applicable approval / non-objection mechanism with potential implications under the Escalation & Intervention framework (detailed in section 8)	Prior review and approval / non-objection from CAAM before implementation	MAHB cancels a planned terminal capacity expansion and reallocates the funding to unrelated asset-replacement projects, such that the passenger outcome used to justify the original investment programme is no longer delivered



6.4 Stakeholder Questions

Consultation Questions:

- 9 In addition to the regulatory baseline assessment methodology currently being considered, what alternative or complementary assessment tools should CAAM consider in enhancing the robustness of the baseline and ensure overall regulatory and stakeholder confidence?
- 10 Do you agree that the Shadow RAB model provides an appropriate reference point for maintaining regulatory confidence in the Hybrid Framework?
- 11 What factors or thresholds should be agreed prior to each RP to determine when changes require notification, justification or prior approval, including the treatment of project substitutions, deferrals, expenditure reallocations and cumulative changes?
- 12 To what extent should MAHB be permitted to reallocate expenditure within the approved regulatory envelope without prior approval, and what safeguards should apply to protect the BRC and intended regulatory outcomes?



7 Performance Measurement

7.1 Options explored

Performance measurement provides a basis for holding MAHB accountable for the delivery of its proposed capital expenditure programme and the quality of services provided to airport users. Existing arrangements (QoS Framework) already provide information on compliance with specified service standards and the investments proposed by MAHB. For the upcoming RP, it is proposed that this information can be brought together more systematically so that stakeholders are better informed and have a clearer understanding of the relationship between expenditure, project delivery and the resulting outcomes. This would strengthen the assessment of MAHB's investment commitments while recognising the services delivered and progress achieved under the current arrangements.

The current Airports QoS Framework has an established role in protecting airport users through performance targets for passenger comfort, facilities, queueing times and passenger and baggage flows. It provides a mechanism for monitoring compliance and applying the relevant penalties when the minimum service standards are not met. The consistent high results reported for selected measures demonstrate attainment of the applicable targets. However, results concentrated near the upper end of the reporting scale provide limited differentiation between levels of performance and may be less effective in identifying areas where further improvements could be made. Greater public disclosure of the survey design and measurement methodology would also help stakeholders understand how representative the results are of passengers' experiences. Periodic review of the measures and target-setting methodologies would help ensure that they remain relevant to passenger priorities and changing airport conditions.

Building upon MAHB's current framework, the enhanced approach should address these gaps by requiring MAHB to justify what its proposed expenditure is expected to achieve and specify measurable commitments to evaluate its progress. These would cover project scope and delivery milestones together with the anticipated service or operational outcomes, supported by an agreed baseline and targets for the regulatory period. The overarching objective is to maintain and improve airport services in line with the needs of passengers and other airport users. The approach would also recognise that investments serve different purposes. Some projects preserve existing service standards or meet regulatory requirements, while others expand capacity or improve airport facilities in response to future demand and user expectations. Performance measurement should reflect these distinctions rather than expecting every project to produce the same type of benefit.

Stakeholders would see the practical difference through reporting that connects financial expenditure with progress on the CAPEX programme and the resulting service outcomes. Comparisons with the agreed baseline and interim milestones would indicate if project delivery remained on track, while explanations of material variances would identify their implications for the wider programme. These enhancements would provide airlines and investors with a more informed understanding of MAHB's delivery while enabling CAAM to identify emerging shortfalls earlier in the regulatory period. Transparent measurement methods and appropriate data validation would support the reliability of the reported information and strengthen confidence in the assessment of MAHB's performance.

Therefore, CAAM is considering a three-layered performance measurement framework comprising an Enhanced QoS/MSL Framework, Regulated Performance Indicators and Material Project Justifications. Table 15 provides an overview of the rationale for adopting the proposed three-layered performance measurement framework:



Table 15: Regulatory Purpose of Each Layer

Complementary Levels of Performance Assessment			
Layer	Enhanced QoS/MSL Framework	Regulated Performance Indicators	Material Project Justifications
What it is	Existing airport service standards enhanced through revised measures, targets, coverage, methodology and data validation.	A limited set of operator-wide indicators covering CAPEX utilisation, project delivery and potentially passenger-focused outcomes.	Detailed submissions for projects meeting the defined materiality criteria.
Regulatory Purpose	Protects the minimum service floor and identifies service shortfalls that expenditure or project delivery measures cannot illustrate.	Strengthens investment accountability, provides early warning of under-delivery and gives stakeholders an accessible programme-wide view	Provides targeted assurance that material investments are necessary, deliverable and supported by measurable commitments.
Application	Performance at each applicable airport and service element is assessed against agreed minimum service levels.	Operator-wide CAPEX utilisation and project delivery are monitored against agreed baselines and targets.	Approved project scope, cost, milestones and expected outcomes form measurable commitments for in-period monitoring.

This framework would strengthen the connection between service performance and the proposed CAPEX envelope through monitoring of programme delivery and closer scrutiny of major projects. The proposed role of each layer is further explained in the following subsections.

7.1.1 Enhanced QoS/MSL Framework

The enhanced QoS/MSL Framework would retain the existing QoS arrangements as the foundation for protecting minimum airport service standards, with targeted enhancements to address the question of whether MAHB has maintained an acceptable minimum level of service. Compliance would continue to be assessed through specified service elements and thresholds. The objective of enhancing the current framework is to strengthen the reliability and transparency of this assessment while ensuring that its requirements remain relevant to passenger needs and airport operating conditions. Thus, the targeted improvements would focus on measurement methodology and target-setting alongside the coverage of the assessment as these enhancements will provide stakeholders with a better interpretation of the reported performance and support CAAM in identifying service shortcomings that require corrective action.

Table 16: Key Design Considerations for the Enhanced QoS/MSL Framework

Category	Issues Identified	Potential Solution	Design Considerations
Target/Threshold Setting	- Selected measures consistently score near their thresholds or the upper end of the scale, limiting performance differentiation. - Published targets do not explain their	- Document the target-setting methodology using historical performance, passenger priorities and airport characteristics. - Periodically review the relevance of	- Historical performance should inform rather than dictate future thresholds. - Consider passenger importance, operator controls, and efficient compliance costs.

Category	Issues Identified	Potential Solution	Design Considerations
	calibration or connection to passenger priorities. The extensive use of exclusions and caveats within the current framework may limit the range of service quality outcomes captured under the performance measures	measure and thresholds. Review and rationalise the exclusions and caveats to events beyond the airport operator's control.	Targets should not be tightened solely because previous targets were achieved.
Survey Design Methodology	- CAED 901 requires a representative sample but limited disclosure on its size, selection, location, timing or weighting. - Public information is insufficient to assess coverage across passenger groups, operating periods and journey stages.	- Publish the sampling frame, sample size, selection method, questionnaire, scoring methodology and weighting approach. - Independently validate survey implementation and results periodically.	- Cover relevant terminals, airlines, routes, passenger segments and operating periods. - Treat arrival, departure and transfer journeys separately where appropriate - Survey passengers close to the service interaction being measured.

