

**IN THE GENERAL DIVISION OF  
THE HIGH COURT OF THE REPUBLIC OF SINGAPORE**

**[2022] SGHC 179**

Suit No 479 of 2020 and Summons No 349 of 2022

Between

Bharat Forge Ltd

*... Plaintiff*

And

Bombardier Aerospace  
Services Singapore Pte Ltd

*... Defendant*

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**JUDGMENT**

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[Civil Procedure — Costs — Indemnity costs]  
[Contract — Breach]  
[Contract — Contractual terms — Implied terms]  
[Contract — Contractual terms — Unfair Contract Terms Act]  
[Damages — Measure of damages — Contract]  
[Tort — Negligence — Duty of care]

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**Bharat Forge Ltd**  
**v**  
**Bombardier Aerospace Services Singapore Pte Ltd**

**[2022] SGHC 179**

General Division of the High Court — Suit No 479 of 2020 and Summons  
No 349 of 2022

Andre Maniam J

4, 8–11, 15, 16, 22, 23 February, 13 May 2022

29 July 2022

Judgment reserved.

**Andre Maniam J:**

**Introduction**

1       What price perfection?

2       The plaintiff (“Bharat Forge”) sent its second-hand Bombardier Global XRS business jet to the defendant (“BASS”) for a maintenance check and for the installation of a new cabin management system (“CMS”).

3       After the aircraft was returned by BASS to Bharat Forge, Bharat Forge complained about various alleged defects with the aircraft.

4       At trial, Bharat Forge’s sole factual witness, Chief Pilot Sandeep Thakre (who is also its Aviation Division’s Head of Department), asserted that the

aircraft should have been “trouble-free” for at least one year.<sup>1</sup> However, Bharat Forge had not obtained any such warranty from BASS. Further, Mr Thakre admitted that “almost to perfection” was what was expected of the aircraft by Bharat Forge’s “principal” Mr Baba Kalyani (Bharat Forge’s chairman and managing director) and his son Mr Amit Kalyani (Bharat Forge’s deputy managing director).<sup>2</sup> But that is not what Bharat Forge contracted with BASS for, either.

5 If indeed Bharat Forge expected the aircraft to be perfect (or “almost to perfection”), it did not pay for it. Instead, it contracted for BASS to perform a specified scope of work, on agreed terms and conditions. In so doing, Bharat Forge worked hard to negotiate and bring down the inspection cost, as Mr Suresh Iyer (who negotiated and concluded the contract on behalf of Bharat Forge, as its then-Accountable Manager) admitted in an email to Mr Amit Kalyani.<sup>3</sup>

6 Mr Thakre only had personal knowledge of one of the defects Bharat Forge had complained of (the alleged blinking of in-flight entertainment screens), but Bharat Forge called no factual witnesses besides him. Bharat Forge’s only other witness, Mr Mark D Martin, was called as an expert. Mr Martin was however instructed to *assume* that the defects alleged by Bharat Forge existed, and he duly did so.<sup>4</sup> Accordingly, Mr Martin’s expert report

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<sup>1</sup> Defendant’s Closing Submissions (“DCS”) at [203]; NE 4 February 2022, p140:14–16, p152:14–20, and p164:14–20.

<sup>2</sup> DCS at [222]; Defendant’s Reply Submissions (“DRS”) at [17]; NE 9 February 2022, p109:19–22.

<sup>3</sup> DCS at [215]; 358DBOD16345.

<sup>4</sup> DCS at [247].

offered no expert opinion on the *primary* question of whether the alleged defects existed. Mr Martin's expert report dealt only with the *secondary* question: assuming the alleged defects existed, was BASS responsible for them?

7 On its part, BASS called several factual witnesses, and one expert witness; but Bharat Forge did not question any of them. Bharat Forge simply filed closing submissions and reply submissions that ignored the host of concessions its own witnesses had made at trial, laying bare the lack of merit in Bharat Forge's claims.

### **Issues**

8 I address the following issues:

- (a) Bharat Forge's claims – legal aspects:
  - (i) the claim for alleged breach of express warranties/terms;
  - (ii) the claim for alleged breach of implied term in law;
  - (iii) the claim for alleged negligence; and
  - (iv) contractual exclusions and limitations of liability;
- (b) Bharat Forge's claims – factual aspects:
  - (i) the alleged maintenance defects;
  - (ii) the alleged CMS installation work defects;
  - (iii) notice requirements; and
  - (iv) the alleged incomplete CMS installation work.
- (c) the quantum of damages; and



- (d) costs.

### **Bharat Forge’s claims – legal aspects**

#### ***The claim for alleged breach of express warranties***

9 Bharat Forge claims that BASS breached the contract by:

- (a) failing to rectify defects in the Maintenance Work (SOC at para 2.2.4);
- (b) failing to rectify defects in the CMS Installation Work (SOC at para 2.2.6); and
- (c) failing to supply and install all parts required for the CMS Installation Work (SOC at para 2.2.8).

10 Sub-paragraphs 9(a) and 9(b) above are referred to in Bharat Forge’s closing submissions, but not sub-paragraph 9(c) above.<sup>5</sup>

#### ***BASS’ scope of work***

(1) Maintenance Work

11 Bharat Forge engaged BASS to carry out the “30-60-120 Month Inspection”, formerly known as the “8C Check” (the “Maintenance Check”).<sup>6</sup> Bharat Forge asserts that BASS’ scope of work for the Maintenance Work is “exhaustive and highly comprehensive”, covering the various systems and

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<sup>5</sup> Plaintiff’s Closing Submissions (“PCS”) at [14(a)].

<sup>6</sup> 18DBOD.

components of the aircraft (as opposed to certain specified components only).<sup>7</sup> In the alternative, it asserts that the defects are expressly or incidentally covered under the scope of work (even if one accepts BASS’ argument that this was a limited scope).<sup>8</sup>

12 The contention that BASS’ scope of work for the Maintenance Work is all-encompassing, is plainly wrong. Bharat Forge’s submission ignores the admissions of both its witnesses, Mr Thakre and Mr Martin, that BASS’ scope of work was *not* all-encompassing.<sup>9</sup> The contract expressly stated that “[i]nspections will be done in accordance with Time Limits and Maintenance Checks (TLMC) chapter 5 current revision”. Mr Martin agreed that there was a specific task list, and that the contract also had to expressly include any additional tasks that were brought forward from a prospective inspection.<sup>10</sup>

13 The evidence of BASS’ expert, Mr Nigel Waterhouse, on industry practice was that “[t]he inspection tasks are strictly controlled by task cards”.<sup>11</sup> BASS’ General Manager, Mr Wayne Simon Walter (“Mr Wayne”), said that the planning team would fully script out all tasks to be performed via individualised work cards (termed as “service orders”).<sup>12</sup> BASS’ witnesses were not challenged

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<sup>7</sup> PCS at [19]–[27].

<sup>8</sup> PCS at [28]–[34].

<sup>9</sup> DCS at [62]; DRS at [9(a)] and [15]; NE 4 February 2022, p100:11–18; NE 15 February 2022, p101:23–p102:1, p117:14–22. .

<sup>10</sup> DRS at [19]; NE 15 February 2022, p109:9–19, p110:17–p112:13; also see 18DBOD479.

<sup>11</sup> DCS at [55]; DRS at [24]; AEIC of Mr Nigel Waterhouse (“NW”) at NW-2, [14].

<sup>12</sup> AEIC of Mr Wayne Simon Walter (“WSW”) at [75].

on this. For most of the alleged defects, Bharat Forge has not identified any task card or service order relating to them.<sup>13</sup>

14 Bharat Forge’s contemporaneous conduct is also inconsistent with its present contention that BASS’ work scope was all-encompassing:

(a) Bharat Forge had sent BASS a list of incoming defects which were compiled into a revised work scope;<sup>14</sup> and

(b) Bharat Forge sought and relied on the advice of Indamer Aviation Pvt Ltd (“Indamer”) – its Continuing Airworthiness Management Organisation (“CAMO”) – as to what to include in the scope of works.<sup>15</sup>

15 Bharat Forge’s alternative contention, that all the alleged defects are expressly or incidentally covered under the scope of work, is also unsound. As will be elaborated on below, Mr Thakre and Mr Martin admitted that various alleged defects did not fall within BASS’ scope of work.<sup>16</sup>

(2) CMS Installation Work

16 Bharat Forge asserts that BASS had improperly installed the CMS, and failed to procure and/or install iPad mounts fit for their purpose.<sup>17</sup> An aircraft’s

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<sup>13</sup> DRS at [38], in particular [38(a)] for the Maintenance Work.

<sup>14</sup> DCS at [60]–[62]; AEIC of WSW at [92]–[93].

<sup>15</sup> DCS at [12] and [63].

<sup>16</sup> DRS at [23].

<sup>17</sup> PCS at [35]–[40].

CMS is an interface that enables operators to manage all cabin-related aircraft systems, such as lighting, signage and climate control.<sup>18</sup>

17 The new CMS which BASS was to install – the NiceHD CMS – was a Lufthansa product that Bharat Forge had selected, even before Bharat Forge decided to engage BASS to install the CMS.<sup>19</sup> Mr Thakre acknowledged that it was Lufthansa, not BASS, that was responsible for the software of the CMS.<sup>20</sup> Contemporaneously, Bharat Forge looked to Lufthansa, not BASS, for software-related issues.<sup>21</sup>

18 The contract does not make BASS liable for any and all issues with the CMS. On the contrary, Clauses 10(A)(vi) and 10(D) of the Work Order Terms and Conditions 2019 (“Work Order T&C”) provide that “[a]ll vendor parts and/or labor shall be subject to the individual vendor’s warranty” and BASS “makes no representation or warranties” except those in the Work Order T&C (which did not have any representation or warranty for vendor parts).<sup>22</sup> BASS thus did not assume any responsibility for the CMS that was supplied by Lufthansa, or the iPads that were supplied by Apple Inc. Contractually, BASS’ responsibility was to install the CMS, and the only warranty it gave was in respect of defects in *its own workmanship* (under Clauses 10(A)(i) and 10(A)(vii) of the Work Order T&C).

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<sup>18</sup> AEIC of WSW at [12].

<sup>19</sup> DCS at [27]; DRS at [36(a)].

<sup>20</sup> DRS at [32]; NE 8 February 2022, p53:19–p54:2, p56:8–p62:14.

<sup>21</sup> DCS at [49]–[51]; DRS at [36(d)]; NE 8 February 2022, p56:12–14.

<sup>22</sup> 494DBOD19295.

19 Further, Clause 10(C) of the Work Order T&C provides that BASS “shall not be obligated with respect to damage which is due to normal wear and tear”.<sup>23</sup>

20 Clause 18 of the Work Order T&C provides that the Work Order T&C would take precedence over any other contractual documents.<sup>24</sup> This is relevant in so far as Bharat Forge seeks to rely on the contract’s Workscope Details, for statements such as “[t]he [NiceHD] system will interface to the existing ship systems in the same manner as the existing [NiceSD system]”.<sup>25</sup> That was simply a description of how the new CMS was intended to operate. By virtue of Clause 18 read with Clauses 10(A)(vi) and 10(D) of the Work Order T&C, Bharat Forge is precluded from relying on such statements from the Workscope Details as representations or warranties by BASS.

***The claim for alleged breach of implied term in law to exercise reasonable skill and care***

21 In addition to its contractual claim for breach of express warranties, Bharat Forge also asserts breach of an implied term to exercise reasonable skill and care.<sup>26</sup>

22 It contends that a term should be implied in law, that BASS would exercise reasonable skill and care in carrying out its work, citing *Go Dante Yap v Bank Austria Creditanstalt AG* [2011] 4 SLR 559 (“*Go Dante Yap*”) at [24] for the proposition that “[i]n contracts under which a skilled or professional

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<sup>23</sup> 494DBOD19295.

<sup>24</sup> 494DBOD19295.

<sup>25</sup> 18DBOD489; PCS at [37].

<sup>26</sup> PCS at pp76–82.

person agrees to render certain services to his client in return for a specified or reasonable fee, there is at common law an implied term in law that he will exercise reasonable skill and care in rendering those services”.<sup>27</sup>

23 However, Clause 10(D) of the Work Order T&C provides that “the written limited warranties ... set forth in this article 10 are in lieu of any other warranty, obligation, or liability to customer.” The implied term Bharat Forge contends for would be an “obligation” excluded by Clause 10(D), and any purported “liability” of BASS for breach of such an implied term would likewise be excluded.

24 In *Mostcash plc (in liquidation) v Fluor Ltd* (2002) 83 Con LR 1; [2002] EWHC 265 (“*Mostcash*”), the English High Court held that the contract in question excluded the implied term under s 13 of the English Supply of Goods and Services Act 1982 (c 29) (UK) to exercise reasonable skill and care. Clause 10.7 of the contract in that case provided as follows:

[The service provider] makes no representations, covenants, warranties or guarantees, express or implied, other than those set forth herein. The rights and remedies with respect to those Services, whether in contract or otherwise, are limited to those expressly set forth in this Agreement.

25 Just as the contract in *Mostcash* excluded any rights or remedies other than those expressly set forth in the contract, here the contract excludes any “obligation or liability” except as specifically set forth in Clause 10, *ie*, under the express warranties given by BASS.

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<sup>27</sup> PCS at p78.

26 Bharat Forge submits that Clause 10(D) of the Work Order T&C, captioned “No Other Warranties/Representations”, did not exclude the implication of a term *in law*, because the clause did not expressly refer to terms implied in law as a category, citing *Tonny Permana v One Tree Capital* [2021] 5 SLR 477 (“*Tonny Permana*”) at [164].<sup>28</sup>

27 *Tonny Permana* concerned an entire agreement clause which provided that the defendants “have only those duties, obligations and responsibilities expressly specified in the Agreement”, and the court noted that on one interpretation, that was to the exclusion of all other duties. Nevertheless, the court declined to hold that the clause excluded the implied term in law that an agent should act with reasonable skill, care and diligence, “absent very specific and unambiguous language that expressly excludes terms implied in law” (at [164]).

