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

[2021] SGHC 203

Suit No 803 of 2019

Between

Greenway Environmental
Waste Management Pte. Ltd.

… *Plaintiff*

And

Cramoil Singapore Pte Ltd

… *Defendant*

JUDGMENT

[Tort] — [Negligence] — [Breach of duty]
[Tort] — [Negligence] — [Contributory negligence]
[Tort] — [Negligence] — [Causation]
[Contract] — [Breach]
[Contract] — [Contractual terms] — [Implied terms]

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v
Cramoil Singapore Pte Ltd

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30 August 2021 Judgment reserved.

S Mohan JC:

Introduction

1 Shortly after 6.27pm on 7 June 2017, a fire broke out at the premises of a general waste collection business at 6 Tuas South Street 8, Singapore 637003. The premises were occupied by the plaintiff, Greenway Environmental Waste Management Pte. Ltd. ("plaintiff"). Approximately 11 minutes later at or shortly before 6.38pm, the fire (or a series of fires) culminated in a large explosion. Subsequent investigations into the cause of the fires and explosion determined that the most likely origin or source of the fires was the presence of a significant quantity of unfinished and unsealed cylindrical-shaped lithium batteries ("Lithium Batteries").[1] The source of the Lithium Batteries, and in particular

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[1] Tan Jin Thong's Affidavit of Evidence-in-Chief ("AEIC") Exhibit TJT-1 at pp 16–17, 30 (Expert Witness Report dated 10 November 2020 at paras 4.5, 5.7; Expert Witness Response Report dated 27 November 2020 at p 3); Lim Chin Chin's AEIC Exhibit

whether they originated from the defendant, Cramoil Singapore Pte Ltd, were among a number of hotly contested issues in this case.

2 To put matters into perspective, the available evidence indicates that after the incident, at least 200 kilograms of the Lithium Batteries were found in the waste segregation section at the premises of the plaintiff ("Plaintiff's Premises"). The actual quantity or weight of the Lithium Batteries present in the Plaintiff's Premises *before* the fire started was therefore probably in excess of 200 kilograms. 200 kilograms is the equivalent of forty, completely filled five-kilogram bags of rice.

3 The fires and resultant explosion caused damage to the Plaintiff's Premises necessitating, *inter alia*, cleaning and restoration work and the incurrence of various costs and expenses to make good the damage caused. Fortunately, there was no loss of life or personal injuries. The cost and expense incurred amounted in total to S$579,641.50 ("Claim Amount"). The Claim Amount has been paid to the plaintiff by the plaintiff's insurer Great Eastern Insurance Limited ("Great Eastern").[2] The present action has been brought by Great Eastern in the name of the plaintiff pursuant to Great Eastern's rights of subrogation. The quantum of damages sought by the plaintiff, as represented by the Claim Amount, is not disputed by the defendant.[3] The real contest in this case is on liability.

LCC-2 at p 42 (Fire Investigation Report dated 20 November 2020 at para 81); Plaintiff's Opening Statement at para 6; Defendant's Opening Statement at para 6.

2 Plaintiff's Opening Statement at paras 2, 32; Plaintiff's Closing Submissions ("CS") at para 1.

3 Day 1 Transcript dated 2 February 2021 at p 10, lines 8–14; Defendant's CS at para 5.

Facts

The parties

4 The plaintiff is a company incorporated in Singapore. At all material times, the plaintiff was in the business of providing general waste collection and recycling services.[4] The plaintiff is, and was at all material times, licensed by the National Environmental Agency ("NEA") as a General Waste Collector for general wastes classified under Class A and Class B.[5] Class A general wastes includes wastes such as "unwanted furniture, electrical appliances, construction and renovation debris, cut trunks and branches, bulky waste, and recyclable waste (excluding food waste)" while Class B general wastes include "domestic refuse, food waste (excluding cooking oil) and market waste and wastes which are degradable".[6] It is common ground that the plaintiff is not, and was not at the material time, a licenced Toxic Industrial Waste collector.[7] For completeness, the plaintiff is also not licenced to collect Class C general wastes which would include sludge from water or sewage treatment plants, grease interceptors or waste from sanitary conveniences in ships and aircraft.[8]

5 The defendant is a company incorporated in Singapore. At all material times, the defendant was a licensed Toxic Industrial Waste collector and

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4 Statement of Claim ("SOC") at para 1.

5 Cai Jielun's AEIC at para 6 and Exhibit CJL-6 at pp 22–29 (NEA Licence for General Waste Collector (Class A, B)); Lee Cheng Wah's AEIC at para 5.

6 Cai Jielun's AEIC at para 8; Lee Cheng Wah's AEIC at para 7.

7 Cai Jielun's AEIC at para 10; Lee Cheng Wah's AEIC at para 8; Tan Kim Seng's AEIC at para 9.

8 Thangarajah Thangamany's AEIC at p 49 (HFS-Asia's report dated 17 July 2017 at para 2.2, Table 1).

"commonly handles" hazardous substances.[9] The defendant's licence as a Toxic Industrial Waste collector, in turn, allows the defendant to only store, reprocess, use, treat, or dispose of such industrial wastes *at the Defendant's Premises*.[10] The defendant is also in the business of, among others, manufacturing and processing chemicals and recycling non-metal waste.[11] Even though the defendant is also licenced to dispose of general wastes, the defendant "focus[es] its resources on its core business of collecting and disposing of toxic or hazardous waste" as a matter of business strategy and as such "decided to outsource the disposal of the general wastes found in the wastes which [the defendant] collected from its customers and the general wastes which [the defendant] itself generated at its premises".[12] The defendant thus outsourced its general waste disposal operations to the plaintiff. As a result, the defendant was at the material time in June 2017, one of the plaintiff's customers.

Background to the dispute

6 Since about 2004, and pursuant to an oral agreement between the parties, the plaintiff has been rendering services to the defendant for the collection, processing (if necessary) and disposing of wastes in consideration of payment ("Agreement").[13] During the course of the parties' business relationship, the plaintiff extended copies of the plaintiff's General Waste Collector's Licence to

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9 Tan Kim Seng's AEIC at paras 2–4, Exhibit TKS-1 at pp 38–47 (NEA Licence for Toxic Industrial Waste); Tan Weide Marcus' AEIC at paras 4(a)–(b).

10 Day 6 Transcript dated 10 February 2021 at p 16, lines 14–21.

11 SOC at para 2; Defence at para 4.

12 Tan Kim Seng's AEIC at para 6; Tan Weide Marcus' AEIC at para 4(c).

13 SOC at para 3; Defence at para 4; Defendant's CS at para 4(a); Plaintiff's Reply Submissions ("RS") at para 38.

the defendant on at least three occasions.[14] At all material times, the defendant was aware that the plaintiff is not a licenced Toxic Industrial Waste collector.[15]

7 As part of the Agreement, the plaintiff would deploy a skip bin at 4 Tuas View Lane, Singapore 637750 ("Defendant's Premises") for the defendant to discard general waste into it.[16] One of the factual issues in contention in this case is whether a specific skip bin was always deployed by the plaintiff to the Defendant's Premises and I shall return to that issue later.

8 On 7 June 2017 (the day of the incident), Mr Tan Kim Seng, the defendant's managing director, called and spoke to Mr Lee Cheng Wah, the plaintiff's managing director, over the telephone and requested the plaintiff to collect the skip bin containing waste from the defendant's premises.[17]

9 The plaintiff's lorry bearing licence plate XE 1524M ("Lorry") arrived at the Defendant's Premises some time after 6.00pm on 7 June 2017, collected the skip bin from the Defendant's Premises and arrived at the Plaintiff's Premises at around 6.20pm.[18] The journey from the Defendant's Premises to the Plaintiff's Premises is a short one and takes no more than fifteen minutes.

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14 Cai Jielun's AEIC at para 8, Exhibit CJL-6 at pp 31–37 (Email Correspondences dated 26 April 2016, 30 November 2016, and 17 February 2017).

15 Defence at para 5; Tan Kim Seng's AEIC at para 9.

16 Lee Cheng Wah's AEIC at para 16.

17 Statement of Claim at para 7; Defence at para 7.

18 Defence at para 7A; Reply at para 4A.

10 The Lorry was fitted with a Global Positioning System ("GPS") that enabled the Lorry's historical track data to be retrieved.[19] There was a six-minute difference between the time as shown on the Lorry's GPS track data and the timestamp on the plaintiff's closed-circuit television ("CCTV") recordings; this difference was considered to be "inherent and not manipulated".[20] Mr Cai Jielun ("Mr Cai"), the plaintiff's operations manager, explained that the "time shown on the CCTV footages is usually not accurate due to power trips at the Plaintiff's Premises from time to time".[21] This discrepancy between real time and the CCTV footage timing was accepted by the defendant's expert witness, Ms Lim Chin Chin ("Ms Lim"),[22] and was also not seriously pursued by the defendant at trial or in its written closing and reply submissions. The CCTV footage showed that the Lorry unloaded the contents of a skip bin marked "A10" ("Skip Bin A10") at the waste sorting yard ("Sorting Yard") of the Plaintiff's Premises from about 6.22pm (*ie*, 18:16 hours CCTV time) to about 6.23pm (*ie*, 18:17 hours CCTV time).[23]

11 The waste unloaded from Skip Bin A10 included, *inter alia*, numerous light-coloured opaque packages. The waste unloaded also included large items such as a washing machine and some brown-coloured material that resembled

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19 Thangarajah Thangamany's AEIC Exhibit TT-1 at p 34 (Preliminary Report by Insight Adjusters and Surveyors Pte Ltd to the Plaintiff's Insurer dated 17 July 2017 at para 36).

20 Thangarajah Thangamany's AEIC Exhibit TT-1 at p 37 (Preliminary Report by Insight Adjusters and Surveyors Pte Ltd to the Plaintiff's Insurer dated 17 July 2017 at para 41).

21 Cai Jielun's AEIC at para 48.

22 Lim Chin Chin's AEIC Exhibit LCC-2 at p 26 (Fire Investigation Report dated 20 November 2020 at para 23).

23 Plaintiff's CS at para 11; Lim Chin Chin's AEIC Exhibit LCC-2 at p 22 (Fire Investigation Report dated 20 November 2020 at para 18).

soil.[24] As it turned out, the light-coloured packages contained "large"[25] or "substantial"[26] quantities of "unfinished and unsealed" lithium batteries. To be clear, an "unfinished" battery refers to a cylindrical-shaped object which lacks the outer metal casing while an "unsealed" battery refers to a battery which lacks metal caps at either end.[27] The Lithium Batteries would contain a cathode, an anode and insulating layers or foils (containing lithium) rolled together in a cylindrical shape so as to form what is termed a "jelly roll".[28] As an aside, any finished batteries would have been in the form of cylindrical lithium batteries, similar to those widely available to consumers as AA or AAA sized lithium batteries. As a visual aid, I reproduce at Annex 1 of this judgment photographs of samples of the Lithium Batteries found at the Plaintiff's Premises.

12 It is common ground that the Lithium Batteries would be considered toxic industrial waste and/or hazardous substances and which would not fall within Class A or Class B general wastes.[29] This is primarily because the metal lithium (labelled as "Li" in the periodic table) is extremely flammable and highly reactive to water. It is also not disputed that hazardous substances must be transported in accordance with Part II of the Environmental Protection and Management (Hazardous Substances) Regulations (Cap 94A, Rg 4, 2008

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24 Plaintiff's CS at para 11; Lim Chin Chin's AEIC Exhibit LCC-2 at p 25 (Fire Investigation Report dated 20 November 2020 at para 19).

25 Plaintiff's CS at para 12; Lim Chin Chin's AEIC Exhibit LCC-2 at pp 36, 42, 64 (Fire Investigation Report dated 20 November 2020 at paras 59, 81, 169).

26 Plaintiff's CS at para 12; Lim Chin Chin's AEIC Exhibit LCC-2 at p 28 (Fire Investigation Report dated 20 November 2020 at para 27).

27 Defendant's CS at para 13; 3 AB at pp 1222, 1224 (HFS-Asia Report dated 17 July 2017 at Photographs 12, 15–16).

28 Day 7 Transcript dated 25 February 2021 at p 117, lines 2–8.

29 Defence at para 9; Reply at para 4DA.

Rev Ed).[30] The collection of toxic industrial waste is likewise strictly regulated and must be undertaken by a licenced Toxic Industrial Waste collector after receiving information from its customers on the toxic industrial waste under Part III of the Environmental Public Health (Toxic Industrial Waste) Regulations (Cap 95, Rg 12, 2000 Rev Ed) (the "Regulations on Toxic Industrial Waste").

13 Additionally, not all general wastes falling within the same class can be disposed of in the same manner. Some general wastes are non-incinerable and hence cannot be disposed of at an NEA incineration plant.[31] Whether general wastes are ultimately disposed of at an NEA incineration plant depends on, *inter alia*, the size of such waste. Under the Third Schedule to the Environmental Public Health (General Waste Collection) Regulations (Cap 95, Rg 12, 2000 Rev Ed) (the "Regulations on General Waste Collection"), certain types of general wastes such as bulky items (*ie*, any "solid object exceeding 0.6 m in length or width or 0.1 m in thickness" and any "hollow object exceeding 0.6 m in length, width or height") or large electrical appliances (*eg*, "washing machines, refrigerators and air-conditioning units") are considered non-incinerable and hence cannot be disposed of at NEA incineration plants.

14 For completeness, the plaintiff also rendered services to the defendant for the collection and disposal of ash generated by the defendant from its own waste disposal/incineration activities. The defendant's ash wastes would be disposed into a *different* skip bin because the ash would be "sent to another location" (*ie*, the Pulau Semakau landfill) and not the NEA incineration plant.[32]

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30 Day 6 Transcript dated 10 February 2021 at p 19, line 10 to p 20, line 13.

31 Cai Jielun's AEIC at para 41.

32 Defendant's CS at paras 19, 30; Tan Kim Seng's AEIC at para 40.

That skip bin, according to the plaintiff and which was not contested by the defendant, was labelled "B"[33] (whereas the plaintiff contends that Skip Bin A10 was deployed exclusively at the Defendant's Premises for the disposal of general waste at the material time[34]). The skip bin provided by the plaintiff for the defendant's disposal of ash wastes is not the subject matter of the present dispute.

15 After a careful review of the CCTV footage, I have tabulated below a timeline of the key events that occurred after the contents of Skip Bin A10 were unloaded onto the floor of the Sorting Yard at the Premises at about 6.23pm (*ie*, 18:17 hours CCTV time).[35] As the CCTV timestamps are represented in the 24-hour clock format, I have used the same format.

S/N	Real Time (CCTV Time)	Key Event
1.	18:24:26 (18:18:26)	Excavator transfers and spreads out waste from the central section of the waste pile to the rearward section of the waste pile.
2.	18:26:34 (18:20:34)	Skip Bin marked "A2" is used to push back the light-coloured packages from near the front to the rear of the Sorting Yard.
3.	18:26:39 (18:20:39)	Excavator tracks moves further forward towards the central area of the waste pile.
4.	18:27:18 (18:21:18)	A fire ("F1") breaks out at or near the left track of the excavator, emitting bright flames.
5.	18:28:05 (18:22:05)	The excavator extends its arm to isolate some light-coloured packages to the left of F1.

33 Lee Teng Guan's AEIC at para 9.

34 Cai Jielun's AEIC at para 38; 1 Agreed Bundle of Documents ("AB") at pp 296, 300, 304 (Plaintiff's Collection Slips dated 2 June 2017, 5 June 2017, 6 June 2017 respectively).

35 Lim Chin Chin's AEIC Exhibit LCC-2 at pp 22–24 (Fire Investigation Report dated 20 November 2020 at para 18); Tan Jin Thong's AEIC Exhibit TJT–1 at pp 14–15 (J T Megan & Partners Pte Ltd Fire Investigation Consultancy & Services Initial Independent Expert Witness Report dated 10 November 2020 at para 3.2).

6.	18:28:08 (18:22:08)	An employee uses an extinguisher to fight F1 for about 25 seconds.
7.	18:28:18 (18:22:18)	Another employee runs towards the excavator with another extinguisher and uses it for about 17 seconds.
8.	18:28:26 (18:22:26)	An employee with a water hose reel appears to spray water onto the fire.
9.	18:28:38 (18:22:38)	The excavator reverses slightly and moves towards the left side of the Sorting Yard. The tracks of the excavator roll over the fire and waste material.
10.	18:29:54 (18:22:54)	F1 intensifies with bright flames. Materials and sparks are observed to be ejected from the fire.
11.	18:29:14 (18:23:14)	More employees come to fight the fire using fire extinguishers and a second water hose reel.
12.	18:30:56 (18:24:56)	The flames of F1 are extinguished but the area appears to be smouldering and emitting smoke.
13.	18:32:07 (18:26:07)	A fire ("F2") breaks out close to the location of F1 and is put out in about 20 seconds using water from the hose reel.
14.	18:33:42 (18:27:42)	An employee uses a rake to isolate burnt debris at the location of F1.
15.	18:34:52 (18:28:52)	The employee with the rake picks up a light-coloured package on the ground and appears to examine it with several other employees.
16.	18:36:22 (18:30:22)	A fire ("F3") breaks out at an area near the excavator.
		An employee uses a rake to shift and isolates some burning material from F3 to a section in the Sorting Yard that does not contain any waste. Materials can be seen ejecting from F3. F3 appears to be put out shortly thereafter.
17.	18:36:33 (18:30:33)	A fire ("F4") breaks out at the rear of the Sorting Yard.
18.	18:36:49 (18:30:49)	F4 intensifies rapidly.
		An employee continues to fight the fire using the water hose reel.
19.	18:36:56 (18:30:56)	The excavator extends its arm towards F4 and its claws excavate and push the burning waste.
20.	18:37:07 (18:31:07)	As the excavator arm retracts, some burning waste drops from the claws and appears to

		ignite waste material below it at two areas ("F5" and "F6").
21.	18:37:54 (18:31:54)	The fire appears to spread and intensify. Materials eject from the fire. Employees continue to fight the fire using water hose reels.
22.	18:37:55 (18:31:55)	A large explosion occurs (see photograph at Annex 2 of this judgment).

16 As a point of clarification, whilst in the tabulation above I have referred to fires F1 to F6, the parties' experts disagree on whether there were six fires, as the defendant's expert contends, or only one fire as the plaintiff's expert contends. The plaintiff's expert's disagreement is on the basis that the "spots of fires on the waste piles in the sorting area were not new fires. They were the result of fire spread from the initial fire".[36] The respective expert witnesses do not dispute that some of the "spots of fires" were the result of "fire spread". This is unsurprising since the material events at the Sorting Yard are recorded by the plaintiff's CCTV. Hence, in *substance*, the respective expert witnesses are describing the *same* series of events. In any case, in my view, the difference is of no material significance to the issues in the present case.[37]

17 In this judgment, I refer to the fires as F1 to F6 respectively for ease of reference and to be more precise. A summary of the various fires at the Sorting Yard is set out below:

Fire	**Details**
F1	18:27:18 (18:21:18 CCTV time): F1 breaks out at or near the left track of the excavator, emitting bright flames.

[36] Tan Jin Thong's AEIC Exhibit TJT–1 at pp 14–15, 31 (J T Megan & Partners Pte Ltd Fire Investigation Consultancy & Initial Report for Suit No. 803 of 2019 dated 10 November 2020 at para 3.2; J T Megan & Partners Pte Ltd Fire Investigation Consultancy & Services Response to Ms Lim Chin Chin's Forensic Report dated 27 November 2020 at "Response to para 108").

[37] Defendant's CS at para 189; Plaintiff's RS at para 52.

	18:30:56 (18:24:56 CCTV time): Flames from F1 are **extinguished** but the area is still emitting smoke.
F2	18:32:07 (18:26:07 CCTV time): F2 breaks out near F1's location. 18:32:27 (18:26:27 CCTV time): F2 is **extinguished** in about 20 seconds using water from the hose reel.
F3	18:36:22 (18:30:22 CCTV time): F3 breaks out at an area near the excavator. Flames are no longer visible (*ie*, presumably **extinguished**) by about 18:36:30 (18:30:30 CCTV time).[38]
F4	18:36:33 (18:30:33 CCTV time): F4 breaks out at the rear section of the Sorting Yard.
F5 & F6	18:37:07 (18:31:07 CCTV time): F5 and F6 ignite from burning waste dropped from the excavator's claws to the waste pile below it in two areas.

18 From the CCTV footage as summarised above, several of the earlier fires, namely F1 to F3, appear to have been successfully extinguished by the plaintiff's own firefighting efforts. It is also undisputed that the Plaintiff's Premises were fitted with a water mist system; this system, when activated, sprays water mist downwards from the ceiling of the Sorting Yard to reduce dust generated from the waste sorting operations. It is not in dispute, and is quite apparent from the CCTV footage, that the plaintiff's water mist system was activated at the Sorting Yard in the course of the plaintiff's firefighting efforts as one of the firefighting measures the plaintiff undertook. According to the Fire Investigation Report of the Singapore Civil Defence Force ("SCDF"), the water mist system was activated at about 6:37:11pm.[39] Ms Lim, on the other hand, notes that the water mist system was activated at about 18:34:37. This is, however, not a material difference and none of the issues in the present case turns on precisely what time the water mist system was activated. For purposes

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38 Lim Chin Chin's AEIC Exhibit LCC-2 at p 155 (Fire Investigation Report dated 20 November 2020 at Appendix 88).