As discussed in section 7.1, consistently achieving high results for selected measures warrants examination of how effectively the current approach identifies areas requiring attention, particularly when limited public disclosure of survey design restricts independent scrutiny of the findings. If these issues remain unresolved, stakeholders may have insufficient information to reconcile reported performance with passengers' experiences. This could weaken confidence in the framework and the evidence available for regulatory decisions, while making it more difficult to demonstrate passenger value or direct resources towards areas requiring attention. The enhancements would also clarify the relationship with the other performance layers to avoid duplication in measurement and unintended double counting of regulatory consequences.

7.1.2 Regulated Performance Indicators (RPI)

These new performance indicators are a limited set of formally defined measures used to monitor MAHB's performance at an operator-wide and capital programme level throughout the regulatory period. Each RPI would have a defined scope, measurement methodology, baseline and reporting requirement. The objective of this layer is to translate MAHB's proposed CAPEX programme into measurable commitments that demonstrate how expenditure is being utilised, how efficiently projects are being delivered and, where relevant, how airport users benefit from the programme. While the existing QoS/MSL Framework evaluates MAHB's operating airports individually, the proposed regulated performance indicators provide a consolidated view of MAHB's performance across the wider capital programme.



This layer will strengthen investment accountability by showing how the proposed CAPEX is being utilised and if committed projects are progressing as planned. It would allow CAAM to identify under-delivery earlier and monitor key performance trends across the airport network. RPIs would also provide stakeholders with a more accessible account of MAHB's performance.

Table 17: Proposed Regulated Performance Indicators (non-exhaustive)

Proposed Regulated Performance Indicator	Definition
CAPEX Utilisation	Measures MAHB's actual capital expenditure relative to the agreed forecast expenditure profile for the relevant period. The indicator would identify material underspending, overspending and timing variances that require further justification.
Project Delivery Index	Measures MAHB's progress in delivering its proposed capital projects against the agreed milestones and completion dates. It aggregates the delivery performance across the CAPEX programme while recognising the relative materiality of individual projects. This indicator would identify delayed, partially completed, rescheduled or cancelled projects and demonstrate whether the overall delivery remains on track.

As shown from the above table, these performance indicators should be assessed together as CAPEX Utilisation would show the financial position of the programme, while the Project Delivery Index would show the corresponding delivery position. Material divergence between the two would raise further examination through project-level reporting. CAAM is also considering the potential inclusion of a passenger-focused RPI to complement the expenditure and delivery measures. Its scope, methodology and suitability for operator-wide application remain under consideration. However, the overall number of indicators should remain limited to maintain focus on outcomes most relevant to the proposed CAPEX programme.

International Regulatory Precedents

United Kingdom: During Heathrow's H7 price-control period, the United Kingdom Civil Aviation Authority (UKCAA) introduced Capex Delivery Obligations to strengthen the accountability and transparency of capital-project delivery. These obligations are introduced to ensure that Heathrow delivers projects within budget and schedule while meeting agreed output and quality standards as per the committed outcomes. As projects reach the relevant approval gateway, their obligations specify the required outputs, quality and timing. The approach supports the proposed Project Delivery Index by demonstrating how capital allowances can be linked to defined delivery commitments.⁵¹

New Zealand: New Zealand's major airports (Auckland, Wellington and Christchurch) are subject to information-disclosure regulation under Part 4 of the Commerce Act. The framework operates in markets where competition is limited and requires airports to report actual capital expenditure relative to previous forecasts. This allows the Commerce Commission New Zealand (CCNZ) and other interested parties to compare expenditure with the forecasts reflected in the airport's revenue requirement and to consider investment performance when reviewing airport pricing and expected performance. The approach provides a relevant precedent for the proposed CAPEX Utilisation indicator.⁵²

⁵¹ [H7 Final Decision Summary](#)

⁵² [Information Disclosure Determination](#)



7.1.3 Material Project Justifications

This final performance measurement layer would focus on the detailed project-specific submissions through which MAHB would need to substantiate the scope, cost and expected outcomes of selected investments within its proposed CAPEX programme. The primary objective is to connect each material investment with defined delivery commitments. While aggregate expenditure information may show the overall size and composition of the programme, it provides limited insight into the scope, schedule and expected benefits of individual projects. Project-level submissions would allow CAAM to examine these matters before the regulatory period and subsequently monitor delivery in relation to what was originally proposed.

Project Selection and Materiality Criteria

As was briefly discussed in section 6.3.3, projects that may be selected for the detailed justification submission will be identified based on quantitative and qualitative materiality criteria, including:

- **Financial materiality:** The value of the project or its share of the proposed CAPEX envelope, reflecting its potential effect on the overall investment programme.
- **Strategic importance:** The project's contribution to airport capacity, service quality or operational resilience and its significance to the anticipated RP2 outcomes.
- **Regulatory compliance significance:** The extent to which the project is required to meet applicable safety, security, environmental or operational requirements, including the potential risk of non-compliance if it is not delivered.

Based on MAHB's RP2 CAPEX submission against the materiality criteria mentioned above, 29 projects have been identified as material projects. Collectively, these projects account for approximately 90% of MAHB's proposed CAPEX and their timely delivery would materially influence the performance of the wider programme. Applying the detailing justification requirement selectively would concentrate regulatory attention on investments with the greatest financial, strategic importance or regulatory compliance significance, without imposing equivalent reporting requirements on routine or lower value works.

Minimum Submission Requirements

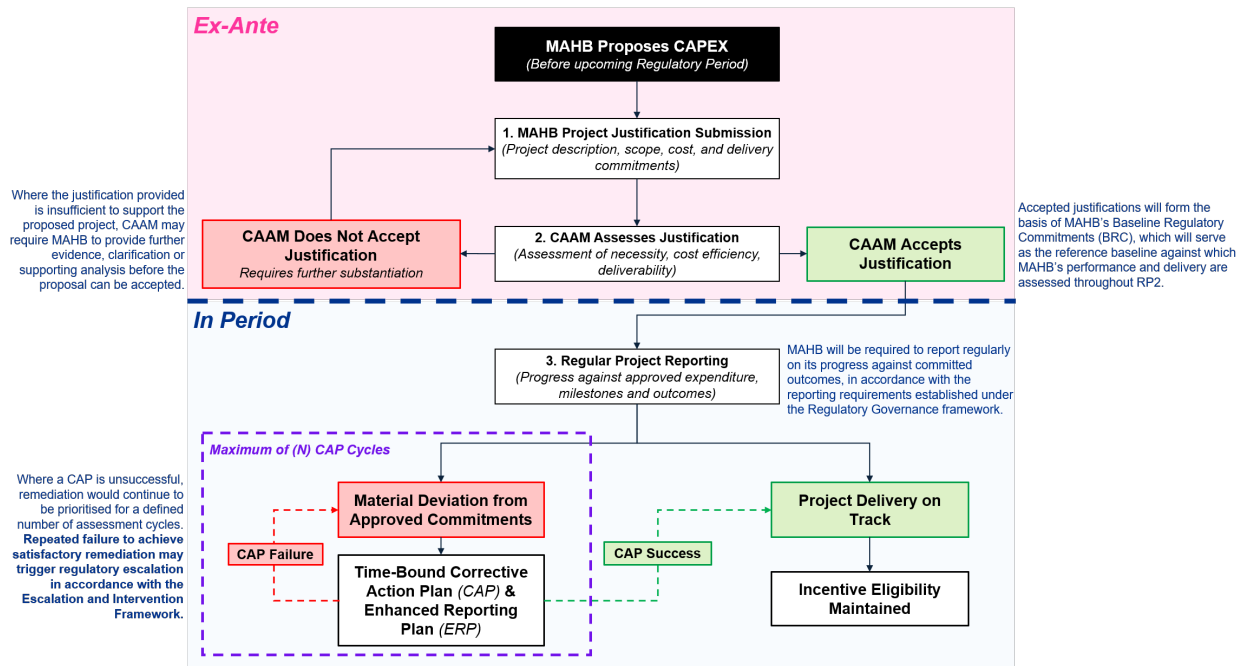
Each submission should contain sufficient information to support CAAM's assessment, including:

