

Section 57 of the Competition Act (Cap. 50B)

Grounds of Decision issued by the Competition Commission of Singapore

In relation to the application for decision of the proposed acquisition by ADB BVBA of Safegate International AB pursuant to Section 57 of the Competition Act

29 January 2016

Case number: CCS 400/003/15

Confidential information in the original version of this Decision has been redacted from the published version on the public register. Redacted confidential information in the text of the published version of the Decision is denoted by [X]

Contents

I.	THE NOTIFICATION AND EXECUTIVE SUMMARY.....	3
II.	THE ACQUIRER	4
III.	THE TARGET	4
IV.	THE PROPOSED TRANSACTION	5
V.	INDUSTRY BACKGROUND	5
VI.	COMPETITION ISSUES.....	8
VII.	COUNTERFACTUAL	9
VIII.	RELEVANT MARKET	10
IX.	MARKET SHARES	14
X.	ACTUAL AND POTENTIAL COMPETITION	16
XI.	BARRIERS TO ENTRY AND EXPANSION.....	20
XII.	COUNTERVAILING POWER.....	24
XIII.	COMPETITION ASSESSMENT	25
XIV.	CLAIMED EFFICIENCIES	28
XV.	ANCILLARY RESTRICTIONS	28
XVI.	COMMITMENTS.....	29
	ANNEX A.....	33

I. THE NOTIFICATION AND EXECUTIVE SUMMARY

1. On 23 June 2015, ADB BVBA (“**ADB**”), Safegate International AB (“**Safegate**”) (collectively referred to as “**the Parties**”) and Fairford Holdings Private AB (“**Fairford**”) filed a joint notification pursuant to section 57 of the Competition Act (Cap. 50B) (“**the Act**”) for a decision by the Competition Commission of Singapore (“**CCS**”) as to whether the proposed acquisition by ADB of all the shares of Safegate from Fairford (“**Proposed Transaction**”) will infringe section 54 of the Act.¹
2. For the purposes of this notification, CCS contacted end-user customers², third-party contractors/agents³ (intermediate customers) in Singapore and international suppliers of Airfield Lighting (“**AFL**”) systems.⁴ CCS took into consideration the information from these third-party market inquiries in assessing the Proposed Transaction.⁵
3. CCS was unable to conclude that the Proposed Transaction does not raise competition concerns in the Phase 1 review. On 4 August 2015, CCS communicated to the Parties an issues letter stipulating the competition concerns identified in the Phase 1 review and requested that the Applicants submit Form M2 to proceed to a Phase 2 review. The Parties also had the opportunity to offer commitments at the end of the Phase 1 review.⁶
4. On 11 November 2015, ADB offered commitments to address the competition concerns, and requested CCS to consider the commitments in lieu of proceeding to a Phase 2 review. ADB subsequently amended the proposed commitments following feedback from CCS.
5. Between 10 and 23 December 2015, pursuant to section 60A of the Act, CCS conducted a public consultation of the proposed commitments. CCS received information from end-user customers, third-party contractors and competitors of the Parties (“**the respondents**”) who provided feedback on possible areas that the proposed commitments did not adequately address and suggestions on how they could be improved. ADB subsequently amended the commitments in response to the feedback received from the consultation process. CCS considered the amended proposed commitments (“**Final Commitments**”) to be sufficient to address the competition concerns that may result from the Proposed Transaction if it were carried into effect. CCS will, hence, not require a Phase 2 review.
6. CCS concluded, therefore, that, subject to the implementation of and compliance with the Final Commitments, the Proposed Transaction will not infringe section 54 of the Act.

¹ CCS received the Parties’ application for decision for the proposed acquisition by ADB of all the shares of Safegate from Fairford on 22 June 2015, 5.05 p.m.

² [REDACTED].

³ [REDACTED].

⁴ [REDACTED].

⁵ Information was received from: (1) end-user customers: [REDACTED], (2) third-party contractors: [REDACTED] and (3) AFL system suppliers: [REDACTED].

⁶ Paragraph 6.9 of *CCS Guidelines on Merger Procedures 2012* states that the applicant’s response to the competition concerns in the issues letter “will provide the final opportunity for the applicant to put forward commitments to address these concerns in Phase 1 if it wishes”.

II. THE ACQUIRER

7. ADB seeks to acquire Safegate from Fairford.⁷ The ADB group of companies is privately owned by PAI Partners, a major European private equity firm and the largest private equity investor headquartered in France.
8. The ADB Group includes ADB BVBA, Lucebit, and Erni AGL. Its focus is on supporting airports on their visual guidance or airfield ground lighting needs. It has a worldwide presence and experience spanning 68 years in AFL systems.⁸
9. ADB supplies AFL systems to end-user and intermediate customers in Singapore through an appointed agent, Ruby Electrical Trading Singapore (“**Ruby**”).⁹ [REDACTED].¹⁰ [REDACTED].¹¹ [REDACTED].
10. ADB submitted that its global group turnover was approximately [REDACTED] in the period between 1 June 2013 and 31 December 2014, of which approximately [REDACTED] was from turnover in respect of AFL systems.¹² ADB’s group turnover in Singapore was approximately [REDACTED] for the same period, [REDACTED] was from turnover in respect of AFL systems.¹³

III. THE TARGET

11. The target of the Proposed Transaction is Safegate. Safegate is wholly-owned by Fairford and ultimately wholly-owned by Fairford Holdings Limited, a private investment company owned by the Osseiran Family Trust.¹⁴
12. The Safegate group of companies include Safegate, Thorn Airfield Lighting, Idman, Liberty Airport Systems, and AviBit Airtraffic Solutions. The Safegate group is a leading airside solutions business providing docking guidance (“**DGS**”) and AFL equipment and software, gate management and air traffic ground control (“**ATC**”) solutions to airports globally.¹⁵ Safegate’s solutions are developed in Finland, Denmark, France, and at its headquarters in Sweden.¹⁶
13. The Safegate group supplies its products in Singapore by way of: (a) sales to third-party electrical contractors who bid independently on tender projects; and (b) through an appointed agent, Teccam Engineering Pte. Ltd. (“**Teccam**”).¹⁷ [REDACTED].¹⁸ [REDACTED].¹⁹

⁷ Paragraph 1.1 of Form M1.

⁸ Paragraph 7.1 of Form M1.

⁹ Table 10.1 of Form M1.

¹⁰ Email from the Parties on 20 October 2015.

¹¹ Appendix 20 of the Parties’ response dated 9 July 2015 to CCS’s RFI dated 2 July 2015.

¹² Table 13.1 of Form M1; Table 16.1 of Form M1.

¹³ Table 13.3 of Form M1; Table 16.1 of Form M1.

¹⁴ Paragraph 7.4 of Form M1.

¹⁵ Paragraph 7.3 of Form M1.

¹⁶ Paragraph 7.3 of Form M1.

¹⁷ Paragraph 13.1 of the Parties’ response dated 9 July 2015 to CCS’s RFI dated 2 July 2015.

¹⁸ Paragraph 10.2 of Form M1.

¹⁹ Paragraph 2.1 of the Parties’ response dated 9 July 2015 to CCS’s RFI dated 2 July 2015.

14. The global group turnover for Safegate was approximately [X] in the financial year ended 31 December 2014, of which approximately [X] was from turnover in respect of AFL systems.²⁰ The group turnover for Safegate in Singapore for the same period was approximately [X], of which approximately [X] was from turnover in respect of AFL systems.²¹

IV. THE PROPOSED TRANSACTION

Nature of the Proposed Transaction

15. The Proposed Transaction relates to the proposed purchase by ADB of 100 per cent of the shares of Safegate from Fairford, pursuant to the Share Purchase Agreement [X] (collectively, “SPA”).²²
16. The Parties expect completion of the Proposed Transaction to take place following the satisfaction of conditions precedent set out in the SPA, [X].²³ The Proposed Transaction has also been notified in Australia, Austria, Cyprus, Russia and Spain²⁴ and as of 18 November 2015, the Proposed Transaction has been cleared in these jurisdictions.

Merger under Section 54 of the Competition Act

17. The Proposed Transaction will result in ADB acquiring 100 per cent of the shares of Safegate and, hence, direct control of the whole of Safegate. Therefore, CCS considers that the Proposed Transaction constitutes a merger pursuant to section 54(2)(b) of the Act.²⁵

V. INDUSTRY BACKGROUND

AFL Systems

18. AFL systems typically comprise physical airfield lighting (AFL Lights), the power solutions for the AFL (AFL Power Solutions), the system which controls and monitors the lights (AFL C&M system), the design of the runway (AFL Design), the aftercare services, including training and maintenance (AFL Services), and the integration of other systems (AFL System Integration).²⁶
19. Specifically, AFL Lights refer to the lighting mechanism by which the centre lines of airport runways, taxiways and apron are illuminated.²⁷ The lights show the route the

²⁰ Table 13.2 of Form M1; Table 16.2 of Form M1.

²¹ Table 13.4 of Form M1; Table 16.2 of Form M1.

²² Paragraph 11.1 of Form M1.

²³ Paragraphs 11.7 and 11.8 of Form M1.

²⁴ Table 5.1 of Form M1.

²⁵ Section 54(2)(b) of the Act states that a merger occurs if “one or more persons or other undertakings who or which control one or more undertakings acquire direct or indirect control of the whole or part of one or more other undertakings”.

²⁶ Table 10.1 (c) of Form M1.

²⁷ Table 10.1 (c) of Form M1.

aircraft needs to take in order to safely navigate runways, taxiways, other aircrafts and vehicles, and the gates²⁸ and hence, are crucial in guiding pilots before landing, or when landed, to the airport terminal. Intelligent AFL systems can further automate the navigation of aircraft around the airport, which is particularly critical in conditions of poor visibility. This allows for safer, smoother and quicker taxiing of aircraft.²⁹

20. AFL systems are generally supplied to civilian and military airports worldwide.³⁰ The AFL systems supplied will range from high to low complexity depending on the size of the airport, the size of passenger traffic of the airport, and whether the airport is used for civilian or military purposes.³¹ There are currently no other goods which may be substitutable with AFL systems.³²

AFL Systems Supply Chain in Singapore

21. The Parties submitted that the procurement and supply of AFL systems takes place on a worldwide basis.³³ The Parties submitted that there are more than 100 suppliers active in the field of ground lighting globally.³⁴ AFL system suppliers typically compete internationally to supply AFL products to civilian and military airports and heliports, and are not limited by geography to any region or country. Most AFL system suppliers are able to cater to a range of airport sizes.³⁵ AFL system suppliers can either supply directly to end-user customers, or through intermediate customers (i.e., agents or contractors).³⁶
22. The Parties submitted that, in Singapore, customers of AFL systems typically appoint suppliers by way of tender, which is open to companies globally to submit their bids.³⁷ [REDACTED]³⁸ [REDACTED].³⁹
23. Furthermore, supplier-customer relationships may not be limited to AFL systems. For example, besides AFL systems, Safegate also provides DGS and ATC systems to airports around the world.⁴⁰ The ADB Group supplies its products to more than 2,000 airports across 175 countries, while the Safegate Group supplies its products to more than 1,300 airports in 132 countries.⁴¹

[REDACTED] Procurement Processes

AFL C&M System

²⁸ Table 10.2 (c) of Form M1.

²⁹ Table 10.2 (c) of Form M1.

³⁰ Paragraph 19.5 of Form M1.

³¹ Paragraph 19.20 of Form M1.

³² Paragraph 19.6 of Form M1.

³³ Paragraph 20.2 of Form M1.

³⁴ Paragraph 26.1 of Form M1.

³⁵ Paragraph 19.20 of Form M1.

³⁶ Paragraph 19.19 of Form M1.

³⁷ Paragraph 24.3 of Parties' response dated 9 July 2015 to CCS's RFI dated 2 July 2015.

³⁸ Paragraph 19.14 of Form M1. [REDACTED].

³⁹ Paragraph 19.17 of Form M1.

⁴⁰ Paragraph 10.2 (c) of Form M1.

⁴¹ Paragraph 19.18 of Form M1.

24. [X] procurement of its AFL C&M system takes place approximately every [X] years. [X] currently uses a single AFL C&M system procured from Safegate for all of [X] runways and taxiways.⁴² It last conducted a tender for the AFL C&M system in 2010 and selected Safegate's system. [X] current contract with Safegate will expire in [X], before which [X] will not change the system but will procure upgrades or add-ons to the software from Safegate. The hardware, i.e., the servers can be bought from multiple sources, including non-AFL system suppliers, for example, CISCO.⁴³
25. [X] estimated that its AFL C&M system lasts for at least [X] years.⁴⁴ Its AFL C&M system is not tied to the brand of AFL Lights used.⁴⁵ As the AFL Lights used [X], [X] indicated that a local company will have the capability to provide C&M systems for [X].⁴⁶

AFL Lights

26. One of the end-user customers, [X], indicated that the life-cycle of AFL Lights is approximately [X] years, but the AFL Lights along a taxiway/runway will be replaced when the taxiway/runway is resurfaced around every [X] years.⁴⁷ Whilst [X] is technically able to use different brands of AFL Lights for the same runway or taxiway, it generally does not do so due to (i) photometric output⁴⁸ differences between different brands that could cause confusion to pilots, and (ii) operational difficulties as [X] will have to keep track of the specific brands and location of each of the [X] AFL Lights it deploys in the airfield. [X] therefore "sectorises" the deployment of AFL Lights, i.e., only one brand is used in a specific sector or geographical area.⁴⁹ [X] estimates that the cost of AFL Lights accounts for about [X] of its annual expenditure of [X] for resurfacing projects.⁵⁰
27. Apart from these resurfacing projects, [X] carries out replacement and repair of AFL Lights on an *ad-hoc* basis when needed.⁵¹ Most of the spare parts [X] purchases are brand-specific (about [X] by value).⁵² Although [X] carries out an open request for quotation on brand-specific spare parts to allow other suppliers besides the brand's appointed agent in Singapore to quote, it requires the suppliers to produce the Original Equipment Manufacturer ("OEM") certificate as an assurance that they can supply original parts. However, no other supplier has produced the OEM certificate.⁵³ [X] stocks about [X] worth of spare parts for AFL Lights. These spare parts would be provided to third-party contractors for any replacement and repair of AFL Lights when required. [X] separately procures the services of third-party contractors, i.e., labour excluding the supply of spare parts, to carry out the replacing and repairing of AFL

⁴² [X] similarly uses a single AFL C&M system at [X], but procured from a local developer. Notes of Meeting between CCS and [X] on 21 July 2015, paragraphs 24, 28 and 29.