28 The court found that the express terms encompassed a duty to act in accordance with the plaintiff’s instructions, and a duty to provide timely information and advice (at [155] and [158]). However, the court was concerned that absent an implied term to act with reasonable skill, care and diligence, “agents may carelessly or recklessly prejudice their principals’ interests by rendering haphazard and blasé advice, which would render the agency agreement absurd and unworkable” (at [163]). The court thus implied the term so as to give the express terms business efficacy, *ie*, in carrying out the express duty to provide timely information and advice, the agent had to do so with reasonable skill, care and diligence.

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<sup>28</sup> PCS at [80]–[82].

29 There is no such cause for concern here. In Clauses 10A(i) and 10A(vii) of the Work Order T&C, BASS gave express warranties against defects in its workmanship. If its workmanship were defective, the express warranties would be triggered. An implied term of reasonable skill and care is not needed to give the express warranties business efficacy. The contract is neither “absurd [nor] unworkable” without an implied term of reasonable skill and care. Nor is this suggested by Bharat Forge, whose principal claim is for breach of those express warranties.

30 I find that Clause 10(D) excludes the implication of a term to act with reasonable skill and care. It is not necessary for business efficacy to imply such a term, and implying such a term would go against the express terms of the parties’ contract.

31 In any event, as I explain below when I consider the claims in detail, Bharat Forge has failed to prove that BASS did not act with reasonable skill and care.

***The claim for alleged negligence***

32 In a similar vein, Bharat Forge contends that a duty of care in tort co-exists with BASS’ contractual warranties against defects in workmanship.

33 In *Go Dante Yap*, the court recognised the possibility that “[a] contract might contain an express clause excluding a tortious duty of care”, or “the contractual framework may be so structured as to demonstrate that the parties intended thereby to exclude the imposition of a tortious duty of care”. (at [20])



34 Here, Clause 10(D) (discussed above) excludes any obligation or liability other than under the express warranties given by BASS. The contract has been structured such that BASS' only obligation and liability for its work is under the express warranties in respect of defects in BASS' workmanship.

35 In *Mostcash*, the court found that the clause there was sufficiently wide to exclude a tortious duty of care, as the paying party's rights and remedies "whether in contract or otherwise" were limited to express contractual warranties (at [40]–[41]); Clause 10(D) here is a similar clause.

36 In any event, even if BASS were under a tortious duty of care, I find that "it is one that is parallel to, and its precise scope is shaped by, the relevant terms of [the parties'] agreement." (*Mostcash* at [39]). In *Go Dante Yap*, the Court of Appeal similarly recognised that while the contractual arrangement there might not have been sufficient to displace a tortious duty of care, "it did mean that standard of care placed on the Respondent was less onerous than it might otherwise have been" (*Go Dante Yap* at [49]). It would not be right for a tortious duty of care to expand the scope of BASS' obligations and liabilities, where the parties had crafted those precisely, as under the contractual warranties in this case. BASS had given warranties against defects in its workmanship for specific periods of time, and ought not to be liable on a tortious duty of care for a longer duration, or for matters other than defective workmanship. Put that way, a tortious duty of care would not add anything of substance to Bharat Forge's case: either it succeeds on its contractual claim for breach of warranties, or it does not.

37 In any event, as I mentioned in the preceding section, Bharat Forge has failed to prove that BASS did not act with reasonable skill and care. As such,

even if a tortious duty existed, and even if that went beyond the scope of the contractual warranties, BASS has not breached that duty.

***Contractual exclusions and limitations of liability***

38 Bharat Forge claims the sum of US\$8,960,000, comprising US\$1,400,000 as the cost of replacing the NiceHD CMS with a comparable CMS, and US\$7,560,000 as the cost of chartering an alternative aircraft for a year during which rectification works would be undertaken.<sup>29</sup> Bharat Forge also claims for diminution in value of the aircraft, and for wasted costs and expenses.<sup>30</sup>

39 Clause 10(E) of the Work Order T&C, however, limits BASS' liability as follows: "[BASS'] liability on any claim ... shall in no case exceed the price allocable to the work, good, or part thereof which gives rise to the claim."<sup>31</sup>

40 It follows that Bharat Forge's claim for the Maintenance Work is capped at US\$1,258,080 (being the agreed price for Maintenance Work and ancillary works under the contract)<sup>32</sup> and its claim for the CMS Installation Work is capped at US\$708,600 (being US\$658,600, the original price of the CMS Installation Work, plus US\$50,000 for a work change request).<sup>33</sup>

41 Further, from Mr Thakre's testimony, the claim for US\$7,560,000 to charter an alternative aircraft is only in respect of the CMS Installation Work

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<sup>29</sup> Statement of Claim ("SOC") at [2.3.1(a)]–[2.3.1(b)].

<sup>30</sup> SOC at [2.3.1(c)]–[2.3.1(d)].

<sup>31</sup> 494DBOD19295.

<sup>32</sup> 19DBOD495–511.

<sup>33</sup> 352DBOD16282–16286.

and not the Maintenance Work.<sup>34</sup> Mr Thakre agreed that all the alleged defects in the Maintenance Work had been resolved, and said “the aircraft is fine”.<sup>35</sup> He further agreed that the reference in his affidavit of evidence-in-chief (“AEIC”) (at [7.1.3] and [7.2.1]) to rectifying unrectified defects in the Maintenance Work should be deleted, and that the claim was that “the aircraft will be taken out of service for one year to rectify the unrectified defects in the CMS installation work”.<sup>36</sup> The consequence of this is that Bharat Forge is claiming US\$8,960,000 for work that is contractually capped at US\$708,600.

42 Clause 10(E) contains a further exclusion: “in no event shall [BASS] be liable for any indirect, special, consequential or punitive damages”. Such an exclusion has been interpreted to exclude damages within the second limb of the rule in *Hadley v Baxendale* (1854) 9 Exch 341 (“*Hadley v Baxendale*”) – see *Creative Technology Ltd and another v Huawei International Pte Ltd* [2017] SGHC 201 at [290] and [297]–[298].

43 In the first place, most of the losses claimed by Bharat Forge are too remote to be recovered. As will become apparent below, the unrectified defects in the CMS Installation Work are just a few iPad-related issues. What parties would reasonably have contemplated by way of rectification, is (at most) the installation of standard controllers in place of the iPads, rather than the replacement of the whole CMS and the grounding of the aircraft for a year. If Bharat Forge wished to ground the aircraft for a year to replace the CMS, on account of Bharat Forge’s principal expecting everything to be “super perfect”

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<sup>34</sup> NE 9 February 2022, p82:1–p83:2.

<sup>35</sup> NE 9 February 2022, p82:15–17.

<sup>36</sup> NE 9 February 2022, p82:23–p83:2.

(as Mr Martin put it<sup>37</sup>), BASS would not have known (or be expected to have known) of that.

44 Even assuming that these losses are not too remote, however, they would be consequential damages within the second limb of *Hadley v Baxendale*, and thus excluded by Clause 10(E).

45 Bharat Forge contends that Clause 10(E) is unenforceable by virtue of the Unfair Contract Terms Act 1977 (2020 Rev Ed) (“UCTA”), but the contract is an international supply contract within the meaning of s 26 of the UCTA, and its terms are therefore not subject to the UCTA requirements of reasonableness under ss 3 or 4.

46 The contract is an international supply contract under s 26 of the UCTA:

(a) First, it is “a contract ... under or in pursuance of which the possession or ownership of goods passes” (s 26(3)(a)), namely the parts supplied and the CMS installed by BASS.<sup>38</sup> It is an international supply contract notwithstanding that BASS supplied services as well as goods under the contract: *Amiri Flight Authority v BAE Systems plc and another* [2003] 1 All ER (Comm) 1 at [27] (concerning the English Unfair Contract Terms Act 1977 (c 50) (UK), which is *in pari materia* with our UCTA) – the case was overturned on appeal, but not on the point of the statute applying to contracts for the supply of both goods and services.

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<sup>37</sup> NE 15 February 2022, p33:23–p34:12.

<sup>38</sup> 494DBOD1929, at Clause 13(C).

(b) Second, the contract was “made by parties whose places of business ... are in the territories of different States” (s 26(3)(b)), this being India for Bharat Forge and Singapore for BASS.

(c) Third, “the goods in question ... will be carried, from the territory of one State to the territory of another” (s 26(4)(a)) – here the parties knew that the aircraft, with the new parts and new CMS, would be transported from Singapore to India, and elsewhere: see *Trident Turboprop (Dublin) Ltd v First Flight Couriers Ltd* [2010] 1 QB 86 at [28].

47 In any event, even if the contract were not an international supply contract, Clause 10(E) would pass the reasonableness test under the UCTA: it was a “fair and reasonable” term to be included in the contract “having regard to the circumstances which were, or ought reasonably to have been, known to or in the contemplation of the parties when the contract was made” (s 11(1) of the UCTA).

48 In *Watford Electronics Ltd v Sanderson CFL Ltd* [2001] 1 All ER (Comm) 696, the English Court of Appeal upheld an exclusion clause that covered indirect loss. The case involved a non-standard software product. The court noted that there was a significant risk that such products may not perform to the customer’s satisfaction, with a significant risk that the customer would then not make the profits or savings it had hoped for, or suffer consequential losses. While the seller would be in a better position to assess the risk of failure, the customer was in a better position to assess the amount of those potential losses. Commercial parties would reasonably be expected to provide for the risk of indirect loss falling on one party or the other, and factor this risk allocation

into the contract price. The court held that these considerations justified giving effect to the exclusion clause.

49 Here, Bharat Forge knew that this was the first occasion that the NiceHD CMS would be installed in its type of aircraft; and it was in a better position to assess what its principal might want done with the aircraft and the new CMS, if they did not perform to his satisfaction. More generally, Bharat Forge would know better its utilisation of the aircraft, and what losses downtime or disruption might entail.

50 I also consider the monetary limit (set as the price paid to BASS) to be reasonable: US\$1,258,000 for the Maintenance Work, and US\$708,600 for the CMS Installation Work. If Bharat Forge considered these limits to be insufficient, it could have purchased additional insurance. Clause 9 of the Work Order T&C provides that BASS is responsible for maintaining insurance on the aircraft, equal to or greater than the value of the aircraft, during the performance of the contract. It is also relevant that, as BASS submits, Bharat Forge “had bargaining power and chose to contract after carefully considering its other contractual options with other potential contractual counterparties”<sup>39</sup> (see *Press Automation Technology Pte Ltd v Trans-Link Exhibition Forwarding Pte Ltd* [2003] 1 SLR(R) 712 at [75]–[78]). Mr Thakre acknowledges that BASS was chosen “over many other facilities that [they] usually go to”.<sup>40</sup>

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<sup>39</sup> DCS at [347].

<sup>40</sup> NE 8 February 2022, p35:24–p36:11.

## **Bharat Forge’s claims – factual aspects**

### ***Bharat Forge’s case on the Defects***

*What were the Defects, and which remain unrectified?*

51 In its SOC, Bharat Forge listed:

(a) in Annex A the Maintenance Work Defects that it alleged BASS had – in breach of contract and its tortious duty of care – failed to rectify (SOC at paras 2.2.5, 3.2.3, and 4.2.1); and

(b) in Annex B the CMS Installation Work Defects that it alleged BASS had – in breach of contract and its tortious duty of care – failed to rectify (SOC at paras 2.2.7, 3.2.5 and 4.2.2).

52 Annex A lists 12 Maintenance Work Defects, all of which are said to have been rectified (by parties other than BASS).<sup>41</sup> Annex B lists 12 CMS Installation Work Defects, of which six are said to be “not rectified to date”.<sup>42</sup> All six relate to the use of iPads (as chosen by Bharat Forge) rather than standard controllers.

53 In his AEIC, however, Mr Thakre claimed that two of the defects listed as rectified were in fact still unrectified (one from Annex A, one from Annex B);<sup>43</sup> but of the six defects pleaded as unrectified, his AEIC only describes four of them as unrectified.<sup>44</sup>

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<sup>41</sup> SOC at [2.2.5] and Annex A.

<sup>42</sup> SOC at Annex B.

<sup>43</sup> AEIC of Mr Sandeep Thakre (“ST”) at [5.1.6] and [6.9.8].

<sup>44</sup> AEIC of ST at [7.1.1].

54 Bharat Forge’s closing submissions add to the confusion. At [11] and [97], it is said that at least one Defect in the Maintenance Work remains unrectified (although Bharat Forge’s pleaded position is that all the Maintenance Work Defects were rectified) and at least seven Defects in the CMS Installation Work remain unrectified (although Bharat Forge’s pleaded position is that only six such Defects remain unrectified). At [65] of Bharat Forge’s closing submissions, it is submitted that the rear lavatory wash basin and drainage issue (S/N (b) in Annex A) remains unrectified (although its pleaded position is that this had been rectified), the airstairs mat issue (S/N (c) in Annex A) may not have been rectified (although its pleaded position is that this had been rectified), and it reiterates the six unrectified Defects in Annex B.

55 I hold Bharat Forge to its pleaded position as to what Defects are alleged, and which of those remain unrectified.

*The burden of proof*

56 Bharat Forge, as the plaintiff, has the burden of proving its claims. Sections 103 to 105 of the Evidence Act 1893 (2020 Rev Ed) (“Evidence Act”) provide as follows:

**Burden of proof**

103.—(1) Whoever desires any court to give judgment as to any legal right or liability, dependent on the existence of facts which the person asserts, must prove that those facts exist.

(2) When a person is bound to prove the existence of any fact, it is said that the burden of proof lies on that person.

*Illustrations*

(a) A desires a court to give judgment that B shall be punished for a crime which A says B has committed.

A must prove that B has committed the crime.



(b) A desires a court to give judgment that A is entitled to certain land in the possession of B by reason of facts which A asserts and which B denies to be true.

A must prove the existence of those facts.

### **On whom burden of proof lies**

104. The burden of proof in a suit or proceeding lies on that person who would fail if no evidence at all were given on either side.

#### *Illustrations*

(a) A sues B for land of which B is in possession, and which, as A asserts, was left to A by the will of C, B's father.