39 3 AB at pp 1741 at para 7(a)(4)(o).

of my decision and having reviewed the CCTV recordings, I estimate that the water mist system was activated at about 6.35pm, approximately three minutes before the large explosion referred to at S/No. 22 in the tabulation of key events at [15] above.

19 Mr Cai called the SCDF at about 6.40pm. The first SCDF firefighting unit arrived at the Plaintiff's Premises some five minutes and 37 seconds after the call. Five fire engines and other rescue vehicles were subsequently dispatched as reinforcement.[40] Using water and foam to fight the fire,[41] the SCDF managed to bring the fire under control at about 10pm. Damping down operations continued until the following morning.[42]

20 In its investigations, the SCDF observed burnt "remnants of cylindrical objects among the pile of waste" and similar cylindrical objects "at multiple points across the floor" of the Sorting Yard. Several unaffected light-coloured packages were recovered and submitted to the Forensic Chemistry and Physics Laboratory of the Health Sciences Authority (the "HSA") for chemical analysis.[43] Photographs of the unaffected light-coloured packages show that the packages were labelled. The labels on those packages indicate that there were at least four types of unfinished and unsealed lithium batteries present at the Plaintiff's Premises. Photographs of the four differently labelled packages are at Annexures 3 and 4 respectively of this judgment.[44] To appreciate the number

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40 3 AB at p 1738 at para 6(b)(3).

41 Day 4 Transcript dated 5 February 2021 at p 7, line 11.

42 Thangarajah Thangamany's AEIC Exhibit TT–1 at p 13.

43 3 AB at pp 1740, 1771–1773, 1776–1777, 1788–1792 (SCDF Fire Investigation Report dated 25 November 2019 at para 7(a)(1)–(3), Annex F Photos 23–27, 30–32).

44 Lim Chin Chin's AEIC Exhibit LCC-2 at pp 28–29 (Fire Investigation Report dated 20 November 2020 at para 30).

of light-coloured packages containing the Lithium Batteries that were unloaded from Skip Bin A10 on the day in question, I have reproduced, at Annex 5 of this judgment, two screenshots from the CCTV footage at approximately 6.23pm (from Camera 2) and approximately 6.24pm (from Camera 13). It is not disputed that these light-coloured packages were among the last of the contents unloaded from Skip Bin A10 onto the floor of the Sorting Yard.

21 During the clean-up efforts after the incident, "hundreds of batteries" were found "on the floor at many parts of the Plaintiff's Premises including the workshop, the weighbridge area and the open area beside the weighbridge".[45] The plaintiff was required by the authorities to "dispose of the batteries found at the Plaintiff's Premises" after the fire and requested the defendant to "provide a quotation to dispose of such batteries", which the defendant did.[46] In an invoice from the defendant dated 15 August 2017 and received by the plaintiff on 21 August 2017, the defendant invoiced the plaintiff a sum of $139.10 for the "DISPOSAL OF SOLID WASTE (WASTE BATTERY)" amounting to "200.00KGS".[47] The defendant did collect the Lithium Batteries from the plaintiff and disposed of them on or about 21 August 2017. According to the defendant, it treated these batteries as used or exhausted batteries which it could collect and dispose of as toxic waste, as opposed to lithium batteries which it was not licenced to collect.[48]

22 In its report, the SCDF concluded that the "general waste materials usually collected by the company, such as wood, paper and plastics were

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45 Cai Jielun's AEIC at para 54.

46 Cai Jielun's AEIC at para 56.

47 Cai Jielun's AEIC at paras 54–58, p 127 (Defendant's Tax Invoice No. 00044083 dated 21 August 2017).

48 Tan Kim Seng's AEIC at paras 4, 81 and 89.

unlikely to create such effects as the ignition fuel, as they do not support spontaneous combustion". The fuel for the fire was the "cylindrical objects containing lithium" and there were "no other possible ignition sources at the determined area of fire origin".[49] The defendant's expert, Ms Lim (a chemist and forensic scientist), opined that "the unsealed lithium batteries and bare jelly rolls" found at the Sorting Yard posed "significant fire and explosion hazards."[50] Both the plaintiff's expert, Mr Tan Jin Thong (a former Deputy Commissioner of the SCDF) and Ms Lim, were in agreement that the source of the fires and explosion were the Lithium Batteries.[51] However, notwithstanding this agreement, it was a major bone of contention between the parties whether the presence of the Lithium Batteries at the Sorting Yard was, *in fact and in law*, the *proximate cause* of the fires and eventual explosion, and in respect of which the defendant should bear legal liability to the plaintiff. I consider all of these issues in greater detail later in this judgment.

The parties' cases

23 Briefly summarised, the parties' respective cases are as follows.

24 The plaintiff claims against the defendant in contract and tort for: (a) damages for the Claim Amount; (b) pre-judgment interest pursuant to s 12 of the Civil Law Act (Cap 43, 1999 Rev Ed) (the "CLA"); and (c) costs. In relation to its claim in contract, the plaintiff pleads that it was an "implied term" of the Agreement" that the defendant would "only dump or allow to be dumped

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49 3AB at pp 1746–1747 (SCDF Fire Investigation Report dated 25 November 2019 at para 8(b),(d)).

50 Lim Chin Chin's AEIC Exhibit LCC-2 at p 33 (Fire Investigation Report dated 20 November 2020 at para 37).

51 Lim Chin Chin's AEIC Exhibit LCC-2 at p 64 (Fire Investigation Report dated 20 November 2020 at para 171).

general waste" and *not* "any flammable, hazardous, toxic industrial waste and/or waste which was of a dangerous nature" for the plaintiff's "collection, processing and disposal". The plaintiff further pleads that the defendant was "aware at all material times" of the same.[52] The defendant breached the implied term of the Agreement in dumping or allowing substantial quantities of Lithium Batteries to be dumped into Skip Bin A10, for the plaintiff's collection, processing and disposal on 7 June 2017 (the "Contract Claim").[53]

25 Further or in the alternative, the plaintiff pleads that the defendant "owed a duty of care to the [p]laintiff to ensure that waste dumped, or allowed to be dumped, by the [d]efendant, its employees, servants and/or agents, for collection, processing and disposal by the [p]laintiff did not contain flammable, hazardous, toxic industrial waste and/or waste which was of a dangerous nature". The defendant breached its duty of care in dumping or allowing substantial quantities of Lithium Batteries to be dumped into Skip Bin A10, for the plaintiff's collection, processing and disposal on 7 June 2017 (the "Negligence Claim").[54]

26 The plaintiff avers that the Lithium Batteries were collected from the Defendant's Premises on 7 June 2017 since the plaintiff's driver drove the Lorry "on which Skip Bin A10 had been loaded straight from the [Defendant's] Premises to [the Plaintiff's] Premises" without making "any stops at any other customer's premises and did not deviate from the route".[55] The fires and

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52 SOC at paras 4–5.

53 SOC at para 11; Plaintiff's CS at para 14.

54 SOC at para 12; Plaintiff's CS at para 15.

55 Plaintiff's CS at para 57.

explosions at the Plaintiff's Premises were "solely caused or contributed to by the negligence of the [d]efendant".[56]

27 The defendant on the other hand avers that it "could not have and did not pass any batteries to the [p]laintiff for collection, disposal and/or handling" as it "did not generate batteries in the course of its ordinary operations".[57] In any case, before the plaintiff collected the wastes, the defendant's "workers, employees and/or representatives had manually checked and sorted the wastes and did not find any lithium batteries".[58] Thus, even if the defendant had collected the Lithium Batteries from its own customers unknowingly, the defendant would have realised so "in the course of sorting the waste and before placing the sorted waste in the [s]kip [b]in deployed at the Defendant's Premises".[59] Further or alternatively, the defendants avers that the plaintiff had at the material time "agreed and/or arranged to collect flammable and/or hazardous wastes (potentially including batteries) from YTL PowerSeraya Pte Ltd ("PowerSeraya") and that the batteries … could have been collected from PowerSeraya or other customers of the [p]laintiff".[60]

28 The defendant denies that there was an implied term under the Agreement[61] or that it owed the plaintiff a duty of care to ensure that the wastes in Skip Bin A10 "did not contain flammable, hazardous, toxic industrial waste and/or waste which was of a dangerous nature". This is because the defendant

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56 SOC at para 13.

57 Defence at para 8.

58 Defence at para 7A.

59 Defendant's CS at para 49.

60 Defence at para 8B.

61 Defence at para 9; Defendant's CS at pp 33–34.

had specifically made a request for the plaintiff to sort, segregate and remove any toxic and/or hazardous wastes or any other wastes that are not considered general wastes ("Prohibited Wastes") from the defendant's wastes before disposing the wastes at NEA's incineration plant. The plaintiff hence "knew or ought to have known that the [d]efendant's [w]astes it collected on 7 June 2017 may contain … toxic and hazardous wastes".[62]

29 The defendant refutes any liability[63] and submits that even if the defendant was found liable, the plaintiff contributed to the fires and explosions by, *inter alia*, utilising improper firefighting techniques and belatedly activating the SCDF.[64]

30 In response, the plaintiff avers that parties had "never agreed" for the plaintiff to sort, segregate and remove any Prohibited Wastes from the defendant's waste. The plaintiff assumed that the "wastes collected from the Defendant's Premises only contained general wastes",[65] especially since the defendant "knew at all material times that the Plaintiff did not have the necessary licence and/or authori[s]ation to collect hazardous and/or toxic industrial wastes".[66] Instead, the plaintiff would, after collecting the general wastes from the Defendant's Premises, "usually assess if there are bulky items to be segregated from the wastes collected". Such bulky wastes, which are non-incinerable, could not be "disposed of at the [NEA] incineration plant" and hence the general waste had to be brought back to the Plaintiff's Premises for

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62 Defence at paras 4AA, 9A.

63 Defence at para 10.

64 Defendant's CS at paras 254, 266–267.

65 Reply at paras 2C–2D.

66 Reply at para 4DB.

segregation "before disposing the rest of the general wastes at the incineration plant".[67]

31 The plaintiff also avers that both parties had, in or around November 2016, "collaborated to enable the [p]laintiff to submit a quotation to [PowerSeraya] for the collection of general and toxic wastes". In particular, the defendant would "handle the collection of toxic industrial wastes" while the plaintiff would "handle the collection of general wastes".[68]

Issues to be determined

32 The foregoing summary demonstrates that parties dispute two material facts which are crucial to the context of the present dispute: the scope of the Agreement and the defendant's request to sort and segregate its wastes ("Issue 1"). Under Issue 1, the first sub-issue to be determined is the scope of the Agreement in relation to the *type* of waste to be collected by the plaintiff from the defendant (*ie*, whether general waste *only* or general waste *mixed* with toxic industrial waste and/or hazardous substances ("Mixed Waste")). The first sub-issue is also closely interrelated with the second sub-issue, which concerns the scope of the defendant's request to sort and segregate its wastes (the "Segregation Request"). While the defendant avers that the Segregation Request relates to the segregation of the defendant's general wastes from Mixed Waste, the plaintiff avers that the Segregation Request relates only to the segregation of the defendant's incinerable general waste from non-incinerable general waste (comprising bulky items).

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67 Reply at para 2C.

68 Reply at para 4D.

33 After Issue 1 is determined, there are three other broad issues for my determination as regards the defendant's liability:

(a) whether it was an implied term of the Agreement that the defendant would only dump or allow to be dumped general waste and not any Prohibited Wastes, for the plaintiff's collection, processing (if necessary) and disposal and, if so, whether the defendant breached such a term ("Issue 2");

(b) if Issue 2 is answered in the negative, whether the defendant nevertheless owed the plaintiff a duty of care to only dump or allow to be dumped general waste and not any Prohibited Wastes, for the plaintiff's collection, processing and disposal and, if so, whether the defendant breached its duty of care and caused the plaintiff damage ("Issue 3"); and

(c) if Issue 3 is answered in the affirmative, whether the plaintiff was contributorily negligent for the damage it suffered ("Issue 4").

Issue 1: scope of the Agreement and the Segregation Request

34 I shall consider the scope of the Agreement and the Segregation Request together as they are (a) closely interrelated and (b) key to unravelling the remaining issues. For example, if the scope of the Agreement is limited to the plaintiff's collection, processing, and disposal of *only* general waste disposed by the defendant, then it necessarily could *not* have been for the plaintiff to simultaneously collect, process, and dispose of the defendant's Mixed Waste. In the same vein, it cannot be that the defendant's Segregation Request would be for the plaintiff to segregate general wastes from Mixed Waste. The converse would also be true. For example, if the scope of the defendant's Segregation

Request encompassed the segregation of general waste from Mixed Waste, then the scope of the parties' Agreement necessarily could *not* have been limited to the collection, processing, and disposing of *only* general waste.

35 The plaintiff argues that the Agreement was, at all material times, for the plaintiff to "provide services to [the defendant] for the collection, processing (if necessary) and disposal of general waste from [the Defendant's] Premises" [emphasis in original] and that the defendant was aware that it "could only dump or allow to be dumped general waste and not any flammable, hazardous, toxic industrial waste and/or waste which was of a dangerous nature for [the plaintiff's] collection, processing and disposal".[69] According to Mr Cai, if there were "any bulky items in the skip bins that needed to be segregated / processed", the plaintiff would charge its customer "an additional handling fee" and the plaintiff's "administrative staff would usually indicate on the collection slip that handling fees are payable and would include the handling fee when invoicing its customers".[70] Mr Cai also maintained the same at trial[71] and rejected the suggestion that the handling fee was for the purposes of sorting the defendant's general waste from Mixed Waste.[72]

36 Mr Cai's evidence is also supported by that of Mr Lee Cheng Wah. According to Mr Lee Cheng Wah, the Agreement was for the plaintiff to "collect, process (if necessary) and dispose of general wastes collected from time to time from as and when such services were required by the [d]efendant

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69 Plaintiff's CS at para 20.

70 Cai Jielun's AEIC at para 18; Plaintiff's CS at para 22.

71 Day 1 Transcript dated 2 February 2021 at p 74, line 25 and p 75, line 7.

72 Day 1 Transcript dated 2 February 2021 at p 135, line 25.

in consideration of payment by the [d]efendant for the [p]laintiff's services".[73] Furthermore, it was "never agreed" that the defendant "would make any request to the [p]laintiff for the [p]laintiff to sort, segregate and remove any [hazardous, toxic industrial waste and/or wastes which are of a dangerous nature] from the general wastes collected by the [p]laintiff from the [d]efendant's premises". He would "have never agreed" to collect Mixed Waste as the plaintiff is "only licensed to collect Classes A and B general wastes".[74] At trial, he also confirmed that "[t]he handling sorting [fee] is $150" and is charged "if there is a need to sort bulky waste".[75]

37 The defendant argues that a sorting request for the plaintiff to "sort, segregate and remove the Prohibited Wastes from the [d]efendant's [w]astes before disposing and/or incinerating the same" would be made "when the [d]efendant's [w]astes may contain Prohibited Waste[s]" or when the defendant was "unsure as to whether the [d]efendant's [w]astes contained Prohibited Wastes". The defendant pleads that this is simply because the defendant "did not have sufficient and/or adequate space and/or facility and/or equipment at the Defendant's Premises to carry out a thorough sorting and/or segregation of the [d]efendant's [w]astes". The plaintiff would thereafter "return and/or send *to the [d]efendant* the Prohibited Wastes which it had removed" which the plaintiff was "unable to dispose of and/or handle" [emphasis added].[76] A fixed fee of $150 was payable to the plaintiff in consideration for such request.[77] For example, according to Mr Tan Kim Seng, certain parts of a refrigerator may

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73 Lee Cheng Wah's AEIC at para 13.

74 Lee Cheng Wah's AEIC at para 18.

75 Day 3 Transcript dated 4 February 2021 at p 11, lines 5 and 10–11.

76 Defence at para 4AA; Defendant's CS at paras 92–93.

77 Defendant's Opening Statement at para 17.

contain Prohibited Wastes (*ie*, the coolant). Instead of "dismantling the fridge itself, [the defendant] would request [the plaintiff] to … sort, segregate and remove" such Prohibited Wastes from the defendant's Mixed Waste.[78]

My analysis and decision

38 It is undisputed that, following the telephone conversation between the defendant's Mr Tan Kim Seng and the plaintiff's Mr Lee Cheng Wah on 7 June 2017 [see [8] above], the defendant's waste was collected by the plaintiff from the Defendant's Premises on 7 June 2017 in Skip Bin A10 and "transported back to the Plaintiff's Premises for sorting and/or segregation and that the [d]efendant had paid the [p]laintiff the [h]andling [f]ee to do so".[79] The dispute lies in the scope of the Segregation Request.

39 First, the defendant argues that it does not make commercial sense to pay a handling fee only to sort bulky items.[80] As Mr Cai testified, the plaintiff would bring "more than 90 per cent" of the waste collected back to its premises "because [the plaintiff is] unsure whether there is any bulky waste or there is any waste that requires segregation". The plaintiff's standard practice is thus to "send most back to [the Sorting Yard]" unless they are certain that there is "nothing to sort", such as "food waste", in which case such waste would be sent to NEA incineration facility directly.[81] According to the defendant, this suggests that the plaintiff "adopts the same process for sorting all wastes" and hence there

78 Tan Kim Seng's AEIC at para 44.

79 Defendant's CS at para 91.

80 Defendant's CS at paras 97–100.

81 Day 1 Transcript dated 2 February 2021 at p 61, lines 9–18.

is "no reason or basis" for the plaintiff to charge and the defendant to pay $150 *for the purpose* of sorting out *bulky* items.[82]

40 I reject the defendant's contention. On the defendant's own evidence, Mr Tan Kim Seng himself explained that the defendant "may also request for [the plaintiff] to sort and dispose of items which are too large in size or quantity and cannot fit into the [s]kip [b]in". For example, when the defendant collects "large used pallets from its customers and knows that the pallets comprise primarily of general wastes which [the plaintiff] would be able to handle (for example, the plastic wrapping around the pallets and the pallets themselves)", it would request for the plaintiff to "carry out the sorting, dismantling and disposal of the pallets". Contrary to the defendant's argument, he explained that such arrangement is commercially sensible as it "was more efficient for [the plaintiff] to carry out the sorting and dismantling of such large and bulky wastes" for a fee of $150.[83] Mr Tan Kim Seng's evidence is corroborated by Mr Marcus Tan's evidence, who also understood the handling fee to be payment in relation to the handling of bulky items.[84]

41 The defendant's second argument is that the plaintiff's "position on who would decide whether the [d]efendant's [w]astes should be sent to the Plaintiff's Premises to sort bulky items and when the [d]efendant would be charged … is inconsistent and irreconcilable" is similarly unpersuasive.[85] Even if there are discrepancies in the plaintiff's evidence as to *who* would make the *decision* to sort the defendant's wastes, I do not think that such discrepancies are fatal to

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82 Defendant's CS at para 100.

83 Tan Kim Seng's AEIC at paras 46–47, 49–50; Day 6 Transcript dated 10 February 2021 at p 65, lines 1–7.

84 Day 6 Transcript dated 10 February 2021 at p 65, lines 1–7.

85 Defendant's CS at paras 101–105.

the plaintiff's case as the defendant contends. In my view, the crucial factual issue in dispute to be determined is *what kind* of waste the Segregation Request pertains to – *who* made the decision to segregate the defendant's wastes is altogether a wholly separate matter that is not necessarily helpful to determining the issue at hand.

42 The defendant's third argument in support of its position is that only the defendant was charged the $150 handling fee on the documentary evidence before the court. According to Mr Cai, it is "[q]uite common" for the plaintiff to charge all of its customers such a fee but later changed his position to testify that it is "very rare" to charge the other customers such a fee.[86] Even if I accept that the documentary evidence before me shows that only the defendant had been charged with such handling fee, I am not convinced that this shows such a handling fee could not have been for the sorting of incinerable general waste from non-incinerable general waste such as bulky items, particularly in light of the defendant's own evidence.

43 In my judgment, the defendant's evidence as highlighted at [40] likewise defeats its second and third arguments on this point.

44 On the basis of the defendant's evidence mentioned at [40], I find that the plaintiff does sort out the defendant's bulky general waste (*ie*, non-incinerable general waste from incinerable general waste), at the defendant's request, for a handling fee.

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[86] Day 1 Transcript dated 2 February 2021 at p 113, lines 5–13.

Inconsistency between the defendant's pleaded case and evidence at trial

45 In addition, the defendant's pleading on the scope of the Segregation Request and the evidence it led at trial were, in my view, inconsistent. The Defence (Amendment No. 3) states that a Segregation Request would be made where the defendant's wastes contained "*any* toxic and/or hazardous wastes *or any other* wastes which are not considered general wastes" [emphasis added].[87] On a plain reading, the pleading gives the impression that a Segregation Request could be made where Skip Bin A10 was filled with Mixed Wastes in any quantities (*eg*, half-filled with general waste and half-filled with toxic or hazardous or non-general wastes). In contrast, the defendant's evidence at trial sought to narrow the scope to only small quantities of such waste, such as home appliances or electronic devices which may contain toxic or hazardous waste among its components (*eg*, a refrigerator containing coolant or a laptop/handphone with its battery component that may be dumped into the skip bin with the general waste). The defendant's evidence at trial, in that sense, was not entirely consistent with its pleaded case.

46 Furthermore, the defendant's pleaded case is that when a Segregation Request was made, the plaintiff was to "return and/or send to the [d]efendant the Prohibited Wastes which it had removed from the [d]efendant's [w]astes and/or any other wastes which the [p]laintiff had sorted and/or segregated … that the [p]laintiff was unable to dispose of and/or handle".[88] This pleading was problematic for a number of reasons.