- Detailed project description and scope
- Detailed cost breakdown and expenditure profile
- Implementation schedule and key delivery milestones
- Expected passenger, operational, regulatory outcomes.
- Key risks and the mitigation plan
- Proposed evaluation parameters
- Force Majeure and justified exclusions
- Project dependencies

Once assessed and confirmed by CAAM, these commitments would form the project-specific reference point for in-period reporting. Actual expenditure and delivery would be monitored in relation to the confirmed scope, milestones and outcomes. Material deviations would require explanation and, where necessary, a time-bound corrective action plan. This approach would provide a traceable connection between CAPEX sought, the commitments made and the outcomes delivered.



Figure 5: Indicative Flow- Accountability Mechanism for Material Project Justifications



As detailed in section 5, MAHB would need to submit the detailed justification for each material project and if the supporting evidence or justification provided by MAHB is insufficient, CAAM will return the submissions to MAHB for further substantiation. If accepted, the approved expenditure, milestones and expected outcomes would become the reference points for subsequent monitoring for the upcoming regulatory period.

While in-period, MAHB must report each project's progress in relation to the approved commitments. Projects that are delivered as planned will remain on track and retain any applicable incentives eligibility. However, a material deviation from the approved commitments would trigger a time-bound Corrective Action Plan (CAP) and Enhanced Reporting Plan (ERP). The CAP would identify the cause of the deviation and specify the actions, responsibilities and deadlines required to restore delivery while ERP would provide CAAM with greater oversight through more frequent reporting, detailed cost and schedule forecasts, evidence of milestone achievement and targeted validation where necessary.

CAAM proposes a maximum of three CAP cycles for the same unresolved deviation. Each cycle would be time-bound and assessed against the agreed remedial actions and deadlines. This limit would provide MAHB with reasonable opportunities to rectify delivery issues while preventing repeated corrective-action extensions from indefinitely delaying regulatory escalation. If the corrective measures are successfully implemented during any cycle, the project would return to normal monitoring but if the deviation remains unresolved after the third cycle, CAAM would undertake a formal review to determine the appropriate intervention. Any resulting implications for incentives or future CAPEX allowances would be determined through the applicable regulatory arrangements, considering the materiality, persistence, breadth and controllability of the deviation.



7.2 Stakeholder Questions

Consultation Questions:

- 13 To what extent do you consider the current exclusions and caveats within the QoS Framework appropriate? Do these exclusions risk limiting the framework's ability to accurately capture the airport's service quality outcomes?
- 14 Do you have any views on the information that should be reported to demonstrate whether MAHB is delivering its approved project outcomes and commitments as planned?
- 15 What is your view on whether CAAM should introduce a passenger-focused RPI? If so, which key indicators or outcomes should be captured and how could they be measured consistently across MAHB's airport network?
- 16 Do stakeholders agree the proposed number of allowable Corrective Action Plan (CAP) cycles before further regulatory intervention is considered? Do stakeholders agree with the proposed number of allowable Corrective Action Plan (CAP) cycles before further regulatory intervention is considered? If so, what other factors CAAM should consider when determining the appropriate limit?



8 Escalation and Intervention Framework

8.1 Escalation Principles

The Escalation and Intervention Framework provides the mechanism through which CAAM may respond where MAHB materially departs from the commitments, performance expectations or regulatory requirements established under the Hybrid Framework. The framework is intended to support the principle of bounded flexibility by allowing MAHB to retain appropriate managerial discretion where regulatory commitments continue to be met, while enabling regulatory oversight to increase where material or persistent concerns arise.

Regulatory escalation would not be triggered solely by the occurrence of an individual variance or isolated instance of underperformance. In determining the appropriate response, CAAM would consider the nature and significance of the issue, including its materiality, persistence, breadth and controllability, or extent to which the circumstances were within MAHB's reasonable control (explored further in section 8.2). These considerations would allow CAAM to distinguish between temporary or localised deviations and matters that indicate a broader deterioration in delivery, performance or regulatory compliance.

The proposed framework would be guided by the following principles;

(i) Targeted and proportionate escalation

Regulatory intervention should be directed towards the level at which the underlying issue arises and should remain proportionate to its regulatory significance. A concern relating to an individual project or performance measure would not, by itself, warrant broader restrictions on MAHB's activities where the issue can be addressed at the relevant project or functional level. More extensive intervention would generally be considered where concerns become material across multiple areas, persist despite corrective action or indicate weaknesses affecting the wider investment programme or regulatory framework. This approach is intended to preserve normal operating flexibility in areas that continue to perform satisfactorily, while allowing CAAM to focus regulatory attention on the matters giving rise to concern

(ii) Remediation before escalation

Where a material concern is identified, MAHB should generally be provided with an opportunity to explain the underlying circumstances and implement appropriate corrective or mitigation measures before stronger regulatory intervention is considered. The expected sequence would therefore ordinarily involve identification of the issue, explanation of its causes, implementation of remedial measures and demonstration that performance has recovered or that the relevant risk has been appropriately addressed. Further escalation may be warranted where remediation is not implemented within an appropriate period, does not adequately address the underlying issue, or where similar concerns continue to recur.

(iii) Progressive regulatory intervention

The level of regulatory intervention should increase progressively according to the seriousness and persistence of the issue identified. Initial responses may therefore focus on additional information, enhanced monitoring or evidence of corrective action. Where concerns remain unresolved, CAAM may consider stronger forms of assurance, more intensive regulatory oversight or restriction on the degree of flexibility otherwise available under the Hybrid Framework. Where an issue is sufficiently serious, persistent or widespread, CAAM may consider further regulatory or economic responses, subject to the applicable legal and contractual framework. In circumstances where observed



outcomes raise broader concerns regarding the continued effectiveness of the Hybrid Framework itself, CAAM may also reassess whether a more prescriptive regulatory approach is required

(iv) Restoration of flexibility following recovery

Regulatory intervention should not result in a permanent reduction in flexibility where the underlying concern has been satisfactorily addressed. Where MAHB demonstrates sustained recovery, implements the required remediation measures and restores regulatory confidence, addition oversight or restrictions introduced through the escalation process may be reduced or removed as appropriate. This principle is meant to incentives timely remediation and preserve the underlying intent of the Hybrid Framework to provide greater managerial flexibility where satisfactory regulatory outcomes are being achieved.