⁴³ Notes of Meeting between CCS and [X] on 21 July 2015, paragraph 24.

⁴⁴ Notes of Meeting between CCS and [X] on 7 October 2015, paragraph 10.

⁴⁵ Notes of Meeting between CCS and [X] on 28 September 2015, paragraph 19.

⁴⁶ Notes of Meeting between CCS and [X] on 28 September 2015, paragraph 19.

⁴⁷ Notes of Meeting between CCS and [X] on 21 July 2015, paragraph 11.

⁴⁸ Photometric output refers to the intensity of the lights.

⁴⁹ Notes of Meeting between CCS and [X] on 21 July 2015, paragraph 22.

⁵⁰ [X] response dated 16 July 2015 to Question 13 of CCS's RFI dated 6 July 2015.

⁵¹ Notes of Meeting between CCS and [X] on 21 July 2015, paragraph 12.

⁵² Notes of teleconference between CCS and [X] on 10 September 2015, paragraph 1.

⁵³ Notes of teleconference between CCS and [X] on 10 September 2015, paragraph 2.

Lights.⁵⁴ [X] estimates that its annual expense on spare parts for AFL Lights is about [X].⁵⁵

28. In contrast, the AFL Lights at [X] are replaced every [X] years and there is no specific schedule to replace all the AFL Lights [X]. Instead, assessments of the condition of AFL Lights would be conducted periodically to decide if replacement is needed.⁵⁶ [X] would not limit supplier sourcing in its procurement process. It indicated that contractors would propose products from the same OEM of the subsystem.⁵⁷
29. For spare parts, [X] mostly procures OEM-specific spare parts.⁵⁸ It also requires suppliers that are not the appointed local resellers to provide a [X] from the OEM to prove that the products supplied are genuine parts. [X].⁵⁹ [X].⁶⁰

Constant Current Regulators

30. Similar to AFL Lights, the lifespan of CCRs (“**CCR**”)⁶¹ is approximately [X] years [X].⁶² Normally, [X] will procure CCRs with AFL Lights in the same project tender.⁶³ However, when [X] needs to replace individual CCR units, [X] procures them on an *ad-hoc* basis rather than through a bulk tender. When replacing a damaged CCR unit, [X] is able to use a different brand of CCR from that of the damaged CCR unit so long as it meets [X] requirements (although currently [X] only uses the Parties’ CCRs).⁶⁴
31. [X] typically replaces CCRs every [X] years.⁶⁵ [X] may procure the AFL Lightings and CCRs together for new projects, while their spare parts will be procured separately.⁶⁶ It indicated that contractors would propose products from the same OEM of the subsystem.⁶⁷

VI. COMPETITION ISSUES

32. For the purposes of this Proposed Transaction, the Parties submitted that they overlap in the global supply of AFL systems to Singapore (“**Overlapping Product**”) and there is no need to further subdivide the market for AFL systems by functions.⁶⁸ The Parties

⁵⁴ Notes of Meeting between CCS and [X] on 21 July 2015, paragraph 13.

⁵⁵ [X] response dated 16 July 2015 to Question 13 of CCS’s RFI dated 6 July 2015.

⁵⁶ Notes of Meeting between CCS and [X] on 28 September 2015, paragraphs 10 and 11.

⁵⁷ Notes of Meeting between CCS and [X] on 28 September 2015, paragraphs 16 and 24.

⁵⁸ Notes of Meeting between CCS and [X] on 7 October 2015, paragraph 3.

⁵⁹ Notes of Meeting between CCS and [X] on 7 October 2015, paragraph 16.

⁶⁰ Notes of Meeting between CCS and [X] on 7 October 2015, paragraph 20.

⁶¹ CCR is used to ensure that the electricity supply to all the AFL lights in the airfield is constant so that the intensity of the AFL lights remains the same regardless of whether they are located near or far from the switchboards.

⁶² Notes of Meeting between CCS and [X] on 21 July 2015, paragraph 31.

⁶³ Notes of Meeting between CCS and [X] on 21 July 2015, paragraph 32.

⁶⁴ Notes of Meeting between CCS and [X] on 21 July 2015, paragraphs 31 and 34.

⁶⁵ Notes of Meeting between CCS and [X] on 28 September 2015, paragraph 10.

⁶⁶ Notes of Meeting between CCS and [X] on 28 September 2015, paragraph 7.

⁶⁷ Notes of Meeting between CCS and [X] on 28 September 2015, paragraph 16.

⁶⁸ Paragraphs 19.1 and 19.2 of Form M1.

also submitted that there are no vertical relationships between the Parties for the supply of AFL systems in Singapore.⁶⁹

33. After a Phase 1 review, CCS considers that the Proposed Transaction may give rise to the following competition concerns:
- i. **Ability to raise prices and reduce after-sales support** – The Parties supply a large majority of AFL systems in Singapore and the loss of competitive constraint that the Parties impose on each other post-merger may result in price increases and a deterioration in after-sales support and availability of spare parts; and
 - ii. **Exclusive contracts** – Post-merger, the Parties could potentially lock in third-party contractors in Singapore to sell the Parties’ AFL systems exclusively, hindering the entry of potential AFL system suppliers.
34. These potential competition concerns are discussed further in the sections below.

VII. COUNTERFACTUAL

35. As stated in paragraph 4.6 of the *CCS Guidelines on the Substantive Assessment of Mergers*, CCS will, in assessing mergers and applying the substantial lessening of competition (“SLC”) test, evaluate the prospects for competition in the future with and without the merger. The competitive situation without the merger is referred to as the “counterfactual”. The SLC test will be applied prospectively, that is, future competition will be assessed with and without the merger.
36. The *CCS Guidelines on the Substantive Assessment of Mergers* also states that in most cases, the best guide to the appropriate counterfactual will be prevailing conditions of competition, as this may provide a reliable indicator of future competition without the merger. However, CCS may need to take into account likely and imminent changes in the structure of competition in order to reflect as accurately as possible the nature of rivalry without the merger.⁷⁰
37. The Parties submitted that in the absence of the Proposed Transaction, the business operations of the Parties would remain unchanged.⁷¹

CCS’s Assessment and Conclusion on the Relevant Counterfactual

38. CCS has considered the Parties’ submissions. There is no information presented to CCS to suggest that there are likely and imminent changes in the market structure for the supply of AFL systems without the merger. Accordingly, CCS accepts that the relevant counterfactual scenario, for the purposes of CCS’s competition assessment, is that the Parties will continue to be competitors in the supply of AFL systems in Singapore in the absence of the Proposed Transaction.

⁶⁹ Paragraph 36.1 of Form M1.

⁷⁰ Paragraph 4.7 of the *CCS Guidelines on the Substantive Assessment of Mergers*.

⁷¹ Paragraph 23.1 of Form M1.

VIII. RELEVANT MARKET

A. PRODUCT DIMENSION

The Parties' Submissions

39. The Parties submitted that the relevant product market definition in relation to the Overlapping Product is the market for the supply of AFL systems, equipment and services.⁷²
40. The Parties submitted that there are hundreds of products that focus on the different parts of the airfield, including approach lighting, runway lighting, taxiway lighting and apron lighting. The vast majority of AFL system suppliers produce the entire portfolio of products, and the suppliers which do not can expand their offering to cover a much wider range with relative ease. In this regard, the Parties submitted that the markets for AFL systems or AFL products/services need not be further subdivided by, for example, function.⁷³
41. The Parties submitted that, from a customer's perspective, there are no other goods which may be substitutable with AFL systems. AFL systems include remote controls and monitoring functions and AFL systems must withstand environmental conditions. To cite an example, the Parties submitted that ordinary lighting found in the home environment is not substitutable for AFL.⁷⁴ End-user customers in Singapore which utilise AFL systems include civilian and military airport and heliport operators.⁷⁵
42. The Parties submitted that, from a supply-side perspective, there are no other goods which may be substitutable with AFL systems as it requires additional controls and other monitoring components beyond simple lighting.⁷⁶ The Parties submitted that AFL systems are supplied in ranges of high and low complexity depending on whether the airport/heliport is used for civilian or military aircraft, the size of the airport and the size of the passenger traffic of the airport. However, the Parties also submitted that most AFL system suppliers are able to cater to a range of airport sizes, although for heliports, there may be specific products which certain suppliers may not produce.

CCS's Market Inquiries

43. To determine the relevant product market, CCS made market enquiries with end-user customers, third-party contractors/agents and other suppliers of AFL systems.

Are there non-AFL substitute products for AFL systems?

44. Third-party feedback confirms that AFL systems cannot be substituted with non-AFL systems as there is a need to ensure all AFL products and services comply with International Civil Aviation Organization ("ICAO") requirements.⁷⁷

⁷² Paragraph 15.1 of Form M1.

⁷³ Paragraph 19.2 of Form M1.

⁷⁴ Paragraph 19.6 of Form M1.

⁷⁵ Paragraph 18.5 of Form M1.

⁷⁶ Paragraph 19.10 of Form M1.

⁷⁷ [3<] response dated 16 July 2015 to Question 7 of CCS's RFI dated 6 July 2015.

Is there a separate market for spare parts of AFL systems?

45. In relation to spare parts, CCS notes that a major portion of the end-user customers' expenditure on spare parts of AFL Lights is OEM-specific.⁷⁸ [X]. [X] indicated that the budgeting for procurement of new AFL Lights would include consideration of the cost of spare parts.⁷⁹
46. In view of the above information, CCS is of the view that new AFL systems and their spare parts should be considered as a single system market rather than two separate markets.⁸⁰ In any event, since only concerns about brand-specific spare parts were raised and the Parties have proposed commitments that apply to spare parts, there is not a need to review the supply of spare parts separately.

Is there a separate market for the installation and maintenance of AFL systems?

47. Currently, Singapore-based third-parties rather than AFL systems suppliers provide both the installation and maintenance services for the AFL systems and there is no information to suggest that this will change post-merger. Given that the Proposed Transaction will not change the counterfactual scenario, CCS considers that there is not a need to review the installation and maintenance services for AFL systems as part of the merger assessment.

Should the market for AFL systems be further subdivided?

48. Market enquires also indicated that end-user customers procure three main components of an AFL system: AFL Lights, CCRs and an AFL C&M system.⁸¹ The AFL C&M system can be procured on a standalone basis and it is able to work with different brands of AFL Lights.⁸²
49. [X] indicated that it generally procures AFL Lights and CCRs as part of a larger contract for the resurfacing of runways/taxiways.⁸³ It is willing to accept AFL Lights and CCRs to be of different brands.⁸⁴
50. For the maintenance and repair of AFL Lights and CCRs, end-user customers procure spare/replacement parts for AFL Lights and CCRs separately.⁸⁵

⁷⁸ Notes of teleconference between CCS and [X] on 10 September 2015, paragraph 1; Notes of Meeting between CCS and [X] on 7 October 2015, paragraph 3.

⁷⁹ Notes of Meeting between CCS and [X] on 7 October 2015, paragraph 6.

⁸⁰ Paragraph 6.4 of CCS Guidelines on Market Definition states that "[a] system market may be appropriate when buyers take into account the whole-life cost of the product before buying. This means that the buyer will look at both the price of the primary product and the secondary product before deciding which product to buy. This definition also applies when reputation effects mean that setting a supra competitive price for the secondary product would significantly harm a seller's profits on future sales of its primary product".

⁸¹ Notes of Meeting between CCS and [X] on 21 July 2015, paragraph 3.

⁸² [X] response dated 16 July 2015 to Question 7 of CCS's RFI dated 6 July 2015; Notes of Meeting between CCS and [X] on 28 September 2015, paragraph 19.

⁸³ [X] response dated 16 July 2015 to Question 14 of CCS's RFI dated 6 July 2015.

⁸⁴ Notes of Meeting between CCS and [X] on 21 July 2015, paragraph 33.

⁸⁵ Notes of Meeting between CCS and [X] on 21 July 2015, paragraphs 34 and 39; Notes of Meeting between CCS and [X] on 28 September 2015, paragraph 7.

51. Third-party feedback also suggested that AFL Lights can be further sub-categorised into LED AFL Lights and halogen AFL Lights. According to these respondents, airports are migrating from halogen to LED AFL Lights.⁸⁶ [X] plans to replace all the current halogen AFL Lights with LED AFL Lights over the next seven to ten years.⁸⁷ [X].⁸⁸
52. Third-party feedback indicated that the Parties are capable of supplying LED AFL Lights.⁸⁹ There are alternative brands of LED AFL Lights which are currently being tested by end-user customers. For instance, [X] is already using LED AFL Lights from [X] for some taxiways but it is also testing LED AFL Lights from [X].⁹⁰ [X] also shared that a supplier's capability and market position in supplying halogen AFL Lights does not reflect on its capability in supplying LED AFL Lights. [X] shared that the latter is a new product such that all suppliers do not have a strong track record.⁹¹ [X].⁹²

CCS's Assessment of Product Market

53. The information received by CCS suggests that AFL systems could be segmented into separate product markets, namely AFL C&M system, AFL Lights and CCRs. These components serve different functions and are not substitutable for one another. Customers also need not purchase them together as a bundle. AFL C&M systems, in particular, are purchased separately from AFL Lights and CCRs. Whilst AFL Lights and CCRs are typically purchased together for new projects, they can also be purchased separately.
54. Additionally, AFL Lights could be segmented further into halogen AFL Lights and LED AFL Lights. Given the significant cost differences between halogen and LED AFL Lights⁹³, and that there is still a large installed base of halogen AFL Lights in the airports, end-user customers are unlikely to switch to LED AFL Lights in the event of a 5% to 10% price increase in the price of halogen AFL Lights. With the migration from halogen to LED technology over time, CCS is of the view that LED AFL Lights would likely become a substitute for halogen AFL Lights, over the mid to long-term; however end-user customers are not likely to switch back to halogen AFL Lights once they have migrated to LED AFL Lights.
55. Market enquiries indicate that competition concerns arise only in relation to halogen AFL Lights and potentially CCRs. There is therefore not a need to consider the market definition of AFL C&M systems in any further detail. In relation to AFL Lights and CCRs, as the Parties have proposed commitments that apply to both AFL Lights and

⁸⁶ [X] response dated 17 July 2015 to Question 3 of CCS's RFI dated 6 July 2015; Notes of Meeting between CCS and [X] on 21 July 2015, paragraphs 17 and 19.