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87 Defence (Amendment No. 3) at para 4AA.

88 Defence (Amendment No. 3) at para 4AA.

47 First, there was no objective, contemporaneous evidence before me to support the pleading that such returning of Prohibited Wastes was actually ever undertaken by the plaintiff over the entire course of the parties' business relationship, which spanned more than ten years. In my judgment, the lack of any such evidence to corroborate the defendant's case was indicative of a lack of credibility with regard to the case it sought to advance on the scope of the Segregation Request.

48 Further, if the defendant's case was in fact true – that the Segregation Request was for the collection and sorting of the defendant's Mixed Waste and subsequent delivery of the Prohibited Wastes back to the defendant – the plaintiff would be in breach of its licence every time such a Segregation Request was made simply by driving its lorry on the road with the skip bin collected from the Defendant's Premises containing a mixture of general and toxic/hazardous waste. It is not disputed that a waste collector not licenced to collect Toxic Industrial Waste is not even permitted to *transport* toxic industrial or hazardous waste on Singapore roads, let alone collect, handle or process such waste. I therefore do not find the defendant's case on the scope of the Segregation Request credible or commercially plausible.

49 The defendant also contended that the plaintiff "had knowingly agreed to collect wastes which it was not licensed to collect" from one of its customers, namely PowerSeraya, and agreed to "collect and disposal [*sic*] of toxic industrial wastes" under an agreement with PowerSeraya for waste management for the period of one year from 1 January 2017 to 31 December 2017 (the "PowerSeraya Agreement").[89] The defendant argues that this undermines the plaintiff's contention that it is not a licenced Toxic Industrial Waste collector

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89 Defendant's CS at paras 65; 107–108.

and thus would never have agreed to collecting or processing the defendant's Mixed Waste.[90] I will term this line of argument as the "PowerSeraya Issue".

The PowerSeraya Issue

50 The defendant highlights that, on the face of the Schedule of Prices to the PowerSeraya Agreement read with the emails between PowerSeraya and the plaintiff in January 2017,[91] it is undisputed that the plaintiff would be responsible for the collection and disposal of "oil-contaminated rags and solid waste".[92] Clause 4.1.2.1 of the Specifications to the PowerSeraya Agreement further elaborates that the "main toxic industrial wastes generated by [PowerSeraya] and their projected quantities may include but are not limited to … Oil-contaminated rags, used plant/oil containers with left over paint / oil and solid waste ~ 400 Kg per month".[93] According to the defendant, these sufficiently show that the plaintiff, contrary to their assertions, "agreed to collect and disposal [*sic*] of toxic industrial wastes".[94]

51 Clause 4.3.1 of the Specifications to the PowerSeraya Agreement stipulates the scope of works for the disposal of general waste as follows:[95]

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90 Defendant's CS at para 64.

91 1 AB at p 84 (Schedule of Prices to the Waste Management at Pulau Seraya Power Station for 1/1/2017 to 31/1/2017 with an Option to Extend for Another Year); Lee Chee Pin's AEIC Exhibit LCP–1 at pp 50–52 (Email between PowerSeraya and the Plaintiff for a Split Award).

92 Day 2 Transcript dated 3 February 2021 at p 30, lines 16–22.

93 1 AB at p 87 (Specifications to the Waste Management at Pulau Seraya Power Station and Jurong Power Station for a Period of One Year (01 Jan 2017 – 31 Dec 2017) with an Option to Extend for Another Year).

94 Defendant's CS at para 65.

95 1 AB at p 89 (Specifications to the Waste Management at Pulau Seraya Power Station and Jurong Power Station for a Period of One Year (01 Jan 2017 – 31 Dec 2017) with an Option to Extend for Another Year).

> General wastes in [PowerSeraya] are classified according to NEA classification as listed below:-
>
> i) **Class A** – Bulky wastes such as unwanted furniture and electrical appliances, construction and renovation debris, cut tree trunks, branches and non-putrefiable industrial wastes.
>
> ii) **Class B** – Domestic refuse, food waste, market waste and industrial wastes with a high organic content which are putrefiable.
>
> iii) **Class C** – Sludge and other wastes from grease interceptors. Sewage, sludge and other wastes from water-seal latrines, sewage treatment plants, septic tanks or other types of sewerage systems. Waste from sanitary conveniences not part of a sewerage system, including wase from sanitary conveniences which are mobile or in ships or aircraft.
>
> The [plaintiff] is responsible in clearing all general wastes generated in [PowerSeraya] according to the classification listed above …
>
> [emphasis in original]

According to the defendant, this shows that the plaintiff had agreed to collect and dispose Class C general waste in breach of its own General Waste Collector licence, under which it could only collect Class A and Class B general waste (see [4]). Mr Lee Chee Pin ("Mr Steven Lee"), the plaintiff's director, similarly agreed that "[a]ccording to the contract", the plaintiff would be "required to collect [C]lass C general waste" and that the plaintiff had thus "agreed to collect waste that it is not licensed to collect".[96]

52 Lastly, clause 12 of the Terms and Conditions to the PowerSeraya Agreement stipulates:[97]

> The [plaintiff] shall not transfer, assign and/or subcontract the whole or any part of this Agreement without [PowerSeraya's] prior written consent.

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96 Day 2 Transcript dated 3 February 2021 at p 54, lines 11–28.

97 1 AB at p 109 (Terms and Conditions to the PowerSeraya Agreement).

Thus, the defendant submits that "it is inconceivable that PowerSeraya would have agreed to allow the [d]efendant to carry a significant portion of the contract works without setting out its consent in writing".[98]

53 The essence of the plaintiff's case in respect of the PowerSeraya Issue is that the plaintiff had never collected toxic industrial waste[99] or Class C general waste from PowerSeraya, and instead, such waste was collected and disposed of by another waste collector.[100]

54 The plaintiff submits that, even though the aforementioned clauses of the PowerSeraya Agreement seem to suggest that the plaintiff collected and disposed of PowerSeraya's toxic industrial waste, the plaintiff in fact only collected and disposed of general waste. According to the plaintiff, PowerSeraya's toxic industrial waste had been, at all material times, collected and disposed of by a waste collector other than itself and that there is "not one shred of evidence that establishes [that the plaintiff] collected toxic waste from PowerSeraya".[101]

55 According to Mr Steven Lee, PowerSeraya requested "for a quotation for waste management services for the period from 1 January 2017 to 31 December 2017… for disposal of general wastes as well as for disposal of toxic wastes" on 2 November 2016. The defendant had agreed to "work together to provide a quotation to PowerSeraya", and he informed PowerSeraya's Mr Heng Chin Wen that the plaintiff "did not have the licence to dispose of

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98 Defendant's CS at para 66.

99 Plaintiff's CS at para 69; Plaintiff's RS at paras 24–28.

100 Day 2 Transcript dated 3 February 2021 at p 56, lines 16–24.

101 Plaintiff's RS at para 24.

toxic industrial wastes" and that the "disposal of general wastes would be handled by the [p]laintiff and the disposal of toxic wastes would be handled by the [d]efendant". The intention was therefore for a joint quotation to be sent to PowerSeraya. On or about 14 November 2016, the defendant sent Mr Steven Lee the "proposed prices to be quoted to PowerSeraya for the toxic waste management services" and the plaintiff submitted a quotation to PowerSeraya the next day, "taking into account the proposed prices received" from the defendant together with the plaintiff's "proposed pricing for the general waste management services".[102]

56 On the totality of the evidence before me, I find that the plaintiff's position is credible, supported by the contemporaneous evidence and more likely to be true. The plaintiff did not give any quotation to PowerSeraya until *after* the defendant had given the plaintiff an estimate of the costs for the collection and disposal of the items under "Toxic Waste Disposal", "Disposal of Waste Oil / Silt", and all of the items in the quotation under "Optional Pricing" save for the disposal of sand, brick, concrete or granite. This suggests that the plaintiff provided its own quotation for only the items under "Disposal of General Waste" and the "Disposal of sand/brick/concrete/granite" while the quotation for all of the other services requested by PowerSeraya were based on *the defendant's* estimates provided to the plaintiff.

57 When the quotation which the defendant submitted to the plaintiff on 14 November 2016 is compared with the request for a quotation which PowerSeraya sent to the plaintiff on 2 November 2016, the respective headers, numbering, and descriptions in the *defendant's* quotation *to the plaintiff* are identical to that requested by PowerSeraya from the plaintiff. In my judgment,

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102 Lee Chee Pin's AEIC at paras 8–10; NE (3 February) at p 37 ln 1–2.

such precise and exact correspondence between the documents indicates that the defendant's quotation to the plaintiff could only have been made *for the purpose* of the plaintiff preparing a quotation to PowerSeraya combining both the plaintiff's scope of services and the defendant's scope of services, as contended by the plaintiff. This demonstrates that, from the earliest stages of any business relationship between PowerSeraya and the plaintiff (*ie*, the invitation from PowerSeraya to the plaintiff for a quotation on 2 November 2016[103] and the subsequent submission of such quotation), the plaintiff intended to rely *on the defendant* for the collection and disposal of the aforementioned wastes and did not, as the defendant argues, intend to collect and dispose of PowerSeraya's toxic industrial waste by itself.

58 More specifically, the quotation from the defendant to the plaintiff dated 14 November 2016 *included* the "transportation and disposal" of oil-contaminated rags and solid waste. The defendant estimated that 30 bins a year would be necessary, at a unit rate of about $110 per 660L bin.[104] The amount quoted by the plaintiff to PowerSeraya for "Oil-contaminated rags and solid waste in bin (660L)" under "Toxic Waste Disposal" likewise corresponds with that quoted *by the defendant* to the plaintiff just the day prior.[105] This is not, in my view, mere coincidence or unrelated to the intention expressed by the plaintiff to present a composite quotation to PowerSeraya combining both parties' scope of services. Additionally, PowerSeraya's *very first* request for the deployment of "two empty 250 litre wheelie bins" for toxic industrial waste such as "contaminated rags, gloves and solid wastes" was sent, by way of an

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103 Lee Chee Pin's AEIC Exhibit LCP–1 at pp 10–11 (Email from PowerSeraya to the Plaintiff dated 2 November 2016).

104 Lee Chee Pin's AEIC Exhibit LCP–1 at pp 46–47 (Defendant's Quotation to the Plaintiff dated 14 November 2016).

105 Lee Chee Pin's AEIC Exhibit LCP–1 at p 48 (Plaintiff's Signed Quotation).

email with the subject title "Collection of lab toxic wastes at YTL PowerSeraya" dated 2 June 2017, *to only the defendant* without being copied to the plaintiff.[106] In my view, it is telling that PowerSeraya addressed that particular request, in relation to *toxic industrial waste*, only to the defendant without mentioning the plaintiff at all.

59 Mr Marcus Tan of the defendant stated that the defendant "was approached by PowerSeraya out of the blue with a request for the [d]efendant to collect and handle its toxic wastes" and that he was "surprised by the email" from PowerSeraya (referred to at [58] above] as the defendant "never had any business dealings with PowerSeraya". He then called the PowerSeraya representative to "understand what was going on" and was "shocked to discover" that PowerSeraya was under the impression that the plaintiff had partnered with the defendant for the collection of PowerSeraya's wastes.[107]

60 I reject the defendant's evidence that PowerSeraya emailed them "out of the blue" or that the defendant was not aware why PowerSeraya contacted it directly. That contention is simply not credible. I also reject the defendant's submissions that the plaintiff's "story that the [d]efendant was to provide the toxic waste collection and disposal works required under the PowerSeraya [Agreement] is no more than a tall tale spun by the [p]laintiff"[108] and that the plaintiff "had no qualms agreeing to collect wastes from PowerSeraya which it was not licensed to".[109] On the contrary, the objective evidence clearly demonstrates that the plaintiff had involved the defendant in relation to the

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106 Lee Chee Pin's AEIC Exhibit LCP–1 at p 55 (PowerSeraya's email to the defendant dated 2 June 2017).

107 Tan Weide Marcus' AEIC at paras 44-45.

108 Defendant's CS at para 65.

109 Defendant's RS at para 37.

PowerSeraya Agreement quotation *before* the plaintiff even submitted its quotation to PowerSeraya. Furthermore, the defendant's reply to PowerSeraya's email of 2 June 2017 was to point out that "[that] is *not quoted under the contract*" (*ie*, for "660L" bins). The defendant's reply to PowerSeraya, by one Christine, was also not copied to the plaintiff.[110] In my view, this sufficiently demonstrated that the defendant was familiar with the requirements under the PowerSeraya Agreement and was aware that it entailed the plaintiff and defendant providing a combination of services to PowerSeraya, depending on the service required and which party was licenced to carry out the particular service required. Despite his surprise at receiving PowerSeraya's email "out of the blue", there was no email from the defendant's Mr Marcus Tan to PowerSeraya (or to the plaintiff) expressing any surprise; instead, the reply from the defendant was to inform PowerSeraya that the service requested fell outside the scope of the contract. It is telling that the defendant's reply sent by Christine was copied to *both* Mr Tan Kim Seng and Mr Marcus Tan. There was also no plausible reason for PowerSeraya to send an email request for services to the defendant directly unless it was known and understood by PowerSeraya that under the PowerSeraya Agreement, the actual collection and disposal of any toxic industrial waste would be undertaken by the defendant, not the plaintiff.

61 Further, the fact that the defendant never had any direct business dealings with PowerSeraya prior to 2 June 2017 is not necessarily inconsistent with the plaintiff's case. In its email dated 2 June 2017, PowerSeraya elaborated that its request to the defendant was for "two empty 250 litre wheelie bins" for the "disposal and containment of toxic lab wastes such as contaminated rags, gloves and solid wastes" that "will *replace* the two full bins which

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110 Lee Chee Pin's AEIC Exhibit LCP–1 at pp 54–55 (Email from the Defendant to PowerSeraya dated 2 June 2017).

[PowerSeraya] will arrange to be taken away permanently by the *previous waste collector as we transfer to [the plaintiff] as [PowerSeraya's] waste collector"* [emphasis added].[111] Even if it may be possible that PowerSeraya "would have required the collection or disposal of such waste before 2 June 2017", it is nevertheless unlikely that PowerSeraya required the *plaintiff's* or the *defendant's* services for the collection and disposal of the oil-contaminated rags and solid waste (*ie*, toxic industrial waste) until sometime after 2 June 2017. As Mr Marcus Tan noted, if the plaintiff had collected any toxic industrial waste from PowerSeraya, he would expect to see records evidencing this;[112] it is not in dispute that there was *no evidence* in the record, documentary or otherwise, indicating that the plaintiff had *ever* (whether before or after the incident on 7 June 2017) collected any toxic industrial waste from PowerSeraya.

62 For completeness, the *same* email thread referred to at [61] above shows that PowerSeraya only emailed the plaintiff on 7 June 2017 while copying the defendant. In it, PowerSeraya repeated its earlier request to the defendant for "two empty bins" for the "containment of lab toxic wastes such as rags and other solid wastes".[113] This suggests that even up to 7 June 2017 (*ie*, the day of the incident), no bins had been provided to PowerSeraya, whether by the plaintiff or the defendant.

63 Shorn of all the fluff, the defendant's entire argument surrounding the PowerSeraya Issue was, in my view, ultimately a red herring and an unnecessary distraction. I therefore disagree with the defendant that the "irresistible

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111 Lee Chee Pin's AEIC Exhibit LCP–1 at pp 55–56 (Email from PowerSeraya to the Defendant dated 2 June 2017).

112 Tan Weide Marcus' AEIC at para 51.

113 Lee Chee Pin's AEIC Exhibit LCP–1 at pp 54 (Email from PowerSeraya to the Plaintiff and Defendant dated 7 June 2017).

inference" is that the plaintiff "must have agreed to and did in fact collect and dispose of toxic wastes from PowerSeraya", as the defendant contends.[114] The inference is, in my view, neither irresistible nor one that can be reasonably made on the evidence.

64 Taking all of the foregoing together, I am satisfied that the plaintiff did not collect and dispose of PowerSeraya's toxic industrial wastes at any time prior to 7 June 2017, nor was the plaintiff the party to actually collect and dispose of PowerSeraya's toxic industrial waste under the PowerSeraya Agreement. In my view, the objective evidence available on the PowerSeraya Issue does not in any way assist the defendant to advance its pleaded case that the plaintiff agreed to collecting and processing the defendant's Mixed Waste.

65 Turning back to the issue at hand, that the scope of the Agreement and the Segregation Request is as asserted by the plaintiff is also borne out on the defendant's own evidence. According to Mr Marcus Tan, the "only business relationship" between the plaintiff and the defendant had was for the plaintiff "to collect and dispose of the [d]efendant's general wastes".[115] The defendant's process maintenance and construction worker, Mr Sarkar Mohammad Sohel ("Mr Sohel"), similarly testified that his "boss", Mr Tan Kim Seng, had instructed him that only general waste can be thrown into the skip bin provided by the plaintiff.[116] My conclusion is further supported by the defendant's waste sorting procedure dated 26 February 2016,[117] as shown to Mr Tan Kim Seng and

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114 Defendant's CS at paras 68–72.

115 Tan Weide Marcus' AEIC at para 43.

116 Day 6 Transcript at p 140, lines 8–25.

117 Tan Weide Marcus' AEIC Exhibit MT–4 at pp 44–53 (Defendant's Waste Sorting Procedure dated 26 February 2016).

signed by Mr Marcus Tan (the "Waste Sorting Procedure").[118] As Mr Marcus Tan explained, the defendant "has implemented a set of guidelines for the sorting of any incoming waste prior to disposal of the same" as it "cannot take … for granted that the waste received from its customers has already been sorted or correctly declared". The defendant's guidelines are fairly detailed and set out the standard procedures to be followed covering a wide range of operational matters from the point of waste collection by the defendant's driver to the performing of verification tests on incoming toxic industrial wastes.[119]

66 In the defendant's Waste Sorting Procedure, *the plaintiff* is referred to as the defendant's "transporter" under the section explaining the "Disposal Methodology" for "General Waste" and the plaintiff's skip bin is referred to as "the general waste bin":[120]

> **e. General Waste**
>
> *Solid Type A General Waste* are disposed by either Cramoil incineration, whereby the waste is transferred directly to the incineration plant department upon arrival, or by NEA incineration through the Tuas South Incineration Plant (TSIP). In this case, *after sorting*, the solid waste is *dumped via forklift into the general waste bin* at the waste sorting area. Once the bin is full, kindly inform the supervisor/foreman on duty to contact *our transporter (Greenway Environmental Services)* who will then arrive to truck the bin to TSIP for disposal. Ensure the *general waste bin* is full before activating the transporter. Items such as pallets, drums, plastic bins and other large objects are not permitted to be disposed into the general waste bins, as such items are prohibited by NEA for disposal at their facility.
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> [emphasis in bold in original; emphasis added in italics]

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118 Day 6 Transcript at p 60, lines 12–23.

119 Tan Weide Marcus' AEIC at paras 18–22.

120 Tan Weide Marcus' AEIC at p 53 (Defendant's Waste Sorting Procedure dated 26 February 2016 at 5(e)).

It is significant that, according to the Waste Sorting Procedure, the defendant's workers are to dump only *general waste* into the general waste bin at the Defendant's Premises and only *after* sorting out its waste. I highlight that the foregoing is entirely consistent with Mr Tan Kim Seng's explanation on the defendant's practice in relation to dumping of general wastes into the plaintiff's skip bin.[121] Mr Sohel's evidence is also that he understood that the skip bin "was provided by [the defendant's] general waste collector at the time" and that such skip bin was to "dump *sorted general wastes* into" [emphasis added].[122]

67 Additionally, it was only in the defendant's Defence (Amendment No. 2) dated 19 August 2020 that the defendant pleaded that the Agreement was for the collection, processing (if necessary) and disposal of the defendant's Mixed Waste and segregating general waste from such Mixed Waste pursuant to a Segregation Request. Prior to that, and even up to its Defence (Amendment No. 1) dated 9 January 2020, the defendant had *admitted* to the *plaintiff's pleaded position* that the scope of the Agreement pertained to the defendant's general waste only[123] and that the defendant "should only pass on general wastes which are not flammable, hazardous and/or toxic in nature to the [p]laintiff for the [p]laintiff, [*sic*] collection, disposal and/or handling".[124] The defendant had also previously admitted that it owed the plaintiff "a duty to exercise reasonable care to ensure that the wastes which the [d]efendant passed to the [p]laintiff for collection, disposal and/or handling are not flammable, hazardous and/or toxic wastes".[125] In the defendant's solicitors' initial reply to the plaintiff's solicitors

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121 Tan Kim Seng's AEIC at paras 38–42.

122 Sarkar Mohammad Sohel's AEIC at para 9.

123 Defence (Amendment No. 1) at para 4.

124 Defence (Amendment No. 1) at para 5.

125 Defence (Amendment No. 1) at para 9.

by way of a letter dated 7 June 2018, the defendant also accepted that the plaintiff was "at all material times contracted by [the defendant] to collect general waste".[126] No mention was made then of any agreement to sort Mixed Waste as is now pleaded in the defence. While the defendant is entitled to amend its pleadings and is ultimately bound by the latest version of its defence, the inconsistent positions taken by the defendant in the earlier iterations of its defence on such a crucial issue – which, in this case, forms a significant part of the backdrop to the parties' business relationship – cannot go unnoticed. It lends credence to the plaintiff's contention that the defendant's current pleaded position on the scope of the Agreement and the Segregation Request is an afterthought.