The precise thresholds, assessment period and evidentiary requirements used to determine when escalation or de-escalation should occur are still being assessed at this stage. These elements would be developed following stakeholder feedback and further calibration of the Hybrid Framework. The present consultation therefore seeks views on the proposed principles governing how regulatory escalation should operate and whether additional considerations should inform CAAM's assessment.

8.2 Regulatory Materiality Assessment

As discussed in section 8.1 the occurrence of a variance or instance of underperformance should not, by itself, determine the need for regulatory intervention. Large investment programmes may experience changes in expenditure, project sequencing, delivery schedules or operating conditions during the RP. The Escalation and Intervention framework should therefore distinguish between deviations that can be managed within the normal operation of the Hybrid Framework and those that warrant additional regulatory oversight. The Regulatory Material Assessment is meant to assess the regulatory significance of identified deviations by considering four factors: materiality, persistence, breadth and controllability. These factors are intended to provide a consistent basis for determining whether intervention is required and, where appropriate, the corresponding degree of regulatory response, explored further in Table 18.

Table 18: Regulatory Significance Assessment Criteria

Assessment Criterion	Regulatory Consideration
Materiality	The significance of the deviation is related to the relevant regulatory commitment, expenditure requirement, performance expectation or intended outcome. Greater consideration would be given to deviations that materially affect expenditure, delivery, service performance or the basis on which the regulatory determination was established.
Persistence	The duration and recurrence of the deviation. An isolated or temporary variance would generally carry less regulatory significance than an issue that persists across reporting periods, repeatedly recurs or remains unresolved following corrective action.
Breadth	The extent to which the issue is contained or affects a wider part of MAHB's operations or investment programme. A deviation affecting an individual project or performance measure would generally carry less regulatory significance than one affecting multiple projects, airports, performance areas or regulatory commitments.



Assessment Criterion	Regulatory Consideration
Controllability	The extent to which the circumstances giving rise to the deviation were within MAHB's reasonable control and whether reasonable measures could have been taken to prevent, mitigate or address the issue. Controllability would inform the appropriate regulatory treatment rather than determine whether a deviation has occurred.

The assessment criteria are not intended to operate as a mechanical scoring exercise. Instead, CAAM would apply them sequentially to determine whether a deviation can remain within normal regulatory monitoring or warrants progressively stronger intervention. As illustrated in Figure 6, the assessment would first consider the materiality and breadth of the deviation to determine its overall regulatory significance. Where the issue is limited in impact and remains sufficiently contained, it may continue to be managed through the ordinary monitoring arrangements under the Hybrid Framework. Where the deviation is material, CAAM would then consider its persistence, including whether the issue is isolated recurring or remains unresolved following remediation.

Where a material deviation is isolated and capable of being contained, targeted regulatory action may be sufficient. Where the issue persists, recurs or extends across a wider range of commitments, projects or performance areas, the degree of regulatory intervention may increase accordingly. A broad and sustained pattern of underperformance may ultimately indicate a systemic concern and warrant a wider reassessment of the regulatory flexibility afforded under the Hybrid Framework.

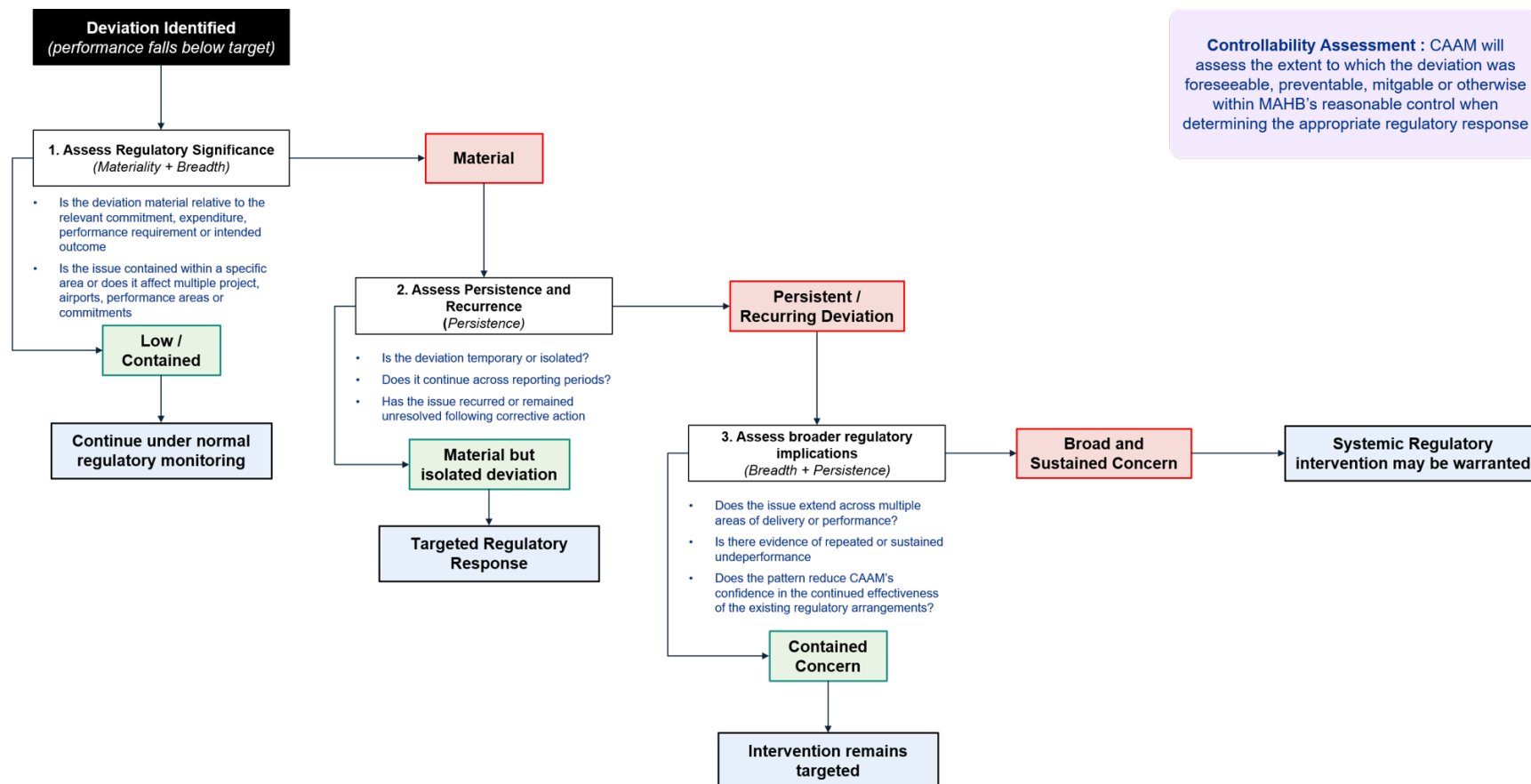
Following this assessment, controllability would inform the nature and proportionality of the regulatory response. Where a deviation arises principally from circumstances outside MAHB's reasonable control, the appropriate treatment may involve additional monitoring, change-control arrangements or other regulatory accommodation. Conversely, where the circumstances were within MAHB's reasonable control, or where reasonable mitigation measures were not undertaken, stronger corrective or escalatory measures may be appropriate.