⁸⁷ Notes of Meeting between CCS and [X] on 21 July 2015, paragraphs 17 and 19; Email from [X] on 2 September 2015.

⁸⁸ Notes of Meeting between CCS and [X] on 28 September 2015, paragraph 30; Email from [X] on 16 October 2015.

⁸⁹ Notes of Meeting between CCS and [X] on 21 July 2015, paragraph 18; Notes of Meeting between CCS and [X] on 28 September 2015, paragraph 31.

⁹⁰ Notes of teleconference between CCS and [X] on 10 September 2015, paragraph 13.

⁹¹ Notes of Meeting between CCS and [X] on 21 July 2015, paragraphs 19 and 20.

⁹² Notes of Meeting between CCS and [X] on 28 September 2015, paragraph 22.

⁹³ [X] indicated that the price differences between LED and halogen AFL Lights can range from 11% to 50% depending on the brand of AFL Lights.

CCRs, it is not necessary to determine the exact market definition for these two components.

B. GEOGRAPHIC DIMENSION

The Parties' Submissions

56. The Parties submitted that the relevant geographic market definition for the supply of AFL systems is global, in view that procurement and supply of AFL system takes place on a worldwide basis. The Parties also submitted that AFL systems providers compete internationally to supply AFL products to civilian and military airports and heliports and are not limited by geography to any region or country. The Parties highlighted that there are typically no to low regulatory barriers in respect of the supply of AFL systems, on condition that the AFL systems comply with ICAO and Federal Aviation Administration ("FAA") standards. While AFL systems are not manufactured in Singapore⁹⁴, the Parties submitted that transport costs do not represent a significant proportion of overall costs of AFL products.⁹⁵

CCS's Market Inquiries

57. Market inquiries reveal that when end-user customers source for AFL systems, they go through an open tender process and do not specify the brand they require. As such, so long as any AFL system supplier's AFL products meet the tender requirements, its products can be proposed in the tender regardless of whether it is a local or a foreign company.
58. The contractors that are bidding for the contracts could source for suitable AFL systems from global AFL system suppliers to offer as part of their proposals. Similarly, suppliers of AFL systems generally supply to airports around the world, and it does not appear that there is any special regulatory requirement that would stop a supplier of AFL systems from supplying the Singapore market.

CCS's Assessment of Geographic Market

59. Given that the AFL systems could be sourced from global AFL system suppliers and suppliers do supply to different airports around the world, CCS is of the view the relevant geographic market for the purpose of CCS's assessment is likely to be the global supply of AFL systems to Singapore.

C. OVERALL ASSESSMENT

60. Based on the above, CCS considers that, for the purposes of CCS's assessment, the markets are likely to be the global supply to Singapore of (i) AFL C&M systems, (ii) AFL Lights – which can be further segmented into halogen AFL Lights and LED AFL Lights, and (iii) CCRs.

⁹⁴ Paragraph 7.1 of the Parties' response dated 20 July 2015 to CCS's RFI dated 16 July 2015.

⁹⁵ Paragraph 20.2 of Form M1.

61. CCS notes that CCS's indicative market share thresholds for a merger to raise competition concerns has been crossed even for the wider market for the global supply of AFL systems to Singapore (please see section below on Market Shares). However, CCS notes that market feedback does not suggest any potential competition concerns arising from the Proposed Transaction in the AFL C&M systems segment and the commitments proposed by the Parties would address the potential competition concerns arising from the Proposed Transaction in the AFL Lights and CCRs segments. As such, CCS is of the view that potential competition concerns in the wider market, i.e., the market for the global supply of AFL systems to Singapore has been fully addressed, with no further necessity to determine the precise market definition in this regard.

IX. MARKET SHARES

A. GLOBAL SALES OF AFL SYSTEMS

62. ADB submitted that the total size for the global supply for AFL systems in 2014 is approximately [X] by value.⁹⁶
63. ADB submitted that ADB's and Safegate's shares of the global supply to the global market for AFL systems in 2014 were [30-40]% and [10-20]% respectively.⁹⁷ The market share estimates by value of the global supply of AFL systems to the global market are set out in Table 1 below. ADB does not have access to third-party market estimates or calculations, and has reached this figure based on its internal estimates.

Table 1: Estimated shares for the global supply of AFL systems to the global market from 2012 to 2014⁹⁸

	2012		2013		2014	
Supplier Name	Sales Value (S\$'000)	Shares by Value	Sales Value (S\$'000)	Shares by Value	Sales Value (S\$'000)	Shares by Value
ADB	[X]	[30-40]%	[X]	[20-30]%	[X]	[30-40]%
Safegate	[X]	[10-11]%	[X]	[10-20]%	[X]	[10-20]%
<i>Combined</i>	[X]	[40-50]%	[X]	[30-40]%	[X]	[40-50]%
Honeywell	[X]	[0-10]%	[X]	[0-10]%	[X]	[0-10]%
Crouse Hinds	[X]	[0-10]%	[X]	[0-10]%	[X]	[0-10]%
OCEM	[X]	[0-10]%	[X]	[0-10]%	[X]	[0-10]%

⁹⁶ Paragraph 21.1 of Form M1.

⁹⁷ Paragraph 21.1 of Form M1.

⁹⁸ Paragraph 21.1 of Form M1; Paragraph 28.1 of the Parties' response dated 9 October 2015 to CCS's RFI dated 5 October 2015.

ATG	[X]	[0-10]%	[X]	[0-10]%	[X]	[0-10]%
Lucebit ⁹⁹	[X]	[0-10]%	[X]	[0-10]%	NA	NA
YouYang	[X]	[0-10]%	[X]	[0-10]%	[X]	[0-10]%
Hella	[X]	NA	[X]	[0-10]%	[X]	[0-10]%
Others	[X]	[20-30]%	[X]	[20-30]%	[X]	[20-30]%
Total	[X]	100%		100%		100%

B. GLOBAL SUPPLY OF AFL SYSTEMS TO SINGAPORE

64. Market share figures broken down by AFL components are not available. Instead, ADB submitted that ADB's and Safegate's shares of the global supply of AFL systems into Singapore in 2014 were [40-50]% and [40-50]% respectively.¹⁰⁰ Based on the Parties' submission, the total revenue from the sale of AFL systems in Singapore was approximately [X] in 2014.¹⁰¹ In addition, the Parties submitted that the market shares may vary depending on tenders won by each company in Singapore.¹⁰² The market share estimates by value of the global supply of AFL systems to Singapore ("Singapore market") are shown in Table 2 below.
65. However, ADB submitted that its estimates of the size of the Singapore market may not accurately reflect or account for Safegate's and other competitors' actual revenues. [X].¹⁰³

Table 2: Estimated market shares for the global supply of AFL systems into Singapore from 2012 to 2014¹⁰⁴

	2012		2013		2014	
Supplier Name	Sales Value (S\$)	Shares by Value	Sales Value (S\$)	Shares by Value	Sales Value (S\$)	Shares by Value
ADB	[X]	[50-60]%	[X]	[70-80]%	[X]	[40-50]%
Safegate	[X]	[10-20]%	[X]	[10-20]%	[X]	[40-50]%
Combined	[X]	[70-80]%	[X]	[80-90]%	[X]	[80-90]%
ATG	[X]	[0-10]%	[X]	[0-10]%	[X]	[0-10]%

⁹⁹ Acquired by ADB in 2014.

¹⁰⁰ Paragraph 22.1 of Form M1.

¹⁰¹ Paragraph 16 of Form M1.

¹⁰² Paragraph 22.2 of Form M1.

¹⁰³ Paragraph 1.2 of the Parties' response dated 20 July 2015 to CCS's RFI dated 16 July 2015.

¹⁰⁴ Paragraphs 22.1 of Form M1; Paragraph 28.2 of the Parties' response dated 9 October 2015 to CCS's RFI dated 5 October 2015.

Others	[X]	[20-30]%	[X]	[0-10]%	[X]	[0-10]%
Total	[X]	100%	[X]	100%	[X]	100%

CCS's Assessment

66. Based on estimates provided by ADB, the combined share (by value) of the Parties in the global supply of AFL systems into Singapore was about [80-90]% in 2014. The combined share of the Parties in the global supply of AFL systems into Singapore estimated by ADB exceeds CCS's indicative thresholds for a merger to raise competition concerns.¹⁰⁵ While the Parties had submitted that the shares may vary depending on tenders won by each company in Singapore, CCS notes that the Parties had share figures of above 70% for the past three years.
67. The only end-user customers of AFL systems in Singapore are [X]. CCS notes that end-user customers indicated that they currently purchase AFL Lights and CCRs almost solely from the Parties.¹⁰⁶ [X] does not recall other brands besides the Parties' brands being proposed by contractors in their tender proposals in the last few years.¹⁰⁷ In particular, about [X] of the AFL Lights and [X] of the CCRs in [X] are from the Parties.¹⁰⁸ Likewise, [X] only procured AFL systems from the Parties in the last [X] tenders conducted in [X].¹⁰⁹ [X] also estimated that a major portion of the AFL Lights installed [X] were of ADB brands.¹¹⁰ This suggests that the Parties' combined market shares for AFL Lights and for CCRs in Singapore could be close to [90-100]%.

X. ACTUAL AND POTENTIAL COMPETITION

The Parties' Submissions

68. ADB listed the five entities below as their main competitors in the market for AFL systems worldwide:
- i. [X];
 - ii. [X];
 - iii. [X];
 - iv. [X]; and
 - v. [X].¹¹¹

¹⁰⁵ Paragraph 5.15 of the *CCS Guidelines on the Substantive Assessment of Mergers*, CCS is generally of the view that competition concerns are unlikely to arise in a merger situation unless the merged entity will have a market share of 40% or more, or the merged entity will have a market share of between 20% to 40% and with a post-merger CR3 at 70% or more.

¹⁰⁶ Email from [X] on 28 July 2015; Email from [X] on 14 August 2015; Notes of Meeting between CCS and [X] on 21 July 2015, paragraph 2; Notes of Meeting between CCS and [X] on 28 September 2015, paragraph 32.

¹⁰⁷ [X] response dated 16 July 2015 to Question 6 of CCS's RFI dated 2 July 2015.

¹⁰⁸ [X] also operates [X]. [X] uses some [X] lights for taxiway signages in [X]. Email from [X] on 28 July 2015; Email from [X] on 14 August 2015.

¹⁰⁹ [X] response dated 11 August 2015 to Question 2 of CCS's RFI dated 6 July 2015.

¹¹⁰ Notes of Meeting between CCS and [X] on 7 October 2015, paragraph 29. There are also some old AFL Lights from [X].

¹¹¹ Paragraph 24.1 of Form M1.

69. ADB also submitted that the market for AFL systems is currently characterised by a large number of global suppliers, and a high ease of switching between suppliers by customers.¹¹² ADB highlighted that there is capacity globally which allows existing AFL manufacturers to increase their output, and sell into the Singapore market.¹¹³
70. On the ability for customers to switch suppliers, the Parties highlighted that the cost for a customer to switch supplier will be similar to the cost of acquiring the products from the original AFL producer.¹¹⁴ Moreover, airports could be supplied by several AFL manufacturers and it is not necessary that only one brand may support an airport at any given time.¹¹⁵
71. The Parties submitted that the key parameters influencing customer choice between suppliers are price and quality of the products and services in respect of safety and reliability.¹¹⁶ Other types of criteria typically include adherence to international standards for each supplied product, features of the product, ease of maintenance, design, weight, energy consumption, etc. In Singapore, AFL system suppliers also compete on the quality of service levels provided, such as reliability and the supplier's responsiveness to the customers' needs.¹¹⁷

CCS's Market Inquiries

72. [X] shared that its choice of an AFL system supplier is dependent on the following factors below:¹¹⁸
 - i. Compliance with regulatory (ICAO) requirements [X];
 - ii. Compatibility with existing system;
 - iii. Meet its technical requirements;
 - iv. Previous track record;
 - v. Availability of maintenance services and components; and
 - vi. Price [X].
73. Feedback provided to CCS suggests that ADB and Safegate represent each other's closest competitor in terms of price and quality in relation to the provision of AFL systems in Singapore generally.¹¹⁹ Third-parties also suggested/raised concerns that the merged entity may raise prices given that there will be a limited choice of AFL system providers.¹²⁰

AFL Lights

¹¹² Paragraphs 24.3 and 26.1 of Form M1.

¹¹³ Paragraph 24.5 of Form M1.

¹¹⁴ Paragraph 25.1 of Parties' response dated 9 July 2015 to CCS's RFI dated 2 July 2015.

¹¹⁵ Paragraph 24.2 of Parties' response dated 9 July 2015 to CCS's RFI dated 2 July 2015.

¹¹⁶ Paragraph 24.2 of Form M1.

¹¹⁷ Paragraphs 27.1 to 27.2 of the Parties' response dated 9 July 2015 to CCS's RFI dated 2 July 2015.

¹¹⁸ [X] response dated 16 July 2015 to Question 8 of CCS's RFI dated 6 July 2015.

¹¹⁹ Responses from: (1) end-user customers: [X], (2) third-party contractors: [X] and (3) AFL system suppliers: [X].

¹²⁰ [X] response dated 16 July 2015 to Question 3 of CCS's RFI dated 6 July 2015; Notes of Meeting between CCS and [X] on 28 September 2015, paragraph 32.