If no evidence were given on either side, B would be entitled to possession.

Therefore the burden of proof is on A.

(b) A sues B for money due on a bond.

The execution of the bond is admitted, but B says that it was obtained by fraud, which A denies.

If no evidence were given on either side, A would succeed as the bond is not disputed and the fraud is not proved.

Therefore the burden of proof is on B.

### **Burden of proof as to particular fact**

105. The burden of proof as to any particular fact lies on that person who wishes the court to believe in its existence, unless it is provided by any law that the proof of that fact is to lie on any particular person.

#### *Illustrations*

(a) A prosecutes B for theft and wishes the court to believe that B admitted the theft to C. A must prove the admission.

(b) B wishes the court to believe that at the time in question he or she was elsewhere. B must prove it.

57 With reference to sections 103 and 105, the Court of Appeal in *Cooperatieve Centrale Raiffeisen-Boerenleenbank BA, Singapore Branch v Motorola Electronics Pte Ltd* [2011] 2 SLR 63 held that the legal burden of

proof is placed on the party who asserts the existence of any fact in issue or relevant fact (at [30]).

58 Bharat Forge, however, contends that it would satisfy that burden if it simply proves the *existence* of the Defects it complains of. It says that it does not need to prove that the Defects were defects *in BASS' workmanship* – Bharat Forge submits that the *evidential* burden of disproving that rests on BASS.

59 Bharat Forge cites *Kalzip Asia Pte Ltd v BFG International Ltd* [2018] SGHC 152 (“*Kalzip*”) for this proposition. In that case, Kalzip (the plaintiff) alleged that roof panels supplied by BFG (the defendant) had delaminated due to BFG’s defective manufacturing.

60 The court in *Kalzip* did not decide that a plaintiff need only prove the *existence* of a defect, for the defendant to have to prove that it did not *cause* the defect. On the contrary, the court stated at [260]:

In this case, Kalzip clearly bears the *legal* burden of proving both that the panels delaminated and that they did so because of BFG’s defective manufacturing. (This is similar to *Anti-Corrosion*, where the subcontractor likewise bore the legal burden of proving that defects in the paint or its unfitness caused its discolouration.) Both the fact of delamination and BFG’s causation of the same are essential to Kalzip’s claim for breach in contract ... The legal burden of proving both the fact and cause of delamination therefore rests on Kalzip from start to end.

[emphasis in original]

61 The court’s decision was that the *evidential* burden might shift to the defendant, if the plaintiff adduces sufficient evidence such that the *prima facie* likelihood is that the defendant is to blame. The court held at [262]:

If Kalzip adduces sufficient evidence to discredit BFG’s allegations that Kalzip or some other party was responsible for

the delamination, the tactical burden then falls on BFG to rebut the *prima facie* likelihood that it is to blame. This is again similar to *Anti-Corrosion*: once other causes of discolouration had been eliminated on the evidence, the tactical burden fell on the paint manufacturer to show that the paint was *not* defective or unfit.

[emphasis in original]

62 That is consistent with *Ma Hongjin v SCP Holdings Pte Ltd* [2021] 1SLR 304 at [30], *Anti-Corrosion Pte Ltd v Berger Paints Singapore Pte Ltd and another appeal* [2012] 1 SLR 427 at [37], and *Pacific Marine & Shipbuilding Pte Ltd v Xin Ming Hua Pte Ltd* [2014] SGHC 102 at [67].

63 To take a simple example, one of the Defects in the present case (S/N (e) in Annex B) concerns Bharat Forge’s crew not being able to connect iPads with Bluetooth headphones – BASS’ defective workmanship is blamed for this, as a CMS Installation Work Defect. For Bharat Forge merely to prove that its crew could not connect iPads to Bluetooth headphones (both of which were purchased by Bharat Forge) does not create a *prima facie* likelihood that some defect in BASS’ workmanship was to blame. On the contrary, from the evidence, this appears to have nothing to do with BASS’ workmanship in installing the new CMS; rather, the likelihood is that Bharat Forge’s crew just did not know how to connect iPads to Bluetooth headphones (which is what the evidence shows), or that there was something wrong with the iPads and/or Bluetooth headphones. These possibilities do not involve defects in BASS’ workmanship – and defective workmanship is what Bharat Forge needs to prove.

#### *The evidence*

64 Bharat Forge’s evidence to prove its claims was woefully inadequate.

65 Its only factual witness, Mr Thakre, appeared to have personal knowledge of only one of the 24 Defects – S/N (I) in Annex B, which concerned what Mr Thakre saw of the in-flight entertainment screens on 9 June 2020.

66 Bharat Forge did not call as witnesses:

- (a) its former Accountable Manager, Mr Iyer, who negotiated and signed the contract with BASS, made decisions on BASS' work scope and the NiceHD CMS, coordinated the airworthiness and maintenance efforts of the aircraft, and gave instructions to BASS;<sup>45</sup>
- (b) a former pilot of the aircraft, Captain Pawan Sareen;
- (c) a former flight steward of the aircraft, Mr Rohan Mujumdar;
- (d) anyone from Indamer (Bharat Forge's CAMO);
- (e) its current Accountable Manager, Mr Manish Kapoor, who replaced Mr Iyer; or
- (f) any other past or present employees of Bharat Forge.

(1) Mr Thakre's evidence

67 Mr Thakre says that the Defects were typically discovered by the crew operating the aircraft, naming Captain Sareen, Mr Mujumdar, and Mr Iyer. He says he relied on what they had told him, and on documents prepared by staff of Bharat Forge's Aviation Division and/or Indamer.<sup>46</sup> On cross-examination,

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<sup>45</sup> DCS at [191]; NE 4 February 2022, p66:10–p68:4.

<sup>46</sup> AEIC of ST at [1.3.4], [1.3.6] and [1.3.7].

he admitted that he had not been entirely accurate when he claimed to have “personally inspected and observed the [CMS Installation Work] defects” in his AEIC.<sup>47</sup>

68 What Mr Thakre had to say about what others had told him (orally or in writing) about the Defects, was hearsay. Under section 62 of the Evidence Act, a witness must generally testify as to what he had himself perceived, rather than what he had been told by someone else. Bharat Forge made no submissions as to why what persons like Mr Iyer, Captain Sareen, Mr Mujumdar, *etc* said to Mr Thakre (which Mr Thakre then relayed) was *not* hearsay, or should be admitted nevertheless.

69 BASS points to the 94 documentary exhibits to Mr Thakre’s AEIC, including contemporaneous correspondence, contractual documents, and records of rectification works, and maintains that its case does not suffer from a serious and glaring evidential difficulty.<sup>48</sup> Bharat Forge is indeed entitled to rely on contractual documents, but those by themselves cannot prove whether the contract has been breached. To the extent that Bharat Forge seeks to prove *breaches* of that contract, by putting forward statements made by its own personnel or Indamer’s personnel (but who are not witnesses), that is hearsay.

70 Mr Iyer and Captain Sareen both had their employment terminated by Bharat Forge, and Mr Thakre agreed that “Bharat Forge didn’t even bother to try and ask them to testify”.<sup>49</sup> Mr Mujumdar was still employed by Bharat

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<sup>47</sup> AEIC of ST at [1.3.7(c)]; NE 4 February 2022, p83:22–p84:10.

<sup>48</sup> Plaintiff’s Reply Submissions at [7]–[8].

<sup>49</sup> NE 4 February 2022, p83:4–12.

Forge,<sup>50</sup> but he was not called either, nor was anyone else still employed by Bharat Forge, or anyone from Indamer. I agree with BASS that Bharat Forge did not call persons with personal knowledge of the material facts, because their evidence would have been bad for Bharat Forge. In this regard, I draw an adverse inference against Bharat Forge under section 116, illustration (g) of the Evidence Act.

(2) Mr Martin’s evidence

71 As I noted above, Mr Martin was asked to *assume* the existence of the Defects alleged by Bharat Forge: he thus offered no expert opinion on whether the Defects existed. It was thus up to Bharat Forge to prove the existence of the Defects through factual evidence – for which it only had Mr Thakre and the 94 exhibits to his AEIC.

72 Furthermore, Mr Martin said that his AEIC was affirmed with just its text (and the cover pages for the exhibits), but *without exhibits*.<sup>51</sup> He admitted that he knew it was improper for him to do this, but he claims he did so on the instructions of Bharat Forge’s previous solicitors.<sup>52</sup>

73 The text of the AEIC refers to Mr Martin’s report as “dated 1 December 2021” and says that it was “[n]ow produced and shown to [him]” as an exhibit,<sup>53</sup> but Mr Martin says he only finalised his report on the morning of 3 December

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<sup>50</sup> NE 4 February 2022, p83:13–16.

<sup>51</sup> NE 16 February 2022, p9:19–p11:13.

<sup>52</sup> NE 16 February 2022, p11:3–13.

<sup>53</sup> AEIC of Mr Mark D Martin (“MDM”) at [3.1.2].

2021, after which he went to a notary to affirm the text of his AEIC; but he did not bring a copy of his report to the notary.<sup>54</sup>

74 Similarly, exhibit MDM-2 to Mr Martin’s AEIC is a solicitors’ letter dated 25 November 2021 purporting to set out the instructions on which Mr Martin gave his expert opinion,<sup>55</sup> but Mr Martin said he had never received that letter.<sup>56</sup>

75 All this makes a mockery of the process of an expert witness affirming an affidavit which confirms on oath his expert opinion, and the basis on which it is given.

76 A person is qualified to be an expert if he has “scientific, technical or other specialised knowledge based on training, study or experience” in relation to the issue in question: s 47(2) of the Evidence Act. I find that Mr Martin lacked the necessary knowledge to be an expert on the causes of the Defects – which is what he was asked to give an expert opinion on.

77 He was not a licensed aircraft engineer,<sup>57</sup> he had no experience with the installation of a CMS,<sup>58</sup> and he was not qualified to oversee the installation of a CMS.<sup>59</sup> Neither did he rely on academic qualification as his basis for claiming

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<sup>54</sup> NE 16 February 2022, p11:16–p12:4.

<sup>55</sup> AEIC of MDM at [3.1.1].

<sup>56</sup> NE 16 February 2022, p8:7–17, p71:19–25.

<sup>57</sup> NE 10 February 2022, p64:5–11.

<sup>58</sup> NE 10 February 2022, p63:11–13.

<sup>59</sup> NE 10 February 2022, p64:5–11.

expertise.<sup>60</sup> Instead he relied on having attended courses and obtained certificates from them, but these were short courses of between two to five days, and did not relate to the carrying out of maintenance work or CMS installation work.<sup>61</sup>

78 Moreover, Mr Martin did not review the documents provided to him so as to offer a considered opinion. On several occasions, he admitted that he was seeing for the first time, documents that had earlier been provided to him.<sup>62</sup>

79 This cursory approach permeated Mr Martin’s report. For instance, his “view and assessment” of each of the 12 CMS Installation Work Defects was word-for-word the same: it was just copied and pasted, with no specific analysis of individual Defects.<sup>63</sup> At trial, he then admitted that he did not know the cause of various Defects.<sup>64</sup>

80 Mr Martin had also done a forensic audit of the aircraft earlier in 2019, but he did not disclose that in his expert report.<sup>65</sup> Nor was the forensic audit report disclosed. Mr Martin ought properly to have disclosed this earlier involvement with the very aircraft that he was providing an expert opinion on.

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<sup>60</sup> NE 10 February 2022, p29:1–5.

<sup>61</sup> NE 10 February 2022, p142:19–25, p144:21–p145:19, p148:6–11.

<sup>62</sup> AEIC of MDM at pp18–19; NE 15 February 2022, p130:3–5, p130:22–p131:2, p152:6–16.

<sup>63</sup> NE 10 February 2022, p191:21–p194:11; NE 16 February 2022, p28:14–p29:9.

<sup>64</sup> NE 15 February 2022, p3:19–20, p127:16–25, p200:13–20.

<sup>65</sup> NE 10 February 2022, p75:5–13.



81 For the above reasons, I do not find Mr Martin's expert opinion to be of any assistance. In any event, I was unconvinced by the pro-Bharat Forge views that he put forward.

(3) BASS' evidence

82 Bharat Forge did not challenge the evidence of BASS' factual or expert witnesses at trial: not a single question was asked of them.

83 It is an uphill task (to say the least) for Bharat Forge to contend that the hearsay evidence offered by Mr Thakre should be preferred to the direct evidence of BASS' factual witnesses, or that Mr Martin's expert opinion (which was vigorously challenged) should be preferred to the unchallenged evidence of Mr Waterhouse, or that its submissions on points not put to BASS' witnesses should be accepted.

84 The present case is an extreme example of when the rule in *Browne v Dunn* (1893) 6 R 67 should be applied in its full rigour:

where a submission is going to be made about a witness or the evidence given by the witness which is of such a nature and of such importance that it ought fairly to have been put to the witness to give him the opportunity to meet that submission, to counter it or to explain himself, then if it has not been so put, the party concerned will not be allowed to make that submission.

See also: *Hong Leong Singapore Finance Ltd v United Overseas Bank Ltd* [2007] 1 SLR(R) 292 at [42]; *Bollywood Veggies Pte Ltd v Chief Assessor* [2022] 3 SLR 1028; and *Yeo Kwan Wee Kenneth v Public Prosecutor* [2004] 2 SLR(R) 45.

85 In particular, Bharat Forge submits that BASS allocated insufficient time for the Maintenance Check,<sup>66</sup> that BASS had no competence to carry out the CMS Installation Work,<sup>67</sup> that BASS was reluctant to bring the aircraft back to Singapore for rectification work,<sup>68</sup> and that BASS' installation of the iPad mountings in June 2019 showed a lack of care.<sup>69</sup>

86 These submissions lack factual foundation, were not put to BASS' witnesses as they ought to have been, and were comprehensively rebutted in BASS' Reply Closing Submissions.<sup>70</sup>

### ***Maintenance Work Defects***

87 Bharat Forge pleads 12 Maintenance Work Defects in its SOC (Annex A).

#### *S/N (a) – Heads-Up Display flickering*

88 This first complaint was that the image projected by the cockpit's Heads-Up Display ("HUD") showed some flickering.<sup>71</sup>

89 BASS' witnesses Mr Lee Seow Yang (an aircraft maintenance engineer who was part of the team responsible for maintaining Bharat Forge's aircraft) and Mr Waterhouse gave evidence that the level of flickering was normal, and

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<sup>66</sup> PCS at [25(c)] and [91].