CAAM would also consider the effectiveness of MAHB's response once the issue has been identified. Timely disclosure, credible explanation and effective remediation may allow the matter to remain subject to targeted oversight. Continued underperformance, inadequate remediation or recurrence of the same issue may support escalation to a higher level of intervention.

The outcome of this assessment would subsequently inform the applicable escalation level and regulatory response under section 8.3.



Figure 6: Deviation Materiality Classification and Escalatory Response (Indicative)





8.3 Escalation Levels and Regulatory Responses

Following the Regulatory Significance Assessment, CAAM would determine the appropriate escalation level and corresponding regulatory response. The escalation structure is intended to ensure that regulatory intervention remains proportionate to the seriousness of the issue identified, while preserving the flexibility available under the Hybrid Framework where performance remains satisfactory. The framework comprises four escalation levels, ranging from normal regulatory oversight to systemic underperformance. The levels (detailed in Table 19, with process flow as illustrated previously in Figure 6) reflect increasing regulatory concern and a corresponding increase in the degree of regulatory oversight or intervention that may be applied.



Table 19: Escalation Levels and Regulatory Responses

Severity	Regulatory Posture	Interventions (<i>Indicative</i>)	Regulatory Objectives
Level 0 – Compliant Performance remains broadly consistent with the commitments, performance expectations and regulatory requirements established under the Hybrid Framework. Any variances are limited, adequately explained or addresses through normal management processes	Normal regulatory oversight MAHB maintains the level of flexibility provided under the Hybrid Framework and continues routine monitoring through established disclosure and review arrangements	- Standard regulatory reporting - Normal annual responsibility review - Routine change-control arrangements - Full access to eligible efficiency incentives	Preserve regulatory flexibility while maintaining sufficient visibility over ongoing delivery and performance (MAINTAIN)
Level 1 – Material Deviation A material project, performance target or commitment has deviated sufficiently to require regulatory attention, but recovery remains credible	Targeted regulatory oversight CAAM increases scrutiny over the affected area, while preserving normal Hybrid Framework flexibility elsewhere. The initial emphasis remains on understanding the deviation and supporting timely remediation	- Formal variance explanation and root-cause assessment - Submission of project-level remediation / recovery plan - Enhanced project reporting - Latest forecast-to-completion - Targeted independent assurance (where necessary) - Suspension of affected efficiency incentives, pending recovery	Establish the cause and impact of the deviation and restore compliance without unnecessarily restricting wider operational or investment flexibility (ENHANCE)
Level 2 – Serious / Persistent Deviation Material failure(s) persists, remediation is unsuccessful, or several significant failures indicate broader programme-management weaknesses	Enhanced Regulatory Intervention CAAM exercises greater oversight and may reduce the degree of flexibility available in the affected areas until sufficient evidence of recovery is demonstrated	- Formal programme-level recovery plan - Mandatory independent assurance / technical review - Increased reporting frequency - Affected projects placed under enhanced regulatory monitoring - Tighter change-control requirements - Prior CAAM review / non-objection for material substitutions	Contain further deterioration, secure effective remediation and restore regulatory confidence in MAHB's ability to deliver the relevant commitments – (CORRECTIVE ACTION / TARGETED REGULATORY INTERVENTION)



Severity	Regulatory Posture	Interventions (<i>Indicative</i>)	Regulatory Objectives
		Assessment of potential future economic treatment	
Level 3 – Systemic Underperformance Underperformance is broad, sustained or repeated across multiple commitments or areas of delivery and materially reduces confidence in MAHB's performance or in the continued effectiveness of the prevailing regulatory arrangements	Formal regulatory intervention and reassessment CAAM may materially strengthen regulatory controls and reassess whether the existing level of flexibility remains appropriate. The focus shifts from addressing individual deviations to protecting the integrity of the wider regulatory framework	- Comprehensive independent programme review - CAAM-approved recovery programme - Heightened regulatory approval requirements for remaining material CAPEX - Formal reconciliation of affected commitments / expenditures - Crystallisation of applicable financial / economic consequences - Treatment of undelivered or inefficient expenditure in subsequent regulatory determination where permissible - Review of MAHB's eligibility for equivalent Hybrid Framework flexibility in the next RP - Potential reconsideration of the Hybrid Framework itself	Protect airport users and the integrity of the regulatory framework, address systemic weaknesses and determine whether continued reliance on the existing Hybrid Framework arrangements remains appropriate (FORMAL REASSESSMENT / RE-OPENER)



8.4 Restoration of Flexibility

The Escalation and Intervention Framework is intended to operate in both directions. Where regulatory concerns increase, CAAM may progressively strengthen oversight or restrict the degree of flexibility available under the Hybrid Framework. Conversely, where the underlying concern has been satisfactorily addressed and regulatory confidence has been restored, the additional controls introduced through the escalation process may be reduced or removed. Restoration of flexibility is intended to ensure that regulatory intervention remains proportionate to the prevailing level of risk and does not become permanent where the circumstances that justified the intervention no longer apply. It also provides MAHB with a clear incentive to address identified concerns promptly and demonstrate sustained recovery.

The restoration process would generally consider whether;

(i) Remediation measures have been implemented

MAHB has completed the corrective actions, recovery measures or other requirements established in response to the identified concern

(ii) Performance has demonstrably recovered

Subsequent evidence indicates that the relevant commitment, performance requirement or regulatory obligation has returned to an acceptable position

(iii) The underlying cause has been addressed

Where appropriate, MAHB has demonstrated that the factors contributing to the deviation have been sufficiently mitigated to reduce the likelihood of recurrence

(iv) Recovery has been sustained

Improvement is demonstrated over an appropriate assessment period and does not reflect a temporary or isolated correction

(v) Regulatory confidence has been restored

The information, assurance and performance evidence available to CAAM is sufficient to support a reduction in the level of regulatory intervention

Restoration would not necessarily require the immediate removal of all additional regulatory controls. CAAM may adopt a phased approach, particularly where the preceding deviation was serious or persistent. For example, specific restrictions may be removed while enhanced reporting or assurance requirements remain in place for a further period to demonstrate that recovery is sustained. Similarly, restoration may be applied only to the area affected by the original intervention. Where a concern relates to a particular project, expenditure category or performance requirement, flexibility may be restored in that area without changing the regulatory treatment of separate matters that remain subject to escalation.