74. Currently, [X] procures almost all AFL Lights from the Parties [X], although it does not have a pre-approved list of AFL brands.¹²¹
75. An end-user customer, [X], shared that beyond the basic requirement that AFL Lights must comply with ICAO standards, it also tests AFL Lights for quality (for example, the lights will not pop out of the runway when a plane lands on them), reliability (for example, able to withstand lightning strikes) and maintainability (for example, whether the product is long-lasting, and whether or not there is a tendency for water seepage, which will cause the bulb to blow or the casing to rust). [X] testing of a new brand of AFL Lights would take at least two years to complete before it becomes sufficiently confident of deploying the new AFL Lights in the airfield. Even then, [X] deployment of a new brand of AFL Lights would start off in a small area of taxiway. [X] would require a longer track record of use before deploying any new brand of AFL Lights on the runways as the continuous operation of its runways is more critical than the taxiways.¹²² For halogen AFL Lights, [X] has not [X] another brand of AFL Lights besides the brands of the Parties.¹²³
76. However, [X] is slowly migrating over to LED AFL Lights over the next seven to ten years.¹²⁴ The first phase of migration is expected for [X], for which [X] expects to install LED AFL Lights in [X]. [X] expects to replace all halogen AFL Lights for [X] with LED AFL Lights by [X]. [X] also expects to replace all of the halogen AFL Lights for [X] with LED AFL Lights by [X].¹²⁵ [X] has also started to install LED AFL Lights for existing taxiways and is using mainly [X] LED AFL Lights. However, [X] has started to test [X] LED AFL Lights.¹²⁶ [X] is unaware whether there are other suppliers that are ready with a full portfolio of LED AFL Lights as they have different rollout plans.¹²⁷ [X], however, would also check whether there are other possible brands of LED AFL Lights in trade shows.¹²⁸ [X] also shared that a supplier's capability in supplying halogen AFL Lights does not reflect on their capability to supply LED AFL Lights.¹²⁹ [X] indicated that the Parties are unlikely to have any significant advantage over competitors in supplying LED AFL Lights given that all suppliers are new in this area. [X] also shared that it was willing to accept brands of LED AFL Lights other than those from ADB and Safegate as long as the standard ICAO requirements are met and technical support is available on short notice.¹³⁰
77. [X] procures AFL Lights mostly from the Parties, with a major portion of its installed AFL Lights comprising of [X].¹³¹ Currently [X] uses halogen AFL Lights.¹³² [X]

¹²¹ Email from [X] on 28 July 2015; Email from [X] on 14 August 2015; Notes of Meeting between CCS and [X] on 21 July 2015, paragraph 4.

¹²² Notes of Meeting between CCS and [X] on 21 July 2015, paragraphs 5 and 6.

¹²³ Except for [X]. Notes of Meeting between CCS and [X] on 21 July 2015, paragraph 9. Email from [X] on 14 August 2015.

¹²⁴ Notes of Meeting between CCS and [X] on 21 July 2015, paragraph 17; Email from [X] on 2 September 2015.

¹²⁵ Notes of teleconference between CCS and [X] on 10 September 2015, paragraph 11.

¹²⁶ Notes of teleconference between CCS and [X] on 10 September 2015, paragraph 13.

¹²⁷ Notes of Meeting between CCS and [X] on 21 July 2015, paragraph 18.

¹²⁸ Notes of teleconference between CCS and [X] on 10 September 2015, paragraph 13.

¹²⁹ Notes of Meeting between CCS and [X] on 21 July 2015, paragraph 20.

¹³⁰ Notes of teleconference between CCS and [X] on 10 September 2015, paragraph 14.

¹³¹ Notes of Meeting between CCS and [X] on 28 September 2015, paragraphs 14, 24, 26 and 32; Notes of Meeting between CCS and [X] on 7 October 2015, paragraph 29. There are also some old AFL Lights from [X].

based their technical requirements on the ICAO and FAA standards. However, [X] shared that it is up to contractors to propose brands which will be evaluated based on tender requirements and specifications.¹³³

78. [X].¹³⁴ [X].¹³⁵

CCRs

79. [X] currently has only procured CCRs of the Parties.¹³⁶ [X] only procured AFL systems from the Parties in the [X] tenders conducted in [X].¹³⁷

80. Beyond the basic requirement that CCRs must comply with FAA standards, one end-user customer, [X], also indicated that it tests the CCRs on their durability and whether they are able to integrate with the C&M system in the airport. [X] testing of a new brand of CCR would take about one year to complete.¹³⁸

81. At the moment, [X] has not [X] another brand of CCR besides the brands of the Parties. [X] is currently testing [X] CCRs upon its request. [X] has experienced some problems integrating [X] CCRs with [X] C&M system and it is waiting for [X] response on these problems.¹³⁹

82. [X] would not limit supplier sourcing in its procurement process. It indicated that contractors would propose products from the same OEM of the subsystem.¹⁴⁰

AFL C&M System

83. [X] uses a single AFL C&M system for all the runways/taxiways in the airport. There is a unified platform to control all the lights via a single interface. A single AFL C&M system is preferred as it is the safest approach with the least risk. To use different brands of AFL C&M systems across different runways and taxiways would be inefficient as air traffic controllers would have to manage different systems, and would give rise to further complications between different suppliers when faults in the systems have to be rectified. However, end-user customers indicated that there is no necessity to use the same brand for both AFL C&M system and AFL Lights.¹⁴¹

84. [X] will typically use one AFL C&M system until the end of its lifespan, after which it would replace the existing AFL C&M system with a completely new system. [X] last conducted a tender for its AFL C&M system in [X] and chose [X] system as [X] for

¹³² Notes of Meeting between CCS and [X] on 28 September 2015, paragraph 30.

¹³³ Notes of Meeting between CCS and [X] on 28 September 2015, paragraph 32.

¹³⁴ Notes of Meeting between CCS and [X] on 28 September 2015, paragraph 30; Email from [X] on 16 October 2015.

¹³⁵ Notes of Meeting between CCS and [X] on 7 October 2015, paragraph 28 and 29.

¹³⁶ Email from [X] on 28 July 2015.

¹³⁷ [X] response dated 11 August 2015 to Question 2 of CCS's RFI dated 6 July 2015.

¹³⁸ Notes of Meeting between CCS and [X] on 21 July 2015, paragraph 32.

¹³⁹ Notes of Meeting between CCS and [X] on 21 July 2015, paragraph 31.

¹⁴⁰ Notes of Meeting between CCS and [X] on 28 September 2015, paragraphs 16 and 24.

¹⁴¹ Notes of Meeting between CCS and [X] on 21 July 2015, paragraph 28; Notes of Meeting between CCS and [X] on 28 September 2015, paragraph 19.

that tender.¹⁴² The current contract with [X] will end around [X]. Within these [X] years, [X] would not change the system but would procure upgrades or add-ons to the software from [X]. The last add-on [X] made to the system was to cater for [X].¹⁴³ The hardware for the AFL C&M system, i.e., the servers, can be bought from multiple sources, including non-AFL system suppliers, for example, CISCO.¹⁴⁴

85. As part of the contract for procuring the AFL C&M system, [X] has an individual price schedule for related services [X]. While [X] has to pay for any upgrades/updates to the AFL C&M system, it is able to use the locked-in contractual rates to negotiate for the actual upgrade costs with the supplier [X].¹⁴⁵
86. At the end of the [X] years, [X] would take a “big bang” approach where it would replace the existing AFL C&M system with a completely new system. The development and testing process takes around two years before the new system is deployed. [X] is of the view that there is no advantage to the incumbent AFL C&M system provider because it would certainly replace the system given that there would have been many advances and changes. The incumbent AFL C&M system provider would have to bid for the project in the same way as any other suppliers.¹⁴⁶ [X] indicated that a local company would have the capability to provide the C&M system for its airports.¹⁴⁷

CCS’s Assessment

87. Based on the above, CCS considers that the Parties are each other’s closest, if not only, competitor in the short to mid-term in the supply of halogen AFL Lights in Singapore. However, in the supply of LED AFL Lights in Singapore, there are likely to be other AFL system suppliers who can competitively constrain the Parties in the mid to long-term. In relation to the supply of CCRs in Singapore, the Parties are likely to be each other’s only competitor in the short-term. In relation to the supply of C&M systems in Singapore, there are likely to be other AFL system suppliers who can competitively constrain the Parties when end-user customers are ready to change their C&M systems.

XI. BARRIERS TO ENTRY AND EXPANSION

The Parties’ Submissions

88. The Parties submitted that the cost for the development of a single AFL system is between [X] and [X], depending on the complexity of the product. The Parties estimated that it will require a few years to develop a single AFL system.¹⁴⁸ Furthermore, based on the Parties’ estimates, the annual expenditure on advertising/promotion required to achieve a worldwide market share of 5% is approximately [X].¹⁴⁹

¹⁴² [X] uses another AFL C&M system developed by a Singapore provider [X].

¹⁴³ [X] had added [X] and the AFL C&M system needed to be updated to cater for these additions.

¹⁴⁴ Notes of Meeting between CCS and [X] on 21 July 2015, paragraph 24.

¹⁴⁵ Notes of Meeting between CCS and [X] on 21 July 2015, paragraph 26.

¹⁴⁶ Notes of Meeting between CCS and [X] on 21 July 2015, paragraph 27.

¹⁴⁷ Notes of Meeting between CCS and [X] on 28 September 2015, paragraph 19.

¹⁴⁸ Paragraph 26.2 of Form M1.

¹⁴⁹ Paragraph 27.1 of Form M1.

89. The Parties submitted that there are more than 100 manufacturers active in the field of AFL systems, and there is capacity globally which allows existing AFL manufacturers to increase their output and sell into the Singapore market.¹⁵⁰ The Parties also submitted that there are no unique local regulatory factors that would prevent entry from other suppliers to the AFL market in Singapore, as AFL products and services supplied in Singapore are based on ICAO standards.¹⁵¹ Furthermore, the technology used for AFL systems used in Singapore such as standard LED lights and Individual Lighting Control and Monitoring System (ILCMS) would not pose a significant barrier as many competitors have similar technologies.¹⁵²
90. In addition, the Parties submitted that while intellectual property and research and development are important in their development of AFL systems, their patents and intellectual property rights do not constitute a barrier of entry. This is because other suppliers may enter the market with their own product designs. The Parties highlighted that there are a number of AFL system suppliers worldwide who have the requisite intellectual property and technology to supply AFL systems.¹⁵³ For example, Hella has built up a relatively significant position in the past five years, starting with only experience in LED lamps for the automotive industry.¹⁵⁴ The Parties are not aware of any exit of AFL system suppliers in the past five years.¹⁵⁵

CCS's Market Inquiries

91. CCS's third-party market inquiries reveal that competing global suppliers may face significant difficulties supplying AFL systems into Singapore.

AFL Lights

92. First, an end-user customer's internal testing requirement of AFL systems beyond ICAO and FAA requirements, albeit not being a regulatory barrier to entry, could potentially prevent competing suppliers from successfully supplying to the end-user customer in the short to medium term. As noted in paragraph 75, beyond the basic requirement that AFL Lights must comply with ICAO standards, [X] would take at least two years to test the AFL Lights and its deployment of a new brand of AFL Lights thereafter would start off in a small area of taxiway. [X] would require a longer track record of use before deploying any new brand of AFL Lights on the runways as the continuous operation of its runways is more critical than the taxiways.¹⁵⁶
93. Secondly, even if a new brand meets the technical requirements, [X] would still assess if the AFL system supplier can provide adequate after-sales technical support and supply of spare parts locally before it would consider procuring and deploying the products.¹⁵⁷ Given that it is critical that AFL Lights are functioning at all times, [X] considers any delay in the provision of local technical and maintenance support and

¹⁵⁰ Paragraph 26.1 of Form M1.

¹⁵¹ Paragraph 28.1 of Form M1.

¹⁵² Paragraph 28.2 of Form M1.

¹⁵³ Paragraph 33.1 of the Parties' response dated 9 July 2015 to CCS's RFI dated 2 July 2015.

¹⁵⁴ Paragraph 29.1 of Form M1.

¹⁵⁵ Paragraph 36.1 of the Parties' response dated 9 July 2015 to CCS's RFI dated 2 July 2015.

¹⁵⁶ Notes of Meeting between CCS and [X] on 21 July 2015, paragraphs 5 and 6.

¹⁵⁷ Notes of Meeting between CCS and [X] on 21 July 2015, paragraph 9.

spare parts to be a significant disadvantage.¹⁵⁸ For example, currently, Safegate has an office in Singapore that can provide technical support. While ADB does not have an office in Singapore, it has a technical team in Malaysia to assist in the technical support while spare parts can be obtained from Ruby, ADB's local agent.¹⁵⁹

94. [X] requires ICAO and FAA standards to be met.¹⁶⁰ If the AFL Lights purchased were of a large quantity for a major project, it would validate the quality of the products, for example, using factory acceptance test and site acceptance test to ensure the compliance to ICAO and FAA standards.¹⁶¹ [X] indicated that it is up to contractors to propose brands which will be evaluated based on tender requirements and specifications.¹⁶² [X].¹⁶³
95. In terms of after-sales technical support, most maintenance and repairs for [X]. [X] maintenance and repairs [X] would be done by contractors, for example, [X].¹⁶⁴ According to [X], after-sales technical support is generally not required from ADB and Safegate. However, troubleshooting involving software programming may require assistance from ADB or Safegate where the programming codes were copyrighted. In such cases, the contractors responsible for maintenance would have to seek help from the AFL system supplier. Such troubleshooting support from the AFL system supplier is mainly applicable for C&M systems and not AFL Lights.¹⁶⁵
96. In terms of spare parts, CCS understands from end-user customers that they face significant challenge in switching away from the products of the Parties to generic parts instead. For example, [X] explained that the only spare parts that are not brand-specific are bulbs, resistance bypass and electronics cards. As such, a high percentage of end-user customers' annual expenditure was spent on original spare parts. About [X] of [X] expenditure on spare parts for AFL Lights was spent on original spare parts.¹⁶⁶ [X].¹⁶⁷
97. According to a competitor, [X], some AFL systems suppliers may not be able to supply a full suite of AFL Lights and end-user customers, such as [X], prefer suppliers that are able to do so.¹⁶⁸ Some companies may need to purchase AFL Lights from the Parties to enable them to offer a complete AFL system. There were therefore concerns that, post-merger, the Parties could refuse to supply AFL Lights to such companies to impede their abilities to offer AFL systems.¹⁶⁹ However, third-party feedback also suggested that AFL Lights can be purchased from AFL system suppliers other than the Parties if customers are able to accept them.¹⁷⁰

¹⁵⁸ Notes of Meeting between CCS and [X] on 21 July 2015, paragraph 8.