<sup>67</sup> PCS at [47] and [99].

<sup>68</sup> PCS at [10], [47] and [63].

<sup>69</sup> PCS at [47].

<sup>70</sup> DRS at [89]–[113].

<sup>71</sup> SOC at [2.2.4(b)(i)] and Annex A, S/N (a).

was inherent in the use of cathode-ray tubes in the HUD.<sup>72</sup> Contemporaneously, BASS' Mr Wayne informed Bharat Forge on 1 June 2019 that BASS considered the issue closed.<sup>73</sup> Bharat Forge did not dispute this, or give further instructions to BASS about it.<sup>74</sup> It is therefore somewhat puzzling that this is listed in S/N (a) of Annex A of the SOC as a Defect and as having been rectified. It was not a defect, no rectification was necessary, and no rectification was carried out.

90 Mr Thakre admitted that this Defect “shouldn’t be [in the SOC]”.<sup>75</sup> It was not a Defect that Mr Martin was asked to opine on.<sup>76</sup> In his testimony, Mr Martin admitted, “it’s not a defect”.<sup>77</sup> This was not a defect, and in any case Bharat Forge has not proved that the flickering was due to a defect in BASS’ workmanship. I dismiss this claim.

*S/N (b) – rear lavatory wash basin and drainage not functioning automatically*

91 The complaint is that the rear lavatory wash basin and drainage did not function automatically “as they were supposed to”.<sup>78</sup>

92 The rear lavatory wash basin and drainage were however not supposed to function automatically in the first place, as BASS’ Mr Yeo Ah Lee Stanley (a member of the team of BASS engineers and technicians who performed the

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<sup>72</sup> AEIC of NW at NW-2, [86]; AEIC of Mr Lee Seow Yang (“LSY”) at [63].

<sup>73</sup> 225DBOD14230–14231.

<sup>74</sup> NE 4 February 2022, p108:4–9; DCS at [394].

<sup>75</sup> NE 4 February 2022, p109:9–12.

<sup>76</sup> NE 15 February 2022, p193:8–p194:18.

<sup>77</sup> NE 15 February 2022, p193:3–4.

<sup>78</sup> SOC at [2.2.4(b)(ii)] and Annex A, S/N (b).

Maintenance Work) (“Mr Yeo”) gave evidence on.<sup>79</sup> Mr Thakre admitted that Bharat Forge had no evidence that they were supposed to function automatically.<sup>80</sup>

93 Further, this item was not within the scope of BASS’ work.<sup>81</sup>

94 Contemporaneously, BASS’ Mr Wayne stated in his email of 1 June 2019 that the issue was “closed”.<sup>82</sup> Bharat Forge did not dispute this then, but nevertheless included it in its claim against BASS.

95 Tellingly, there are three washrooms in the aircraft, all of which operate in the same way, but Bharat Forge claims only in respect of one – the one the chairman used.<sup>83</sup> In effect, Bharat Forge was suing BASS just because the chairman was unhappy that the washroom he used was not functioning automatically, when it was never supposed to be automatic in the first place.

96 This was not a defect, nor was it in any event a defect in BASS’ workmanship. I dismiss this claim.

*S/N (c) – airstairs mat peeling*

97 This complaint is that “the built-in airstairs mat was not properly installed and was peeling”.<sup>84</sup>

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<sup>79</sup> AEIC of Mr Yeo Ah Lee Stanley (“SY”) at [57].

<sup>80</sup> NE 4 February 2022, p120:3–7.

<sup>81</sup> AEIC of NW at NW-2, [94].

<sup>82</sup> 225DBOD14231.

<sup>83</sup> NE 4 February 2022, p115:14–p116:12.

<sup>84</sup> SOC at [2.2.4(b)(iii)] and Annex A, S/N (c).

98 Mr Thakre admitted that this was addressed to Bharat Forge’s satisfaction *before* the aircraft was returned to service.<sup>85</sup> It was thus not a defect which Bharat Forge discovered later, and which BASS then failed to rectify within the warranty period (which is the premise of Bharat Forge’s claim). Mr Thakre agreed that this item “should never have been included” in the SOC.<sup>86</sup> Mr Martin agreed that his comment that the issues with the mat arose from “poor installation” was not correct and [had] no basis”.<sup>87</sup>

99 All that needed to be done was to apply adhesive to the peeling mat and apply pressure to aid in the curing of the adhesive – it was resolved in a day.<sup>88</sup> This was not a defect in the aircraft as returned by BASS to Bharat Forge. Nor has Bharat Forge proved that the peeling was due to a defect in BASS’ workmanship. I dismiss this claim.

*S/N (d) – (i) Stall Protection Failure; and (ii) multiple faults in Air Data Computer system (“ADC”)*

100 The evidence shows that these issues<sup>89</sup> were due to an obstruction in the pitot static probes some time after the aircraft was returned to service in early June 2019. These issues were not encountered during the check flight before the aircraft was returned to service, nor on the first two flights thereafter (Pune to Lisbon, and Lisbon to Frankfurt); the issues were only reported on 20 June

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<sup>85</sup> NE 4 February 2022, p122:2–5.

<sup>86</sup> NE 4 February 2022, p122:17–20.

<sup>87</sup> NE 16 February 2022, p23:18–24.

<sup>88</sup> AEIC of SY at [59]; DCS at [129].

<sup>89</sup> SOC at [2.2.4(c)] and Annex A, S/N (d).

2019.<sup>90</sup> Mr Thakre admitted that Bharat Forge had “no evidence that this was a problem that existed at the time of BASS’s maintenance work”.<sup>91</sup>

101 The issues were resolved by Indamer simply cleaning the probes,<sup>92</sup> and Mr Martin acknowledged that “the ADC and the stall protection were not actually faulty, it was just that the pitot static probes needed cleaning”.<sup>93</sup>

102 Bharat Forge has not proved that this was a defect in the aircraft as returned by BASS to Bharat Forge, or that it was in any event due to a defect in BASS’ workmanship. I dismiss this claim.

*S/N (e) – weather radar system suffering glitches and becoming unserviceable*

103 During a flight on 16 July 2019, the aircraft’s weather radar system purportedly suffered glitches and became unserviceable.<sup>94</sup>

104 Bharat Forge has not proved that this issue even existed. Glitches with the weather radar system were never reported to BASS or to Bombardier’s Customer Response Centre (“CRC”).<sup>95</sup> Mr Thakre acknowledged that “Bharat Forge has given no evidence about the alleged issue with the weather radar system”.<sup>96</sup> This was not a defect that Mr Martin was asked to opine on, and his

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<sup>90</sup> NE 4 February 2022, p132:19–p133:7.

<sup>91</sup> NE 4 February 2022, p136:22–25.

<sup>92</sup> NE 4 February 2022, p135:18–25; NE 16 February 2022, p67:18–25.

<sup>93</sup> NE 16 February 2022, p62:20–25.

<sup>94</sup> SOC at [2.2.4(e)] and Annex A, S/N (e).

<sup>95</sup> AEIC of NW at NW-2, [63]; AEIC of Ms Luxmi Negi (“LN”) at [206].

<sup>96</sup> NE 4 February 2022, p141:21–24.

report does not mention it.<sup>97</sup> Moreover, this item is not mentioned in Bharat Forge’s closing submissions.

105 Further, Mr Thakre admitted that “[t]he weather radar system was not part of [BASS]’ contracted work scope”.<sup>98</sup>

106 No problem with the aircraft’s weather radar system was observed during the tests conducted by BASS prior to returning the aircraft, and the component must have been functioning normally when the aircraft was returned on 3 June 2019.<sup>99</sup>

107 Bharat Forge has not proved that this defect even existed, let alone that (if it did) it was due to a defect in BASS’ workmanship. I dismiss this claim.

*S/N (f) – failure and breaking off of right Spoiler Proximity Switch support bracket*

108 Bharat Forge claims that, while landing at the Dubai International Airport on 9 August 2019, the aircraft’s right Spoiler Proximity Switch’s support bracket failed and broke off from the right wing assembly.<sup>100</sup> This issue was resolved by ExecuJet Middle East LLC replacing the bracket while the aircraft was at Dubai.<sup>101</sup>

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<sup>97</sup> AEIC of MDM at p27.

<sup>98</sup> NE 4 February 2022, p141:18–20.

<sup>99</sup> AEIC of SY at [52]; AEIC of NW at NW-2, [63]–[64].

<sup>100</sup> SOC at [2.2.4(f)] and Annex A, S/N (f).

<sup>101</sup> 377DBOD16691; AEIC of ST at [5.3.6].

109 When BASS checked the bracket earlier in January 2019, it had been found to be satisfactory with no cracks, corrosion or discrepancies.<sup>102</sup> Mr Martin acknowledged that he had “no evidence that any problem could have been seen at the time of the inspection.”<sup>103</sup>

110 Bharat Forge has not proved any defect in BASS’ workmanship for which it could sustain a claim. Moreover, the evidence suggests the issue was due to wear and tear, for which BASS was not responsible (see [19] above) – the susceptibility of the bracket to wear and tear was highlighted by Bombardier to all owners and operators of this aircraft model in a modification summary in 2008, which recommended changing the bracket to a stronger material, and applying sealant for corrosion prevention.<sup>104</sup> Neither the aircraft’s previous owners nor Bharat Forge implemented these recommendations. I dismiss this claim.

*S/N (g) – spoiler unit failing to retract when the aircraft landed*

111 This issue is said to have occurred on 11 August 2019 when the aircraft landed in Pune, India.<sup>105</sup> However, Indamer stated on 12 August 2019 that an operational check of the spoilers was found to be satisfactory and there was no ground fault, flight fault or Crew Alerting System (“CAS”) message found.<sup>106</sup> Indamer stated further on 17 September 2019, in closing this CRC request, that

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<sup>102</sup> AEIC of SY at [41] and SY-5.

<sup>103</sup> NE 15 February 2022, p149:5–14.

<sup>104</sup> AEIC of NW at NW-2, [70]; 374DBOD16623.

<sup>105</sup> SOC at [2.2.4(h)] and Annex A, S/N (g).

<sup>106</sup> 392DBOD16864.



“[o]perational check of Ground lift dumping carried out and found satisfactory. No parts removed. This issue is resolved and may be treated as closed”.<sup>107</sup>

112 Mr Thakre agreed that there was no verifiable defect with the spoiler unit.<sup>108</sup> He said that the inclusion of this item in the SOC “appears to be an error”, and that it “shouldn’t have been there”.<sup>109</sup>

113 Mr Martin had originally suggested that this issue was possibly caused by “reinstallation of components”,<sup>110</sup> but in his testimony he acknowledged that he was not in a position to say that that was the actual cause of this issue.<sup>111</sup> He accepted that in preparing his report about this particular issue, he had not gone through the relevant documents, and that was wrong of him.<sup>112</sup>

114 Bharat Forge pleads that this Defect was rectified by Indamer,<sup>113</sup> but the evidence shows that Indamer could not even verify the Defect, and carried out no rectification because none was needed.<sup>114</sup>

115 Bharat Forge has not proven this Defect, let alone that there was a defect in BASS’ workmanship. I dismiss this claim.

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<sup>107</sup> 378DBOD16721.

<sup>108</sup> NE 4 February 2022, p194:19–p195:22.

<sup>109</sup> NE 4 February 2022, p194:3–9.

<sup>110</sup> AEIC of MDM at p60 (point vi).

<sup>111</sup> NE 15 February 2022, p128:14–p129:2.

<sup>112</sup> NE 15 February 2022, p137:6–11.

<sup>113</sup> SOC at Annex A, S/N (g).

<sup>114</sup> 392DBOD16864; NE 15 February 2022, p136:7–p137:5.

*S/N (h) – the Stick Shaker Number 2 failed*

116 This issue supposedly happened on 18 November 2019 during a flight from Sweden to India,<sup>115</sup> but it was never reported to BASS, as Bharat Forge admits.<sup>116</sup>

117 BASS’ evidence is that this appears to have been a normal component failure,<sup>117</sup> and Mr Thakre agreed that components “could fail at any time”.<sup>118</sup> Indamer removed the number 2 stick shaker actuator and installed a serviceable one.<sup>119</sup>

118 The stick shaker number 2 was not within BASS’ work scope. Mr Thakre admitted that his AEIC did not “point to any part of the work scope” in this regard.<sup>120</sup> Mr Martin said that he would “probably still have to agree with [BASS]” that “there was no task under the 8C check to inspect the stick shaker”.<sup>121</sup>

119 Bharat Forge has not proved this item was within BASS’ scope of work, or that it pertained to any defect in BASS’ workmanship. I dismiss this claim.

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<sup>115</sup> SOC at [3.2.3(a)] and Annex A, S/N (h).

<sup>116</sup> Reply (Amendment No 1) at [3.1.1].

<sup>117</sup> AEIC of LN at [220].

<sup>118</sup> NE 4 February 2022, p147:13–15.

<sup>119</sup> 415DBOD17713.

<sup>120</sup> NE 4 February 2022, p146:16–21.

<sup>121</sup> NE 16 February 2022, p55:22–p56:2.