Movement between escalation levels would therefore reflect the prevailing regulatory position rather than operate as a predetermined sequence. Where sufficient evidence of recovery is available, CAAM may determine that a lower level of intervention is appropriate. For more serious or systemic matters, particularly those that have resulted in broader changes to the regulatory arrangements, restoration may require a more comprehensive assessment before the previous degree of flexibility is reinstated.

The restoration of flexibility would not remove the relevance of past performance. Material deviations, corrective actions and the effectiveness of remediation may continue to inform end-of-period reconciliation,



future expenditure assessments and CAAM's consideration of the level of flexibility appropriate for subsequent regulatory periods.

8.5 Stakeholder Questions

Consultation Questions:

- 17 Do you agree with the proposed principle that regulatory intervention should be targeted, proportionate and progressively strengthened according to the significance and persistence of the issue identified? If not, what alternative approaches should CAAM consider?
- 18 Do you agree that materiality, persistence, breadth and controllability provide appropriate basis for assessing the regulatory significance of deviations under the Hybrid Framework? Do you agree that materiality, persistence, breadth and controllability provide an appropriate basis for assessing the regulatory significance of deviations under the Hybrid Framework? Are there other factors that CAAM should consider?
- 19 Do you agree with the proposed four-level escalation structure (Level 0 – Compliant to Level 3 – System Underperformance)? Are the distinctions between these levels sufficiently clear and appropriate?
- 20 What factors should CAAM consider when determining whether MAHB has demonstrated sufficient recovery for regulatory intervention to be reduced and flexibility restored?
- 21 Are there any additional safeguards or intervention mechanisms or escalation principles that CAAM should consider providing sufficient accountability while preserving appropriate operational and investment flexibility?



9 End-of-Period Reconciliations

In cases of extended regulatory horizons inherently introduce exposure to structural shifts in passenger demand, capital expenditure profiles, and macroeconomic operating conditions. CAAM would incorporate end-of-period reconciliations enables the economic regulator to systematically evaluate actual operational and financial outcomes against approved regulatory baselines. In the hybrid framework, end-of-period reconciliation also acts as the definitive regulatory "true-up" and performance audit at the close of a RP.

The reconciliation mechanism incorporates the following components to validate whether the outcomes and commitments established for the current RP have been achieved:

- **Assessment of Delivery Outcomes:** Evaluates whether MAHB has achieved its regulated PIs, operational performance standards, and planned infrastructure capacity commitments.
- **Treatment of Efficiency Gains:** Determines the regulatory treatment of OPEX and CAPEX variances, ensuring that genuine efficiency improvements are appropriately shared with airport users while excluding benefits arising from the non-delivery of approved obligations.
- **Resolution of Material Variances and Outstanding Commitments:** Addresses delayed capital projects, changes in delivery outcomes, and significant traffic or demand deviations through pre-defined adjustment and risk-sharing mechanisms.
- **Regulatory Adjustments for the Next Period:** Establishes rollover adjustments to the asset base, revenue allowances, and regulatory building blocks that will form the basis of the subsequent RP.

9.1 Key Considerations impacting End-of Period Reconciliation

A formal reconciliation is reserved for substantial adjustments, meaning that routine operational fluctuations or minor, isolated variances do not trigger this process. Consequently, in executing the end-of-period determination, the regulator evaluates the nature and significance of variances across cost and volume dynamics. These considerations allow the regulator to distinguish between temporary, exogenous market shifts and structural underperformance in capital execution or operating efficiency.

The proposed reconciliation framework is guided by the following core structural considerations to further determine whether actual outcomes remain aligned with the assumptions and commitments established in the regulatory determination.

Table 20: Key Regulatory Considerations

Drivers	Regulatory Implications
Demand & Volume Outcome	Variations between actual and forecast passenger volumes, aircraft movements, and traffic mix may result in under- or over- recovery of the allowed revenue requirement.
Inflation & Macro Shift	Differences between actual and assumed inflation, exchange rates, interest rates, or other macroeconomic factors may affect both cost recovery and financing requirements over the regulatory period.
Capex Delivery & Asset Base Movements	Changes in major infrastructure project delivery timing and scope, asset commissioning dates, or capitalisation outcomes may affect the value of assets included in the asset base and the associated return and depreciation allowances.
Externally Driven or Statutory Requirements	Certain costs arising from new legislation, security requirements, environmental obligations, regulatory directives or other mandatory requirements may qualify for separate recovery treatment being permitted under the regulatory



	framework. Such changes may necessitate additional operating or capital expenditure to maintain compliance.
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9.2 Reconciliation Sequence and Operational Implementation

Building upon the asset delivery audits and variance classifications established in the previous sections. Defining clear reconciliation is critical to translating high-level regulatory principles into a transparent and predictable regulatory mechanism. It provides MAHB with greater regulatory certainty, supporting efficient capital planning, reducing financing risk and lowering the overall cost of capital. When approaching the end-of-period reconciliation, CAAM may consider exploring how these findings can best align with the asset base, potentially through two-stage operational sequence:

Step 1: Financial True-Up & Claw back Calculation

Using the classified variances from the audit phase, the net financial adjustment required will be calculated to reconcile approved baseline allowances against actual commissioned Capex:

- **Clawback of Unexecuted Capex:** For baseline projects identified as delayed, reduced in scope, or cancelled, CAAM calculates a financial clawback. This neutralises the return on capital and depreciation allowances collected from airport users during the RP for assets that were not brought into operational service.
- **Recognition of Prudent Adjustments:** Approved statutory overruns or CAAM-sanctioned scope changes verified in the audit phase are integrated into the true-up calculation to ensure fair cost recovery for mandatory capital additions.
- **Capital Efficiency Treatment:** Where full project scope was completed under budget, pre-defined efficiency rules dictate the proportion of capital savings retained by MAHB versus the amount passed through as lower asset values for users.

Step 2: Asset Base Adjustment and Roll Forward to Next RP

Following the reconciliation of audited variances and time-value adjustments in Step 1, the financial true-up outputs update the Shadow RAB to reflect verified asset values, while the resulting net financial impact is incorporated into the future revenue allowance through the following mechanisms:

- **Closing Asset Base Determination:** The final closing asset base for the current RP is recalculated using actual, prudently incurred, and commissioned capital expenditure rather than original baseline forecasts.
- **Rollover Integration:** The resulting net capital true-up adjustment is applied directly as an opening asset base adjustment or smoothed into the building block revenue requirement for the subsequent Regulatory Period.

To ensure consistent application of the reconciliation framework, the following implementation principles shall govern the transition from audit outcomes to final regulatory adjustments.