68 Only Mr Tan Kim Seng contends that the parties' Agreement is not limited to the plaintiff's collection, processing (if necessary), and disposal of the defendant's general waste only and that the Segregation Request is for the plaintiff to sort and segregate general waste from the defendant's Mixed Waste.[127] The defendant sought to explain the reason for the changes in its pleaded case as attributable to Mr Tan Kim Seng's belated involvement in the case.[128] I do not accept that reason as a plausible one. Mr Tan Kim Seng appeared to be a hands-on person as far as the defendant's affairs were concerned. It came as a "shock" to him when the defendant received a letter of demand from the plaintiff's solicitors in April 2018, to which demand the defendant's solicitors replied substantively in June 2018. If indeed the scope of the Agreement and Segregation Request was as per the defendant's current pleaded case, I find it implausible that Mr Tan Kim Seng would not have taken

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126 3 AB at pp 1556–1557 (Letter from Lee & Lee to Ramdas & Wong dated 7 June 2018).

127 Tan Kim Seng's AEIC at paras 43–45, 51–52.

128 Defendant's RS at paras 50–52.

steps to make sure that it was brought to the attention of the defendant's solicitors from the very inception of the dispute – more so when *all* of the terms of the Agreement were orally agreed between himself and Mr Lee Chee Wah and were not subsequently recorded or evidenced in writing. Even if I accept the explanation for the belated changes in the defendant's pleaded position, it was still sorely inadequate to explain the significant inconsistencies in the defendant's evidence on the matter and did not support Mr Tan Kim Seng's evidence. At best, Mr Tan Kim Seng's assertions are bare ones, and in parts incoherent. I elaborate on these points further below.

69 As an aside and for completeness, I note that the defendant has suggested, in its closing reply submissions, that Mr Tan Kim Seng's evidence is to be preferred over Mr Marcus Tan's evidence. The latter had testified that he was not aware of the Segregation Request as asserted by the defendant in its pleadings and was not informed by Mr Tan Kim Seng that there was any such arrangement with the plaintiff.[129] Even though Mr Marcus Tan is also a director of the defendant and Mr Tan Kim Seng's son, the defendant submits that "not all directors are familiar with or even aware of all details of a company's operations". In that regard, the defendant submits that Mr Marcus Tan may not have been "involved in or would be familiar with" the defendant's operations and the Agreement, which was orally agreed between Mr Lee Cheng Wah and Mr Tan Kim Seng.[130]

70 I am not at all persuaded by this submission. The fact that the defendant's Waste Sorting Procedure was signed by Mr Marcus Tan indicates

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129 Transcript Day 6 dated 10 February 2021 at p 60 ln 24 – p 62 ln 8.

130 Defendant's RS at paras 54–57.

that he was more than aware of and involved in the defendant's operations, including its arrangements with the plaintiff.

71 Turning back to the defendant's case on the Segregation Request, if the defendant's pleaded position was indeed true, then on its face and as I have already discussed above at [48], toxic industrial waste and/or hazardous substances *must* have been regularly transported between the Defendant's Premises and the Plaintiff's Premises on public roads in Singapore *without*: (a) any checks on the *nature* and *quantity* of the toxic industrial waste and/or hazardous substance involved; (b) any hazard warning labels on the lorries transporting such waste; (c) any records of approvals for such transportation; and (d) any declarations to NEA for such collections. I agree with the plaintiff that the defendant's pleaded position, taken to its logical conclusion in that sense, was not believable.

72 Further, the defendant's case appears somewhat contrived and *does not make practical or logical sense*. It is inconceivable how the plaintiff, as a licenced General Waste collector would have been able to or was *expected* to be able to, for example, extract the coolant from a refrigerator, store the extracted coolant, and deliver it back to the defendant for disposal by the defendant. No evidence was led by the defendant that the plaintiff even had the equipment or expertise necessary to handle such work.

73 Finally, I find that the defendant's case is inherently incoherent. As referred to earlier at [65]–[66], according to the defendant's Waste Sorting Procedure and its witness evidence, the defendant would engage the plaintiff's services for the disposal of the defendant's general waste at the NEA incineration plant. Having already, on its own case, meticulously sorted and segregated its general waste from its other waste *before* even dumping the

general waste into the plaintiff's skip bin at the Defendant's Premises (referred to in the Waste Sorting Procedure as the "general waste bin"), it is odd that the defendant would thereafter make a Segregation Request asking the plaintiff, in essence, to *further* sort and segregate the defendant's general waste from its Mixed Waste at the Plaintiff's Premises. In my view, it is illogical and incoherent if, on the one hand, the defendant's own Waste Sorting Procedure ensures that the plaintiff's skip bin at the Defendant's Premises contains *only* general waste *before* their "transporter" (*ie*, the plaintiff) is contacted while, on the other hand, arguing that the skip bin may *nevertheless* contain the defendant's Mixed Waste (*including* toxic wastes or hazardous wastes of unknown nature and quantity) such that the plaintiff had to collect, sort and segregate the general wastes for disposal *and thereafter* transport the Prohibited Wastes *back to the defendant* for disposal. I reiterate that there was no evidence adduced by the defendant demonstrating that the plaintiff had *ever* transported any toxic or hazardous waste segregated from the defendant's general waste *back* to the Defendant's Premises for the defendant's proposal, contrary to the defendant's pleaded defence.

74 In light of the numerous problems with the defendant's pleaded case on the scope of the Agreement and Segregation Request as highlighted and discussed above, I am compelled to come to the conclusion that it is nothing more than an afterthought in an attempt to evade liability.

75 For all of the foregoing reasons, I am not persuaded by any of the defendant's arguments on the scope of the Agreement and the Segregation Request. On the totality of the evidence before me, I find that on the balance of probabilities, the scope of the Agreement is as pleaded by the plaintiff, *ie,* the Agreement was limited to the collection, processing (if necessary) and disposal by the plaintiff of the defendant's general waste only. I also find that any

Segregation Request, if made by the defendant, was for the sorting by the plaintiff of incinerable general waste from non-incinerable general waste (*eg*, bulky items).

The oral communication on 7 June 2017

76 Turning now to the day of the incident, 7 June 2017, the parties largely agree on what was communicated orally by Mr Tan Kim Seng to Mr Lee Cheng Wah when they spoke over the phone. According to Mr Lee Cheng Wah,[131] Mr Tan Kim Seng had requested for the plaintiff to "collect a skip bin containing general wastes from the Defendant's [P]remises" and that "there would be some bulky items in the skip bin to be collected". He had considered such request as "normal" since such "bulky items are considered general wastes which the [p]laintiff had the necessary licence and/or authori[s]ation to collect". Furthermore, Mr Tan Kim Seng had not informed that the "skip bin would contain any Prohibited Wastes" or requested the plaintiff to "sort, segregate and remove any Prohibited Wastes from the general wastes collected".

77 The plaintiff's evidence is, in substance, not contradicted by the defendant's evidence. According to Mr Tan Kim Seng, he had called Mr Lee Cheng Wah to "send his staff down to collect" the skip bin from the Defendant's Premises and had made a Segregation Request because he "knew that [the defendant] had just cleared a few electrical appliances including a mini-fridge and printer from its office" which were "thrown into" the skip bin.[132] At trial, Mr Tan Kim Seng explained that he knew about the mini-fridge and printer even though he did not personally see or check the contents of the skip bin because

131 Lee Cheng Wah's AEIC at paras 21–23.

132 Tan Kim Seng's AEIC at para 78.

he had specifically instructed his staff to throw those items away.[133] He also accepted that electrical appliances such as printers and refrigerators ultimately fall within the Class A general waste under the Regulations on General Waste Collection, but nevertheless had to be segregated from the rest of the defendant's waste in the skip bin as they were bulky items and non-incinerable.[134]

78 In the light of my findings and conclusions above on the scope of the Agreement and Segregation Request, it cannot be seriously disputed that the *particular* Segregation Request made by the defendant to the plaintiff on 7 June 2017 pertained to the sorting and segregating of the defendant's non-incinerable (*eg*, bulky) general waste from incinerable general waste. There was, and I find, no agreement or request by the defendant for the plaintiff to specifically sort and segregate any toxic industrial or hazardous waste in the skip bin from the general waste.

79 Bearing the foregoing conclusions in mind, I turn now to consider the plaintiff's Contract Claim and Negligence Claim.

Issue 2: the Contract Claim

80 The plaintiff pleads that the defendant breached an *implied* term of the Agreement that the defendant would "only dump or allow to be dumped general waste" for the plaintiff's collection, processing and disposal.[135] The plaintiff did not properly address or expand on this point in its closing submissions. The plaintiff merely submitted that the "facts" which establish the defendant's

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133 Day 5 Transcript dated 9 February 2021 at p 172, lines 3–7.

134 Day 5 Transcript dated 9 February 2021 at p 172, lines 10–25.

135 Statement of Claim at para 4.

breach of duty of care to the plaintiff likewise establish that the defendant "has breached its contract" with the plaintiff.[136]

81 The defendant submits that the term which the plaintiff seeks to imply into the Agreement would not pass the three requirements necessary for implying a term in fact as set out by the Court of Appeal in *Sembcorp Marine Ltd v PPL Holdings Pte Ltd and another and another appeal* [2013] 4 SLR 193 ("*Semcborp*") (*ie*, that there is a "true gap" at [94(a)] and [101(a)], the alleged term satisfies the business efficacy test and the officious bystander test at [101(b)–(c)]).[137]

82 In *Sembcorp*, the Court of Appeal explained that "not all gaps in a contract are "true" gaps in the sense that they can be remedied by the implication of a term" and in that respect, there are at least three ways in which a gap could arise (at [94]):

(a) the parties did not contemplate the issue at all and so left a gap;

(b) the parties contemplated the issue but chose not to provide a term for it because they mistakenly thought that the express terms of the contract had adequately addressed it; and

(c) the parties contemplated the issue but chose not to provide any term for it because they could not agree on a solution.

However, it is *only* in scenario (a) where it would be "appropriate for the court to even consider if it will imply a term into the parties' contract" (at [95]). It

136 Plaintiff's CS at para 102.

137 Defendant's CS at paras 116–119.

would not be appropriate to imply a term in scenario (b), as that would effectively amount to seeking the *correction* of a *mistaken belief* that the agreement already accurately records the transaction between parties (at [96]). Nor would it be appropriate to imply a term in scenario (c), as parties in that scenario had "actually considered the gap but were unable to agree and therefore left the gap as it was" (at [95]).

83 In the present case, neither party adduced any evidence to show that, at the time of contracting in about 2004, both parties (namely, the plaintiff's Mr Lee Cheng Wah and the defendant's Mr Tan Kim Seng) *did not* contemplate *at all* the issue of whether the plaintiff would collect the defendant's general waste only or the defendant's Mixed Wastes, sort and segregate the Prohibited Wastes, and thereafter return such Prohibited Wastes to the defendant for disposal. Neither Mr Lee Cheng Wah nor Mr Tan Kim Seng, the two individuals who orally concluded the Agreement, gave any evidence demonstrating that *neither of them had considered the issue at all*. Given the complete lack of evidence before me on this critical point, I hesitate to make a finding that, on the balance of probabilities, neither party had *in fact* considered the scope of the Agreement and the Segregation Request at the time of contracting and that therefore a "true gap" existed. I thus have to agree with the defendant's submission that the plaintiff has failed to demonstrate the existence of a "true gap" in the Agreement. As such, the term contended for by the plaintiff *cannot* be implied *in fact*. Furthermore, the plaintiff also does not make any submissions as to why the alleged term passes both the business efficacy test and the officious bystander test, which remains the applicable test in Singapore (*Foo Jong Peng and others v Phua Kiah Mai and another* [2012] 4 SLR 1267 at [36]).

84 The plaintiff submits, briefly, in reply that "it is implicit from the policy considerations" and the *present* circumstances, including the defendant's knowledge that the plaintiff is licenced to collect only Class A and Class B general waste, that it is "appropriate" to imply the term alleged by the plaintiff.[138] The plaintiff thus seems to hint that the alleged term is an "implied term in law" (and cites *Chua Choon Cheng and others v Allgreen Properties Ltd and another appeal* [2009] 3 SLR 724 ("*Chua Choon Cheng*") at [68]–[69] in support). However, the plaintiff's argument which focuses on the unique circumstances of the *present case* as between the plaintiff and the defendant is more relevant for an implied term *in fact*, rather than a term implied in law; the plaintiff's submissions seemed to conflate the two concepts. As the Court of Appeal in *Chua Choon Cheng* emphasised at [69], a term implied in law "will be implied in all contracts of a defined type, unless it is contrary to the express words of the agreement" and hence "such a term extends and applies to all future like cases", which is quite unlike a term implied in fact. For that reason, the threshold to be satisfied before a term is implied in law is a high one and the court "should ordinarily exercise considerable restraint". I do not think that the plaintiff has satisfied that high threshold and hence I decline to imply the term in law.

85 As the plaintiff has failed to establish that there is a case to imply a term in the Agreement in fact or in law, the effect is that its Contract Claim is not made out. The defendant is thus not liable for the breach of any implied term as the plaintiff contends. However, this is not the end of the matter and I proceed now to consider the next issue – whether the defendant is liable under the Negligence Claim.

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138 Plaintiff's RS at paras 42–43.

Issue 3: the Negligence Claim

86 In the present case, the defendant disputes that:

(a) the defendant owes the plaintiff a duty of care;

(b) the defendant (by its acts and/or omissions) breached that duty of care and fell below the standard of care required of it; and

(c) the defendant's breach caused the plaintiff damage.

I address each of these in turn. As mentioned at [3], the defendant does not dispute the quantum of the damage suffered by the plaintiff.

Duty of care

The applicable legal principles

87 The Court of Appeal in *Spandeck Engineering (S) Pte Ltd v Defence Science & Technology Agency* [2007] 4 SLR(R) 100 ("*Spandeck*") set out the two-stage test applicable to determine whether a defendant owes a claimant a duty of care. The two-stage test is preceded by the threshold requirement of *factual* foreseeability such that the defendant ought to have foreseen that the claimant would suffer damage due to the defendant's carelessness (*Spandeck* at [75]–[76]). At the first stage, the court considers whether there is sufficient *legal* proximity between the plaintiff and the defendant. The focus of the inquiry at this stage is the *closeness* of the *relationship* between the parties which includes physical, circumstantial, and causal proximity, supported by the twin criteria of voluntary assumption of responsibility and reliance (*Spandeck* at [77] and [81]).

88 If the answers to the threshold requirement and first stage are both affirmative, a *prima facie* duty of care arises and the court then moves to the

second stage of the analysis. At the second stage, the court considers whether any policy considerations applicable to the factual matrix negate that *prima facie* duty of care such as, for example, a "contractual matrix which has clearly defined the rights and liabilities of the parties" (*Spandeck* at [83]). Thus, a duty of care is imposed on the defendant only if the *prima facie* duty of care is not negated by applicable policy considerations to the factual matrix of this case.

89 With these principles in mind, I turn now to consider the facts of the present case.

Threshold requirement of factual foreseeability

90 In my judgment, the threshold requirement is clearly satisfied in the circumstances of the present case. I agree with the plaintiff's submission that the defendant knew that the plaintiff would suffer damage in the event of carelessness by the defendant in discarding Prohibited Wastes in the general waste bin deployed by the plaintiff at the Defendant's Premises.[139] This is especially so in this particular case, where such Prohibited Wastes included strictly regulated toxic industrial waste and/or hazardous substances. In addition, the defendant (*itself* a company in the waste collection business) was in fact aware, at all material times, that the plaintiff lacked the necessary licence to collect, transport or otherwise deal with such toxic or hazardous substances.

91 The defendant made no submissions which specifically addressed the threshold requirement of factual foreseeability. In any case, the defendant does not dispute that the Lithium Batteries are toxic industrial waste and/or hazardous substances which would not be considered general waste. This is therefore sufficient to dispose of the threshold element of factual foreseeability. As noted

139 Plaintiff's CS at paras 81–82.

by the Court of Appeal, in order for factual foreseeability to arise, it only requires that the "defendant ought to have known that the claimant would suffer damage from his (the defendant's) carelessness"; this is so broad a definition that it realistically "would be fulfilled in almost all cases, because the two parties are likely to be in some degree of physical relationship" (*Spandeck* at [75]). Nevertheless, I make some further comments for completeness and to address some further arguments raised by the parties.

92 The plaintiff highlights that Mr Marcus Tan accepted that the defendant, as the party throwing waste into the skip bin for the plaintiff's collection, processing (if necessary) and disposal, has a duty to ensure that the waste therein would not include significant fire and explosion hazards. The plaintiff submits that this admission by Mr Marcus Tan demonstrates that the defendant "must have foreseen the potential danger that could arise from a failure to check the bins and the waste dumped inside them".[140]

93 However, the defendant contends that the plaintiff "should have known that the waste it collects may contain items which pose a fire hazard when crushed". The defendant highlights that the plaintiff accepts that some *general waste* such as mobile phones, laptops, computers and gas canisters are considered flammable. Some "electrical appliances", which fall within Class A general waste under the Regulations on General Waste Collection, may thus contain "[l]ithium batteries or [l]ithium components".[141]

94 I am not convinced by either party's submissions as they are, to differing degrees, made without placing them within the context of the facts in this case.

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140 Plaintiff's CS at paras 82–83.

141 Defendant's CS at paras 221–224.

In my judgment, the *pertinent* characteristic about the Lithium Batteries is not just that they are flammable. Indeed, it is not disputed that other general wastes such as tree trunks and branches may also be flammable in any case. Nor is it to the point that mobile phones, laptops or other electrical appliances may be found discarded in a general waste bin with other general waste; such arguments miss the forest for the trees and are devoid of context.

95 In my view, bearing in mind all of the surrounding circumstances of this case such as the parties' respective NEA licences, the scope of the Agreement and the *nature and quantity* of the Lithium Batteries found, the more pertinent characteristic in this case is that *the Lithium Batteries specifically* are *not* considered general waste by any definition, and this is common ground between the parties. It is therefore sufficient that the defendant ought to have known that the plaintiff would suffer some damage *in general* (as opposed to the specific *kind* of damage suffered) (*Spandeck* at [89]) if the defendant's carelessness resulted in *the Lithium Batteries* (and in that quantity) finding their way into Skip Bin A10. In this case, the plaintiff happened to have suffered significant *property* damage as a result of the fires and explosion, though the actual damage suffered could have been of some other kind or by some other means as well.

96 I do not think that a reasonable parallel may be drawn between the Lithium Batteries and electrical appliances or devices containing lithium components. In my view, such a parallel seeks to compare chalk with cheese. Unlike the occasional electrical appliance or device, such as "a mini-fridge and printer" that Mr Tan Kim Seng had in mind when he made the Segregation Request to Mr Lee Cheng Wah on 7 June 2017 (as mentioned earlier at [77]), or a washing machine as was observed by Ms Lim from the CCTV footage, or the occasional discarded handphone or laptop, "substantial quantities" of the Lithium Batteries were found to be the cause of the fires and explosion in this

case. It is one thing to allege that, for example, a mini-refrigerator dumped with general waste may contain coolant which in turn is considered a toxic waste or hazardous substance but quite another to analogise that example with approximately 200 kilograms of unsealed or unfinished lithium batteries in opaque bags.

Legal proximity and policy considerations

97 Given my conclusion on the scope of the Agreement and the Segregation Request (at [75]), I am also satisfied that there is sufficient legal proximity (in the physical, circumstantial, and causal sense) between the parties given that the contractual arrangement between the parties was for the plaintiff to collect, process (if necessary) and dispose of the defendant's general waste in the skip bin deployed by the plaintiff at the Defendant's Premises.

98 The plaintiff highlights that the defendant was "aware at all material times that it could only dump or allow to be dumped general waste" and that the arrangement between the parties (*ie*, where the skip bin was in the defendant's "custody and control") meant that the plaintiff relied on the defendant to ensure that the skip bin contained only general waste.[142] Additionally, (as briefly discussed at [92]), Mr Marcus Tan testified that the defendant, as the party throwing waste into the skip bin, owed the plaintiff a duty to ensure that the defendant's waste is free from waste which could pose significant fire and explosion hazards.[143] Coupled with the fact that the defendant's Waste Sorting Procedure (see [66]) provided that general waste is to be "dumped via a forklift into the general waste bin" after sorting, I agree with the plaintiff and find that

142 Plaintiff's CS at paras 86–87.

143 Day 6 Transcript dated 10 February 2021 at p 54, lines 24–25; p 55, lines 1–5.

the defendant voluntarily assumed responsibility to ensure that the waste in the skip bin consisted *only* of general waste.[144]

99 I am also satisfied that there are no policy considerations in this case that would negate the *prima facie* duty of care. I agree with the plaintiff that the "fact that there are regulations in respect of toxic and/or hazardous waste indicates strongly that there can be no policy reasons to negate the imposition of a duty of care".[145]

100 Before I end this section and for completeness, the Court of Appeal specifically indicated that the "presence of a contractual matrix which has clearly defined the rights and liabilities of the parties" may be a relevant policy consideration which negates the *prima facie* duty of care in some cases (*Spandeck* at [83]). While the parties' relationship in the present case is ultimately a contractual one, I do not think that the Agreement in this case so clearly defines each party's rights and liabilities to the extent that it negates a *prima facie* duty of care. In its submissions, the defendant does not seriously contend that the three requirements (*ie*, factual foreseeability, legal proximity, and absence of any policy considerations negating the *prima facie* duty of care) are not satisfied in this case. Instead, the defendant argues, more generally, that given its position on the scope of the Agreement and the Segregation Request,[146] "it must follow that the Defendant was under no duty to ensure that the Defendant's Wastes which it passed to the Plaintiff did not contain any Prohibited Wastes when a [Segregation Request] was made".[147] I have already

144 Plaintiff's CS at paras 88–89.

145 Plaintiff's CS at para 90.

146 Defendant's CS at paras 97–114.

147 Defendant's CS at para 89.

explained my reasons for disagreeing with the defendant's position on Issue 1 and I reiterate them here. For those reasons, I likewise disagree with the defendant's arguments on why it does not owe the plaintiff a duty of care.