*S/N (i) – the aircraft’s HUD failed*

120 Bharat Forge claims that on a flight from Portugal to India on 1 December 2019, the aircraft’s HUD failed.<sup>122</sup>

121 There was no failure of the aircraft’s HUD. Instead, the concern arose out of a “HUD FAIL” message which appeared on the CAS after about one minute of the HUD being powered.<sup>123</sup> This was only reported more than six months after the aircraft was returned to service,<sup>124</sup> and it appears to have been caused by a malfunction with the Heads-Up Flight Display Computer (“HFDC”) as opposed to the HUD itself.<sup>125</sup>

122 The HFDC was not part of BASS’ work scope, as Mr Thakre conceded.<sup>126</sup>

123 Mr Thakre admitted that the issue was “resolved by replacing the HFDC ... on the advice of the manufacturer.”<sup>127</sup> Mr Thakre further admitted that the HFDC was a “run-to-failure component”, and the incorrect message was thus due to a “normal component failure”.<sup>128</sup>

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<sup>122</sup> SOC at [3.2.3(b)] and Annex A, S/N (i).

<sup>123</sup> 432DBOD17990; 434DBOD18014–18016.

<sup>124</sup> NE 4 February 2022, p179:8–11.

<sup>125</sup> AEIC of NW at NW-2, [92].

<sup>126</sup> NE 4 February 2022, p179:23–p180:1,

<sup>127</sup> NE 4 February 2022, p178:13–20; see also 464DBOD18378–18379.

<sup>128</sup> NE 4 February 2022, p180:2–7.

124 This issue involved no defect in BASS’ workmanship. In any event, it would be excluded under Clause 10(C) as part of normal wear and tear. I dismiss this claim.

*S/N (j) – upon landing, the aircraft’s avionics displayed a warning message that the left outboard brakes had overheated*

125 The issue is said to have arisen on 6 December 2019 upon landing after a flight from New Delhi to Pune.<sup>129</sup> According to Indamer, there was a “BRAKE OVHT” warning CAS message, and the “LH OB brake heat temperature values” on the status page were fluctuating between “5” and “33”.<sup>130</sup> Indamer shared the incident with Bombardier’s CRC, with Indamer stating that it suspected the “LH OB temperature sensor” to be the cause of the issue.<sup>131</sup> Bharat Forge does not dispute Indamer’s confirmation, dated 6 January 2020, that Indamer had replaced that sensor and the system was working normally.<sup>132</sup>

126 The sensor in question does not come within any direct inspection task under the 8C inspection,<sup>133</sup> and Mr Martin accepted as much.<sup>134</sup> The sensor was a “run-to-failure” component, used until it showed clear signs of failure, and then replaced.<sup>135</sup>

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<sup>129</sup> SOC at [3.2.3(c)]–[3.2.3(d)] and Annex A, S/N (j).

<sup>130</sup> 437DBOD18054.

<sup>131</sup> 437DBOD18054; AEIC of LN at [227].

<sup>132</sup> 445DBOD18137.

<sup>133</sup> AEIC of LN at [228].

<sup>134</sup> NE 16 February 2022, p49:3–6.

<sup>135</sup> AEIC of NW at NW-2, [19] and [105].

127 The fault message was only reported five months after the return of the aircraft to service, and Mr Martin agreed that one cannot infer that any inspection before return to service would have identified anything wrong with the sensor.<sup>136</sup>

128 There was no defect in BASS' workmanship in relation to this item. I dismiss this claim.

*S/N (k) – the aircraft's pressurisation, air-conditioning and electrical systems suffered a series of multiple and concurrent failures*

129 These failures allegedly arose during a flight on 9 January 2020, from Delhi to Pune.<sup>137</sup> Mr Thakre admitted that this issue was resolved by replacing components.<sup>138</sup> The components in question are run-to-failure components susceptible to wear and tear, and what happened were just normal component failures.<sup>139</sup> Mr Thakre agreed with this.<sup>140</sup> There is no evidence upon which to fault BASS for this issue. There was no defect in BASS' workmanship. I dismiss this claim.

*S/N (l) – the Right Air Conditioning Pack on the aircraft failed while it was cruising at a high altitude of 45,000 feet*

130 The issue is said to have arisen on 24 January 2020 during a flight from Germany to India.<sup>141</sup> Subsequently, Indamer could not verify the issue – it was

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<sup>136</sup> NE 16 February 2022, p51:22–p52:2, p52:22–25.

<sup>137</sup> SOC at [3.2.3(e)] and Annex A, S/N (k).

<sup>138</sup> NE 4 February 2022, p196:16–19.

<sup>139</sup> AEIC of NW at NW-2, [105], [110]–[112].

<sup>140</sup> NE 4 February 2022, p199:10–p200:6.

<sup>141</sup> SOC at [3.2.3(f)] and Annex A, S/N (l).

not reproducible in checks done by Indamer on the ground.<sup>142</sup> There was email correspondence until 16 July 2020 indicating that Indamer would continue to monitor this issue, but there was no follow up thereafter from Bharat Forge or Indamer.<sup>143</sup>

131 Mr Thakre agreed that “there was no verifiable fault with the R pack fail at 45,000 feet”.<sup>144</sup> Mr Martin, after being shown the relevant correspondence, admitted, “I would say that my opinion in this particular finding would not be correct”.<sup>145</sup>

132 Mr Thakre says that after the temperature control thermostat (THC) filter was replaced by Indamer in February 2020, the issue subsided.<sup>146</sup> Mr Martin agreed that based on the correspondence, “the cause was just a slightly dirty filter”.<sup>147</sup> Bharat Forge has not proved that this was a defect in BASS’ workmanship. I dismiss this claim.

### ***CMS Installation Work Defects***

133 Annex B of the SOC lists 12 CMS Installation Work Defects, of which six are said to be “[n]ot rectified to date”: S/N (a), (d), (e), (h), (j), and (k). All six relate to the use of iPads instead of standard controllers. However, this position was not consistently maintained by Bharat Forge.

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<sup>142</sup> 484DBOD18776–18777.

<sup>143</sup> AEIC of LN at [237]; 484DBOD18770–18771.

<sup>144</sup> NE 8 February 2022, p20:3–7.

<sup>145</sup> NE 15 February 2022, p189:4–14.

<sup>146</sup> AEIC of ST at [5.9.10].

<sup>147</sup> NE 15 February 2022, p189:1–3.

134 In Mr Thakre's AEIC, the six Defects were narrowed down to four: S/N (a), (d), (e), and (k).<sup>148</sup> From this, it appeared that Bharat Forge was no longer saying that S/N (h) and (j) remained unrectified.

135 In contrast, Bharat Forge's closing submissions substantively address the following eight Defects: S/N (b), (c), (d), (f), (h), (i), (j), and (k). There is no substantive argument on why BASS should be responsible for S/N (a) and (e), which Bharat Forge's SOC and Mr Thakre said remained unrectified.

136 Whatever Bharat Forge's actual position might be, it will become apparent below that none of the 12 purported CMS Installation Work Defects can properly sustain a claim.

*S/N (a) – iPad mounts failed to connect and/or interface the iPads with the NiceHD CMS*

137 This complaint<sup>149</sup> is a non-starter. The iPad mounts were never intended to connect and/or interface the iPads with the NiceHD CMS: they were mechanical mounts for the iPads with no connection or interfacing function.<sup>150</sup> The iPads did not connect or interface to the CMS through the mounts, but wirelessly through an app.

138 Mr Thakre agreed that the mounts were not a docking station and were not intended to provide a connection to the CMS.<sup>151</sup> He conceded that he

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<sup>148</sup> AEIC of ST at [7.1.1].

<sup>149</sup> SOC at [2.2.6(a)] and Annex B, S/N (a).

<sup>150</sup> AEIC of NW at NW-2, [123]–[124].

<sup>151</sup> NE 9 February 2022, p28:4–19, p30:23–p31:7.

“wo[uld]n’t call it a defect” in the CMS Installation.<sup>152</sup> Mr Martin agreed that as the iPads connected wirelessly to the CMS, Bharat Forge’s allegation that the mounts failed to connect and interface the iPads with the CMS did not make sense.<sup>153</sup>

139 There is no substantive argument in Bharat Forge’s closing submissions as to why BASS should be liable for this item. It is not a defect. I dismiss this claim.

*S/N (b) – the forward-looking and rear-end cameras of the NiceHD CMS did not function*

140 The issue here<sup>154</sup> was with a defective component – the encoder; Mr Thakre and Mr Martin agreed with this assessment, as does Bharat Forge in its closing submissions.<sup>155</sup>

141 After the encoder was replaced, the cameras worked thereafter.<sup>156</sup> The encoder was not part of the new NiceHD CMS that BASS was contracted to install; it was part of the original NiceSD system, and Bharat Forge had decided to retain the encoders.<sup>157</sup> Mr Thakre admitted that “the camera issues were not caused by the installation of the cameras by BASS”.<sup>158</sup>

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<sup>152</sup> NE 9 February 2022, p31:8–10.

<sup>153</sup> NE 11 February 2022, p41:23–p42:4.

<sup>154</sup> SOC at [2.2.6(b)] and Annex B, S/N (b).

<sup>155</sup> AEIC of ST at [6.2.15]; NE 8 February 2022, p170:25–p171:8; NE 11 February 2022, p183:22–p184:10; PCS at para 47.

<sup>156</sup> 422DBOD17851–17852; AEIC of ST at [6.2.19].

<sup>157</sup> NE 8 February 2022, p184:18–p187:2.

<sup>158</sup> NE 8 February 2022, p171:9–12, p186:23–p187:2.



142 The allegation belatedly made in Bharat Forge’s closing submissions, is that BASS should have checked that the encoders which Bharat Forge had decided to retain were in good order.<sup>159</sup> This allegation is absent from the evidence, it was not pursued at trial, and it is too late to just make it in closing submissions. There is moreover nothing to show that the encoder in question was defective while the aircraft was with BASS, such that an inspection would have detected the fault. Moreover, BASS’ scope of work was to install the new CMS, and not to check such parts of the old CMS as Bharat Forge may have decided to retain.

143 This item does not relate to any defect in BASS’ workmanship. I dismiss this claim.

*S/N (c) – the aircraft’s water supply system for the cabin was unserviceable*

144 This complaint is that the aircraft’s water supply system had become unserviceable during a flight from India to Portugal on 10 June 2019, such that the aircraft’s lavatories and galley became unusable throughout the nine-hour flight.<sup>160</sup>

145 While pleaded as such, this was not a CMS Installation Work issue. The cause was a faulty pressure transducer,<sup>161</sup> and Mr Thakre and Mr Martin agreed

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<sup>159</sup> PCS at [47].

<sup>160</sup> SOC at [2.2.6(d)]–[2.2.6(f)] and Annex B, S/N (c).

<sup>161</sup> AEIC of LN at [60]–[62].

with this.<sup>162</sup> After the transducer was replaced, the water system worked normally.<sup>163</sup>

146 The allegation that this was related to the CMS Installation Work (in that the water supply system was to be controlled through the CMS<sup>164</sup>) is unsound: Lufthansa itself stated that the water system has its own controller, and the CMS does not control the water system at all.<sup>165</sup> This was also the expert opinion of Mr Waterhouse.<sup>166</sup> Mr Martin agreed that the issue was not a matter of interface between the water system and the CMS.<sup>167</sup>

147 In Bharat Forge's closing submissions, it attempted to shift this complaint from a CMS Installation Work Defect to a Maintenance Work Defect, arguing that BASS had failed to properly inspect the water system during the Maintenance Check.<sup>168</sup> However, BASS' evidence that the pressure transducer would not have been specifically inspected as part of the Maintenance Check<sup>169</sup> was not challenged at trial. Mr Thakre admitted that he did not know if the pressure transducer was part of the Maintenance Check.<sup>170</sup> Unable to point to anything expressly making this part of BASS' scope of work, Bharat Forge falls

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<sup>162</sup> NE 8 February 2022, p89:24–p90:7; NE 15 February 2022, p9:20–24.

<sup>163</sup> AEIC of LN at [62]; 317DBOD15613–15616.

<sup>164</sup> SOC at [2.2.6(i)v.] and Annex B, S/N (c).

<sup>165</sup> 272DBOD14536.

<sup>166</sup> AEIC of NW at NW-2, [146].

<sup>167</sup> NE 15 February 2022, p11:22–p12:11.

<sup>168</sup> PCS at [47].

<sup>169</sup> AEIC of LN at [61].

<sup>170</sup> NE 8 February 2022, p85:5–8, p90:8–11.

back on its argument that the Maintenance Check is comprehensive, *ie*, BASS had to check everything.<sup>171</sup> I have rejected this contention. I dismiss this claim.

*S/N (d) – the NiceHD CMS did not synchronise with any of the iPads that BASS installed on the aircraft; the video content played on the iPad produced no sound output through the cabin sound system, which was linked via the CMS*

148 The issue here<sup>172</sup> arose from Bharat Forge’s lack of familiarity with the use of iPads and headphones.

149 It seems that Bharat Forge expected headphones that were not connected to the iPads (but were instead connected to the CMS) to somehow have sound output from the iPads. The issue was resolved with advice from Lufthansa regarding the proper use of the iPads and headphones in conjunction with the CMS.<sup>173</sup> One option was to use a Bluetooth headset compatible with the iPads;<sup>174</sup> another option was to use the “join” function of the CMS to watch a movie shown on the bulkhead display – that would synchronise video and audio. The evidence of Ms Luxmi Negi (Bombardier’s Field Service Representative in India) is that on the 18 June 2019 flight from Delhi to Pune, the “join” function was explained to Bharat Forge’s principal, it worked as Lufthansa had explained, and this appeared to address the principal’s concerns.<sup>175</sup>

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<sup>171</sup> PCS at [47].

<sup>172</sup> SOC at [2.2.6(g)] and Annex B, S/N (d).

<sup>173</sup> 266DBOD14442.

<sup>174</sup> AEIC of LN at [83].

<sup>175</sup> AEIC of LN at [82].

150 Ms Negi’s evidence was not challenged; indeed, Mr Thakre accepted: (a) that this issue was a consequence of Bharat Forge choosing to use iPads instead of the monitors of the NiceHD CMS; (b) that the iPads would not synchronise with the headphones if the two were not connected; and (c) that “synchronisation of the video and the audio is just a matter of going through the correct steps”.<sup>176</sup>

151 In its closing submissions, Bharat Forge ignores Mr Thakre’s testimony at trial, and falls back on his AEIC for the assertion that the issue remains unrectified.<sup>177</sup> I reject that. In any event, the issue had nothing to do with any defect in BASS’ workmanship in installing the CMS. I dismiss this claim.