¹⁵⁹ Notes of Meeting between CCS and [X] on 21 July 2015, paragraph 42.

¹⁶⁰ Notes of Meeting between CCS and [X] on 28 September 2015, paragraph 21.

¹⁶¹ Notes of Meeting between CCS and [X] on 28 September 2015, paragraph 25.

¹⁶² Notes of Meeting between CCS and [X] on 28 September 2015, paragraphs 24, 26 and 32.

¹⁶³ Notes of Meeting between CCS and [X] on 28 September 2015, paragraph 22.

¹⁶⁴ Notes of Meeting between CCS and [X] on 7 October 2015, paragraph 20.

¹⁶⁵ Notes of Meeting between CCS and [X] on 7 October 2015, paragraphs 22 and 23.

¹⁶⁶ Notes of teleconference between CCS and [X] on 10 September 2015, paragraph 1.

¹⁶⁷ Notes of Meeting between CCS and [X] on 7 October, 2015, paragraph 3.

¹⁶⁸ [X] response dated 17 July 2015 to Question 3 of CCS's RFI dated 6 July 2015; Notes of Meeting between CCS and [X] on 21 July 2015, paragraph 23.

¹⁶⁹ [X] response dated 17 July 2015 to Question 7 of CCS's RFI dated 6 July 2015; [X] response dated 23 December 2015 to CCS's public consultation on commitments.

¹⁷⁰ [X] response dated 9 November 2015 to Question 1b of CCS's RFI dated 20 October 2015.

98. Additionally, feedback suggested that the merged entity could potentially lock in third-party contractors in Singapore with exclusivity terms, thus preventing competing AFL system suppliers from entering the Singapore market through partnership with these contractors.¹⁷¹ [X] indicated that it would take at least [X] to sponsor the entry of its own contractor to install AFL systems.¹⁷²

CCRs

99. As mentioned in paragraph 80, beyond the basic requirement that CCRs must comply with FAA standards, [X] also tests CCRs on their durability and whether they are able to integrate with its C&M system.¹⁷³ Such testing requirements may make it harder for new brands of CCRs to enter the market, although the duration of internal testing is shorter as compared to the testing of new brands of AFL Lights. [X] also does not require its CCRs to be of the same brand as its AFL Lights [X].¹⁷⁴ [X] also does not limit the brands it can accept as long as they meet the tender requirements.¹⁷⁵

AFL Control & Monitoring

100. In relation to AFL C&M system, CCS understands that at least one end-user customer has locked in its supplier for a substantial duration of [X] years through a long term contract.¹⁷⁶ Whilst [X] would not switch the AFL C&M system within the contract period, it has indicated that the incumbent does not have an advantage over other suppliers when the contract ends as a tender to replace the entire AFL C&M system will be called.¹⁷⁷ End-user customers also indicated that the AFL C&M system need not be of the same brand as the AFL Lights used.¹⁷⁸ According to [X], a local company would have the capability to provide AFL C&M systems for its use.¹⁷⁹

CCS's Conclusion on Barriers to Entry and Expansion

101. Based on the above information, CCS is of the view that it will be difficult for new suppliers of AFL Lights to enter the Singapore market in the short term to mid-term due to end-user customers' testing requirements and the need for local technical support. Given that [X] is the bigger buyer of AFL Lights and [X], it will be difficult for a new supplier to enter the market if [X] does not accept and use its brands of AFL Lights. Similarly, contractors may not be motivated to partner with new suppliers if they are not confident that end-user customers will accept the new brands.
102. As for the supply of CCRs, new suppliers may require a year or more to enter the market due to the need to pass additional testing requirements.

¹⁷¹ [X] response dated 17 July 2015 to Question 7 of CCS's RFI dated 6 July 2015.

¹⁷² [X] response dated 9 November 2015 to Question 2f of CCS's RFI dated 20 October 2015.

¹⁷³ Notes of Meeting between CCS and [X] on 21 July 2015, paragraph 32.

¹⁷⁴ Notes of Meeting between CCS and [X] on 21 July 2015, paragraph 33; Email from [X] on 28 July 2015.

¹⁷⁵ Notes of Meeting between CCS and [X] on 28 September 2015, paragraphs 16 and 24.

¹⁷⁶ Notes of Meeting between CCS and [X] on 21 July 2015, paragraph 24.

¹⁷⁷ Notes of Meeting between CCS and [X] on 21 July 2015, paragraph 27.

¹⁷⁸ Notes of Meeting between CCS and [X] on 21 July 2015, paragraph 28; Notes of Meeting between CCS and [X] on 28 September 2015, paragraph 19.

¹⁷⁹ Notes of Meeting between CCS and [X] on 28 September 2015, paragraph 19.

103. Whilst new suppliers of AFL C&M systems cannot enter the Singapore market until the point where end-user customers call for a tender for new systems, there do not seem to be any specific barriers that will hinder new suppliers to participate in these tenders.

XII. COUNTERVAILING POWER

The Parties' Submissions

104. The Parties submitted that the customers purchasing AFL systems include [X]. The Parties highlighted that these customers have countervailing buyer power, and that the merged entity after the Proposed Transaction will be constrained by their countervailing buyer power.¹⁸⁰
105. Specifically, the Parties submitted that it is possible for the Singapore government or ST Engineering to commence producing and self-supplying AFL products and services.¹⁸¹ Moreover, they are large and sophisticated buyers who multi-source their AFL needs and are strong negotiators who demand the highest quality and lowest prices.
106. The Parties also highlighted that the customers are able to switch between AFL system suppliers. As an example, ADB lost a deal for the supply of AFL systems in Singapore to Idman (under Safegate) in 2014. ADB has also lost existing business to Hella and Safegate in other main airports globally.¹⁸² The cost for a customer to switch supplier will be similar to the cost of acquiring the products from the original AFL producers.¹⁸³ Moreover, it is often the case that airports are supplied by several AFL manufacturers; it is not necessary that only one brand may support an airport at any given time. For instance, a single runway could be supplied by two different AFL providers, whereby the inset lights are supplied by one supplier while elevated lights are supplied by another supplier.¹⁸⁴

CCS's Market Inquiries and Conclusion on Countervailing Buyer Power

107. CCS's inquiries with [X] suggest that it enjoys some countervailing buyer power as it is [X] and AFL system suppliers leverage on the fact [X] to market their AFL systems to other airport customers. [X] is also able to negotiate to some extent on the basis of bulk purchase.¹⁸⁵ However, as noted above, [X] currently does not have another brand of halogen AFL Lights [X]. Given the long lead time for testing, the Proposed Transaction is likely to adversely affect [X] bargaining power in relation to halogen AFL Lights. [X] bargaining power in relation to CCRs may also be adversely affected by the Proposed Transaction in the short term.
108. In contrast, [X] countervailing buyer power in relation to LED AFL Lights is higher as it is already testing alternative brands and sourcing for other possible brands in trade shows.

¹⁸⁰ Paragraph 34.3 of Form M1.

¹⁸¹ Paragraph 32.1 of Form M1.

¹⁸² Paragraph 32.2 of Form M1.

¹⁸³ Paragraph 25.1 of Parties' response dated 9 July 2015 to CCS's RFI dated 2 July 2015.

¹⁸⁴ Paragraph 24.2 of Parties' response dated 9 July 2015 to CCS's RFI dated 2 July 2015.

¹⁸⁵ Notes of Meeting between CCS and [X] on 21 July 2015, paragraph 38.

109. [X].¹⁸⁶ [X].¹⁸⁷ [X].¹⁸⁸

XIII. COMPETITION ASSESSMENT

A. NON-COORDINATED EFFECTS

110. Non-coordinated effects may arise where, as a result of the Proposed Transaction, the merged entity finds it profitable to raise prices (or reduce output or quality) because of the loss of competition between the merged entities. Other firms in the market may also find it profitable to raise their prices because the higher prices of the merged entity's product will cause some customers to switch to competitors' products, thereby increasing demand for the competitors' products.¹⁸⁹

The Parties' Submissions

111. The Parties submitted that the non-coordinated effects are unlikely to arise for the following reasons:

- i. Constraints from existing competition and excess capacity, where there is capacity globally which allows existing AFL manufacturers to increase their output, and sell into Singapore without making major investments;
- ii. Significant countervailing buying power where large and sophisticated customers such as [X] multi-source their AFL needs and are therefore able to exert significant pricing pressure on AFL system suppliers; and
- iii. Competition in continuous innovation in the AFL market.¹⁹⁰

112. Further with regard to AFL Lights, the Parties submitted in principle that the customer can opt for any brand, as long as the product complies with ICAO standards without incurring any switching costs. In practice, most customers will typically go for purchase of the same brand within the same application (within one runway or within one taxiway), because products of different brands have slightly different photometric output, even though all products comply with ICAO requirements. To have products with different photometric output within the same application (for example, within one runway or within one taxiway) may be confusing to pilots and is in general to be avoided. Management of spare parts also becomes more complicated when products of different brands are mixed within the same application. If complete new taxiways are being built in the case of a runway extension, it is feasible to consider other brands for those new taxiways.¹⁹¹

113. With regard to AFL Power Systems, the Parties submitted the cost for the new brand of AFL Power System will be similar to the original brand as a result of market competition and there are no switching costs involved.¹⁹²

¹⁸⁶ Notes of Meeting between CCS and [X] on 28 September 2015, paragraph 30.

¹⁸⁷ Notes of Meeting between CCS and [X] on 28 September 2015, paragraph 37.

¹⁸⁸ Email from [X] on 16 October 2015.

¹⁸⁹ Paragraph 6.3 of the *CCS Guidelines on Substantive Assessment of Mergers*.

¹⁹⁰ Paragraph 34.1 of Form M1.

¹⁹¹ Parties' response dated 20 July 2015 to Question 5 of CCS's RFI dated 16 July 2015.

¹⁹² Parties' response dated 20 July 2015 to Question 5 of CCS's RFI dated 16 July 2015.

114. With regard to AFL C&M System, the Parties submitted that for a runway extension, a customer will typically expand the existing AFL control and monitoring system of the original brand. This is a relatively simple undertaking, typically limited to a modification of the Human Machine Interface and the configuration, requiring low cost and little time.¹⁹³
115. With regard to AFL Design, Services, System Integration, the Parties submitted that the cost and time are independent of the brand of AFL systems selected.¹⁹⁴

CCS's Assessment

116. CCS's inquiries with third-parties indicated that the merged entity is likely to have increased pricing power with regard to AFL systems.¹⁹⁵ Concerns were raised that, post-merger, the Parties would align their portfolio of brands and phase out certain existing brands of AFL Lights leading to problems with spare parts and technical support.¹⁹⁶ As noted in paragraph 27, the procurement of spare parts for the repairs and maintenance of the AFL Lights is separate from the installation contracts.¹⁹⁷

AFL Lights

Halogen AFL Lights

117. Given the significant difficulties for new suppliers to enter the market in the short to mid-term and customers' lack of countervailing buyer power in relation to halogen AFL Lights, the Proposed Transaction is likely to increase the Parties' market power (i.e., almost [90-100]% market share of this market segment in Singapore) and ability to raise prices for the supply of halogen AFL Lights over this period.

LED AFL Lights

118. CCS notes that the competition landscape could potentially change with the end-user customers' migration from halogen AFL Light to LED AFL Lights. At least one end-user customer, [X], has already planned its full migration to LED AFL Lights within the next seven to ten years and does not expect to procure any more halogen AFL Lights (other than spare parts) barring unforeseen circumstances. It has also indicated that the Parties do not have an advantage over their competitors in supplying LED AFL Lights and there are alternative brands of LED AFL Lights. [X] is already testing LED AFL Lights [X].¹⁹⁸

¹⁹³ Parties' response dated 20 July 2015 to Question 5 of CCS's RFI dated 16 July 2015.

¹⁹⁴ Parties' response dated 20 July 2015 to Question 5 of CCS's RFI dated 16 July 2015.

¹⁹⁵ [X] response dated 16 July 2015 to Question 3 of CCS's RFI dated 6 July 2015; [X] response dated 23 July 2015 to Question 3 of CCS's RFI dated 6 July 2015; [X] response dated 13 August 2015 to Question 3 of CCS's RFI dated 6 July 2015; Notes of Meeting between CCS and [X] on 28 September 2015. [X] response dated 17 July 2015 to Question 2 of CCS's RFI dated 6 July 2015.

¹⁹⁶ Notes of Meeting between CCS and [X] on 21 July 2015, paragraph 36.

¹⁹⁷ [X] will typically stock [X] worth of spare parts from the OEM procured through open tenders/quotations. These spare parts would then be provided to third-party contractors for any replacement and repair of AFL Lights when required.

¹⁹⁸ Notes of teleconference between CCS and [X] on 10 September 2015, paragraphs 11 to 14.

119. [X].¹⁹⁹ [X].

120. Given the above, CCS is of the view that the Proposed Transaction:

- i. is likely to potentially result in adverse uncoordinated effects in relation to halogen AFL Lights; and
- ii. is not likely to result in adverse uncoordinated effects in relation to LED AFL Lights.

CCRs

121. No specific concerns were raised by the industry in relation to CCRs post-merger. However, CCS notes that [X] has faced some problems when integrating a new brand of CCR [X] so there is a possibility that testing of CCRs may extend beyond a year.²⁰⁰ As such, the Proposed Transaction could potentially give rise to adverse uncoordinated effects in relation to CCRs in the short term.

AFL C&M System

122. CCS notes that end-user customers conduct tenders to procure their AFL C&M systems and the Parties do not enjoy any significant competitive advantage over other suppliers. While at least one end-user customer's system will last till [X], it has locked-in contractual rates that it can use to negotiate for the actual upgrade costs with the supplier.²⁰¹

123. Given the above, CCS is of the view that the Proposed Transaction is unlikely to result in adverse uncoordinated effects in relation to AFL C&M systems.