101 The more contentious issues in this case relate to the defendant's breach of duty and causation, and it is to those issues that I now turn my attention.

Breach of duty of care

Standard of care

(1) The applicable legal principles

102 The standard of care is the *objective* standard of a reasonable person using ordinary care and skill. As stated in *Blyth v The Company of Proprietors of The Birmingham Waterworks* (1856) 11 Exch 781 at 784:

> Negligence is the omission to do something which a reasonable man, guided upon those considerations which ordinarily regulate the conduct of human affairs, would do; or doing something which a prudent and reasonable man would not do.

103 The reasonable person's conduct, in turn, depends on certain factors which are relevant to the particular circumstances of the particular case such as the likelihood and risks of harm, the extent of harm, costs of avoiding harm, and the industry standards and common practice (*Management Corporation Strata Title Plan No 2668 v Rott George Hugo* [2013] 3 SLR 787 at [27], citing Gary Chan Kok Yew & Lee Pey Woan in *The Law of Torts in Singapore* (Academy Publishing, 2011) ("*Gary Chan*") at ch 5).

104 In *The "Sunrise Crane"* [2004] 4 SLR(R) 715, the Court of Appeal found a duty of care where an ocean transporter of highly corrosive nitric acid, when transferring a cargo of nitric acid contaminated with hydraulic oil to a

second vessel, failed to inform the crew of the second vessel of the nature of the cargo. In that case, the appellant was in the business of transporting dangerous goods while the respondent was not (at [28]). That second vessel suffered physical damage as a result of the nitric acid since the second vessel's cargo tanks were made of mild steel and thus incapable of carrying nitric acid. While *The "Sunrise Crane"* is not on all fours with the present case and must be read in light of *Spandeck*, the Court of Appeal's remarks at [25] on the standard of care in cases involving dangerous materials are pertinent and relevant:

> It is obvious that the law expects a person who carries a pound of dynamite to exercise more care than if he is only carrying a pound of butter, or putting it another way, to exercise more care with a bottle of poison than a bottle of lemonade: see *Beckett v Newalls Insulation Co Ltd* [1953] 1WLR 8. What is adequate for one set of circumstances may not be so in relation to a different set of circumstances. It stands to reason that more care must be exercised where a highly dangerous substance is involved.

105 In the present case, the relevant risk is the risk of property damage as a result of inadvertently or carelessly passing the Lithium Batteries to the plaintiff in a skip bin meant only for general waste. The Lithium Batteries are, in turn, undisputed to be a type of Prohibited Wastes for which the defendant knew the plaintiff is not licenced or otherwise equipped to collect. More generally, lithium is itself a "very soft silvery reactive alkali metal" with its reactivity generally increasing with "temperature and surface area, and the presence of moisture". Molten lithium is "extremely reactive" and "[e]xposed lithium foil is reactive in contact with moist atmosphere due to its large surface area".[148] Similarly, in its forensic report, the HSA noted that upon "exposure in the air, the silver substances turned dark grey and grey, heat was also produced. The

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148 Lim Chin Chin's AEIC Exhibit LCC-2 at p 34 (Fire Investigation Report dated 20 November 2020 at paras 45–46).

addition of water to the silver substances produced sparks, smoke and flame".[149] It is thus evidently clear that the lithium in the Lithium Batteries are *per se* highly reactive so as to make it particularly dangerous, especially without the appropriate equipment to manage such reactive metals.

106 Bearing the applicable principles and factual context in mind, I turn to determine the standard of care in the present case.

(2) The parties' positions

107 The plaintiff submits that the standard of care accepted by the defendant is to "actually check what is inside the skip bin before [the plaintiff] comes to collect (and this checking must be done from time to time and not just once)" to satisfy itself that "no dangerous waste had been dumped or allowed to be dumped into Skip Bin A10". This is especially since the plaintiff's services are requested by the defendant when the Skip Bin A10 is already full, such that the plaintiff's Lorry driver would not be able to "check what was below the bulky items that were in the upper part of Skip Bin A10".[150]

108 The defendant rejects that the standard of care extends to checking what was inside the skip bin as the skip bin "was placed within the Defendant's Premises and only the Defendant's Workers or personnel within the Defendant's Premises would have access to the same" and in any case is "unreasonable and unrealistic".[151] The defendant's case is that the defendant

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149 3 AB at p 1791 (SCDF Fire Investigation Report dated 25 November 2019 Attachment A at para 10(d)).

150 Plaintiff's CS at paras 91–93.

151 Defendant's RS at paras 73–74.

"had expended more than ample effort and exercised more than reasonable care in discharge of its duty" for the following reasons.[152]

(a) The defendant had conducted an extensive and comprehensive risk assessment so as to identify potential hazards and risks in the Defendant's Premises and operations, so as to implement effective risk control measures (namely, the defendant's Waste Sorting Procedure, under which the defendant's workers would manually sort out the wastes) to guard against such risks. If there were plastic bags, the defendant's workers "have been instructed to open them to check the contents inside. The toxic and hazardous waste would then be segregated from the general waste".

(b) The defendant required its customers, as "toxic or hazardous waste generators", to notify the defendant of the type and quantity of wastes to be collected. The defendant's customers are required to submit a declaration of the same on NEA E-Tracking which would thereafter be confirmed or amended (if there is any discrepancy) by the defendant on NEA E-Tracking.

(c) In addition to the records on NEA E-Tracking, the defendant's practice is to keep "their own set of records of what is reflected in NEA E-Tracking, on the basis that NEA would conduct periodic audits on the same".

(d) When collecting wastes from its customers, the defendant would conduct "physical checks" to "ensure that that the toxic wastes which it collects are consistent with what the [d]efendant expected or thought

152 Defendant's CS at paras 39–47, 120–129.

that it was collecting" by way of a "visual inspection of the waste" by the driver of the defendant's collection vehicle.

(e) Upon transporting its customers' waste back to the Defendant's Premises, the defendant would "carry out another visual verification of the waste collected against the relevant delivery order before the waste is allowed into the Defendant's Premises". At this juncture, the defendant may carry out "further tests" such as "PH test, water content test and specific gravity test" on the waste collected to confirm the "nature of the wastes is as per what the customers have declared and to ensure that the method of disposal or handling would be safe".

(f) The defendant also "took more than sufficient measures" to ensure that the defendant's workers were "properly trained and are aware of the standard operating procedure" summarised above. As such, the defendant's workers are "educated on the guidelines and standard operating procedures, so that they can implement these measures".

109 Having considered the "potential risks of inadvertently collecting wastes which it was not supposed to and passing such waste" to the plaintiff, the defendant took steps to "ensure that a comprehensive and proper set of guidelines and standard operating procedure was put in place to address such risks". The defendant submits that the foregoing "begs the question of what more could or should the [d]efendant have done to discharge its duty" of ensuring that the defendant's waste "did not contain Prohibited Wastes (if any) or that the Batteries were not placed in Skip Bin A10".

(3) My analysis and decision

110 Though the defendant does not address the applicable standard of care directly, the defendant essentially emphasises that it has complied with what is essentially "industry standards and common practice". I agree that the applicable regulations are indicative of the applicable standard of care when handling toxic industrial waste. For example, as mentioned at [108], the defendant would collect toxic industrial waste from a customer only *after* receiving information on the type and quantity of waste and *confirming* the same by conducting its own inspections and further tests. The defendant also keeps a record of the same, in case of periodic audits. A licenced Toxic Industrial Waste collector is required to do the foregoing under regs 11–12 of the Regulations on Toxic Industrial Waste.

111 The difficulty in this case is that the defendant is a licenced Toxic Industrial Waste collector and General Waste collector that contracted out the collection, processing and disposal of its general waste to the plaintiff. The practical implication of such an arrangement is that *the defendant* would necessarily handle Mixed Waste (as defined in the defendant's defence) at the Defendant's Premises and the plaintiff would be reliant on the defendant to properly sort its waste. In my judgment, given the likelihood and risks of harm (*ie*, property damage if toxic industrial waste and/or hazardous substances are passed to another entity neither licenced nor otherwise equipped to handle such waste and substances) and the extent of such harm, a reasonable person would *ensure* that *only* general waste is disposed of in the skip bin provided for and collected by a licenced General Waste collector. That is the standard of care that would be expected of the defendant.

112 For completeness, this is not to say that I make (nor do I need to make) any finding of the standard of care as regards electrical appliances in general that may be found in general waste. The standard of care *may* not be so stringent that the defendant had to also segregate every electrical appliance (which may be characterised as Class A general waste), just because such an appliance may have been powered by lithium batteries (*eg*, a household portable electrical device powered by two "AA" lithium batteries). It may be argued, in such a case, that the risks, likelihood and extent of harm associated with disposing of common household electrical appliances would be much smaller than that in the present case such that a reasonable person would not search for and dismantle every electrical appliance in search for lithium components. The same could be said for the other examples given by the defendant, *ie*, discarded laptops or mobile phones; ultimately, *context is key*. In any event, these are hypothetical examples and not the case before the court. I do not consider them relevant or helpful to my determination of the issues in the circumstances of this case. I re-emphasise that the present case concerns large quantities of the Lithium Batteries that could not, by any stretch of imagination, be described as falling within Class A general waste, and I thus emphasise once again my remarks at [96].

Acting below the standard of care

113 In determining whether the defendant breached the standard of care expected of it, the pertinent factual issues in dispute that I have to decide are (a) was Skip Bin A10 deployed to the Defendant's Premises on 6 June 2017, and (b) if so, whether the Lithium Batteries in Skip Bin A10 were dumped into it at while Skip Bin A10 was at the Defendant's Premises. A subsidiary factual issue that is also in contention is whether Skip Bin A10 was deployed by the plaintiff exclusively for the defendant's use.

114 In brief, the plaintiff submits that the defendant "failed to exercise reasonable care to check the inside of the skip bin to ensure that no waste that was flammable, toxic and/or hazardous and/or of a dangerous nature had been dumped or allowed to be dumped into Skip Bin A10" which led to the dumping of substantial quantities of the Lithium Batteries in breach of its duty.[153] The defendant, however, submits that it "could not have dumped the lithium batteries into Skip Bin A10" because it "did not have access to or could not have come into possession of lithium batteries" and they must have come from some other source.[154] The plaintiff asserts that Skip Bin A10 had for many years been used or deployed exclusively for the defendant's use. The defendant disputed this.

115 In my judgment, and for the reasons as elaborated below, I am satisfied on the totality of the evidence before me that the defendant did breach its duty of care by dumping (or allowing to be dumped) the Lithium Batteries into Skip Bin A10.

(1) Skip Bin A10 was deployed at the Defendant's Premises exclusively

116 The plaintiff's case is that since 2009, it had deployed Skip Bin A10 at the Defendant's Premises exclusively.[155] According to Mr Cai, "Skip Bin A10 is only deployed at the Defendant's Premises and is never deployed at any other customer's premises".[156] Similarly, Mr Lee Cheng Wah stated that for "many years", Skip Bin A10 "had been deployed at the Defendant's [P]remises".[157]

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153 Plaintiff's CS at para 101.

154 Plaintiff's RS at para 3; Defendant's CS at para 14.

155 Statement of Claim (Amendment No. 1) at para 6.

156 Cai Jielun's AEIC at para 38.

157 Lee Cheng Wah's AEIC at para 16.

117 The defendant's position is that there was no "agreement or arrangement that the [p]laintiff would deploy any specifically marked and/or designated skip bin (including Skip Bin A10)" to collect the defendant's wastes from the Defendant's Premises.[158] According to Mr Tan Kim Seng, "Mr Lee [Cheng Wah] and I did not have any agreement that a particular skip bin was designated for Cramoil's [w]aste or to be deployed" at the Defendant's Premises. He "do[es] not recall seeing any visible or particular markings or identification" on the skip bin deployed at the Defendant's Premises.[159] Mr Sohel also testified at trial that he could not remember the marking on the skip bin deployed at the Defendant's Premises.[160]

118 This issue surrounding the exclusivity of Skip Bin A10 is of significance because the defendant emphasises that Skip Bin A10 had likely been left overnight at the Plaintiff's Premises on 5 June 2017 before being deployed to the Defendant's Premises on 6 June 2017. Specifically, the defendant avers that when Skip Bin A10 had been left at the Plaintiff's Premises overnight on 5 June 2017, the plaintiff's workers may have "loaded it with comingled waste which they had not been able to finish sorting by the end of the work day" and such waste included the Lithium Batteries.[161]

119 I find that, on balance, Skip Bin A10 was deployed at the Defendant's Premises exclusively. The plaintiff's evidence was not contradicted by the defendant with any objective evidence. The defendant's witnesses stop short of outrightly denying that a skip bin other than Skip Bin A10 had been deployed

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158 Defendant's Opening Statement at para 9; Defence (Amendment No. 3) at para 6.

159 Tan Kim Seng's AEIC at para 33.

160 Day 6 Transcript dated 10 February 2021 at p 134, lines 4–18,

161 Defendant's CS at paras 79–80.

at the Defendant's Premises for the disposal of general waste. The evidence of the defendant's witnesses is that they are *unable to recall* if the skip bin deployed at the Defendant's Premises had all along been the one marked "A10". There is no positive evidence from the defendant demonstrating that another skip bin with some other number had been deployed by the plaintiff to the Defendant's Premises for the defendant's general waste. In contrast, the plaintiff's position is supported by contemporaneous collection slips, several of which contain the notation "A10". In addition, *none* of the plaintiff's collection slips *or* the defendant's collection tickets shows that a different skip bin with some other numbering was ever deployed at the Defendant's Premises as the general waste bin.[162]

120 Following my finding that Skip Bin A10 was for the defendant's *exclusive* use, it is, in my view, highly unlikely that the waste from any of the plaintiff's other customers could have been dumped into it, and I elaborate on this below at [130] onwards. It was thus immaterial whether Skip Bin A10 had been left overnight at the Plaintiff's Premises on 5 June 2017. In my judgment, even if Skip Bin A10 was left overnight at the Plaintiff's Premises as the defendant contends, the defendant's allegation that waste from the plaintiff's other customers could have been "comingled" is unlikely and far-fetched.

(2) Skip Bin A10 contained the Lithium Batteries at the point of collection from the defendant

121 Based on the plaintiff's signed collection slip dated 6 June 2017, Skip Bin A10 was placed at the Defendant's Premises on 6 June 2017. On 7 June 2017, the plaintiff's signed collection slip with the box for "Collect, Dispose &

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162 1 AB at pp 132–307 (Plaintiff's Collection Slips, Defendant's Tickets, and NEA Receipts from 27 March 2017 to 7 June 2017).

Return" was ticked along with the handwritten remarks "Rubbish + handling fee". The unsigned invoice from the plaintiff dated 7 June 2017 shows that the skip bin collected from the Defendant's Premises transported on "Vehicle No.: XE1524M" arrived at the Plaintiff's Premises at "18:20", which corresponds to the time stamp on the Lorry's GPS.[163] Screenshot photographs of the Lorry's GPS track data also show that it arrived at the Defendant's Premises at about "18:08:34" to collect Skip Bin A10, left at about "18:13:16", and reached the Plaintiff's Premises at about "18:20:34".[164] As mentioned at [10], the Lorry unloaded the contents of Skip Bin A10 at the Sorting Yard at about 6.23pm, during which, *inter alia*, the light-coloured packages containing the Lithium Batteries were also unloaded.

122 I agree with the plaintiff that the foregoing "chain of events on 7 June 2017 prove that the [L]ithium [B]atteries were inside Skip Bin A10 when they were unloaded" at the Plaintiff's Premises and that Skip Bin A10 was collected from the Defendant's Premises and "brought straight" to the Plaintiff's Premises.[165] According to the Lorry's GPS records,[166] the trip from the Defendant's Premises to the Plaintiff's Premises took less than 10 minutes without any indication of detours to any other locations in between. In addition, the evidence of Mr Lee Teng Guan, the driver of the Lorry, is that after Skip Bin A10 was loaded onto the Lorry, he drove the Lorry "straight from the Defendant's Premises to the Plaintiff's Premises" and "did not make any stops at any other customers' premises" or "deviate from the route" between the two

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163 1 AB at pp 304–306 (Plaintiff's Collection Slips Nos. 114698, 115654; Plaintiff's Invoice No. D-1305787).

164 1 AB at pp 416, 418, 421.

165 Plaintiff's CS at para 75.

166 1 AB at pp 414–421 (Screenshots of GPS Records for the Lorry dated 7 June 2017).

premises.[167] This evidence was not challenged at trial by the defendant and I accept it. On the evidence before me, I find that (a) Skip Bin A10 was exclusively deployed for the defendant's use, (b) Skip Bin A10 was delivered to the Defendant's Premises on 6 June 2017, (c) Skip Bin A10 was collected by the plaintiff from the Defendant's Premises on 7 June 2017, and (d) the Lithium Batteries were unloaded from Skip Bin A10 at the Plaintiff's Premises at about 6.23pm on 7 June 2017. The remaining issue is this – were the Lithium Batteries dumped into Skip Bin A10 *while* it was at the Defendant's Premises between 6 and 7 June 2017?

123 The overall thrust of the defendant's case underpinning its arguments on this issue is essentially that "even if" the plaintiff shows that, on 7 June 2017, "Skip Bin A10 was collected from the Defendant's Premises, this does not take the Plaintiff's case very far" and that such finding is "not the end of the matter".[168] The defendant argues that such a finding does not *necessarily* mean that *the defendant* had discarded the Lithium Batteries into Skip Bin A10.

124 The defendant's arguments focused on two prongs: (a) it was the *plaintiff* (and not the defendant) who had disposed of the Lithium Batteries in Skip Bin A10 and (b) the defendant's stringent Waste Sorting Procedure would mean that the Lithium Batteries could not have come from the defendant.

125 On the totality of the evidence before me, I reject both of the defendant's arguments. I explain why.

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167 Lee Teng Guan's AEIC at para 19.

168 Defendant's RS at para 4; Defendant's CS at para 7.

(A) WHETHER THE PLAINTIFF DELIVERED AN EMPTY SKIP BIN A10 TO THE DEFENDANT'S PREMISES ON 6 JUNE 2017

126 The defendant submits that "it is wholly possible, if not probable" for the plaintiff to have deployed skip bins from the Plaintiff's Premises which "it believed to be empty, when they were in fact not". For example, the skip bins deployed may have "contained waste from previous collections" and/or "other customers". In that regard, the defendant highlights that the plaintiff's collection slips suggest that Skip Bin A10 was "likely left overnight at the Plaintiff's Premises on 5 June 2017" and the plaintiff thus had "full control and custody over the same". It therefore remained a possibility that when Skip Bin A10 was left overnight at the Plaintiff's Premises, the plaintiff's workers "commingled waste which they had not been able to finish sorting by the end of the work day, and the waste included the [Lithium Batteries]".[169] The defendant also submits that the fact that the light-coloured packages containing the Lithium Batteries "appear to be in the middle or towards the bottom of Skip Bin A10 lends credence" to its suspicion that the Lithium Batteries "were already in Skip Bin A10 when it was deployed to the Defendant's Premises".[170]

127 I reject the defendant's arguments for several reasons. First, the theory postulated at [126] above was, in my view, somewhat far-fetched. This theory was raised on the back of a note made by Dr John Allum of HFS-Asia, the fire expert appointed on behalf of Great Eastern, in his handwritten interview notes taken during his attendance at the Plaintiff's Premises on 9 June 2017. Dr Allum made a note that if "any waste unsorted at the end of the day, then this is put back into a skip bin for processing the next day."[171]

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169 Defendant's CS at paras 79–81.

170 Defendant's CS at para 82.

171 Day 2 dated 3 February 2021 at p 69, line 24 to p 70, line 13; Exhibit D6 at p 2.

128 For this theory to have any credibility, it would require proof that (a) a large number of light-coloured packages containing the Lithium Batteries were present on the floor of the Sorting Yard on 5 June 2017 commingled with other waste, (b) the commingled waste was specifically put back into Skip Bin A10 at some stage on 5 June 2017 because the plaintiff's workers could not finish sorting the wastes by the end of the work day on 5 June 2017 and (c) on the next day (6 June 2017), Skip Bin A10 was delivered to the Defendant's Premises with the Lithium Batteries inside that bin. It can be immediately seen that this theory is not credible because it *assumes* that on 6 June 2017, prior to Skip Bin A10 being delivered to the defendant, the plaintiff's workers did not empty out Skip Bin A10 to continue sorting the commingled waste that they had not completed sorting on 5 June 2017 (even assuming that is factually correct). Alternatively, it assumes that even if they did, the numerous packages containing the Lithium Batteries went unnoticed and were left inside Skip Bin A10. The theory also *assumes* (without any evidence) that Skip Bin A10 was left overnight on the floor of the Sorting Yard on 5 June 2017.

129 Furthermore, Dr Allum did not give evidence and therefore the context in which the note was made by him was not clear. On the other hand, two of the plaintiff's employees, Mr Koothaiyan Mohana Sundaram and Mr Lin Jian Hong both independently testified at trial that there was no such practice of putting unsorted waste back into a skip bin to be sorted the next day. Their evidence was that any unloaded wastes would be completely sorted before they left for the day. If sorting could not be processed and completed within that day, the waste would not be unloaded at all. I accept their explanations which I find are also logical. In contrast, I find it difficult to fathom why partially unsorted general waste would be put back into a skip bin only to be emptied out again the next day for sorting to continue.