Table 21: Operational Implementation Options

Operational Element	Rule & Implementation Mechanism
Audit-to-Financial Input Linkage	Only projects verified as operational in the Asset Delivery Audit are eligible for inclusion in the final closing asset base calculation.
Treatment of Delivery Delays	Capital expenditure associated with projects that remain incomplete or unavailable for service at the end of the Regulatory Period will not be eligible for full recovery. Any associated return on capital or depreciation allowances previously recovered may be adjusted through the reconciliation mechanism.
Exogenous Risk Mechanism	Recovery of unplanned Capex arising from exogenous or statutory mandates is not automatic. It remains contingent upon CAAM verifying its prudence, efficiency, and materiality under the framework's re-opener and change-control rules.
Application of Financial True-Up	All approved reconciliation adjustments arising from the variance assessment are consolidated into a net capital true-up amount before being reflected in the regulatory building blocks.
Tariff Shock Smoothing	Where reconciliation adjustments result in material increases or decreases to future revenue requirements, CAAM may apply tariff smoothing mechanisms or staged recovery arrangements to minimise undue price volatility for airport users.

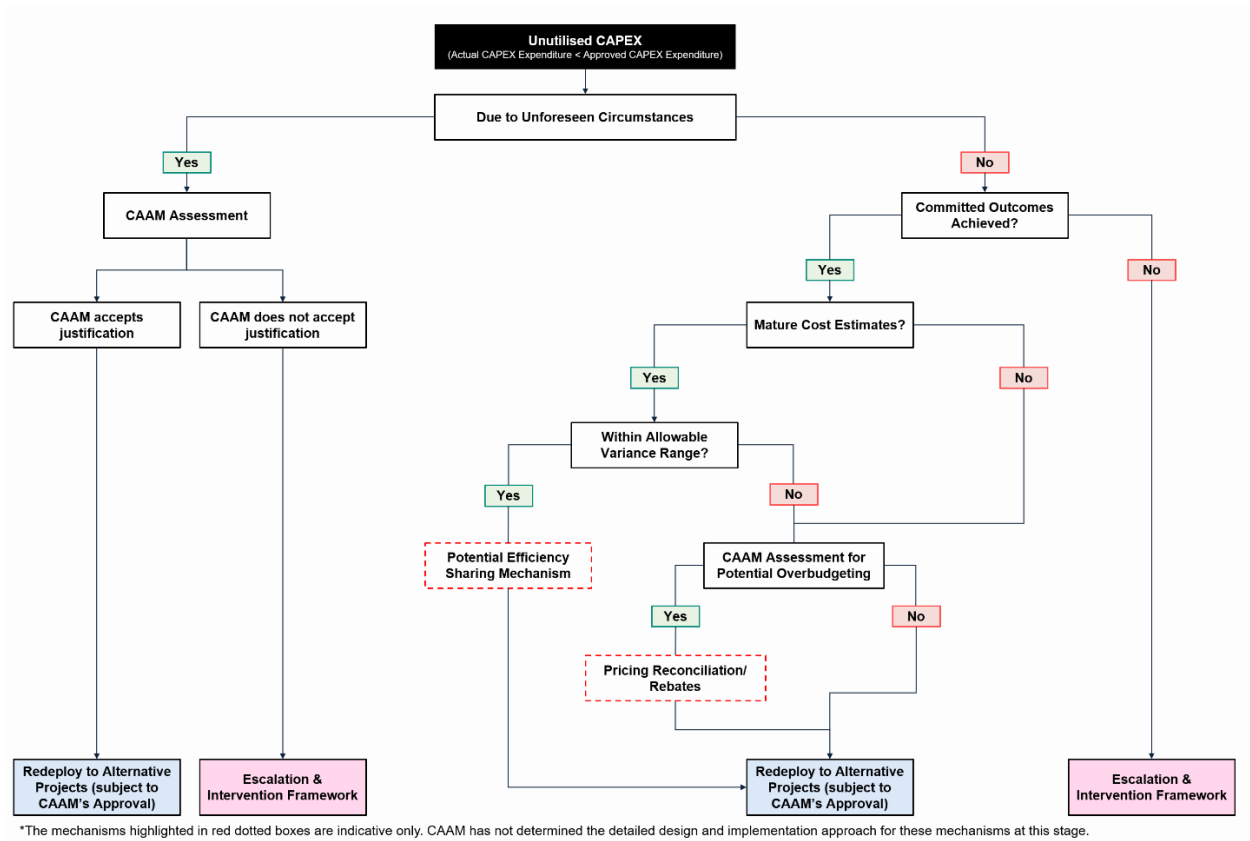
Regarding the framework and concepts outlined above, the next section examines how unutilised capex will be treated during the end-of-period true-up.

9.3 Treatment of Unutilised CAPEX

Unutilised CAPEX arises where the airport operator's actual capital expenditure during the regulatory period is lower than the approved CAPEX programme as part of the regulatory determination. The treatment of unutilised CAPEX would not be assessed on a project-by-project basis as expenditure variances arise. Instead, unutilised CAPEX would generally be considered as part of the ex-post reconciliation process at the end of the regulatory period, where CAAM would assess overall project delivery, expenditure outcomes and performance against the commitments underpinning the regulatory determination. However, where unutilised CAPEX arises from a material project-level deviation, CAAM may also assess such variances through the scheduled confidence checkpoints during the regulatory period. The proposed framework recognises that not all unutilised CAPEX should be treated equally. While some degree of variance is expected in any large-scale investment programme, the appropriate regulatory treatment should depend on the underlying cause of the underspend and whether MAHB has delivered the outcomes and commitments that formed the basis of the approved airport charges. Accordingly, CAAM proposes a differentiated approach to the treatment of unutilised CAPEX as set in Figure 7.



Figure 7: Treatment of Unutilised CAPEX Flowchart (Indicative)



Scenario 1: Unutilised CAPEX due to unforeseen circumstances

MAHB would be required to demonstrate that the variance arose from factors beyond its reasonable control and provide sufficient evidence for CAAM's assessment. Such factors may include government or regulatory directives, changes in legislative or compliance requirements, force majeure events, or major external events such as the COVID-19 pandemic. Where CAAM accepts the justification provided, the remaining CAPEX may be reallocated to alternative projects approved by CAAM. Any such reallocation would be subject to CAAM being satisfied that the project remains necessary and can be delivered efficiently. Where CAAM does not accept the justification, the matter may be subject to the escalation and intervention framework, which is discussed further in Section 8.

Scenario 2: Committed outcomes achieved and underspend reflects genuine efficiency gains

For unutilised CAPEX that does not arise from unforeseen circumstances, CAAM would assess whether the committed outcomes that underpinned the regulatory determination have nevertheless been delivered. This assessment would be based on submissions previously provided by MAHB as part of its disclosure requirements, including project delivery timelines, delivery outcomes and other relevant project performance information.

Where the committed outcomes have been achieved and the underspend reflects genuine efficiency gains, CAAM may consider allowing MAHB to retain a portion of the efficiency savings through a potential efficiency sharing mechanism. To qualify as genuine efficiency savings, the project should be supported by sufficiently mature cost estimates at the commencement of the regulatory period. The level of underspend



should also remain within the allowable variance range. Any remaining unutilised CAPEX may be reallocated to alternative projects previously approved by CAAM.