B. COORDINATED EFFECTS

124. A merger may also lessen competition substantially by increasing the possibility that, post-merger, firms in the same market may coordinate their behaviour to raise prices, or reduce quality or output. Given certain market conditions, and without any express agreement, tacit collusion may arise merely from an understanding that it will be in the firms' mutual interests to coordinate their decisions. Coordinated effects may also arise where a merger reduces competitive constraints in a market, thus increasing the probability that competitors will collude or strengthen a tendency to do so.²⁰²

The Parties' Submissions

125. The Parties submitted that there are more than 100 manufacturers active in the field of AFL based on ADB's estimates. In this regard, the Parties submitted that following the Proposed Transaction, there would not be any incentive for the remaining firms to coordinate their competitive behaviour based on predictions about the reactions of the remaining rivals. The Parties submitted that it is unlikely that any coordinated effects

¹⁹⁹ Notes of Meeting between CCS and [X] on 28 September 2015, paragraph 30; Email from [X] on 16 October 2015.

²⁰⁰ Notes of Meeting between CCS and [X] on 21 July 2015, paragraphs 31 and 32.

²⁰¹ Notes of Meeting between CCS and [X] on 21 July 2015, paragraphs 24 and 26.

²⁰² Paragraph 6.7 of the *CCS Guidelines on the Substantive Assessment of Mergers*.

will arise from the Proposed Transaction and that the merged entity, as well as remaining firms in the AFL systems market, will continue to compete vigorously.²⁰³

CCS's Assessment

126. While there may be many suppliers of AFL systems globally (global supply to global market), CCS's assessment above indicates that there are actually few global suppliers who supply to the Singapore market.
127. CCS notes, however, that the Proposed Transaction results in the merged entity supplying almost all the AFL systems into Singapore and any new entry will likely have to compete vigorously to be accepted by the end-user customers. Coupled with the process of procuring AFL systems through open tenders, the Proposed Transaction is unlikely to give rise to coordinated effects.

XIV. CLAIMED EFFICIENCIES

128. The Parties have claimed that the merger will give rise to the following efficiencies:²⁰⁴
- i. additional product offerings and activities in the value chain to customers;
 - ii. better airfield solutions capable of meeting the demand from rising traffic throughput in a safe environment;
 - iii. greater innovation and product improvement to ADB's customers, through a reinforcement of R&D facilities; and
 - iv. better adaptability of parties to the new environment shaped by Single European Sky Air Traffic Management Research ("SESAR") and NextGen programmes.
129. Efficiencies may be taken into account where (i) they increase rivalry in the market so that no SLC will result from the merger and (ii) where they do not avert a SLC, but will nevertheless bring about lower costs, greater innovation, greater choice or higher quality and be sufficient to outweigh the detriments to competition caused by the merger in Singapore.
130. CCS notes that the Parties have not provided detailed and verifiable evidence about the claimed efficiencies. Moreover, CCS has received feedback from one competitor that the Proposed Transaction may slow down technical innovations due to reduced competition.²⁰⁵ There is therefore insufficient information to assess that efficiencies would outweigh or eliminate any lessening of competition.

XV. ANCILLARY RESTRICTIONS

131. The SPA includes a non-compete clause²⁰⁶ and a non-solicitation of employees clause.²⁰⁷ Based on CCS's assessment, CCS is of the view that the two clauses are

²⁰³ Paragraph 35.1 of Form M1.

²⁰⁴ Paragraphs 12.1 and 42.1 to 42.6 of Form M1.

²⁰⁵ [X] response dated 17 July 2015 to Question 26 of CCS's RFI dated 6 July 2015.

²⁰⁶ The non-compete clause [X]. The restriction is limited in time [X] and in geography [X].

²⁰⁷ The non-solicitation of employees clause [X]. The restriction is limited in time [X] and in scope to only [X] identified "Key Employees".

directly related and necessary to the implementation of the merger and therefore falls within the exclusion under paragraph 10 of the Third Schedule of the Act insofar as it applies to Singapore.²⁰⁸

XVI. COMMITMENTS

132. At the end of the Phase 1 review, CCS sent an issues letter to the Parties on 4 August 2015 setting out the potential competition concerns identified. On 11 November 2015, ADB offered commitments in lieu of proceeding to a Phase 2 review. ADB subsequently amended the proposed commitments following feedback from CCS.

133. Pursuant to section 60A of the Act, CCS conducted a public consultation of the proposed commitments between 10 and 23 December 2015. The proposed commitments offered may be summarised as follows:

Potential Competition Concern	Commitment/Undertaking
1) The Parties may be able to increase prices post-merger in the short to medium term	ADB undertakes to implement a price cap based on Consumer Price Indices of the countries of origin within the commitment period on prices of ADB and Safegate, ²⁰⁹ as well as their current and future “Agents” (which have the exclusive right to offer for sale ADB and/or Safegate products/services to any person in Singapore for use by an Airport Operator pursuant to any agency or representation agreement) for models of all products and services and their spare parts, excluding C&M systems and other systems, that have been sold by the Parties and/or their Agents directly or indirectly under any quotation or contract for use in Singapore before the Effective Date. ²¹⁰
2) The Parties may reduce the supply of spare parts and technical support	ADB undertakes to ensure availability of spare parts and technical support within the commitment period. In the event the spare parts are obsolete or out of production, ADB and/or Safegate will offer alternative spare parts and/or solutions with the same functionality in such instances for a period of ten (10) years from the date of delivery to site of each Existing Product ²¹¹ and New Product ²¹² at no greater cost to the Airport Operator.
3) The Parties may lock-in third-party contractors and suppliers in Singapore using exclusive agreements, hindering the entry of potential AFL system suppliers	ADB undertakes to that it will not enter into exclusivity agreements with any third-party contractor or supplier (other than “Agents”) which expressly prevent or have the effect of preventing such third-party contractor or supplier from carrying, promoting or offering alternative competing products and services.

²⁰⁸ Paragraph 10 of the Third Schedule to the Act states that the “section 34 prohibition and the section 47 prohibition shall not apply to any agreement or conduct that is directly related and necessary to the implementation of a merger”.

²⁰⁹ The countries of origin which the price cap will be based on include [X].

²¹⁰ There is no commitment to supply the products except for the commitment to supply spare parts.

²¹¹ Existing Products refer to all products and services including but not limited to maintenance services and training, but not including spare parts, C&M systems and other systems, that ADB and/or Safegate has, at any time on or before the Effective Date, sold to any person for use in Singapore and where the end user of the products and services is an Airport Operator.

²¹² Models of Existing Products sold pursuant to the commitment on price cap.

4) The Parties may retroactively terminate or jeopardise agreements that have been concluded before the Effective Date ²¹³	<p>Any agreements for the sale of Existing Products between either ADB or Safegate and an Airport (i) ADB and an Airport Operator, or (ii) Safegate and an Airport Operator, that have been entered into on or before the Effective Date shall continue in full force and effect after the Effective Date and neither ADB nor Safegate shall terminate such agreements prematurely, except for cause in accordance with the relevant contracts or agreements.</p> <p>ADB and Safegate will not take any action to jeopardise the continuation in full force and effect of any agreements entered into on or before the Effective Date for Existing Products where the parties are any airport operator; or any intermediary, partner, contractor, agent, distributor, supplier, service provider or other contractual counterparty of ADB and/or Safegate in Singapore (collectively, a “third-party”). This may include the continuation of the provision of products and services by ADB and/or Safegate to such airport operator or third-party to enable the third-party to continue to perform its contract with an Airport Operator.</p>
5) Monitoring for compliance	ADB will appoint an independent auditor (to be approved by CCS) to monitor compliance with the commitments.
6) Duration of commitments	Minimum of four years, depending on the specific commitment in question. ²¹⁴

134. CCS received information from end-user customers, third-party contractors and competitors of the Parties during the public consultation. In brief, the respondents provided feedback on possible areas that the proposed commitments did not adequately address and suggestions on how they could be improved.

135. One respondent commented that prices of relevant products that have already been committed in existing contracts should remain unchanged until the expiry of the contracts.²¹⁵ CCS agrees with this feedback and ADB has amended the commitments to address this issue.

136. On the commitment to supply spare parts in the event the spare parts are obsolete or out of production, one respondent suggested that the commitment cover the period of ten

²¹³ Effective Date refers to the merger completion date.

²¹⁴ The price cap lasts for (i) four years starting from Effective Date for models of all products and services, excluding C&M systems and other systems sold for use in Singapore on or before Effective Date (“Price Cap 1”), (ii) ten years from Effective Date for spare parts and after sales services for spare parts of Existing Products sold before Effective Date, (iii) ten years from date of delivery of products sold under Price Cap 1 for spare parts and after sales services for spare parts of products sold under Price Cap 1. The commitment to supply spare parts (for products within scope of commitments) is for ten years from Effective Date, except where spare parts of Existing Products are obsolete before the Effective Date, or spare parts produced by third-parties are obsolete. For such obsolete parts, the Parties commit to provide alternative solutions of the same functionality at no greater cost to airport operators for ten years from the delivery of the product. The commitment to supply technical support for Existing Products does not have a definite end date. The commitment on non-exclusivity is for a period of four years from the Effective Date.

²¹⁵ [X] response dated 10 December 2015 to CCS’s public consultation on commitments.

years from the date of the Certificate of Completion²¹⁶ instead of the date of delivery to site of each Existing Product and New Product. This was because there is a time lag between the date products are delivered to site and when the products are installed, tested and accepted by airport operators.²¹⁷ CCS notes, however, the Certificate of Completion is typically provided to the contractor upon completion of the whole project, not necessarily upon completion of installation of AFL products.²¹⁸ No other respondents objected to the use of the date of delivery to site when CCS made inquiries in relation to the use of the date of Certificate of Completion. CCS is therefore of the view that the date of delivery of each Existing Product and New Product to site is the appropriate date to be used.

137. Another respondent suggested that the Parties divest a full portfolio of AFL Lights or be required to supply AFL Lights to other AFL system suppliers as components for new projects on commercially reasonable terms as some AFL system suppliers may need to purchase AFL Lights from the Parties to enable them to offer a complete AFL system to customers.²¹⁹ After consideration, CCS found that there was no necessity to implement the suggestion. There are other global suppliers of AFL Lights from whom AFL system suppliers can purchase AFL Lights to complete their AFL systems. Further, with the on-going transition to LED AFL Lights, there would be other AFL system suppliers who can compete with the merged entity in supplying LED AFL Lights in Singapore. Importantly, end-user customers in Singapore do not consider it necessary to purchase all components of their AFL systems together in an integrated bundle.
138. CCS received a comment that the duration of four years for the price cap on New Products and the commitment not to enter into exclusivity agreements is too short. The duration should be increased to at least seven years instead. This is the amount of time estimated by the respondent for a new entrant in Singapore to complete the process of initial product development to commercialisation.²²⁰ CCS notes, however, any entry is more likely to be made by existing global AFL system suppliers that do not need to undertake initial product development in order to enter the Singapore market. Additionally, CCS notes that end-user customers' in-house testing of a new brand takes about two years, which is significantly less than the four-year duration provided for in the commitment. CCS is therefore of the view that the duration of four years for the price cap on New Products and the commitment not to enter into exclusivity agreements is sufficient.
139. A respondent suggested that the commitment for the merged entity not to enter into exclusivity agreements should be enhanced to also prevent the enforcement of any exclusivity agreement that is already in existence. The respondent also suggested that the Parties not be allowed to require exclusivity from any agents.²²¹ CCS agrees that any existing exclusivity agreements should not be enforced and ADB has amended the commitments to address this feedback. CCS, however, considers that there is no need to

²¹⁶ May also be known as Certificate of Compliance.

²¹⁷ [X] response dated 10 December 2015 to CCS's public consultation on commitments.

²¹⁸ Email from [X] on 21 December 2015.

²¹⁹ [X] response dated 23 December 2015 to CCS's public consultation on commitments.

²²⁰ [X] response dated 23 December 2015 to CCS's public consultation on commitments.

²²¹ [X] response dated 23 December 2015 to CCS's public consultation on commitments.

expand the commitment to also include the Parties' respective sole representative/agent, as there are no concerns regarding the availability of local companies to act as agents.

140. CCS also received a request that third-parties be provided with the opportunity to comment if ADB applies to vary or to be released from the commitments.²²² In this regard, the Act²²³ already provides that third-parties would be consulted on variation or release of commitments, unless there are exceptional circumstances.
141. Following its consultation on the commitments, CCS considers the Final Commitments incorporating the amendments highlighted above to be sufficient to address the adverse effects that may result from the Proposed Transaction, if it were carried into effect. A copy of the Final Commitments can be found at **Annex A**.

XVII. CONCLUSION

142. CCS concludes that, subject to the implementation of and compliance with the Final Commitments, the Proposed Transaction will not infringe section 54 of the Act.
143. In relation to enforcement of the Final Commitments, conditions of acceptance of the Final Commitments are set out in section 60A of the Act. The effect and enforcement of the Final Commitments are set out in sections 60B and 85 of the Act together with consequences for any failure to comply. Those consequences include revocation of the clearance decision for non-compliance with the Final Commitments.²²⁴ CCS may also apply to the District Court to have the Final Commitments registered with the Court such that the Final Commitments would have the same force and effect, as if they had been an order originally obtained in the District Court which shall have power to enforce it accordingly.²²⁵
144. In accordance with section 57(7) of the Competition Act, this decision shall be valid for a period of six (6) months from the date of this decision.



Toh Han Li
Chief Executive
Competition Commission of Singapore

²²² [X] response dated 23 December 2015 to CCS's public consultation on commitments.

²²³ Section 60(A) (5) of the Competition Act.

²²⁴ Section 60B(2)(b) of the Competition Act.


²²⁵ Section 85 of the Competition Act.