130 Thus, while one might accept that it was *possible* that the theory postulated by the defendant at [126] could occur, it is in my view an unlikely and implausible scenario, both for the reasons I have set out above and simply on account of the sheer quantity of packages containing the Lithium Batteries that were subsequently unloaded from the Lorry at the Sorting Yard, as can be seen from the CCTV footage on 7 June 2017 (screenshots of which are at Annex 5 of this judgment). It is, in my view, simply inconceivable that that quantity of packages could be left inside Skip Bin A10 on 5 June 2017 (if indeed that was the case) without anyone from the plaintiff noticing. I therefore have little hesitation rejecting the defendant's submissions that this theoretical possibility was what occurred on the balance of probabilities.

131 Going further, the defendant's theory is not only far-fetched but entirely unsupported by any objective evidence. Even if I accept that Skip Bin A10 had been left overnight at the Plaintiff's Premises on 5 June 2017 on the floor of the Sorting Yard, nothing in the evidence before me suggests that the plaintiff's workers, during that time overnight, "had loaded it with comingled waste" and that any such "comingled waste" included the Lithium Batteries as the defendant contends.[172] In my view, it is not significant that the light-coloured packages containing the Lithium Batteries were not at the very top of the contents in Skip Bin A10 since the position of such packages is ultimately not indicative of *the party* that had disposed of the same into Skip Bin A10.

132 The defendant also sought to argue that there was no evidence that Skip Bin A10 was in fact checked to be empty before it was delivered to the Defendant's Premises. Mr Lee Teng Guan, a driver for the plaintiff and who was specifically assigned to drive the Lorry, testified that he would specifically

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172 Defendant's CS at para 80.

check that a skip bin is "completely empty" before delivering and deploying it at a customer's premises and that it was a simple matter of accessing the top of the skip bin via a rung of steps on the skip bin.[173] The defendant's rebuttal was that Mr Lee Teng Guan's "practice of checking that the skip bins were empty is wholly irrelevant" as there is "no evidence" showing that he had delivered the empty Skip Bin A10 to the Defendant's Premises on 6 June 2017.[174] While this may be so, the more pertinent questions are whether, on the balance of probabilities, it is *more likely* than not that (a) when Skip Bin A10 was collected *from* the Defendant's Premises on *5 June 2017* and the contents unloaded at the Plaintiff's Premises, Skip Bin A10 was checked to be empty and (b) the driver of the Lorry (when Skip Bin A10 was delivered to the Defendant's Premises on 6 June 2017) *and* someone from the defendant would have checked that Skip Bin A10 was empty when it was delivered to the Defendant's Premises. There is no reason for me to suspect or conclude that these checks were not done or were unlikely to have been done, whether by Mr Lee Teng Guan or any of the other plaintiff's workers responsible for driving the Lorry and delivering and collecting Skip Bin A10 from the Defendant's Premises, or any of the defendant's employees tasked with dealing with Skip Bin A10.

133 For all the foregoing reasons, I find that Skip Bin A10 was delivered by the plaintiff to the Defendant's Premises on 6 June 2017 empty. In light of this finding, it is not necessary for me to address the defendant's submission that the Lithium Batteries could have come from the plaintiff or its customers instead of the defendant. The CCTV footage plainly shows that the light-coloured packages containing the Lithium Batteries were unloaded from Skip Bin A10 which was collected by the plaintiff on 7 June 2017 from the Defendant's

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173 Day 3 Transcript dated 4 February at p 37, ln 2–15.

174 Defendant's RS at paras 47–48.

Premises. I am thus also satisfied that on the balance of probabilities, the Lithium Batteries were dumped into Skip Bin A10 while it was at the Defendant's Premises, and prior to Skip Bin A10 being collected by the plaintiff on 7 June 2017.

(B) THE DEFENDANT'S WASTE SORTING PROCEDURE

134 The conclusion I have reached in the foregoing paragraph is sufficient to find that the defendant did breach its duty of care to the plaintiff and the standard care expected of it. However, as the defendant relied heavily on, *inter alia*, its Waste Sorting Procedure as part of its system of "stringent multi-levelled checks", I will address some further points raised by the defendant in elaboration of my findings above on the issue of breach of duty of care.

135 The CCTV footage also depicts the unloading of some brown coloured material when the contents of Skip Bin A10 were unloaded at the Sorting Yard on 7 June 2017 (see [11]). The evidence of Mr Sohel, an employee of the defendant who was involved in the dumping of waste into Skip Bin A10 on the morning of 7 June 2017,[175] is that the brown coloured material, which "looked like soil" did not look familiar and he "could not have put the brown stuff into the Bin".[176] The defendant, relying on such evidence, submits that this "further reinforces the possibility that the wastes found in Skip Bin A10 were not placed there solely by the [d]efendant and that the [p]laintiff had somehow placed other wastes in the same before deploying Skip Bin A10 to the Defendant's Premises".[177]

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175 Day 6 Transcript dated 10 February 2021 at p 139, lines 7–24.

176 Sarkar Mohammad Sohel's AEIC at para 16.

177 Defendant's CS at paras 83–86.

136 There are several problems and gaps with Mr Sohel's evidence. The fact that Mr Sohel is certain that he *personally* did not dump the brown coloured substance into Skip Bin A10 on 7 June 2017 does not *necessarily* prove that the *plaintiff* must have done so. Mr Sohel's evidence is therefore of no assistance to the defendant on this point, and I say so for several reasons.

137 First, at the material time, Mr Sohel "was also working with a worker" named Perumai Saravanan, who left the defendant's employ "around August 2018". On 7 June 2017, Mr Sohel "sorted the general wastes with Saravanan" and they "were the only two workers sorting the general waste on that day".[178] As such, more than one person was involved in the dumping of waste into Skip Bin A10 prior to the plaintiff's collection on 7 June 2017 and therefore, Mr Sohel's evidence is in no way conclusive of the matter. As Mr Saravanan was not called by the defendant to give evidence, I am unable to make any findings on what Mr Saravanan did or did not do, or see, on that day.

138 Secondly, Mr Sohel was "not sure" that he had "seen many batteries before" but "think[s]" that he had not seen such batteries.[179] Given that he was being asked to recall events that occurred almost 4 years ago, I treated the accuracy of his recollection with some caution.

139 Thirdly, the evidence demonstrates that Mr Sohel was not present at Skip Bin A10 throughout the day on 7 June 2017. In any case, it is impossible to determine (due to a lack of any direct evidence) whether the light-coloured packages were discarded into Skip Bin A10 on 6 June 2017 (*ie*, the day on which the plaintiff delivered Skip Bin A10 at the Defendant's Premises) or 7 June 2017

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178 Sarkar Mohammad Sohel's AEIC at paras 11–12.

179 Day 6 Transcript dated 10 February 2021 at p 144, lns 11–17.

(*ie*, the day on which the plaintiff collected Skip Bin A10). Mr Sohel did not give any evidence on what he did on 6 June 2017; nor was there any evidence from any other employee from the defendant tasked with sorting waste and placing waste into Skip Bin A10 on 6 June 2017. Mr Sohel is also unable to remember whether he was present when the Lorry collected Skip Bin A10 on 7 June 2017.[180] Further, Mr Sohel accepted that he would not know if other workers disposed of other wastes inside Skip Bin A10 later in the day.[181] The defendant also agrees that Mr Sohel's job was "not to guard" Skip Bin A10 or "check every item which was placed in the same" and he hence "obviously would not know if someone else were to dump items" therein but nonetheless that "does not diminish the weight of [his] evidence".[182]

140 Ultimately, I am of the view that the totality of Mr Sohel's evidence did not assist in supporting the defendant's case. On the evidence before me, it is clear that waste (including Prohibited Waste) could indeed have been disposed of into Skip Bin A10 *without* Mr Sohel's knowledge because, quite simply, he was not there the entire time.

141 I also do not think that the defendant's Waste Sorting Procedure or the alleged "multi-levelled checks" were strictly adhered to by the defendant on 6 and 7 June 2017. Had the defendant properly sorted and checked for *all* the waste thrown into the skip bin, Skip Bin A10 collected by the plaintiff from the Defendant's Premises on 7 June 2017 would not have contained the light-coloured packages containing the Lithium Batteries. Thus, while the Waste

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180 Day 6 Transcript dated 10 February 2021 at p 139, line 7 to p 140, line 3.

181 Day 6 Transcript dated 10 February 2021 at p 153, lines 17–25; Plaintiff's CS at para 95.

182 Defendant's RS at para 22.

Sorting Procedure may be "stringent" and "multi-levelled" *in theory* as the defendant repeatedly emphasised in its closing submissions,[183] it may not have been complied with quite so stringently as a matter of *actual practice*. Furthermore, I note that the defendant's submissions in this regard are somewhat inconsistent with its pleaded case. As mentioned at [37], the defendant pleaded that it did not have "sufficient and/or adequate" facilities at the Defendant's Premises to carry out a "thorough" sorting of its wastes.[184] If so, the Defendant cannot have it both ways in its attempts to avoid liability – on the one hand, pleading that it was unable to thoroughly segregate general waste from its Mixed Wastes and yet, on the other, contending that it had adhered strictly to its stringent "multi-levelled checks". In my judgment, it is more likely that the defendant simply failed to ensure that only general waste was dumped into the "general waste bin" (*ie*, Skip Bin A10) for the plaintiff's collection, processing (if necessary) and disposal, and thereby also failed to comply with its own Waste Sorting Procedure.

142 Finally, Mr Tan Kim Seng, in answer to the court's question on whether there was any CCTV system in the Defendant's Premises that would have recorded the location of Skip Bin A10, responded that while there would have been such recordings at the time (*ie,* in June 2017), by the time the claim against the defendant was first intimated in 2018, the recordings had already been overwritten.[185] Therefore, unfortunately, what would otherwise have been important objective evidence was not available. The court was thus left to make findings of fact based on inferences to be drawn from the oral and documentary evidence available.

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183 Defendant's CS at paras 48, 52; Defendant's RS at paras 5, 19.

184 Defence at para 4AA.

185 Day 5 Transcript dated 9 February 2021 at p 230 at ln 4–18.

(C) RELEVANCE OF THE ENTITY WHICH PRODUCED THE LITHIUM BATTERIES AND PARTIES' PAST BREACHES OF THEIR RESPECTIVE LICENCES

143 I would also make some brief comments on two further arguments raised by the defendant in support of its case that the Lithium Batteries could not have come from the defendant. First, the defendant does not itself *generate* waste at the Defendant's Premises which includes Lithium Batteries.[186] Secondly, the defendant did not *collect* the Lithium Batteries from any of its customers.[187]

144 In my judgment, it is unnecessary for me to make any specific finding on which *entity* produced or generated the Lithium Batteries. The only material and relevant issue for consideration in this part of my analysis and decision is simply whether the Lithium Batteries were disposed or dumped into Skip Bin A10 while it was at the Defendant's Premises between 6 June and 7 June 2017. I have already concluded that the plaintiff has successfully established this on the balance of probabilities based on the totality of the evidence before me. There is therefore no need for me to decide *how or why* the defendant caused the Lithium Batteries to be disposed of or dumped into Skip Bin A10, or *which* of the defendant's customers the Lithium Batteries could have emanated from. While the precise details as to how the Lithium Batteries ended up in Skip Bin A10 will remain an unsolved mystery, that mystery does not need to be solved in order for the court to determine the factual issues that are critical to establishing liability on the part of the defendant for the Negligence Claim.

145 For completeness, each party also expounded on and sought to gain mileage from the other party's respective past breaches of their respective

186 Defendant's CS at paras 22–30.

187 Defendant's CS at paras 31–38; Defendant's RS at paras 23–26.

licences.[188] I am of the view that these past incidents were not relevant to the court's task of deciding whether the defendant breached its duty of care to the plaintiff in the present circumstances. Thus, I do not address those arguments and they did not play a part in my analysis.

(3) Conclusion on breach of duty of care

146 I have found that Skip Bin A10 was exclusively designated by the plaintiff for use by the defendant (at [119]). I also find that the plaintiff did deliver an empty Skip Bin A10 to the Defendant's Premises on 6 June 2017 and that Skip Bin A10, when collected by the plaintiff from the Defendant's Premises on 7 June 2017, contained the Lithium Batteries. I also conclude that the defendant's Waste Sorting Procedure was not adhered to strictly such that the light-coloured packages containing the Lithium Batteries ended up being disposed into Skip Bin A10 carelessly while it was at the Defendant's Premises. Had the defendant's Waste Sorting Procedure, as well the Agreement and Segregation Request been adhered to, *only* general waste (which could include bulky items) would have been disposed of into Skip Bin A10 for the plaintiff's collection, processing and disposal. In turn, the numerous light-coloured packages containing the Lithium Batteries would not have been inside Skip Bin A10 when it was collected by the plaintiff on 7 June 2017.

147 The reasonable person is not expected to have the wisdom of Odysseus, the strength of Hercules, or the foresight of Cassandra. Nor is the reasonable person omnipotent nor omniscient; he (or she) may make *reasonable* mistakes. However, neither is the reasonable person so careless as to dump or allow to be dumped *numerous* packages, *each* of which containing *substantial* quantities of

188 Plaintiff's CS at paras 98–100; Defendant's RS at paras 31–34, 44.

Lithium Batteries into a skip bin designated only for general waste. Even if the defendant/its employees only saw the light-coloured packages (and not the Lithium Batteries themselves), based on the defendant's own professed procedures,[189] it was incumbent on the defendant to have opened up such packages to check and *ensure* that the contents therein were indeed general waste instead of toxic industrial or hazardous waste that the plaintiff could not collect, process or dispose of. In discarding or allowing the Lithium Batteries to be discarded into Skip Bin A10, the defendant, in my judgment, acted or failed to act in a manner which fell short of the standard of care required of it. I am accordingly satisfied that the defendant did breach its duty of care to the plaintiff.

Causation

The applicable legal principles

(1) Factual and legal causation

148 To succeed in its Negligence Claim, it is insufficient for the plaintiff to show that there has been a breach by the defendant of the latter's duty of care; the plaintiff must also go on to prove, on a balance of probabilities, that there was a necessary link between the defendant's wrongful conduct and the plaintiff's loss or damage. It is not disputed that in this regard, the plaintiff must satisfy *both* tests of causation in fact *and* causation in law.

149 As the Court of Appeal explained in *Sunny Metal & Engineering Pte Ltd v Ng Khim Ming Eric* [2007] 3 SLR(R) 782 ("*Sunny Metal*") at [52] and [64]:

> 52 … Causation in fact is concerned with the question of whether the relation between the defendant's breach of duty

[189] Marcus Tan's AEIC at paras 23–27; Sarkar Mohammad Sohel's AEIC at para 5.

> and the claimant's damage is one of cause and effect in accordance with scientific or objective notions of physical sequence. It is concerned with establishing the *physical connection* between the defendant's wrong and the claimant's damage. The universally accepted test in this regard is the "but for" test …
>
> 64 … one should, in order to determine whether an act or omission was a cause of the loss, eliminate the act or omission mentally and consider whether or not the loss would still have occurred. If the loss would not have occurred when the act or omission is eliminated, the act or omission is a *condicio sine qua non* for the loss. If the loss would still have occurred, even when the act or omission in question is disregarded, the loss has not been caused by this act or omission.

150 More recently in *Armstrong, Carol Ann (executrix of the estate of Peter Traynor, deceased, and on behalf of the dependents of Peter Traynor, deceased) v Quest Laboratories Pte Ltd and another and other appeals* [2020] 1 SLR 133 ("*Armstrong*"), the Court of Appeal further emphasised that the focus of the "but for" test is to "to *narrow* down the possible causes of an event to only the *necessary* conditions, or the *causa sine qua non*" (at [86], citing Winfield and Jolowicz, Tort (Edwin Peel and James Goudkamp gen ed) (Sweet & Maxwell, 19th Ed, 2014) at para 7-007).

151 Causation in law, in contrast, "is an attributive question as to whether the defendant should be made responsible for the consequences of his actions that have befallen the plaintiff". In determining such a question, the court thus picks out "one or more necessary conditions (*ie*, the *causa causans* as opposed to the *causa sine qua non*) which are in a sense "more important" than the mass of conditions that makes up the background of the causal picture" (*Armstrong* at [87]). In determining the *causa causans* which are "more important", it is important to bear in mind that the overarching *rationale* for imposing the test of causation in law is to "to prevent indeterminate liability resulting from causation in fact alone" (*Sunny Metal* at [53]). The court's focus at this stage is "how best

to *attribute responsibility* for the claimant's damage" (*Sunny Metal* at [54]). Thus, the law "arbitrarily declines to trace a series of events beyond a certain point" as a matter of "practical politics" (*Palsgraf v The Long Island Railroad Company* 248 NY 339 (1928) at 352, cited in *Sunny Metal* at [54]).

152 It would be apparent from the summary above of the principles on causation that there is some relation between causation in law and contributory negligence. As the Court of Appeal explained in *PlanAssure PAC v Gaelic Inns Pte Ltd* [2007] 4 SLR(R) 543 ("*PlanAssure*") at [99], "contributory negligence on the part of a plaintiff can operate to break the causal chain", citing *Clerk and Lindsell on Torts* (Sweet & Maxwell, 19th Ed, 2006) at para 2-96. The similarity is one of the subject matters – both concern a claimant's actions in circumstances which can be said to have contributed to the damage suffered. However, there is a material difference in the respective test and applicable threshold. In particular, the threshold to be satisfied is much higher where the defendant alleges that it was *the plaintiff's* action (and not *the defendant's* breach of duty of care) that *caused* the damage suffered.

(2) The role of expert evidence

153 The expert evidence before me is relevant to the issues of causation and contributory negligence. However, this does not mean that the court must "blindly accept expert evidence on any matter" *even if* such evidence is "not contradicted" by another expert witness. The "rule of prudence" governing the treatment of expert evidence requires the court to "carefully consider the factual or other premises on which the expert based his opinion". As in the present case, the rule of prudence is "especially relevant where the expert is appointed by the party seeking to rely on his evidence" as it is "merely common sense that no

party would call an expert to testify against its own case" (*Poh Soon Kiat v Desert Palace Inc* [2010] 1 SLR 1131 at [22]–[23]).

154 While it is axiomatic that a "judge is not entitled to substitute his own views for those of an uncontradicted expert's", the court also does not "unquestioningly accept unchallenged evidence". In *substance*, the "same rules apply to the evaluation of expert testimony as they would to other categories of witness testimony". As such, the court also considers content credibility, evidence of partiality, coherence and a need to analyse the evidence in the context of established facts (*Sakthivel Punithavathi v PP* [2007] 2 SLR(R) 983 at [76]).

155 Ultimately, it is for the court (not the expert) to make findings and determine the issues before it. As G P Selvam J noted in *The "H156"* [1999] 2 SLR(R) 419 at [27]:

> Even though the expert may submit his conclusions, he must present the materials and the grounds [which] he uses to make his conclusions. The expert may not usurp the function of the court and present his finding. Further he cannot decide the issue by applying the law to the facts without setting out the law and the reasoning process.

Causation in fact

156 It is uncontentious that the property damage suffered by the plaintiff as a result of the fires and explosion at the Plaintiff's Premises on 7 June 2017 would not have occurred *but for* the presence of the Lithium Batteries in Skip Bin A10.[190] As highlighted above at [22], the defendant does not dispute that the

190 Plaintiff's CS at paras 103, 106–107; Plaintiff's RS at para 46.

Lithium Batteries were the origin of the fires and explosion.[191] Ms Lim, the defendant's expert, likewise accepts that but for the presence of Lithium Batteries, there would have been no fires at the Plaintiff's Premises on 7 June 2017.[192]

157 Therefore, in my view, the test for *factual causation* is satisfied in this case. As the defendant points out, "establishing the factual causes is but merely a starting point to the inquiry". The plaintiff must also establish that the defendant's breach was the proximate cause of the fires and explosion at the Plaintiff's Premises on 7 June 2017.[193] The more contentious issue in this case is whether the test for causation *in law* is also satisfied.

Causation in law

(1) The parties' submissions

158 The plaintiff's position is that the defendant's breach of duty "was more probable than not the effective or proximate cause of the fires and explosions that occurred at [the Plaintiff's] Premises on 7 June 2017".[194] The defendant's position is that the proximate cause of the fires and explosion was, instead, the "act of the [e]xcavator running over the [Lithium] Batteries and crushing and/or damaging them".[195] From the tabulation of key events at [15], the excavator tracks moved "further forward towards the central area of waste pile" at about 18:26:39.

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191 Defendant's CS at para 4(c)–(d); Day 7 Transcript dated 25 February 2021 at p 130, line 22.

192 Day 8 Transcript dated 26 February 2021 at p 127, lines 6–18.

193 Defendant's RS at paras 76–79.

194 Plaintiff's CS at para 110.

195 Defendant's CS at para 165.

159 According to the plaintiff,[196] the excavator "was merely a link in the chain of causation" between the defendant's own breach of duty and the fires and explosion at the Plaintiff's Premises on 7 June 2017 and "not a wholly independent cause of the fires and explosions that broke the chain of causation". Further, the use of the excavator in and of itself to segregate general waste "would not have resulted in a fire if the [L]ithium [B]atteries had not been present in the waste unloaded from Skip Bin A10 on 7 June 2017" and thus "could not have been and did not constitute a wholly independent cause of the fires and explosions and was not a *novus actus interveniens*".