*S/N (e) – the iPads which BASS installed on the aircraft could neither connect to the cabin sound system through the NiceHD CMS nor locate any Bluetooth devices (such as headphones); there was also no sound output from any video content displayed on the iPads*

152 It is an overstatement to say that the iPads were “installed” by BASS,<sup>178</sup> thereby suggesting that this was an aspect of the CMS Installation Work. The iPads were acquired by Bharat Forge, and physically mounted on to iPad mounts.<sup>179</sup> The iPads were not part of the CMS that BASS installed.

153 The allegation that the iPads could not connect to the cabin sound system through the NiceHD CMS has been dealt with in relation to the preceding item: the iPads could connect to the cabin sound system through the NiceHD CMS.

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<sup>176</sup> NE 9 February 2022, p7:19–22, p8:13–21, p10:20–22.

<sup>177</sup> PCS at [47]; AEIC of ST at [6.4.14].

<sup>178</sup> SOC at [2.2.6(i).i.] and Annex B, S/N (e).

<sup>179</sup> NE 9 February 2022, p16:21–p18:2.

Further, there was sound output from the video content displayed on the iPads – either by using headphones connected to the iPads, or by playing a video from an iPad on the bulkhead monitor, and using the “join” function, as discussed above at [149].

154 As for the supposed inability of the iPads to locate Bluetooth devices such as headphones, there was nothing wrong with the iPads or the headphones. Bharat Forge’s crew simply did not know how to connect them. Bombardier’s Ms Negi taught them how to do so,<sup>180</sup> and this item was recorded as “closed” in BASS’ action register.<sup>181</sup>

155 In any event, any issue involving two external pieces of equipment – iPads and Bluetooth headphones – had nothing to do with BASS’ workmanship in the CMS Installation Work. There was really no issue to begin with, other than the ignorance of Bharat Forge’s crew in not knowing how to connect Bluetooth headphones to iPads. Both Mr Thakre and Mr Martin agreed that this was not a defect with the CMS, or with the installation of the CMS.<sup>182</sup> There is no substantive argument in Bharat Forge’s closing submissions as to why BASS should be liable for this item. I dismiss this claim.

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<sup>180</sup> AEIC of LN at [86].

<sup>181</sup> 367DBOD16532, at S/N 2.

<sup>182</sup> NE 9 February 2022, p18:20–p19:4, p21:15–25, p22:15–20; NE 11 February 2022, p128:20–p129:12.

*S/N (f) – the NiceHD CMS’ Airshow screen consistently displayed incorrect flight information, such as flight distance and journey times*

156 Mr Thakre confirmed that the reference to “Airshow”<sup>183</sup> was a reference to the Niceview moving maps system, which was software developed by Lufthansa (and not the Airshow 4000 moving maps system that was initially installed and that was developed by Collins Aerospace).<sup>184</sup> Mr Thakre accepted that the issues with Niceview were purely software-related, and were Lufthansa’s responsibility, not BASS’.<sup>185</sup>

157 BASS’ scope of work was to install the CMS, not to guarantee that Lufthansa’s software was problem-free. Bharat Forge’s submission on this is a single line: “BASS has not explained why it did not ... ensure that the proper software was uploaded before the Aircraft was released back to BFL”.<sup>186</sup> That is a far cry from the evidence and submissions necessary for me to find that the Niceview software – other than its installation – was within BASS’ scope of work (it was not), or that there was some defect in BASS’ workmanship (there was not). I dismiss this claim.

*S/N (g) – the NiceHD CMS’ pop-up display screens were not compatible with the aircraft*

158 This allegation<sup>187</sup> is nonsensical. Bharat Forge chose to use iPads rather than pop-up display screens, and so no pop-up display screens were installed in

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<sup>183</sup> SOC at [2.2.6(i)ii] and Annex B, S/N (f).

<sup>184</sup> NE 8 February 2022, p116:10–15; AEIC of WSW at [14].

<sup>185</sup> NE 8 February 2022, p52:9–11, p123:10–13.

<sup>186</sup> PCS at [47].

<sup>187</sup> SOC at [2.2.6(i)iii] and Annex B, S/N (g).

the aircraft. Lufthansa confirmed that the pop-up display screens would have been compatible with the aircraft, and that they were offered to Bharat Forge – but Bharat Forge chose to use iPads instead. It is also mystifying that Bharat Forge says the supposed incompatibility was rectified by Indamer.<sup>188</sup>

159 Mr Thakre said this alleged Defect was an “error” and “false”.<sup>189</sup> Mr Martin agreed that from the documents, it appeared that the aircraft did not have pop-up display screens.<sup>190</sup> This item is not mentioned in Bharat Forge’s closing submissions. Bharat Forge has no case in relation to this Defect. I dismiss this claim.

*S/N (h) – the iPads were not compatible with the NiceHD CMS’ Blu-ray device*

160 This allegation<sup>191</sup> is without merit. Lufthansa’s NiceHD manual informed Bharat Forge that iPads would not be able to play Blu-ray audio and video:<sup>192</sup>

info

please note that you can use your mobile device as a remote control for content playing on a built in monitor only. due to digital right restrictions, the app can neither display blu-ray title nor the video content on the device.

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<sup>188</sup> SOC at Annex B, S/N (g).

<sup>189</sup> NE 9 February 2022, p50:2–10.

<sup>190</sup> NE 16 February 2022, p70:9–14.

<sup>191</sup> SOC at [2.2.6(i)iv] and Annex B, S/N (h).

<sup>192</sup> 500DBOD19322.

161 Despite this, Bharat Forge has sued BASS for the iPads not being able to play Blu-ray content, alleging that this is somehow a defect in BASS' workmanship in the CMS Installation Work. It is not.

162 The NiceHD CMS uses a Digital Rights Management system which encrypts videos that are content-protected like Blu-ray content, such that such videos cannot be played on devices like iPhones and iPads.<sup>193</sup> Mr Martin agreed that "the reason why the [B]lu-ray could not be played on the iPads was because of legal content restrictions for these media formats" and said "BASS [cannot] be blamed for that".<sup>194</sup> Lufthansa itself stated, "Blu-Ray streaming from Blu-Ray Player to iPad is prohibited by law due to the threat of Hollywood film studios. No solution available!"<sup>195</sup> Accordingly, the issue was regarded as "closed" and was reflected as such in BASS' action register.<sup>196</sup> Blu-ray content could still be played on the bulkhead monitor.<sup>197</sup>

163 Bharat Forge's closing submissions ignore the above, and assert that the purported licence restrictions are unsubstantiated, and a convenient excuse for BASS to deny responsibility.<sup>198</sup> However, it is for Bharat Forge to prove that BASS is responsible, and in particular that the iPads were not able to play Blu-ray content because of some defect in BASS' workmanship in the CMS Installation Work. Bharat Forge has completely failed to do so. I dismiss this claim.

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<sup>193</sup> AEIC of NW at NW-2, [141]–[142].

<sup>194</sup> NE 11 February 2022, p144:2–6, p145:2–9.

<sup>195</sup> 420DBOD17808–17809.

<sup>196</sup> 367DBOD16532, at S/N 5.

<sup>197</sup> NE 9 February 2022, p26:2–5.

<sup>198</sup> PCS at [47].



*S/N (i) – the Aircraft’s water system, which is designed to be operated through the NiceHD CMS, could only be manually switched on from the aircraft’s front closet*

164 This issue<sup>199</sup> overlaps with CMS Installation Work Defect S/N (c). As explained above at [146], the water system was not designed to be controlled by the NiceHD CMS. Rather, the galley control panel functions more like a remote control, in that it can send commands to the water system (*eg*, to turn the system on or off).<sup>200</sup>

165 The evidence does not show that the water system could not be operated through the CMS but only manually from the front closet. Mr Thakre has no personal knowledge of this matter. He relied on an internal email sent by Mr Mujumdar dated 1 July 2019,<sup>201</sup> but admitted that the email was unclear:<sup>202</sup>

For the last 02 flights the water system from off/no [sic] line drain from the FAP did not come on. It have to be done manually from the Fwrdr.

After doing it manually the off/no [sic] line drain page comes to ON position in the FAP.

Also today the internet time reading was on for 23 mins after putting the iPad on.

Request you to please look into the same.

166 The real issue was not that the galley control panel was disconnected or dysfunctional, but simply that it took time for the water system’s status on the panel to change. Lufthansa’s conclusion was that there was simply a slow

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<sup>199</sup> SOC at [2.2.6(i)v] and Annex B, S/N (i).

<sup>200</sup> AEIC of NW at NW-2, [146].

<sup>201</sup> 353DBOD16293.

<sup>202</sup> NE 8 February 2022, p107:4–p111:11.

response time of the water system (as opposed to a fault in the NiceHD CMS).<sup>203</sup> The solution was simply to wait five to ten minutes after the cabin is powered up, before attempting to operate the water system.<sup>204</sup> Bharat Forge’s crew followed the prescribed procedure explained to them by Ms Negi, and did not report any further issues thereafter.<sup>205</sup> BASS accordingly recorded in August 2019, “water system working fine as per the procedure advised”, and the issue was treated as “closed”.<sup>206</sup>

167 This item involves no defect in BASS’ workmanship that Bharat Forge could sue for. I dismiss this claim.

*S/N (j) – the metal mounts that BASS installed for the iPads were not fit for their intended purpose and damaged the upholstery in the aircraft’s cabin*

168 There is no evidence of this Defect. Mr Thakre had no personal knowledge of it, and what he had to say about it was based on what cabin crew told him.<sup>207</sup> Those cabin crew (still in Bharat Forge’s employ) were not called as witnesses.<sup>208</sup> What they supposedly said to Mr Thakre about the mounts amounts to inadmissible hearsay evidence.

169 Nor are there any photographs showing the alleged damage to the upholstery.<sup>209</sup> The available photographs show that the iPads (and mounts) are

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<sup>203</sup> 197DBOD13772.

<sup>204</sup> AEIC of LN at [74]; AEIC of NW at NW-2, [150].

<sup>205</sup> AEIC of LN at [74].

<sup>206</sup> 367DBOD16532, at S/N 6.

<sup>207</sup> NE 9 February 2022, p43:18–p44:1.

<sup>208</sup> NE 9 February 2022, p44:2–9.

<sup>209</sup> NE 9 February 2022, p37:21–23.

not in contact with the upholstery when in a normal viewing position.<sup>210</sup> Mr Thakre agreed that the iPads are “held in place” and “[t]here appears to be a gap” between the iPads and the cabin wall.<sup>211</sup>

170 Mr Thakre admitted that “Bharat Forge has not provided sufficient proof of this alleged defect”.<sup>212</sup> I agree. Bharat Forge’s closing submissions ignore Mr Thakre’s evidence at trial, and fall back on his AEIC – but that is inadequate.

171 On BASS’ side, Mr Yeo (who installed the mounts) gave evidence that the installation was properly done, and that was supported by the expert opinion on Mr Waterhouse.<sup>213</sup> Bharat Forge did not challenge this evidence.

172 In short, there is no proof of this Defect, nor of defective workmanship on BASS’ part. In so far as Bharat Forge asserts that the iPad mounts are not fit for purpose, Clause 10(D) of the Work Order T&C expressly provides that BASS makes no representations or warranties of any kind, including but not limited to the implied warranty of fitness for a particular purpose. In any event, Bharat Forge has failed to prove that the iPad mounts were not fit for their intended purpose. I dismiss this claim.

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<sup>210</sup> AEIC of NW at NW-2, [126]; AEIC of SY at SY-13, pp198–211; 501DBOD–504DBOD.

<sup>211</sup> NE 9 February 2022, p37:11–13, p38:2–7.

<sup>212</sup> NE 9 February 2022, p45:6–8.

<sup>213</sup> AEIC of SY at [60]–[62]; AEIC of NW at NW-2, [126].

*S/N (k) – the NiceHD CMS’ user operating manual that BASS provided to Bharat Forge was not compatible with the aircraft*

173 The author of the NiceHD CMS’ user operating manual was Lufthansa, not BASS.<sup>214</sup> It was not within the scope of BASS’ CMS Installation Work, for BASS to rewrite the Lufthansa manual.

174 Bharat Forge’s complaint is that the manual did not address the operation of the *app* which the iPads used.<sup>215</sup> That does not make the manual incompatible with the *aircraft*, which is the pleaded Defect.<sup>216</sup> Mr Thakre accepted that the manual is not incompatible with the aircraft.<sup>217</sup>

175 In any event, the complaint that the manual did not address the app is also false. There are sections of the manual titled “iOS / Android App 1” and “iOS / Android App 2”,<sup>218</sup> and the manual states, “the app has the same functionality as the built-in Displays except for media playback options”. Save for the features mentioned as not available, “all the content regarding the functionality for the pop-up displays actually applies to the NiceHD app”, as Mr Thakre accepted.<sup>219</sup>

176 Lufthansa confirmed that there was no separate manual for the app, and this item was recorded in the 25 June 2019 Action Register as follows: “Nice HD manual has been provided by LHT to BASS and that there is no separate

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<sup>214</sup> NE 9 February 2022, p53:20–25.

<sup>215</sup> NE 9 February 2022, p51:5–p53:19, p55:10–13.

<sup>216</sup> SOC at [2.2.6(i)vii] and Annex B, S/N (k).

<sup>217</sup> NE 9 February 2022, p58:21–p59:2.

<sup>218</sup> 500DBOD19321–19322.

<sup>219</sup> NE 9 February 2022, p55:10–p56:20.

[NiceHD iOS] operating manual”; “CLOSED: No FIX”.<sup>220</sup> Mr Thakre acknowledged that BASS could not be blamed for there being no separate manual for the app: he said, “Well, for the app, it would be incorrect to blame anyone”.<sup>221</sup>

177 This was not a defect and, in any event, not a defect in BASS’ workmanship; it was a wholly frivolous claim. I dismiss this claim.