**APPLICATION FOR DECISION IN RELATION TO THE PROPOSED ACQUISITION BY ADB BVBA OF
SAFEGATE INTERNATIONAL AB**

COMMITMENTS TO THE COMPETITION COMMISSION OF SINGAPORE

NON-CONFIDENTIAL VERSION

Date: 25 January 2016

 **DREW & NAPIER**

10 Collyer Quay
Ocean Financial Centre
Singapore 049315



PREAMBLE

WHEREAS

- (A) ADB BVBA has entered into a sale and purchase agreement ("**Agreement**") to acquire 100 per cent of the shares of Safegate International AB from Fairford Holdings Private AB ("**Fairford**") (the "**Proposed Transaction**"). Pursuant to section 57 of the Competition Act (Cap. 50B) ("**Competition Act**"), ADB BVBA, Safegate International AB and Fairford (collectively the "**Merger Parties**") have provided a notification to the Competition Commission of Singapore ("**CCS**") of the Proposed Transaction ("**Notification**").
- (B) The ADB group of companies ("**ADB**") and/or the Safegate group of companies ("**Safegate**") supply airfield ground lighting ("**AFL**") systems, control & monitoring systems ("**CMS**") for AFL, single lamp CMS, gate operating systems ("**GOS**") and aircraft docking guidance systems ("**ADGS**") products and services. ADB's stable of brands for products and services supplied in Singapore includes ADB, ERNI and LUCEBIT. Safegate's stable of brands for products and services supplied in Singapore includes Safegate, Thorn, Idman and AviBit.
- (C) In furtherance of the objective of assuring the CCS that the Proposed Transaction, if carried into effect, will not lead to a substantial lessening of competition ("**SLC**") in any market in Singapore and enabling the CCS to make a decision, pursuant to section 57 and/or section 58 of the Competition Act, that the Proposed Transaction, if carried into effect, will not infringe section 54 of the Competition Act ("**Decision**"), ADB BVBA hereby enters into the commitments hereunder ("**Commitments**") with the CCS.

COMMITMENTS

1. Definitions

- 1.1 In addition to the terms separately defined, a glossary of the terms used herein ("**Glossary of Terms**") is set out in Annex A hereto.

2. All Agreements to Continue in Full Force

- 2.1 ADB BVBA commits that any contracts or agreements for the sale of Existing Products between (a) ADB and an Airport Operator, or (b) Safegate and an Airport Operator, that have been entered into on or before the Effective Date shall continue in full force and effect after the Effective Date and neither ADB nor Safegate shall terminate such contracts or agreements prematurely, except for cause in accordance with the relevant contracts or agreements. Any obligations or liabilities on ADB or Safegate in respect of the Commitments shall be in addition to their obligations or liabilities under such contracts or agreements.
- 2.2 ADB BVBA commits that ADB and Safegate will not take any action to jeopardise the continuation in full force and effect of any contracts or agreements entered into on or before the Effective Date for Existing Products where the parties are any Airport Operator; or any intermediary, partner, contractor, agent, distributor, supplier, service provider or other contractual counterparty of ADB and/or Safegate in Singapore (collectively, a "**third party**"). This may include the continuation of the provision of products and services by ADB and/or Safegate to such Airport Operator or third party to enable the third party to continue to perform its contract with an Airport Operator.

- 2.3 For the avoidance of doubt, nothing in these Commitments will prejudice any of ADB's and/or Safegate's rights and obligations set out in any contract entered into by ADB and/or Safegate (as the case may be) from time to time in respect of the Existing Products.

3. Pricing Commitments

- 3.1 The commitment in this paragraph 3 ("**Pricing Commitments**") shall take effect from the Effective Date and shall apply only to models of Existing Products and Spare Parts.
- 3.2 For the relevant Reference Period, the price of any models of Existing Products offered by ADB, Safegate and/or their Agents to any Airport Operator, directly or indirectly, under any quotation or contract ("**Adjusted Contract**") for use in Singapore, shall be no higher than the Adjusted Invoice Price, where the relevant "Adjusted Invoice Price" shall be calculated by reference to the relevant "Reference Price", in accordance with the formula in **Annex B**. Models of Existing Products sold pursuant to this paragraph 3.2 will hereinafter be referred to as "**New Products**". The relevant "Reference Period" in respect of this paragraph 3.2 shall be the Reference Period applicable to New Products. "Reference Price" in respect of this paragraph 3.2 shall be the Reference Price applicable to New Products.
- 3.3 For the relevant Reference Period, the price of any Spare Parts for Existing Products offered by ADB, Safegate and/or their Agents to any Airport Operator, directly or indirectly, under any Adjusted Contract for use in Singapore, shall be no higher than the Adjusted Invoice Price, where the relevant "Adjusted Invoice Price" shall be calculated by reference to the relevant "Reference Price" (for Spare Parts for Existing Products), in accordance with the formula in **Annex B**.
- 3.4 For the relevant Reference Period, the price of any Spare Parts for New Products offered by ADB, Safegate and/or their Agents to any Airport Operator, directly or indirectly, under any Adjusted Contract for use in Singapore, shall be no higher than the Adjusted Invoice Price, where the relevant "Adjusted Invoice Price" shall be calculated by reference to the relevant "Reference Price" (for Spare Parts for New Products), in accordance with the formula in **Annex B**.
- 3.5 For the avoidance of doubt, (a) ADB and Safegate are free, in their sole and absolute discretion, to set the price for any goods, spare parts, services, or systems that are not New Products. Except as expressly set out in paragraph 2 above and paragraph 4 below, ADB and/or Safegate are not required to provide any product, good, spare part, service or system to any Airport Operator or third party; and (b) any prices agreed to by ADB, Safegate and/or any of their Agents prior to the Effective Date shall not be subject to any price adjustments set out in this paragraph 3.

4. Commitment on Availability of Spare Parts

- 4.1 The commitments in this paragraph 4 shall come into force on the Effective Date and shall apply only to Existing Products and New Products.
- 4.2 ADB BVBA commits that for a period of ten (10) years from the Effective Date, ADB or Safegate (as the case may be) shall supply against payment by an Airport Operator (either to ADB or Safegate if purchased directly, or where purchased indirectly through a third party, to the third party, as the case may be) all required Spare Parts (or suitable equivalents and including software) for Existing Products and New Products which are subject to wear and tear, in accordance with this paragraph 4. This commitment on the availability of Spare Parts

("Commitment on Availability of Spare Parts") excludes: (a) Spare Parts for Existing Products which have been made obsolete before the Effective Date; and (b) Spare Parts components and/or components produced by third parties which are no longer produced (i.e., made obsolete) and/or may not be procured on the market. However, should an Airport Operator be affected by such cessation of production and/or obsolescence of such components, ADB or Safegate (as the case may be) will offer alternative spare parts and/or solutions with the same functionality in such instances so as to ensure the continued functioning of the Existing Product(s) and New Product(s) for a period of ten (10) years from the date of delivery to site of each Existing Product and New Product at no greater cost to the Airport Operator.

- 4.3 ADB BVBA commits to supply or procure the supply from ADB or Safegate against payment by an Airport Operator (either to ADB or Safegate if purchased directly or where purchased indirectly through a third party to the third party as the case may be) any technical support provided by ADB or Safegate for each Existing Product and New Product directly to the Airport Operator or indirectly via third parties for the continued maintenance and functioning of the Existing Product(s) and New Product(s), as well as any required modification, of the Existing Product(s) and New Product(s), in accordance with these Commitments, in particular, paragraph 3 of these Commitments.

5. Non-Exclusivity Commitment

- 5.1 ADB BVBA commits that for the period of four (4) years commencing from the Effective Date, the merged entity, ADB or Safegate shall not enter into any agreements with any third party contractor or supplier in Singapore which expressly prevents or has the effect of preventing such third party contractor or supplier from carrying, promoting or offering any alternative to the merged entity's, ADB's and/or Safegate's products and services.
- 5.2 ADB BVBA commits that for the period of four (4) years commencing from the Effective Date, the merged entity, ADB or Safegate shall not enforce any existing agreement with any third party contractor or supplier in Singapore which expressly prevents or has the effect of preventing such third party contractor or supplier from carrying, promoting or offering any alternative to the merged entity's, ADB's and/or Safegate's products and services.
- 5.2 For the avoidance of doubt, the commitments set out in paragraphs 5.1 and 5.2 hereto ("Non-Exclusivity Commitments") do not apply in respect of any agreement or arrangement between ADB and/or Safegate and their respective Agents for the distribution of ADB and/or Safegate products and services in Singapore.

6. Audit Report

- 6.1 ADB and/or Safegate's (as the case may be) determination of the Adjusted Invoice Price shall be final; except that for the Monitoring Duration, in accordance with the terms and conditions in Annex C hereto, ADB BVBA shall procure an independent audit report, on an annual basis for the preceding Calendar Year ("Annual Audit Report"), for the CCS from an Independent Auditor to verify that ADB and Safegate have complied with the Pricing Commitments.
- 6.2 The Annual Audit Report referred to in paragraph 6.1 above shall include confirmation from the Independent Auditor of the compliance of ADB, Safegate and the merged entity, for the duration of the Non-Exclusivity Commitments, of the Non-Exclusivity Commitments for each

Calendar Year preceding the date of that Annual Audit Report, in accordance with the Approved Audit Plan, as defined in Annex C.

6.3 The CCS may, on its own initiative or at the request of the Independent Auditor or ADB BVBA, give any orders or instructions to the Independent Auditor in order to ensure compliance by ADB BVBA of the Commitments, including but not limited to instructing the Independent Auditor to conduct an audit and to provide an audit report thereto.

6.4 The cost of the audit shall be borne by ADB BVBA.

7. Application to Safegate and ADB

7.1 To the extent that any of the Commitments hereto relate to Safegate, ADB BVBA shall ensure that Safegate complies with such Commitments from the Effective Date.

7.2 To the extent that any of the Commitments hereto relate to ADB, ADB BVBA shall ensure that ADB complies with such terms and conditions from the Effective Date.

8. Successors and Assigns

8.1 The Commitments herein shall be binding on all ADB BVBA's successors and assigns.

9. Release

9.1 The CCS may, at any time, release ADB BVBA from or vary or substitute one or more of the Commitments or any part of the Commitments thereof under sections 60A(3) or 60A(4) of the Competition Act, pursuant to an application by ADB BVBA to the CCS supported by reasons, including but not limited to:

- (a) any material change in the market structure or competitive conditions therein; or
- (b) circumstances where compliance with any of the Commitments exceeds the objective stated in paragraph (C) of the Preamble or has such a detrimental effect on the current or future development of ADB and/or Safegate.

10. Governing Law

10.1 The terms and conditions of the Commitments shall be governed by and construed in accordance with the laws of Singapore.

11. Entry into Force

11.1 Unless otherwise expressly stated, the Commitments hereunder shall take effect from the Effective Date.



Entered into by and on behalf of ADB BVBA:

A handwritten signature in black ink, appearing to read 'Onselaere', is written over a horizontal line.

Mr Christian Onselaere
President and Chief Executive Officer
ADB BVBA

ANNEX A: GLOSSARY OF TERMS

ADB	The ADB group of companies
ADGS	Aircraft docking guidance systems
Adjusted Invoice Price	The relevant price calculated by reference to the Reference Price, in accordance with the formula in Annex B
AFL	Airfield ground lighting
Agent(s)	<p>The agent(s) appointed by any ADB and/or Safegate entity which have the exclusive right to offer for sale ADB and/or Safegate products and services to any person in Singapore for use by an Airport Operator pursuant to any agency or representation agreement and, without limitation, includes the following entities:</p> <p>(a) Ruby Electrical Trading, Singapore; and</p> <p>(b) TECCAM Engineering Pte Ltd</p>
Agreement	The sale and purchase agreement entered into between ADB BVBA and Fairford in respect of the Proposed Transaction
Airport Operator	An operator of airports in Singapore
Calendar Year	Year commencing on 1 January and ending on 31 December
CCS	The Competition Commission of Singapore
CMS	Control & monitoring systems
Commitments	The commitments by ADB to CCS as set out in this document
Competition Act	The Competition Act (Cap. 50B)
Completion	The carrying into effect of the Proposed Transaction pursuant to the Agreement
Decision	Decision by the CCS pursuant to section 57 and/or section 58 of the Competition Act, that the Proposed Transaction, if carried into effect, will not infringe section 54 of the Competition Act
Effective Date	The Completion date
Existing Products	All products and services including but not limited to maintenance services and training, but not including Spare Parts, CMS and other systems, that ADB and/or Safegate has, at any time on or before the Effective Date, sold to any person for use in Singapore and where the end user of the products and services is an Airport Operator
Fairford	Fairford Holdings Private AB
GOS	Gate operating systems
Independent Auditor	The natural or legal person(s), independent from ADB and Safegate, approved by the CCS and appointed by ADB BVBA and which has/have the duty to monitor ADB BVBA's compliance with the conditions and obligations as set out in the Commitments
Merger Parties	ADB BVBA, Safegate International AB and Fairford
Monitoring Duration	<p>The "Monitoring Duration" shall be the period commencing on the Effective Date and ending on the later of:</p> <p>(a) ten (10) years after the Effective Date; or</p> <p>(b) ten (10) years after the delivery of the last New Product sold to an Airport Operator in the period commencing on</p>



	the Effective Date and ending four (4) years after the Effective Date.
Notification	The Application for decision made by the Merger Parties to the CCS under section 57 of the Competition Act in relation to the Proposed Transaction
Proposed Transaction	The proposed acquisition by ADB BVBA of 100 per cent of the shares of Safegate International AB from Fairford Holdings Private AB
Reference Period	<p>The "Reference Period" shall be as follows:</p> <ul style="list-style-type: none"> (a) the Reference Period for all New Products, other than Spare Parts, shall be the period of four (4) years from the Effective Date; (b) the Reference Period for Spare Parts for Existing Products containing, comprising or using any Spare Part(s) shall be the period of ten (10) years from the Effective Date; and (c) the Reference Period for Spare Parts for New Products containing, comprising or using any Spare Part(s) shall be the period of ten (10) years from years from the date of delivery to the site of each New Product containing, comprising or using the Spare Part(s).
Reference Price	<p>The "Reference Price" for New Products shall be as follows:</p> <ul style="list-style-type: none"> (a) the Reference Price for any New Product, where the last contract for sale is entered into on or after 1 August 2014, shall be the lowest price in Singapore Dollars¹ at which ADB or Safegate has contracted to sell that model of Existing Product to any person for use in Singapore, where the end user is an Airport Operator, between 1 August 2014 and the Effective Date; and (b) the Reference Price for any New Product, where the last contract for sale is entered into before 1 August 2014, shall be the last price² at which ADB or Safegate has contracted to sell that model of Existing Product to any person for use in Singapore, where the end user is an Airport Operator. <p>The "Reference Price" for Spare Parts shall be as follows:</p>

¹ All prices which are in any currency other than the Singapore Dollar shall be converted to Singapore Dollars at the prevailing currency exchange rates published by the Monetary Authority of Singapore on the date the contract for sale was entered into for the purpose of comparison to determine the lowest price. For the avoidance of doubt and for all purposes including, but not limited to, any audit of the Pricing Commitments pursuant to paragraph 6 of the Commitments, all currency conversions applied to any price(s) shall be based on the prevailing currency exchange rates published by the Monetary Authority of Singapore on the date the contract for sale was entered into.