160 In support of its position,[197] the plaintiff further highlights that the defendant's position is that "internal short circuits, overheating and thermal runaway in the batteries" triggered the first fire, F1. As such, "short-circuiting was the last event in a chain of events that started with [the defendant] dumping or allowing to be dumped lithium batteries into Skip Bin A10".[198] In respect of F2 to F6, the plaintiff highlights that based on the defendant's own expert evidence, the "burning materials that ejected from [F1] and those that dropped from the claws of the excavator were likely to be sources of ignition at the new sites" and the "[e]xplosions of the burning batteries caused the ejection of hot burning materials to other locations on the waste pile [*sic*] ignited other fires".[199]

161 The defendant, on the other hand, avers that the mere presence of the Lithium Batteries is "<u>at best</u> … <u>one of</u> the factual causes of the [i]ncident"

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196 Plaintiff's CS at paras 112–114.

197 Plaintiff's RS at paras 45–47, 49–51; Lim Chin Chin's AEIC Exhibit LCC-2 at p 42 (Fire Investigation Report dated 20 November 2020 at para 80).

198 Plaintiff's RS at para 46.

199 Plaintiff's RS at para 49, citing Lim Chin Chin's AEIC Exhibit LCC-2 at p 52 (Fire Investigation Report dated 20 November 2020 at para 108).

[emphasis in original].[200] The defendant's position is that it was the plaintiff's workers' acts which caused the fires and explosions at the Plaintiff's Premises on 7 June 2017. The defendant submits that F1 to F3 were caused by the excavator, [201] F4 was caused by the spraying of water on the Lithium Batteries,[202] and F5 to F6 were caused by burning waste dropping from the excavator's claws onto the waste material below it.[203]

162 The defendant also submitted that concerning F1,[204] the "only expert opinion in these proceedings on the probable cause of F1 is that of [Ms Lim]" [emphasis in original] as Mr Tan Jin Thong "declined" to comment on the "most probable cause of F1". Ms Lim is, in turn, of the opinion that "F1 was probably caused by the [e]xcavator crushing and/or damaging the batteries" and her opinion is supported by the other available evidence on the matter.[205] For example, while the CCTV footage "does not clearly or conclusively show the tracks of the [e]xcavator coming into contact with the [Lithium] Batteries", the "timing of F1" [emphasis in original] (*ie*, occurring only after the excavator moved towards the Lithium Batteries) raises an "irresistible inference that F1 was caused by the movement of the [e]xcavator". Additionally, Ms Lim's opinion is consistent with the observations made in various other reports, such as the SCDF fire investigation report.

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200 Defendant's RS at para 80.

201 Defendant's CS at paras 190–200.

202 Defendant's CS at paras 201–210.

203 Defendant's CS at paras 211–213.

204 Defendant's CS at para 200.

205 Defendant's CS at paras 190–199.

163 The defendant also highlights that Mr Tan Jin Thong "refused to opine on the key issue of what caused F1" and ultimately "does not shed light on the issue of the probable (and not just possible) cause(s)" of the fires and explosions" [emphasis in original].[206] In particular, he agreed that it is "a possibility" that the Lithium Batteries were crushed by the excavator[207] just as it is "possible" that F1 resulted from "contamination" of the Lithium Batteries with other general waste containing "moisture" at the Sorting Yard.[208] His evidence is that it is not necessarily the case that the excavator is the cause of F1[209] and, most pertinently, he admitted that he was not testifying "to establish the cause of fire" [emphasis in original].[210]

164 In addition, the defendant relies on *Stapley v Gypsum Mines* [1953] AC 663 ("*Stapley*") as being "instructive" on the matter.[211] In that case, two miners were instructed to bring down a dangerous part of the roof where they were working. Whilst both men understood that they were not supposed to resume work until this was done, they nevertheless jointly decided to resume work. The roof fell and the appellant's husband was killed. The House of Lords held on appeal at 687 that:

> … two causes may both be necessary pre-conditions of particular result - damage to X - yet the one may, if the facts justify that conclusion, be treated as the real substantial, direct or effective cause, and the other dismissed as at best a *cause sine qua non* and ignored for purposes of legal liability.

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206 Defendant's CS at paras 156–158.

207 Day 7 Transcript dated 25 February 2021 at p 131, lines 10–14 and p 132 at lines 3–13.

208 Day 7 Transcript dated 25 February 2021 at p 123, lines 2–8; p 124, lines 4–7.

209 Day 7 Transcript dated 25 February 2021 at p 123, lines 7–8.

210 Defendant's CS at para 157.

211 Defendant's RS at para 81.

Similarly, in the present case, the crushing of the Lithium Batteries by the excavator was the "triggering event" that caused the fires and explosions.[212] According to the defendant, parties agree that a "fire would unlikely have occurred" if the Lithium Batteries had been "left untouched" and the excavator "did not crush or damage the same".[213]

165 Further, the defendant also submits that the plaintiff's use of an excavator to segregate wastes is "improper and/or inappropriate and/or unsafe" since the plaintiff "did not know whether [the wastes] consisted of items which may pose fire hazards when crushed" [emphasis in original].[214] In this regard,[215] the defendant raises numerous complaints – it argues that the plaintiff "would not know" whether the waste contained items which "may pose a fire hazard", knew of the risk of the excavator crushing wastes during the segregation process, "knew or should have known" that the waste it collects "may contain items which pose a fire hazard when crushed", the use of excavators to sort waste is "dangerous", the plaintiff lacked "any procedure or protocol for sorting waste" at the Plaintiff's Premises, failed to "conduct any risk assessments" relating to the segregation of waste, and failed to "provide training to its workers" on how to segregate waste. Overall, the defendant submits that the fires and explosions were "caused by the acts of the [p]laintiff's [w]orkers" instead of the defendant's own breach of duty of care.[216] Accordingly, the

212 Defendant's RS at para 82–83.

213 Defendant's RS at para 84.

214 Defendant's CS at para 215; Defendant's RS at para 88.

215 Defendant's CS at paras 216–218, 219–220, 221–224, 237–238, 239–243, 244–247.

216 Defendant's CS at para 214.

condition and quantity of the Lithium Batteries in Skip Bin A10 is "irrelevant".[217]

166 In the event the court finds that the defendant's breach of duty in discarding Lithium Batteries in Skip Bin A10 is a proximate cause of the plaintiff's damage, the defendant contends that in such an event, the plaintiff and defendant "ought to both be liable" and the court should apportion liability between the parties. The defendant relies on the Court of Appeal decision in *Chuang Uming (Pte) Ltd v Setron Ltd and another appeal* [1999] 3 SLR(R) 771, in which liability was apportioned equally between a contractor and architect for defective workmanship as both were "equally to blame" (at [44]). The defendant highlights that "in terms of the contributory effect of two concurrent factors, it was difficult to say which of the main causes was in fact the primary cause" and liability was thus "apportioned equally between the parties".[218]

167 The plaintiff responds that the defendant's submissions ought to be rejected as "a disingenuous attempt to abdicate accountability" for its breach of duty. The defendant's submissions are "akin to" a hypothetical situation in which one person wrongfully releases flammable gas in a kitchen unbeknownst to another person and the other person later lights the kitchen stove, which results in fires and explosions causing property damage and finding fault with the person lighting the match as a matter of attribution of liability.[219]

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217 Defendant's CS at paras 228–236.

218 Defendant's RS at paras 96–97.

219 Plaintiff's RS at para 48.

(2) My analysis and decision

168 As I indicated earlier at [16], whether there was only one fire (according to the plaintiff's expert witness) or six fires (according to the defendant's expert witness) is not material. As the defendant submits, even if there was only one fire, there would be an "unbroken chain of causation from F1 to F6".[220] In my view, the more important issue to consider is what was the cause of F1 in law.

169 As a preliminary point, I do not think it can be said that the expert evidence is *unanimous* in establishing that the "triggering event" for F1 was that of the crushing of the Lithium Batteries by the plaintiff's excavator during the segregation process at the Sorting Yard, as the defendant contends. Mr Tan Jin Thong, for example, stated that F1 could have started as a result of the contamination *or* crushing of the Lithium Batteries (see above at [163]). The defendant relied on the following extract from the trial transcript to support its submission that the plaintiff's expert agreed that the Lithium Batteries, if left untouched, were unlikely to have spontaneously caught fire:[221]

> MS WANG: Mr Tan, next question I wanted to ask you is for unsealed and unfinished lithium batteries, if you leave them aside, okay, you don't touch them, you leave them I guess like say in a room, okay, open exposed to air, you just leave them one side, you don't touch them, would they spontaneously catch fire?
>
> A. If you don't touch them?
>
> Q. If you don't touch them?
>
> A. I don't think so.

170 However, the question asked of the plaintiff's expert and the answer given has to be read in context. The question posed was *not* a question about *the*

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220 Defendant's CS at para 189.

221 Day 7 Transcript dated 25 February 2021 at p 120, ln 15–23.

Lithium Batteries in question at the Plaintiff's Premises but a *hypothetical example* of unfinished and unsealed lithium batteries being left open exposed to air in, for example, a room. The question did not specify how many batteries were involved in the hypothetical, if they were completely exposed or in bags, or what type of "room" counsel had in mind. It would not, in my view, be a fair extrapolation from the answer given that the plaintiff's expert *agreed* that if *the Lithium Batteries* found at the Plaintiff's Premises on the day in question were left untouched, it is unlikely that they would have spontaneously caught fire.

171 Nevertheless, based on the CCTV footage showing that F1 only ignited *after* the excavator moved towards the light-coloured packages containing the Lithium Batteries and Ms Lim's explanation of short circuiting in lithium batteries, I am satisfied that physical or "crushing" damage to the Lithium Batteries was more likely than not to have been, at the least, a "triggering event" for F1. On the available evidence, I cannot however rule out the possibility that the Lithium Batteries, whilst in the packages, may already have started to react to whatever moisture was present within the packages, notwithstanding that it appears from the CCTV footage that there were no signs of smoke or fire from the pile of the light coloured packages when they were unloaded from the Lorry onto the Sorting Yard. It cannot also be conclusively determined that none of the packages was torn or damaged from the time they were dumped into Skip Bin A10 to the time F1 started.

172 While I note Mr Tan Jin Thong's evidence that "contamination" remains an alternative possibility, I agree with the defendant that mechanical damage to the Lithium Batteries as a result of using the excavator was the more *likely* and dominant triggering event for F1.

173 Ms Lim explained the chemical process for the cause of the fire as such:[222]

> *Hazardous nature*: Lithium batteries are **hazardous** due to their **ability to overheat and ignite combustible materials**. Once ignited, the resulting fires can be difficult to extinguish. The **likelihood of overheating or igniting is increased if the batteries are poorly packaged, damaged** or exposed to a fire or heat source.
>
> *Damage to batteries*: Internal short circuits **may occur** in a lithium battery due to **mechanical abuse** resulting in rupture or puncture damage of the insulating separator between the electrodes. A prolonged internal short circuit results in self discharge and a local temperature increase which may decompose the electrolyte, and cause a thermal runaway with potential safety hazards.
>
> *Fires and explosions*: An internal or external short circuit of a battery would quickly release a large amount of electrical energy, resulting in overheating, possibly thermal runaway and fire. Short circuits can produce electric arcing and hot sparks, igniting lithium metal foil, graphite powder, polyethylene film and electrolyte solvent. The rapid release of heat also accelerates chemical reactions, and causes rapid pressure build-up in the battery, resulting in a fire and/or an explosion.
>
> [emphasis in italics in original; emphasis added in bold]

174 Ms Lim also explained that, in relation to the cause of F1:[223]

> The risk is amplified by the *large quantity of batteries* and the *unprotected non-intact state of the batteries* (bare jelly rolls without metal casings, jelly rolls in unsealed (uncapped) metal casings with no insulating plastic manufacturer labels. These unfinished batteries were more prone to mechanical damage (such as crushing by the claws or tracks of the excavator) and short circuits.
>
> [emphasis added]

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222 Lim Chin Chin's AEIC Exhibit LCC-2 at pp 35–36 (Fire Investigation Report dated 20 November 2020 at paras 55–57).

223 Lim Chin Chin's AEIC Exhibit LCC-2 at p 42 (Fire Investigation Report dated 20 November 2020 at para 81).

175 From the foregoing, I find that "but for" the mechanical damage to the Lithium Batteries, the fires and explosion at the Plaintiff's Premises on 7 June 2017 would not have occurred. As such, there are at least two factors contributing to causation in fact – the presence of the Lithium Batteries and the mechanical damage of the same as a result of the use of the excavator.

176 In my judgment, the "more important" condition between the two contributing factors and the proximate cause is the *presence of the Lithium Batteries*, and *not* the mechanical damage caused by the plaintiff's use of the excavator at the Sorting Yard. I agree with the plaintiff that the use of the excavator was merely a link in the chain of events and did not constitute a *novus actus interveniens* – the effective or proximate cause *remained* the presence of the Lithium Batteries. Therefore, in my judgment, the defendant ought to be made legally responsible for the consequences that have befallen the plaintiff as a result of the defendant's breach of duty of care. I say so for the following reasons.

177 It must be emphasised that an exercise in determining causation in law (*ie*, attributing liability) must be done in a principled manner, bearing in mind the *rationale* for the requirement, rather than arbitrarily with reference to the *final action* identifiable preceding the damage suffered as a matter of strict chronology of events. While the experts' evidence is helpful in shedding light on the nature of lithium's reactivity and the plaintiff's firefighting efforts, expert evidence is not the gospel truth. The issue of attribution of liability is ultimately a legal question to be decided by the court. Thus, even if the expert evidence points to the immediate cause of the fires as the mechanical damage to the Lithium Batteries as a result of using the excavator as the defendant contends, I reject the argument that such *final* "triggering event" is therefore necessarily also the cause of the plaintiff's damage *in law*.

178 As a matter of attribution, causation in law seeks to prevent indeterminate liability resulting from causation in fact alone. As the Court of Appeal in *Armstrong* explained at [87]:

> For instance, a necessary condition for a driver to have caused injury to a pedestrian would be the asphalt laid on the road some years back. But it would be absurd to hold the asphalt layer liable for the driver's negligence. To resolve these difficulties, the courts undertake inquiries into *causation in* ***law***, which is an attributive question as to whether the defendant should be made responsible for the consequences of his actions that have befallen the plaintiff.
>
> [emphasis in bold and italics in original; emphasis added in underline]

179 In *Prosser and Keeton on the Law of Torts* (West Group, 5th Ed, 1984) at p 266, the learned authors explained the concern for indeterminate liability as such:

> It should be quite obvious that, once events are set in motion, there is, in terms of causation alone, no place to stop. The event without millions of causes is simply inconceivable; and ***the mere fact of causation, as distinguished from the nature and degree of the causal connection, can provide no clue of any kind to singling out those which are to be held legally responsible.***
>
> [emphasis added]

180 In the present case, the defendant's breach of duty of care owed to the plaintiff set off a sequence or chain of events – this included the plaintiff's collection and processing (pursuant to the Segregation Request) of the waste in Skip Bin A10 on 7 June 2017. In such a case, the court determines whether any of those intervening events "can be said to be so significant causally as to break the causal link to be regarded as a *novus actus interveniens*" (*Sunny Metal* at [54]). As regards an allegation that the claimant's own action constitutes a *novus actus interveniens*, it is well-established that the applicable test is that the claimant's act must have been so "wholly unreasonable" that it "eclipses the

original wrongdoing and may be deemed to be a wholly independent cause of the damage" (*ACB v Thomson Medical Pte Ltd* [2017] 1 SLR 961 at [84]; *TV Media Pte Ltd v De Cruz Andrea Heidi* [2004] 3 SLR(R) 543 at [76]; *PlanAssure* at [99]).

181 Bearing these principles in mind, I agree with the plaintiff's submission that the use of the excavator during the sorting process was not a *novus actus interveniens*. Such use of the excavator cannot, in my judgment, be said to be so "significant causally" or so "wholly unreasonable" as to eclipse the defendant's breach of duty of care owed to the plaintiff in the first place. I arrive at this conclusion for several reasons.

182 First, the use of an excavator by the plaintiff at the Sorting Yard cannot be unreasonable, *when considered in light of the context of the plaintiff's business*. While the plaintiff was aware of the risk of the excavator's tracks running over the general waste[224] and Mr Cai testified that some general waste "may contain items which pose a fire hazard when crushed",[225] I am not convinced that such awareness is sufficient to find that it was wholly unreasonable of the plaintiff to use an excavator during the segregation process. I emphasise again – context is key. Mr Cai's testimony at trial was specifically in relation to *general waste* which could "include lithium batteries and electrical appliances with lithium batteries component", for which the use of "excavators and forklift" may result in a fire risk.[226] That is quite different from the circumstances surrounding the present claim.

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224 Defendant's CS at paras 219–220.

225 Defendant's RS at para 88; Defendant's CS at paras 221–227.

226 Day 1 Transcript dated 2 February 2021 at p 90 line 21 to p 91 line 10.

183 The plaintiff, as a licenced General Waste collector, handles general waste which, by its very nature, does not spontaneously combust and subsequently explode violently as a result of using an excavator. Such general waste is not expected to contain substantial quantities of flammable, toxic industrial or hazardous waste. As the plaintiff highlights, the use by the plaintiff of an excavator during the process of segregating general waste at the Sorting Yard had not resulted in any fires and explosions prior to 7 June 2017. Thus, the fires and explosions on 7 June 2017 cannot possibly have been a consequence reasonably contemplated by the plaintiff from the use of an excavator during the segregation process of general waste at the Sorting Yard so as to make such use unreasonable in the present circumstances.

184 Secondly, I reject the defendant's contention that the plaintiff's use of an excavator is otherwise "improper and/or inappropriate and/or unsafe". Briefly, I disagree with the fundamental premise which underlies the defendant's submissions (summarised at [165]). As I have said, the plaintiff reasonably expected the contents of Skip Bin A10 to contain only general waste. The segregation done at the Sorting Yard is merely in respect of bulky non-incinerable general waste from non-bulky incinerable general waste. This is quite unlike the circumstances under which the defendant sorts its Mixed Wastes at the Defendant's Premises. According to Mr Marcus Tan, the defendant deliberately segregates its Mixed Waste by hand for the following reason:[227]

> … the reason why the [d]efendant carries out the physical sorting of Mixed Waste by hand, instead of using excavators or forklifts, is because the use of excavators or forklifts may be too "rough". … Sometimes, *in the course of sorting the Mixed Wastes*, the excavators or forklifts may crush or compress metal components in the waste, generating small sparks that

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227 Tan Weide Marcus' AEIC at para 24.

> can ignite the flammable or hazardous items mixed with the general wastes.
>
> [emphasis added]

185 I agree with the plaintiff that the defendant's assertion that the use of an excavator at the Plaintiff's Premises to segregate non-incinerable general waste from incinerable general waste as improper, inappropriate, or unsafe, is thus fallacious. Just as the defendant contends that F1 broke out only after the tracks of the excavator were observed to move towards the light-coloured packages, it can also be said that such use of the excavator did not cause any of the *other waste* at the Sorting Yard to catch fire.[228] It is worth noting that the defendant, in its closing submissions, was prepared to make the concession that the "use of an excavator to sort wastes may not generally be considered unsafe and inappropriate and may well be very common" [emphasis in original]. The defendant argued that the plaintiff's use of the excavator was "especially egregious" because it knew or should have known that the waste it collects may contain items which pose a safety or fire hazard when crushed.[229]

186 This argument, however, again pays insufficient regard to the overall evidence and its context. This is not a case involving the odd used or discarded household lithium battery, discarded mobile phone or laptop being found in the general waste – such items may expected to be discarded together with the general waste, as might bulky items such as electrical appliances. The defendant argues that the *quantity* of the Lithium Batteries is irrelevant to the issue of causation as opposed to *the extent* of the fires and explosions that occurred.[230] I disagree and find this too fine and technical a distinction to make. The

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228 Plaintiff's RS at para 58.

229 Defendant's CS at para 215.

230 Defendant's CS at paras 235–236.

substantial quantity of unfinished and unsealed batteries found just in *one package* already significantly increased the risk of F1 *starting*. The excavator is likely to have crushed several batteries, causing them to short circuit, catch fire and thereby also facilitating or aggravating "thermal runaway". The quantity of Lithium Batteries in this case is, in my view, *directly relevant* to the issue of causation. This is not a case in which the plaintiff was expected to handle *any* quantity of unfinished or unsealed lithium batteries or battery waste, much less the substantial quantity of the Lithium Batteries that ended up in Skip Bin A10.

187 Further, the issue of causation is not analysed in a vacuum but *in relation to* the damage suffered by the plaintiff; in this case, it is the damage caused by metal fires and explosion *due to* the substantial quantity of Lithium Batteries present in Skip Bin A10. In that sense, the *extent* of the fires and explosion is also relevant to the issue of causation.

188 In my opinion, the plaintiff could not have foreseen or contemplated that the waste at its Sorting Yard would result in lithium metal fires and explosions occurring on 7 June 2017 as a result of the plaintiff's use of an excavator to sort the waste unloaded from Skip Bin A10, and it would be unreasonable to hold otherwise. The defendant cannot now cry foul and point its fingers at the plaintiff as being the author of its own loss. For the same reasons, I also reject the defendant's contention that this is a case where it is "difficult to say which of the main causes (*ie*, the defendant's breach of duty of care or the plaintiff's acts) was in fact the primary cause" of the plaintiff's damage.