However, the design and calibration of any efficiency-sharing mechanism have not been determined at this stage.

Scenario 3: Committed outcomes achieved and underspend does not reflect genuine efficiency gains

Where the project is not supported by sufficiently mature cost estimates at the commencement of the regulatory period, the variance may not be regarded as a genuine efficiency gain. The same may apply where the level of underspend exceeds the applicable accuracy range of the estimate class submitted as part of the regulatory determination. In such circumstances, CAAM may assess whether the variance could indicate potential overbudgeting at the time of regulatory determination. Following its assessment, CAAM may conclude that the underspend primarily reflects forecasting uncertainty or estimation inaccuracies rather than improved delivery efficiency. Accordingly, the project would not be eligible for any efficiency-sharing arrangement. Instead, CAAM may determine an appropriate reconciliation mechanism to ensure that airport users receive the benefit of the excess cost recovery through future pricing adjustments, rebates or other regulatory measures. Any remaining unutilised CAPEX may be reallocated to alternative projects previously approved by CAAM, with the variance also taken into consideration when assessing the credibility of future CAPEX submissions.

However, the design and calibration of any reconciliation mechanism have not been determined at this stage.

Scenario 4: Committed outcomes not achieved

Where the committed outcomes have not been achieved, the matter may be subject to the Escalation and Intervention Framework. MAHB will be provided with an opportunity to explain the variance. Following its assessment, CAAM may determine the appropriate regulatory response based on the materiality, persistence and breadth of undelivered commitments. Further details of the Escalation and Intervention Framework are set out in Section 8.

Treatment of Deferred Projects

Where a project is deferred beyond the relevant regulatory period, CAAM may consider the circumstances giving rise to the delay as part of its assessment of the subsequent regulatory period proposal. As a general principle, CAPEX that has already been funded through a previous regulatory determination, would not ordinarily be included again in the expenditure allowance of a subsequent regulatory period. Any financing impacts arising from the deferred delivery of the project, including the associated time value of money, would generally remain the responsibility of MAHB. However, where MAHB provides sufficient justification



that the deferral arose from circumstances beyond its reasonable control, CAAM may consider allowing the relevant financial impacts to be recovered in the subsequent regulatory period.

9.4 Stakeholder Questions

Consultation Questions:

- 22 Beyond the approaches proposed in this paper, are there any additional mechanisms, incentives, penalties or reconciliation arrangements that CAAM should consider when determining the regulatory treatment of unutilised CAPEX?
- 23 Do you agree that eligibility for any future efficiency-sharing arrangement should be linked to both the delivery of committed outcomes and the maturity of the cost estimates supporting the approved CAPEX programme? If not, what alternative approach should CAAM consider?



10 Subsequent Regulatory Period Submissions

10.1 Future Pricing Proposal Requirements

The Hybrid Framework is intended to remain the primary regulatory framework throughout the 15-year regulatory commitment period. However, continued reliance on the framework during this period should be supported by evidence that it remains capable of delivering efficient expenditure, timely investment delivery, appropriate service outcomes and charges that remain broadly consistent with underlying cost drivers.

Future pricing proposals should be supported by a comprehensive and evidence-based submission that enables CAAM to assess the reasonableness of the proposed airport charges. The submission should provide a clear line of sight that ensures the stakeholders can understand the basis on which charges are being sought. In preparing future pricing submissions, MAHB should have regard to the following principles:

- (i) **Efficient and Justifiable Expenditure:** Proposed expenditure should be demonstrated to be necessary, justified and efficiently incurred to meet regulatory requirements, maintain safe and reliable airport operations, and enhance passenger experience. Submissions should provide evidence that reasonable steps have been taken to achieve value for money for airport users and avoid unnecessary or inefficient expenditure.
- (ii) **Credible and Deliverable CAPEX Planning:** Proposed CAPEX should be supported by credible delivery plans, cost estimates and procurement strategies. MAHB should also demonstrate that the proposed CAPEX programme can realistically be delivered within the relevant regulatory period, taking into account project dependencies, implementation schedules and resource requirements.
- (iii) **Outcome Accountability:** Funding requests should be linked to clearly defined outputs, service outcomes and performance commitments that can be monitored and assessed throughout the regulatory period.
- (iv) **Continuous Improvement and Lessons Learned:** The submission should demonstrate how lessons from previous regulatory periods, investment programmes and project delivery experience have been incorporated into future proposals. This should include an assessment of material variances from previous forecasts and commitments, together with the treatment of deferred, accelerated or cancelled projects where relevant. The performance measurement baseline described in Section 7 will become increasingly robust as well. This will strengthen CAAM's ability to assess future pricing proposals and support the development of more reliable benchmarks for evaluating performance over time.

To support the sustainability of the framework over the longer term, CAAM will continue to assess future pricing proposals against the Shadow RAB benchmark as part of each subsequent regulatory period review as well. MAHB would also be required to provide the regulatory disclosures described in Section 5.2.1 as part of its regulatory submission for the subsequent regulatory period. Together, these disclosures provide the evidentiary basis for assessing the reasonableness of the proposed pricing outcomes.

10.2 Future Regulatory Reviews

During the 15-year commitment period, circumstances may arise that were not reasonably foreseeable at the time of the pricing determination, and which materially affect MAHB's ability to deliver its regulatory commitments. Examples may include:

- (i) **New regulatory, safety, security or compliance requirements** that give rise to material unplanned expenditure
- (ii) **Major capital investment requirements outside the approved investment programme**, where such investments were not reasonably foreseeable at the time of the pricing determination



- (iii) **Exceptional external events**, such as natural disasters, public health emergencies, or other force majeure events, that materially affect airport operations or investment requirements

Where such circumstances arise, CAAM may take these factors into account as part of its assessment of subsequent regulatory period proposals. MAHB would be expected to demonstrate the nature of the event, its impact on expenditure, project delivery and service outcomes, and the extent to which the consequences were outside its reasonable control.

Separately, where there is evidence of persistent or systemic underperformance that is attributable to factors within MAHB's reasonable control, CAAM may undertake a broader review of the effectiveness of the regulatory arrangements, as mentioned in Section 8 Escalation and Intervention Framework.

10.3 Stakeholder Questions

Consultation Questions:

- 24 Do you agree with the proposed principles and circumstances under which a re-opener mechanism may be triggered? If not, what alternative circumstances should CAAM consider?

11 Other Airports

Senai International Airport (JHB), Kertih Airport (KTE) and Tanjung Manis Airport (TGC) are excluded from the Hybrid Framework proposed for application to MAHB over the longer term. Instead, these airports would be allowed to propose tariffs for CAAM's consideration and approval. This was based on a market power study undertaken by CAAM as part of its previous Aeronautical Charges Framework Review of June 2019 which found that the operators of these airports, Senai Airport Terminal Services Sdn Bhd (SATS) and Tanjung Manis Development Sdn Bhd (TMDSB), either did not have market power or did not have the ability to exercise market power.