² Irrespective of currency.

	<p>(a) the Reference Price for Spare Parts for Existing Products and New Products, where the last contract for sale for that Spare Part is entered into on or after 1 August 2014, shall be the lowest price in Singapore Dollars³ at which ADB or Safegate has contracted to sell that type of Spare Part to any person for use in Singapore, where the end user is an Airport Operator, between 1 August 2014 and the Effective Date; and</p> <p>(b) the Reference Price for Spare Parts for Existing Products and New Products, where the last contract for sale is entered into before 1 August 2014, shall be the last price⁴ at which ADB or Safegate has contracted to sell that type of Spare Part to any person for use in Singapore, where the end user is an Airport Operator.</p> <p>For the purposes of these Commitments, the date that a contract for sale is entered into shall be the date stipulated in such contract for sale. In the event there is no stipulated date in such contract for sale, the date of the contract for sale shall be the date on which the offer for sale of the product or Spare Part in question was accepted by an Airport Operator if purchased directly, or where purchased indirectly through a third party, by the third party (as the case may be) and communicated to ADB, Safegate and/or their Agent(s), as the case may be.</p>
Safegate	The Safegate group of companies
SLC	Substantial lessening of competition
Spare Parts	<p>"Spare Parts" means:</p> <p>(a) any component or subassembly that is listed in the technical manuals as a spare part for a finished product; and</p> <p>(b) any phased-out finished product that, inherent to its design, has no spare parts or backward compatible replacement and is thus sold complete as a replacement,</p> <p>and after sales services in respect of spare parts.</p>

³ All prices which are in any currency other than the Singapore Dollar shall be converted to Singapore Dollars at the prevailing currency exchange rates published by the Monetary Authority of Singapore on the date the contract for sale was entered into for the purpose of comparison to determine the lowest price. For the avoidance of doubt and for all purposes including, but not limited to, any audit of the Pricing Commitments pursuant to paragraph 6 of the Commitments, all currency conversions applied to any price(s) shall be based on the prevailing currency exchange rates published by the Monetary Authority of Singapore on the date the contract for sale was entered into.

⁴ Irrespective of currency.

ANNEX B

Formula for Determining Adjusted Invoice Price

The Adjusted Invoice Price shall be adjusted on an annual basis in accordance with any changes in specified consumer price indices in accordance with the confidential pricing formula below.

$$P = aP_0 + b P_0 \left(\frac{\text{CPI}}{\text{CPI}_0} \right)$$

Where:

$$a + b = 1$$

The values of "a" and "b" are fixed and have been redacted for confidentiality reasons

The value of "a" is between 0 and 1 (i.e., $0 < a < 1$)

The value of "b" is between 0 and 1 (i.e., $0 < b < 1$)

P = Adjusted Invoice Price

P₀ = Reference Price

CPI = Consumer Price Index (as defined below) on the date that the Adjusted Contract is entered into or, if there is no Consumer Price Index published on the date that the Adjusted Contract is entered into, the most recently published Consumer Price Index relative to the date that the Adjusted Contract is entered into.

CPI₀ = Consumer Price Index (as defined below) on the Effective Date or, if there is no Consumer Price Index published on the Effective Date, the most recently published Consumer Price Index relative to the Effective Date, as approved by the CCS

1. The Consumer Price Index for Products whose country of origin is:
 - (a) [CONFIDENTIAL INFORMATION DELETED], shall be the Consumer Price Index for [CONFIDENTIAL INFORMATION DELETED], as published by [CONFIDENTIAL INFORMATION DELETED] on its website;
 - (b) [CONFIDENTIAL INFORMATION DELETED], shall be the Consumer Price Index for [CONFIDENTIAL INFORMATION DELETED], as published by [CONFIDENTIAL INFORMATION DELETED] on its website;
 - (c) [CONFIDENTIAL INFORMATION DELETED], shall be the Consumer Price Index for [CONFIDENTIAL INFORMATION DELETED], as published by [CONFIDENTIAL INFORMATION DELETED] on its website;



- (d) [CONFIDENTIAL INFORMATION DELETED], shall be the Consumer Price Index for [CONFIDENTIAL INFORMATION DELETED], as published by the [CONFIDENTIAL INFORMATION DELETED] on its website; and
 - (e) not any of the above countries, the Consumer Price Index for [CONFIDENTIAL INFORMATION DELETED], as published by [CONFIDENTIAL INFORMATION DELETED] on its website.
2. Within five (5) working days of the Effective Date, ADB BVBA shall submit, for the CCS's approval, the CPI₀ value for each of [CONFIDENTIAL INFORMATION DELETED].



ANNEX C

TERMS AND CONDITIONS OF THE APPOINTMENT OF AN INDEPENDENT AUDITOR

1. Appointment

- 1.1 The Independent Auditor shall be appointed by ADB BVBA in accordance with the following terms and conditions and shall monitor the compliance by ADB BVBA with the Commitments and carry out the functions specified in this Annex C.
- 1.2 The Independent Auditor shall:
- (a) be independent of ADB and Safegate;
 - (b) possess the necessary qualifications to carry out his/her/its mandate as an independent auditor; and
 - (c) neither have been nor will become exposed to a conflict of interest.
- 1.3 Without limitation, an Independent Auditor is not independent if he/she:
- (a) is a current employee or officer of ADB or Safegate;
 - (b) is a person who has been an employee or officer of ADB or Safegate in the past three (3) years;
 - (c) is a person who, in the opinion of the CCS, holds a material interest in ADB or Safegate; or
 - (d) has or has had any other relationship with ADB or Safegate which, in the opinion of the CCS, is likely to affect the ability of that person to act independently.
- 1.4 The Independent Auditor shall be remunerated in such a way that does not impede the independent and effective fulfilment of his/her/its mandate.
- 1.5 No later than one (1) month following the date of a favourable decision by the CCS that the Proposed Transaction will not, if carried into effect, infringe section 54 of the Competition Act based on these Commitments, ADB BVBA shall submit the name or names of one of more natural or legal persons whom ADB BVBA proposes to appoint as the Independent Auditor, together with the Form 1 set out in Annex D to the CCS for approval.
- 1.6 The CCS shall have the discretion to approve or reject the proposed Independent Auditor, to approve the terms and conditions of appointment of the Independent Auditor and to approve any draft audit plan provided by the Independent Auditor or subject the plan to any modification it deems necessary for the Independent Auditor to effectively fulfil his/her/its obligations:
- (a) if only one name is approved, ADB BVBA shall appoint or cause to be appointed, the individual or institution concerned as Independent Auditor, in accordance with the terms and conditions of appointment approved by the CCS;



- (b) if more than one name is approved, ADB BVBA shall be free to choose the Independent Auditor to be appointed from among the names approved; and
 - (c) the Independent Auditor shall be appointed within seven (7) calendar days of the CCS's approval, in accordance with the terms and conditions of appointment approved by the CCS.
- 1.7 If the proposed Independent Auditor is rejected by the CCS, the CCS shall nominate an Independent Auditor whom ADB BVBA shall cause to be appointed, in accordance with the terms and conditions of appointment approved by the CCS.
- 2. Terms of Appointment**
- 2.1 ADB BVBA must procure that the terms and conditions of appointment of the Independent Auditor must include obligations on the auditor to continue to satisfy the independence criteria in paragraphs 1.2 and 1.3 of this **Annex C**.
- 2.2 The Independent Auditor shall be requested to establish the indices used for the formulae and calculation principles in respect of the audit. ADB and/or Safegate (as the case may be) shall make available to the Independent Auditor such records as may be necessary for him/her/it to verify that the price offered by ADB or Safegate for each (a) New Product; (b) Spare Part for an Existing Product; or (c) Spare Part for a New Product is lower than the relevant Adjusted Invoice Price.
- 2.3 ADB BVBA shall provide the Independent Auditor with all such co-operation, assistance and information as the Independent Auditor may reasonably require to monitor compliance with the Commitments. Specifically, ADB BVBA will ensure that the Independent Auditor shall, to the extent practicable, have full and complete access to any of ADB's and/or Safegate's books, documents and information reasonably necessary for the Independent Auditor to verify compliance by ADB BVBA with the Commitments.
- 2.4 If the Independent Auditor ceases to perform his/her/its functions under this paragraph or for any other good cause, including the exposure of the Independent Auditor to a conflict of interest,
 - (a) the CCS may, after hearing the Independent Auditor and ADB and/or Safegate, require ADB BVBA to replace the Independent Auditor; or
 - (b) ADB BVBA, with the prior approval of the CCS, may replace the Independent Auditor if the Independent Auditor ceases to perform his/her/its functions or for other good cause, including the exposure of the Independent Auditor to a conflict of interest.
- 2.5 If the Independent Auditor is removed according to paragraph 2.4 of this **Annex C**, the Independent Auditor may be required to continue in his/her/its function until a new Independent Auditor is in place to whom the Independent Auditor has effected a full handover of all relevant information. The new Independent Auditor shall be appointed in accordance with the procedure referred to in paragraphs 1.1 to 1.6 of this **Annex C**.
- 2.6 Unless removed according to paragraph 2.4 of this **Annex C**, the Independent Auditor shall cease to act as Independent Auditor only after the CCS has discharged him/her/it from his/her/its duties, or at the end of the Monitoring Duration, whichever is earlier.



- 2.7 For a period of one (1) year following termination of the Independent Auditor's appointment, the Independent Auditor shall not provide services to ADB or Safegate without prior approval of the CCS.

3. Annual Audit Reports

- 3.1 The Independent Auditor shall, following his/her/its appointment:

- (a) monitor the compliance of ADB BVBA with the Commitments according to the audit plan provided by the Independent Auditor with ADB BVBA and approved by the CCS (the "**Approved Audit Plan**");
- (b) for the Monitoring Duration, provide to the CCS, with a simultaneous non-confidential copy to ADB BVBA, an Annual Audit Report up to once every calendar year on 31 May, commencing on 31 May following the Effective Date and ending on 31 May after the termination of the Monitoring Duration, an Annual Audit Report that ADB and/or Safegate were compliant with the Pricing Commitments in the Calendar Year preceding the Annual Audit Report; and
- (c) confirm, in the Annual Audit Report, that ADB, Safegate and the merged entity have complied with the Non-Exclusivity Commitments for the Calendar Year preceding the date of that Annual Audit Report for the duration of the Non-Exclusivity Commitments, in accordance with the Approved Audit Plan.

- 3.2 The Annual Audit Report shall include:

- (a) the Independent Auditor's procedures in conducting the audit, or any change to audit procedures since the previous Annual Audit Report;
- (b) an audit of ADB BVBA's compliance with the Commitments in accordance with the Approved Audit Plan;
- (c) all reasons for the conclusions reached in the Annual Audit Reports;
- (d) any commercially reasonable recommendations by the Independent Auditor to improve the Approved Audit Plan, the integrity of the auditing process and ADB BVBA's compliance with the Commitments;
- (e) implementation and outcome of any prior recommendations by the Independent Auditor; and
- (f) statement declaring continued compliance with the independence of the Independent Auditor from ADB BVBA.

- 3.3 ADB BVBA shall implement any recommendations of the Independent Auditor made in the Annual Audit Report on ADB BVBA's compliance with the Commitments, and notify the CCS of the implementation of the recommendations, within fourteen (14) calendar days, or such longer period as the Independent Auditor considers reasonable and practicable in the circumstances, after receiving the Annual Audit Report.



4. ***Ad Hoc Audit Reports***

- 4.1 Pursuant to paragraph 6.3 of the Commitments, the Independent Auditor shall, at and in accordance with the instructions of the CCS, conduct an audit and provide an audit report to the CCS thereto in order to ensure compliance by ADB BVBA of the Commitments.



ANNEX D

FORM 1: INFORMATION REQUIRED

ADB BVBA must provide the following information to the CCS in order for it to assess a proposed Independent Auditor.

1. Proposed Independent Auditor's details

1.1 Name of the proposed Independent Auditor; and

1.2 Name of the proposed Independent Auditor's employer and contact details, including the address (where the proposed Independent Auditor is a natural person).

2. Details of the proposed Independent Auditor's qualifications and experience relevant to his/her/its proposed role

3. Names of the owner(s) and director(s) of the proposed Independent Auditor's employer (where the proposed Independent Auditor is a natural person) or names of the owner(s) and director(s) of the proposed Independent Auditor (where the proposed Independent Auditor is a legal person)

4. Details of any of the following types of relationships between ADB and/or Safegate and the proposed Independent Auditor or the proposed Independent Auditor's employer ((where the proposed Independent Auditor is a natural person) or confirmation that no such relationship exists

4.1 Whether ADB and/or Safegate and the proposed Independent Auditor or the proposed Independent Auditor's employer (where the proposed Independent Auditor is a natural person) are "**Related Corporations**" within the meaning of section 6 of the Companies Act (Cap. 50) of Singapore;

4.2 Whether any undertaking that is deemed to be a Related Corporation with respect to ADB or Safegate is also a Related Corporation with respect to the Independent Auditor or the proposed Independent Auditor's employer (where the proposed Independent Auditor is a natural person);

4.3 Whether ADB and/or Safegate and the proposed Independent Auditor or the Proposed Independent Auditor's employer (where the proposed Independent Auditor is a natural person) have a contractual relationship or had one within the past three (3) years; and

4.4 Whether there is any other relationship between ADB or Safegate and the proposed Independent Auditor and the proposed Independent Auditor's employer (where the proposed Independent Auditor is a natural person) that allows one to affect the business decisions of the other.



5. In addition to the proposed terms and conditions of appointment for the proposed Independent Auditor, ADB BVBA must procure that the proposed Independent Auditor provides:
 - 5.1 The draft audit plan; and
 - 5.2 An outline of the proposed Independent Auditor's plans in regard to the Audit Reports.

A handwritten signature in black ink, consisting of a stylized, cursive letter 'S' or 'J' followed by a horizontal line.