*S/N (l) – the inflight-entertainment screens of the CMS blinked repeatedly; the image of the aircraft displayed on the said screens was too faint such that it was difficult to make out the aircraft’s position on the moving maps; and the moving maps were incessantly zooming out*

178 This set of complaints was raised by Mr Thakre in an email of 9 June 2020.<sup>222</sup> The complaints were that the in-flight entertainment screens had gone blank momentarily every ten minutes or so, the image displayed was too faint, and the moving maps zoomed out whenever the plane passed a country.

179 On 11 June 2020, Indamer stated that the aircraft was powered up for more than one hour, but acknowledged that no blanking occurred.<sup>223</sup> Indamer was asked for a video showing the “blinking”, but none was ever provided.<sup>224</sup> On 14 September 2020, Lufthansa informed BASS that “the current configuration was reproduced on [Lufthansa’s] mockup and no error could be found”.<sup>225</sup>

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<sup>220</sup> 350DBOD15995.

<sup>221</sup> NE 9 February 2022, p53:12–19.

<sup>222</sup> SOC at [3.2.5(a)] and Annex B, S/N (l); 481DBOD18762.

<sup>223</sup> 481DBOD18752–3.

<sup>224</sup> 481DBOD18742–51.

<sup>225</sup> 481DBOD18741–2.

180 Mr Thakre admitted that Bharat Forge has no evidence that the blanking recurred.<sup>226</sup> He further admitted that it was a software issue that was Lufthansa’s responsibility, not BASS’.<sup>227</sup>

181 As for the image of the aircraft appearing too faint, Mr Thakre admitted he could still make it out; he agreed that this was probably not a defect, but rather something that could be improved.<sup>228</sup> In any event, that too would be a software issue that was Lufthansa’s responsibility, not BASS’.

182 In his testimony, Mr Thakre admitted that the zooming out was “how the system was designed” by Lufthansa.<sup>229</sup> It had nothing to do with any defect in BASS’ workmanship in CMS Installation Work.

183 For the reasons above, I dismiss this claim.

### ***Notice requirements***

184 As discussed above, I have found that all of Bharat Forge’s Defect claims are without merit.

185 For completeness, I consider whether Bharat Forge’s claims also run afoul of the notice requirements under the contract.

186 Clause 10(B)(i) of the Work Order T&C states:<sup>230</sup>

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<sup>226</sup> NE 8 February 2022, p154:5–7, p155:11–14, p156:7–20.

<sup>227</sup> NE 8 February 2022, p165:22–25.

<sup>228</sup> NE 8 February 2022, p149:14–p150:2.

<sup>229</sup> NE 8 February 2022, p150:6–10.

<sup>230</sup> 494DBOD19295.

[BASS] will only honor the warranties provided herein for which Customer has made a warranty claim in writing within thirty (30) days following the discovery of the defect. Such claim shall include the Customer's name, Customer contact information, part or work subject to the warranty claim, the date work was performed, and the [BASS] facility where the work was performed. Claims made outside of the specified periods will not be honoured.

187 BASS contends that the terms of Clause 10(B)(i) must be strictly complied with. As such, notices must provide all of the following information:

- (a) the customer's name;
- (b) the customer's contact information;
- (c) the part or work subject to the warranty claim;
- (d) the date work was performed; and
- (e) the BASS facility where the work was performed.

188 Bharat Forge, on the other hand, contends that this need not strictly be complied with – all that is required is that BASS is provided with *sufficient information* to commence follow-up action.<sup>231</sup>

189 I agree with BASS that Clause 10(B)(i) cannot be read down as Bharat Forge contends. In *Laminates Acquisition Co v BTR Australia Ltd* [2004] 1 All ER (Comm) 737 ("*Laminates*"), the English High Court stated at [29]:

... [E]ach notice clause has to be construed for itself and in the light of the commercial context in which it is found and the commercial purpose it is intended to serve. Notice clauses of this kind are usually inserted for a purpose, to give some certainty to the party to be notified and a failure to observe their

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<sup>231</sup> PCS at [52]–[56].

terms can rarely be dismissed on a technicality. The comments of Stuart-Smith LJ in [*Senate Electrical Wholesalers Ltd v Alcatel Submarine Networks Ltd (formerly STC Submarine Systems Ltd)*] [1999] 2 Lloyd's Rep 423] are apposite ... He said:

The clear commercial purpose of the clause includes that the vendors should know ... in sufficiently formal written terms that a particularised claim for breach of warranty is to be made so that they may take such steps as are available to them to deal with it ... The commercial purpose may not be sensibly served if an uninformed and uninformative notice is given ...'

...

190 I agree with BASS that construing Clause 10(b)(i) – a notice clause in relation to a warranty claim – given the commercial context in which it is found and the commercial purpose it is intended to serve (which includes providing certainty to BASS, as observed in *Laminates*), compliance with its terms is required.

191 Bharat Forge did not comply with Clause 10(b)(i) in relation to any of the Defects. This is a further ground on which to reject Bharat Forge's claims.

### ***Incomplete CMS Installation Work***

192 Besides claiming for the Maintenance Work Defects listed in Annex A of the SOC, and the CMS Installation Work Defects listed in Annex B of the SOC, Bharat Forge also pleaded that BASS' CMS Installation Work was incomplete.<sup>232</sup> Specifically, Bharat Forge alleged that two USB Jack Modules and two LCD bulkhead display sets were missing. BASS denied the allegation and pleaded that the parts in question had been provided.<sup>233</sup>

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<sup>232</sup> SOC, at [2.2.8].

<sup>233</sup> Defence at [21].



193 Thereafter, Bharat Forge led no evidence to prove its claim of incomplete work, and nothing was said about this claim in its closing submissions. Bharat Forge has failed to prove this claim, and I dismiss it.

### **The quantum of damages**

194 In view of my findings above dismissing all of Bharat Forge’s claims, it follows that Bharat Forge is not entitled to any damages or other relief.

195 In any event, as I found above (at [38]–[50]), claims for consequential loss are contractually excluded, and the quantum of any damages would have been contractually limited to the price paid by Bharat Forge to BASS.

196 Subject to the above, and for completeness, I review the quantum of damages claimed by Bharat Forge and consider what it might have recovered had it succeeded in its claims.

### ***Quantum of damages – legal aspects***

#### *Measure of damages*

197 As stated above at [38], Bharat Forge claims the sum of US\$8,960,000 comprising US\$1,400,000 as the cost of replacing the NiceHD CMS with another CMS, and US\$7,560,000 as the cost of chartering an alternative aircraft for one year (supposedly the downtime for Bharat Forge’s aircraft to be installed with the new CMS). On top of this “cost of cure”, Bharat Forge claims diminution in the aircraft’s value as a result of the Defects.<sup>234</sup>

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<sup>234</sup> SOC at [2.3.1(c)].

198 This claim is problematic for at least two reasons.

199 First, Bharat Forge’s claim for *both* the cost of curing the Defects (US\$8,960,000) and for diminution in the aircraft’s value is legally unsustainable. “Cost of cure” and “diminution in value” are typically *alternative* ways of measuring a non-defaulting party’s expectation interest under a contract. To illustrate, if replacing the NiceHD CMS would fully address the CMS Installation Work Defects, then those Defects would not have caused any diminution in value for which Bharat Forge should be compensated. Bharat Forge does not contend that even after the NiceHD CMS is replaced, the Defects in it would still have some continuing effect, such that there would be a diminution in value of the aircraft.

200 Second, recovery in the region of US\$8,960,000 cannot be justified. For one, this does not reasonably represent the cost of cure. The unrectified CMS Installation Work Defects only concerned some six Defects, all of which were iPad-related. The appropriate “cure” was not to replace the NiceHD CMS altogether, but simply to use standard controllers instead of iPads. The cost and time involved in installing standard controllers in place of mounts for the iPads would only be a fraction of what would be involved in replacing the whole CMS. Mr Thakre admitted that it would be unreasonable to replace the whole NiceHD CMS if the only outstanding defects pertained to the iPads, iPad mounts and the user operating manual.<sup>235</sup>

201 Even if Bharat Forge is correct to quantify the cost of cure at US\$8,960,000, the court would still not award such a figure. This is because,

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<sup>235</sup> NE 9 February 2022, p80:3–19.

even taking Bharat Forge’s case at its highest, the diminution in value caused by a non-functioning CMS would be considerably smaller than the cost of cure, and would logically and sensibly represent the figure of damages to be awarded. According to Mr Martin, a non-functioning CMS leads to a diminution of about 10 to 20 per cent in the aircraft’s value. I assume for present purposes that this estimate is correct. The Aircraft BlueBook places the value of a Global Express XRS manufactured in 2006 (*ie*, one year before Bharat Forge’s aircraft was manufactured) at US\$12m;<sup>236</sup> this indicates that Bharat Forge’s aircraft is worth as much or slightly more.<sup>237</sup> Taking its value to be US\$12m, this translates to a reduction of US\$1.2–2.4m; the US\$8.96m claimed is several times that. It would be unreasonable to spend US\$8.96m to replace the CMS: Bharat Forge might as well sell the aircraft at the diminished value, and buy another (with a functioning CMS) for US\$12m. In this regard, the case of *Yap Boon Keng Sonny v Pacific Prince International Pte Ltd* [2009] 1 SLR(R) 385 is instructive. There, the court found it unreasonable to reconstruct bedrooms that had been built somewhat smaller than they ought to have been. Demolition and reconstruction would have cost some \$141k, a sizable sum relative to the original construction cost of about \$736k. While the court accepted that the loss of space made for some loss of amenity, it was unable to “conclude that the contractual objective ha[d] not been achieved to such a substantial extent that it would be reasonable to reconstruct the bedrooms in question” (at [127]). The plaintiff’s claim for damages based on cost of cure was thus rejected.

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<sup>236</sup> Exhibit D-8; AEIC of MDM at p78; NE 15 February 2022, p81:14–18.

<sup>237</sup> NE 23 February 2022, p10:8–16.

*Remoteness of damage and mitigation*

202 It is important to appreciate that only US\$1,400,000 of the US\$8,960,000 claimed is attributed to the direct cost of replacing the CMS. The rest is attributed to the cost of chartering an alternative aircraft for a year while the CMS is replaced.

203 Grounding the aircraft for a year to replace the NiceHD CMS is too remote a loss, in relation to the six iPad-related Defects. This is not a loss that flows naturally from the breach (which involves, at best, the iPad-related issues), so as to be within the reasonable contemplation of the parties: *Hadley v Baxendale* (1854) 9 Exch 341 at 354–355. Neither did it come within the second limb of *Hadley v Baxendale*, as BASS has not been shown to have special knowledge of facts or circumstances that would have placed such an outcome in its contemplation.

204 Bharat Forge is moreover under a duty to act reasonably to mitigate loss, both under contract and tort: Andrew Phang Boon Leong (gen ed) *The Law of Contract in Singapore* (Academy Publishing, 2012) at para 22.106, and *Pilgrim Private Debt Fund v Asian Appraisal Company Pte Ltd* [2022] SGHC 10 at [215]. In this case, reasonable mitigation would entail replacing the iPads with standard controllers, not replacing the whole CMS. Mr Martin agreed that the iPad-related issues would not justify replacing the whole CMS.<sup>238</sup>

205 In any event, even if it were reasonable to replace the whole CMS, that should be timed to coincide with scheduled maintenance,<sup>239</sup> but Bharat Forge's

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<sup>238</sup> NE 15 February 2022, p40:16–p41:10, p41:21–p42:23.

<sup>239</sup> NE 9 February 2022, p84:13–24.

claim is premised on the aircraft being grounded for a whole year just to replace the CMS.

***Quantum of damages – factual aspects***

*Cost of replacing the NiceHD CMS*

206 The sum of US\$1.4m claimed as the cost of replacing the CMS is unsubstantiated. BASS charged Bharat Forge US\$708,600 to install the NiceHD CMS.<sup>240</sup> Bharat Forge claimed that it would cost double that to replace the NiceHD CMS with another, but there is no evidence to support Bharat Forge’s figure of US\$1.4m. Indeed, the Aircraft BlueBook (which Mr Martin relied on for quantifying diminution in value) states the average retail price of a Honeywell Ovation Select CMS as US\$700,000.<sup>241</sup> When it was put to Mr Martin that the figure of US\$1.4m was inflated, he first responded, “[i]nflated by how much”; he then said, “it couldn’t be entirely inflated, but it could be inflated by a certain percentage. I’d probably say a plus/minus 25 per cent depending on the ability to negotiate.”<sup>242</sup>

207 Mr Thakre claimed that the US\$1.4m figure included almost US\$700,000 in customs and excise duty (thus almost doubling the cost); he then said he was not sure of the percentage but could make it available in writing (which he never did); before finally saying that he was not sure whether customs and excise duty would be almost US\$700,000.<sup>243</sup>

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<sup>240</sup> 352DBOD16282–16286; NE 9 February 2022, p65:14–16.

<sup>241</sup> Exhibit D-8.

<sup>242</sup> NE 15 February 2022, p80:12–23.

<sup>243</sup> NE 9 February 2022, p66:18–p67:15.

208 As an alternative, Bharat Forge put forward the sum of S\$500,000–750,000 as the lowest cost of rectifying the CMS Installation Work defects (rather than replacing the entire CMS), but there was no evidence to support these figures. Mr Martin’s report had contained the figures, but he said they were “very, very high” as a result of him misreading the instructions to him, and he stated that he was withdrawing that section of his report.<sup>244</sup>

*Cost of chartering an alternative aircraft for a year*

209 The claim for chartering an alternative aircraft for a year is inflated.

210 I accept Mr Waterhouse’s evidence that a full CMS retrofit can be performed within two to four months.<sup>245</sup> BASS had installed the NiceHD CMS *and* done the Maintenance Check, within six months.<sup>246</sup>

211 The figure of US\$7.56m is also unsubstantiated. The component figures put forward by Mr Martin were: US\$10,430 per flight hour, for 36 trips of 18-hour duration.<sup>247</sup> However, he admitted that his report had provided no source or basis for these figures.<sup>248</sup> Furthermore:

- (a) 36 flights each lasting 18 hours would work out to 648 hours per year, when the aircraft’s records show that it had only averaged 300–400 flight hours per year prior to it being delivered to BASS,<sup>249</sup> with even

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<sup>244</sup> AEIC of MDM at p77; NE 15 February 2022, p76:14–p77:2.

<sup>245</sup> AEIC of NW at NW-2, [194].

<sup>246</sup> NE 9 February 2022, p83:3–p84:2.

<sup>247</sup> AEIC of MDM at p78.

<sup>248</sup> NE 15 February 2022, p57:10–14, p60:5–p61:16.

<sup>249</sup> AEIC of ST at [7.2.4].

lower usage (only an average of 136 flight hours per year) from return to service in June 2019 until October 2021.<sup>250</sup> Mr Thakre also said that the aircraft's endurance is "not beyond 12 hours" and so the reference to 18-hour flights was a "gross error".<sup>251</sup> Moreover, the aircraft flies domestically (1 to 3-hour flights) more than it does internationally, and so, the costs of charter should not be calculated based on 18-hour flights.<sup>252</sup>

(b) Mr Martin sought to claim that the 18-hour flights were actually 14-hour flights with 4 hours of ancillary time during take-off and landing, but he conceded that he had no basis for the figure of 14-hour flights.<sup>253</sup> Even if the claim were revised to 14-hour flights, 36 such flights would be 504 hours per year, more than the aircraft's previous average of 300–400 hours. Mr Martin further agreed that 36 18-hour flights is inconsistent with the aircraft's flight records, which showed that over 16 months there were only 19 flights longer than 6 hours.<sup>254</sup>

(c) Even based on 36 18-hour flights at US\$10,430 per flight hour and adding a further US\$30,000 in detent charges, the figure would be about US\$6.7m, not Bharat Forge's claimed figure of US\$7.56m.<sup>255</sup>

(d) Bharat Forge gives no credit for the cost savings in not operating the existing aircraft for a year, such as fuel expenses, landing/parking

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<sup>250</sup> AEIC of NW at NW-2, [196].

<sup>251</sup> NE 9 February 2022, p93:23–p94:4.

<sup>252</sup> NE 9 February 2022, p94:9–11, p95:16–p96:7.

<sup>253</sup> NE 15 February 2022, p68:13–21, p69:10–16.

<sup>254</sup> NE 15 February 2022, p65:5–9.

<sup>255</sup> NE 9 February 2022, p95:7–15.

costs, and crew expenses, which Mr Waterhouse estimated (based on 136 flight hours per year, as flown by the aircraft after return to service) at US\$1,328,856.<sup>256</sup>

*Diminution in value of the aircraft*

212 Mr Martin’s claim that the non-functioning CMS would reduce the value of a US\$12m aircraft by 10–20% is without basis:

(a) Mr Martin admitted that his report had not provided any basis for this range;<sup>257</sup> and

(b) The Aircraft BlueBook attributes a separate value to a CMS from the value of the aircraft,<sup>258</sup> eg, US\$700,000 for a Honeywell Ovation Select CMS for an aircraft with a price of US\$12m;<sup>259</sup> without the CMS (or with a non-functioning CMS), the aircraft would still be worth US\$12m. I accept Mr Waterhouse’s evidence on this;<sup>260</sup> Mr Martin too gave similar evidence.<sup>261</sup>

*Wasted costs and expenses*

213 Mr Thakre claims that Bharat Forge incurred S\$43,234.56 as the “sum total of invoices paid to third party MRO [*ie*, Maintenance, Repair and

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<sup>256</sup> AEIC of NW at NW-2, [196].

<sup>257</sup> NE 15 February 2022, p97:21–p98:16.

<sup>258</sup> NE 15 February 2022, p89:14–17.

<sup>259</sup> Exhibit D-8.

<sup>260</sup> NE 23 February 2022, p10:16–p11:9.

<sup>261</sup> NE 15 February 2022 p89:18–p90:1



Overhaul] organisations to remedy defects”, and that the aircraft was out of service for 42 days for such remediation.<sup>262</sup>

214 There are problems with Bharat Forge’s evidence. The following examples provide a flavour of this:

(a) S\$1,511.71 is attributed to the water supply issue (CMS Installation Work Defect S/N (c)),<sup>263</sup> which was resolved by replacing the water transducer.<sup>264</sup> – That is the subject of Work Order No P81249, but the invoice relied upon by Bharat Forge is for Work Order No P81247 and for different work.<sup>265</sup> Mr Thakre admitted that there was an error, and that Bharat Forge had not produced the invoice for the rectification of the water supply issue.<sup>266</sup>

(b) S\$22,027.71 is attributed to the non-functioning of the cameras, which was resolved by the replacement of the No 3 MPG encoder on 17 March 2020,<sup>267</sup> but the invoice put forward is for another component on another date.<sup>268</sup>

(c) There is no substantiation of the 42 days when the aircraft was supposedly out of service. Strikingly, three of those days (1–3 June

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<sup>262</sup> AEIC of ST, at [9.1.2]–[9.1.3], [9.2.1]–[9.2.2].

<sup>263</sup> AEIC of ST, at [9.1.2].

<sup>264</sup> AEIC of ST at [6.3.31].

<sup>265</sup> AEIC of ST at [6.3.30]; 327DBOD15763–15785; AEIC of ST at [6.3.34]; 361DBOD16376–16377.

<sup>266</sup> NE 8 February 2022, p89:2–25.

<sup>267</sup> AEIC of ST at [6.2.24] and [9.2.1].

<sup>268</sup> NE 8 February 2022, p175:22–p179:24.

2019) pre-date the aircraft’s return to service (and were accommodated by the penalty of US\$25,000 for the delay in returning the aircraft).<sup>269</sup> Bharat Forge has also not shown that, but for works being done on the aircraft, it would have been used on the remaining 39 days.

## **Costs**

### ***Costs of the suit***

215 I agree with BASS that costs should be awarded against Bharat Forge on an indemnity basis.

216 As suggested in *Airtrust (Hong Kong) Ltd v PH Hydraulics & Engineering Pte Ltd* [2014] 5 SLR 103 (“*Airtrust*”) at [50], I ask whether Bharat Forge’s conduct was so unreasonable as to justify an answer of indemnity costs – the answer is, yes, there was a high degree of unreasonableness. The categories identified in *Airtrust* at [49] where indemnity costs may be appropriate further support this conclusion:

49 To reiterate, it may be appropriate for a court to make an order of indemnity costs where the action or a party’s conduct falls into any of the following categories:

- (a) where the action is brought in bad faith, as a means of oppression or for other improper purposes;
- (b) where the action is speculative, hypothetical or clearly without basis;
- (c) where a party’s conduct in the course of proceedings is dishonest, abusive or improper; and
- (d) where the action amounts to wasteful or duplicative litigation or is otherwise an abuse of process.

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<sup>269</sup> AEIC of ST at [9.2.1]; AEIC of WSW at [195].

217 First, the suit was brought for improper purposes. One theme that runs through Bharat Forge's claims, is that its principal Mr Baba Kalyani was unhappy. But what caused that unhappiness? Mr Kalyani was unhappy, for instance, with the picture of the aircraft on the NiceView map display zooming out when the aircraft passed a country. In other words, he was unhappy with the NiceView map display functioning as it was designed to. That involved no defect in BASS' workmanship, yet Bharat Forge alleged defective workmanship against BASS. Another glaring example is that of Bharat Forge's staff not knowing how to connect iPads to Bluetooth headphones (despite all of these being devices purchased by Bharat Forge) which was also blamed on BASS' defective workmanship. Instead of acknowledging that these (and other) items had nothing do with any defect in BASS' workmanship, but were either inherent in the design (which BASS was not responsible for), or stemmed from Bharat Forge's personnel being insufficiently familiar with the system, Bharat Forge alleged defective workmanship against BASS. The impression I got was that Bharat Forge's personnel preferred to advance a claim with no prospect of success, rather than to incur Mr Kalyani's wrath by acknowledging: (a) that it was not BASS' fault, but theirs; or (b) that it was not BASS' fault, but Mr Kalyani just did not like aspects of the CMS that others in Bharat Forge had chosen.

218 Second, many of the 24 Defects were clearly without basis. Mr Martin was asked to *assume* the existence of these Defects, and Bharat Forge then sought to prove the Defects through a sole factual witness, Mr Thakre, who had no personal knowledge of all but one of the Defects. To compound the problem, Bharat Forge then asked no questions of BASS' witnesses. Mr Thakre admitted that for ten of the Defects, Bharat Forge had either no evidence, or the item was

not a defect to begin with.<sup>270</sup> A further six Defects were not due to BASS' workmanship, but involved normal component failures, wear and tear (which, moreover, BASS had contractually excepted), or run-to-failure components.<sup>271</sup> A party who puts forward a case which is "thin and ultimately irreconcilable with the contemporaneous documents", such that most of it is "dispatched quickly during cross-examination ... is taking a high risk and can ordinarily expect to pay indemnity costs when his claim fails." (*Tan Chin Yew Joseph v Saxo Capital Markets Pte Ltd* [2013] SGHC 274 at [100]).

219 Third, the quantum claimed by Bharat Forge was based on overlapping heads of claim (based on both cost of cure and diminution in value), poorly supported (with aspects completely unsupported), and exaggerated. In *GTMS Construction Pte Ltd v Ser Kim Koi (Chan Sau Yan (formerly trading as Chan Sau Yan Associates) and another, third parties)* [2021] SGHC 33, the court awarded indemnity costs where the claims made by the defendant were "highly unreasonable and exaggerated" (at [17]):

The quantum of the defendant's claims was excessive, the defendant unreasonably refused to mitigate his losses, and he unreasonably insisted on total and absolute rectification of all the alleged defects. This resulted in the claiming of sums that were completely out of proportion to the nature and extent of the alleged defects ... [and] some of these claims were relatively trivial ...

220 Fourth, aspects of Bharat Forge's conduct in the suit were improper. I highlight two in particular:

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<sup>270</sup> See DCS at fn 1031.

<sup>271</sup> See DCS at fn 1032.

(a) Bharat Forge’s solicitors wrote to Transport Canada on 8 September 2020 complaining about alleged defects with the Aircraft.<sup>272</sup> Transport Canada replied on 26 October 2020,<sup>273</sup> and Mr Thakre and Mr Martin agreed that that response indicated that Transport Canada did not seem concerned enough to investigate Bharat Forge’s complaints.<sup>274</sup> When BASS’ solicitors wrote to Bharat Forge’s solicitors on 20 November 2020 to ask for all correspondence and documents relating to the 8 September 2020 letter to Transport Canada,<sup>275</sup> they were not provided with Transport Canada’s reply of 26 October 2020 – instead, they were told that Bharat Forge’s position was that it had no more documents to produce.<sup>276</sup> Mr Thakre admitted that Transport Canada’s reply of 26 October 2020 should have been disclosed, and said he did not know why it was not disclosed.<sup>277</sup>

(b) Some three weeks before the trial was scheduled to begin, Bharat Forge discharged its solicitors. It then sought to vacate the trial dates, an application which failed at first instance, and its application for leave to appeal to the Appellate Division was dismissed. In that process, Bharat Forge denied that it had discharged its solicitors, claiming instead that its solicitors had discharged themselves – that was however contrary to the contemporaneous correspondence, and the affidavit evidence of its

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<sup>272</sup> 480DBOD18698.

<sup>273</sup> 482DBOD18766.

<sup>274</sup> NE 9 February 2022, p75:23–p76:4; NE 10 February 2022, p265:4–13.

<sup>275</sup> 487DBOD18804.

<sup>276</sup> 488DBOD18806.

<sup>277</sup> NE 9 February 2022, p74:13–p75:7, p77:2–8.

solicitors. Bharat Forge's allegations were rejected at first instance and by the Appellate Division.

221 For the above reasons, I award BASS indemnity costs. Unless the parties agree on the quantum of those costs, they are to file and serve their respective costs submissions, limited to 20 pages (excluding any schedule of disbursements) within 21 days. Costs will then be assessed by me or by a registrar.

***Costs of HC/SUM 349/2022***

222 HC/SUM 349/2022 ("SUM 349") was Bharat Forge's unsuccessful application to vacate the trial dates. I awarded BASS costs of SUM 349, to be agreed if not fixed. Bharat Forge's application to the Appellate Division for leave to appeal was dismissed, without an oral hearing, with costs fixed in the sum of \$5,000 (inclusive of disbursements).

223 I agree with BASS' suggested figure of \$10,000 (all in) as costs of SUM 349. SUM 349 was first heard and dismissed at a 90-minute hearing on 26 January 2022, and that decision was affirmed at a hearing of further arguments at a 105-minute hearing on 3 February 2022 (which hearing also dealt with Bharat Forge's new solicitors' application to discharge themselves). The costs guidelines indicate a range of \$4,000 to \$11,000 for contested applications lasting 45 minutes or longer. Given the urgency of the application, with the impending trial, costs in the sum of \$10,000 (all in) are quite justified, and I so order.

## **Conclusion**

224 Bharat Forge’s claims were hopeless, both legally and factually. It must have known this, yet it took the matter to trial with a solitary factual witness whose personal knowledge was limited to 1 of 24 Defects. At trial, Bharat Forge’s case fell apart – there was hardly anything keeping it together to begin with. Undeterred, Bharat Forge persisted with its claims through closing submissions and reply closing submissions, in which it essentially ignored what had happened at trial, falling back on assertions in AEICs that had been recanted, or that had been shown to be without merit.

225 I dismiss all of Bharat Forge’s claims with costs on an indemnity basis. Further, Bharat Forge is to pay BASS costs of \$10,000 (all in) for SUM 349.

Andre Maniam  
Judge of the High Court

Chelva Retnam Rajah, SC, Moiz Haider Sithawalla and  
Samantha Tan Sin Ying (Tan Rajah & Cheah) for the plaintiff;  
Cavinder Bull, SC, Yap Han Ming Jonathan, Tan Sih Si, Nicholas  
Chng and Benedict Tan (Drew & Napier LLC) for the defendant.

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