189 For all of the reasons set out in this section on causation, the defendant has failed to persuade me that F1, or any of the other fires and the resultant explosion at the Plaintiff's Premises on 7 June 2017, ought to be properly attributed to the *plaintiff's* act as a matter of *causation in law*. The plaintiff's act

of using the excavator during the segregation process at the Sorting Yard, while a link in the chain of events, does not constitute a *novus actus interveniens*. The plaintiff's act is not, in my judgment, so wholly unreasonable as to eclipse the defendant's breach of duty of care which resulted in the Lithium Batteries being dumped into Skip Bin A10.

190 The foregoing is sufficient to conclude the issue of causation. *A fortiori*, the other related acts summarised at [165] similarly do not satisfy the high threshold for breaking the chain of causation. Accordingly, I need not add to the length of this judgment by elaborating on them further.

191 To conclude this section, I find the defendant legally liable to the plaintiff for the damage suffered as a result of the fires and explosion caused by the presence of the Lithium Batteries at the Plaintiff's Premises on 7 June 2017.

192 The conclusion above does not mean that the defendant must bear all of the damage suffered by the plaintiff. It is axiomatic that a claimant's right to recover damages from a negligent tortfeasor is modulated by the extent to which the claimant may itself have contributed to the damage suffered. In the next part of this judgment, I consider whether any of the plaintiff's actions, particularly its firefighting efforts, amount to contributory negligence so as to reduce the damages to which the plaintiff is otherwise entitled.

Issue 4: Contributory Negligence

The applicable legal principles

193 As I stated at [152], there is some relation between causation in law and contributory negligence. The two are nevertheless conceptually different, as Lord Denning MR explained in *Froom v Butcher* [1976] QB 286 at 291

(affirmed by the Court of Appeal in *Parno v SC Marine Pte Ltd* [1999] 3 SLR(R) 377 ("*Parno*") at [59]):

> Negligence depends on a breach of duty, whereas contributory negligence does not. Negligence is a man's carelessness in breach of duty to others. Contributory negligence is a man's carelessness in looking after his own safety. He is guilty of contributory negligence if he ought reasonably to have foreseen that, if he did not act as a reasonable prudent man, he might hurt himself.

194 As noted by the Court of Appeal *Asnah bte Ab Rahman v Li Jianlin* [2016] 2 SLR 944 ("*Asnah*") at [18], a person is guilty of contributory negligence "if he ought to have objectively foreseen that his failure to act prudently could result in hurting himself and failed to take reasonable measures to guard against that foreseeable harm". However, this does not mean that a claimant is expected to take precautions against *all* risks. On the contrary, the reasonably prudent man only needs to "guard himself against forms of injury that *might reasonably have been foreseen and avoided*" [emphasis added] (at [24]). Contributory negligence thus "connotes a failure by the claimant to take reasonable care for his own personal safety *in all the circumstances prevailing at the time of the accident,* such that he is blameworthy to the extent that he contributed to his own injury" [emphasis added] (at [18]). In essence, a claimant cannot be considered blameworthy or contributorily negligent for failing to mitigate against risks which are not reasonably foreseeable.

195 It is only after a defendant successfully makes out the partial defence of contributory negligence that the court would then go on to consider what the appropriate apportionment of liability between the claimant and tortfeasor should be. As the Court of Appeal in *Parno* affirmed at [61]:

> … a court must deal broadly with the problem of apportionment and in considering what is just and equitable, must have regard to the blameworthiness of each party. The claimant's share in

> the responsibility for the damage cannot however be assessed without considering the relative importance of his acts in causing the damage apart from his blameworthiness.

196 The Court of Appeal has also since set out two key considerations guiding the court's discretion in apportioning liability between the claimant and tortfeasor: "the relative causative potency of the parties' conduct" and the parties' "relative moral blameworthiness" (*Rohini d/o Balasubramaniam v HSR International Realtors Pte Ltd* [2018] 2 SLR 479 at [54]). These considerations are to be applied in a "rough and ready manner" since they are "incapable of precise measurement" (*Asnah* at [118]).

197 The issue of attribution relevant to causation in law is ultimately a question of determining whether the act of the plaintiff amounts to a *novus actus interveniens* such that the defendant ought not to be liable in law for the plaintiff's damage *at all*. On the other hand, the issue of contributory negligence is a question of the *relative* blameworthiness of each party which contributed to the plaintiff's damage. Such relative blameworthiness, in turn, depends on the relative importance of that party's particular acts (or omissions) in causing the damage.

198 The question of whether a plaintiff is contributorily negligent in the circumstances of any case is, by its very nature, an intensely factual one. As the learned author in *Gary Chan* at para 08.083 highlights, the general principle of the "agony of the moment" "may be applied to assess the plaintiff's conduct at the relevant time". While the principle of the "agony of the moment" is *generally* applied in cases involving collisions (whether on land or at sea), I see no reason why it should be restricted only to such cases.

199 The Court of Appeal had extensively discussed the case law and academic authorities on the principle in *Thorben Langvad Linneberg v Leong Mei Kuen* [2013] 1 SLR 207 at [79]–[102]. As explained in *Clerk and Lindsell on Torts* (Sweet & Maxwell, 20th Ed, 2010) at para 8-144, the situation of responding to an emergency is "relevant to the objective standard of care required" and as such, "***[a]ll that is necessary in such a circumstance is that the conduct should not have been unreasonable, taking the exigencies of the particular situation into account***" [emphasis added by the Court of Appeal at [79]]. A similar point was made in *Charlesworth & Percy on Negligence* (Christopher Walton gen ed) (Sweet & Maxwell, 12th Ed, 2010) at para 4-08 (at [80]):

> **Dilemma created by another's negligence**. … Where, negligently, one party places another in a situation of danger, ***it does not amount to contributory negligence if the other, in reacting, does something which with the benefit of hindsight, was a less than optimum solution***.
>
> …
>
> ***Clearly, the more agonising the dilemma in which a claimant is placed, the less critical anyone should be of the consequent reaction***. The court will usually balance the risk taken against the consequences of the breach of duty. This could involve weighing the degree of inconvenience or danger to which a person had been subjected, with the risks incurred in an effort to do something about it.
>
> [emphasis added by the Court of Appeal in bold italics]

200 The considerations that underpin the "agony of the moment" principle are, in my view, applicable *beyond* the specific examples of collisions involving motor vehicles or ships. None of the case authorities or textbook commentaries referred to above seeks to limit the applicability of the principle to any particular type of factual scenario and I see no principled reason why it should be so limited. It would, in my view, be incongruous for the courts to apply the "agony

of the moment" principle only in cases involving collisions when similar dilemmas can and do arise in other contexts.

201 In my judgment, the crucial circumstance is not whether a case concerns a collision but rather whether the claimant faces an exigency caused by another party (usually the tortfeasor) that compels the claimant to take reactive action. The court can and should then have regard to the principle of the "agony of the moment" in considering whether the claimant's reaction to the particular exigency amounts, in fact and in law, to contributory negligence.

202 In assessing whether a claimant's acts carried out in the "agony of the moment" amount to contributory negligence, several principles may be distilled:

(a) first, the claimant's dilemma arising from the "agony of the moment" must arise from *another party's* negligence (as opposed to the claimant's own conduct) and such negligence must have put the claimant in a position of exigency; as such, the principle cannot be utilised to help extricate a claimant who is "responsible for placing himself in a position where he had to agonise what to do" (*See Soon Soon v Goh Yong Kwang* [1992] 1 SLR(R) 535 at [20]).

(b) secondly, the applicable test is whether the claimant's conduct was unreasonable, taking the exigencies of the particular situation into account;

(c) thirdly, the threshold to be satisfied *is a high one* – conduct which is considered less than optimum *in hindsight* is generally insufficient to show that the claimant's response to the exigency thrust upon it was unreasonable and amounts to contributory negligence;

(d) fourthly, the court distinguishes errors of judgment on the one hand and culpable neglect on the other; and

(e) fifthly, the more agonising the dilemma in which the claimant is placed, the slower the court would be to find that the claimant's reaction (or lack thereof) amounted to contributory negligence.

203 From the principles distilled above, it becomes clear that at its core, the "agony of the moment" principle calibrates the standard of what would be considered an unreasonable response *to the particular moment* and exigency faced by the claimant.

204 Reverting to the case at hand, given the circumstances involving unexpected fires at the Sorting Yard from an unexpected source caused by the defendant's negligence, the principles relating to the "agony of the moment" are, in my view, relevant when assessing whether, *inter alia*, the plaintiff's firefighting efforts amounted to contributory negligence.

205 With these principles in mind, I now consider whether the plaintiff's acts amount to contributory negligence as the defendant contends.

The parties' submissions

206 At the outset, I note that the defendant does not seriously contend, whether in its primary or reply closing submissions, that the situation the plaintiff found itself once F1 started constituted an emergency. The defendant's expert also agreed that the situation the plaintiff was confronted with, at approximately 6.27pm when F1 started, was an emergency.[231]

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[231] Transcript Day 8 dated 26 February 2021 at p 90, ln 13–20.

207 The defendant avers that the plaintiff was contributorily negligent for several reasons. First,[232] the plaintiff failed to provide for appropriate fire extinguishers at the Plaintiff's Premises, namely Class D fire extinguishers. Instead, the Plaintiff's Premises only had carbon dioxide fire extinguishers and/or Class ABC fire extinguishers, the latter being dry powder extinguishers, and which were used on the day in question. Class D fire extinguishers are specially designed to fight metal fires – they work by coating a very fine layer of copper powder which is applied to a metal fire evenly and gently by a spray nozzle. The copper powder conducts heat away from the metal fire, and is more suitable for fighting a fire emanating from lithium, a reactive alkaline metal. In that regard, the defendant argues that the plaintiff failed to abide by its own Emergency Response Plan, which stipulates that, in the event of a fire outbreak, the type of fire such as "electrical, chemical, etc" ought to be assessed to "determine the appropriate type of fire extinguisher to be used to fight (extinguish) the fire". [233]

208 The defendant relies in particular on two case authorities,[234] *Sato Kogyo (S) Pte Ltd and another v Socomec SA* [2012] 2 SLR 1057 ("*Sato Kogyo*") and *Union Camp Chemicals Ltd v CRL TCL Ltd and another* [2001] All ER (D) 95 ("*Union Camp Chemicals*") in its submissions to support its argument. In *Sato Kogyo*, the High Court found that the plaintiff was contributorily negligent "in not arming the FM200 system before they commenced their infra-red thermal imaging work on 27 June 2007" at [80]. The defendant also submits that in *Union Camp Chemicals*, the English Court found that the plaintiff was contributorily negligent in failing to "obtain or commission method statements

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232 Defendant's CS at paras 251–253.

233 1 AB at p 34, para 8.

234 Defendant's RS at paras 98–102.

and risk assessments relevant to the commissioning and working of the gas control valve component of the burner management system" and failed to undertake "overall site supervisory functions so as to ensure, so far as was reasonably practicable, that the system would be commissioned safely".

209 Secondly,[235] the plaintiff was also contributorily negligent in its firefighting methods in two ways. First, the use of water from the hose reels and water mist system to fight the fires on 7 June 2017 are inappropriate against lithium metal fires (and this was a breach of the plaintiff's Emergency Response Plan). Furthermore,[236] the plaintiff failed to recalibrate its firefighting response upon discovering that the source of the fires was the Lithium Batteries. Related to this argument,[237] the plaintiff failed to alert the SCDF "until it was already too late" [emphasis in original] and did not do so until after "about four minutes after the explosions had occurred". The defendant also contends that even if the priority was to ensure that the plaintiff's workers were safe and none was trapped in the fire immediately after the large explosion occurred, it only takes one person to activate the SCDF. Additionally, the use of an excavator in the firefighting efforts, particularly after F4 started, was also "inappropriate and unsafe" since the plaintiff's workers were not trained in the proper use of excavators for the purposes of firefighting.[238]

210 Thirdly,[239] the plaintiff did not have any "procedure or protocol for sorting waste" at its premises. In this regard, the defendant submits that the

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235 Defendant's CS at paras 254–260, 263.

236 Defendant's CS at paras 264–267.

237 Defendant's CS at paras 268–272.

238 Defendant's CS at paras 261–262.

239 Defendant's CS at paras 237–238.

plaintiff's use of an excavator during the segregation process at the Sorting Yard may be reasonable if the plaintiff had applied its mind to the risks of doing so but "came to the (wrong) conclusion that it is reasonably safe to do so for whatever reason or that the costs of not doing so outweighs the risks such that it would not be practical to use other means to sort the wastes". However, this was not the case. In addition,[240] even though the plaintiff had a Hazard Identification Document,[241] the steps indicated therein for "hazard identification", "risk evaluation", and "risk controls" were "completely for naught as the Plaintiff failed to incorporate any of these principles into its routine operations". The defendant submits that it is "wholly unsafe and even reckless" for the plaintiff to have collected, handled, sorted, segregated and disposed of waste collected from its customers without assessing the risks which may arise from such processes [emphasis in original].

211 In response, the plaintiff submits that its earlier submissions regarding its conduct (in relation to causation) remain relevant to the issue of contributory negligence.[242] Regarding the lack of Class D fire extinguishers at the Plaintiff's Premises,[243] the plaintiff rejects the notion that it could have foreseen the risk of lithium metal battery fires from the large quantities of the Lithium Batteries found at its Sorting Yard on 7 June 2017; hence that was not a risk it could have "objectively foreseen and protected itself from". The plaintiff had in place "fire extinguishers and water hose reels" which "had been approved by the SCDF for purposes of issuing a Fire Safety Certificate". At the Sorting Yard, the plaintiff

240 Defendant's CS at paras 239–243.

241 1 AB at pp 40–54.

242 Plaintiff's CS at para 117.

243 Plaintiff's CS at para 119–120.

also had a "water mist system" which was activated on 7 June 2017 as part of its firefighting efforts.

212 The plaintiff also argues that in any case, it is not reasonable to expect the plaintiff, which is in the business of handling only *general waste*, to have a specific Class D subtype fire extinguisher at the Plaintiff's Premises designed to fight lithium metal fires, particularly when it was not foreseeable that they would be collecting toxic industrial or hazardous waste such as lithium batteries as part of their normal business activities.[244]

213 Secondly, the plaintiff was not contributorily negligent in its firefighting efforts. In assessing the reasonableness of the plaintiff's firefighting efforts, the following factors had to be considered: (a) the context of it being an emergency situation, (b) the plaintiff's expectation of what the waste unloaded from Skip Bin A10 should contain, (c) the plaintiff's Emergency Response Plan requiring that SCDF be contacted only where the "extent of the accident is beyond the capability of the staff to contain or mitigate",[245] and (d) the perceived effectiveness of the firefighting methods used. Thus, even if the plaintiff's firefighting methods may not be "scientifically correct or correct in hindsight", the plaintiff's response was nevertheless reasonable or prudent *during* the emergency situation it was confronted with. In any case, the SCDF also used water as part of its firefighting operations on 7 June 2017. Further, Mr Tan Jin Thong, an expert in firefighting, testified that the use of an excavator is "the best and most effective way [of] isolating fire" so as to prevent further spread of the fire. As such, the spread of the fire was more likely due to the ejection of hot or

244 Plaintiff's CS at para 135.

245 1 AB at p 35

burning materials, rather than the use of an excavator.[246] Lastly, how *the defendant* would have responded to the same emergency is irrelevant.[247]

214 The plaintiff also highlighted that it is not disputed that fires F1, F2 and F3 were successfully extinguished by the plaintiff's workers using, *inter alia*, water from hose reels and the available fire extinguishers. Thus, the "reasonable perception" of the plaintiff's workers on the ground at the material time of the fires, and at least up to the extinguishment of F3, was that there was no "uncontrollable fire" and "the methods and media that they used to fight the fire was (*sic*) indeed effective".[248] In any case, the SCDF also used "water and foam" in its firefighting efforts despite the intensity of the metal fire by the time the SCDF arrived on scene.[249]

215 Further,[250] the plaintiff also argues that it could not be reasonably expected of the plaintiff's workers to identify the type of fire to determine that water is an inappropriate firefighting medium. In this regard, Ms Lim's expert evidence is that a noticeable characteristic of a lithium metal fire is its colour – the fire develops from "crimson" to "dazzling white", whereas the colour of general fires would be "orangey". Lay persons and general workers cannot be expected to reasonably notice the "difference between a flame that is *orangey* as opposed to a flame that is *crimson*" [emphasis added]. Even if some of the plaintiff's workers had picked up the light-coloured packages and looked into

246 Plaintiff's CS at paras 151–154.

247 Plaintiff's CS at paras 132–135.

248 Plaintiff's CS at paras 136–137, 139 and 141.

249 Plaintiff's CS at paras 144–149.

250 Plaintiff's CS at paras 138, 140.

its contents, the plaintiff's staff "would not have reasonably appreciated the contents of the packages to signify the fires were metal fires".

216 The plaintiff reiterates that its workers "had no reason to call the SCDF" even up to F3. Even on Ms Lim's evidence, F3 cannot be considered an "uncontrollable" fire. Furthermore, F1 and F2 were successfully extinguished by the plaintiff's firefighting methods. The other fires, F4 to F6, ignited shortly after that and became very intense suddenly and within a very short span of time of less than two minutes (*ie*, from 18:36:33 when F4 ignited to 18:37:55 when the large explosion occurred).[251] Mr Cai's call to the SCDF (*ie*, at about 6:41:59pm) was about four minutes after the large explosion and is not unreasonable, given that the "priority was to ensure that the workers were safe and not trapped in the fire" following the explosion. In any event, the SCDF took about five minutes to reach the Plaintiff's Premises after the call and thus, calling SCDF immediately after the explosion even without a four-minute gap would have made "no difference to the extent of the fire and the resulting loss and damage" suffered.[252] Thus, the plaintiff did not alert the SCDF so belatedly that it amounted to contributory negligence.

217 The plaintiff was also not contributorily negligent for any alleged lack of protocol for segregating waste and conducting risk assessments in relation to such segregation. On the contrary, the plaintiff highlights that while *de minimis* quantities of Prohibited Waste in any given skip bin may be foreseeable (such as, for example, stray batteries in general waste collected from the plaintiff's customers), the plaintiff could not have reasonably foreseen the presence of the substantial quantities of the Lithium Batteries. Accordingly, there would be "no

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251 Plaintiff's CS at paras 141, 143.

252 Plaintiff's CS at paras 159–160.

reason to change" the plaintiff's standard methods of processing general waste containing bulky non-incinerable items.[253] This also included its practice of not checking light-coloured bags, since it is not unusual to see light-coloured bags amongst waste unloaded from a skip bin since the plaintiff also deals with food waste. Such light-coloured bags *per se* could not have "put the plaintiff on notice that there was something dangerous inside the bags".[254]

218 Lastly, there was no need to reconsider the risks involved in using an excavator for the segregation of non-incinerable general waste from incinerable general waste as compared to, for example, segregating such waste by hand. In reasonably expecting Skip Bin A10 to contain only general waste, the plaintiff could only objectively foresee biological hazards (such as bacteria and viruses) and mechanical hazards (such as sharp objects). In that regard, Mr Cai testified that he would not manually sort through the general waste by hand unless he was sure that it was safe.[255] Finally, there have been "no other fires" at the Plaintiff's Premises despite the many years in which the plaintiff had used an excavator to sort general waste.[256]

My analysis and decision

219 The defendant's second and third arguments at [209]–[210] have been mentioned briefly at [165] in relation to the issue of causation. While I have found those reasons insufficient to constitute a *novus actus interveniens*, it is worth addressing, for completeness, the more pertinent points in relation to the issue of contributory negligence.

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253 Plaintiff's CS at para 124.

254 Plaintiff's CS at para 125.

255 Plaintiff's CS at para 128.

256 Plaintiff's CS at para 121.

220 In my judgment, considering the circumstances of this case and the exigency the plaintiff was thrust into on the day in question, the plaintiff cannot be said to have been contributorily negligent in any respect. On the contrary, I find that: (a) the plaintiff took reasonable steps in installing a fire safety system appropriate for its business operations, and which included water hose reels and fire extinguishers and (b) it was not unreasonable for the plaintiff to use the means available to it to fight the fires, including its use of the water mist system and the excavator. Insofar as any perceived lack of protocols for the segregation of general waste or a risk assessment in respect of such segregation process are concerned, even if these were lacking, I disagree that it amounted to contributory negligence, particularly having regard to the nature of the plaintiff's business. Given that the plaintiff handles only general waste, the plaintiff could not have reasonably foreseen that it would be at risk of handling substantial quantities of Lithium Batteries as part of its usual business operations. Therefore, even if the plaintiff were to review its protocols for waste segregation and conducting risk assessments, there would be no reason to mitigate the risks of metal fires, whether generally or specifically in relation to lithium metal fires. As such, the alleged lack of protocols or revised risk assessments had no causative potency in assessing blameworthiness of the plaintiff's conduct.

221 I address each of the points in greater detail below.

The plaintiff's failure to provide for Class D fire extinguishers

222 I am unpersuaded by the argument that the plaintiff should have provided for a specific subtype of Class D fire extinguishers suitable for fighting lithium metal fires at the Plaintiff's Premises. While the reasonable man is prudent, and takes care in looking after his own safety so as to prevent hurt to

himself, the reasonable man is also not paranoid as to seek to pre-empt and safeguard against every conceivable *type* of fire (including lithium metal fires) when he is in the business of collecting, sorting and disposing of only general waste. In my view, the defendant's argument again ignores context. In my judgment, the plaintiff had done enough to mitigate against the foreseeable risks of fire by installing a fire safety system and firefighting equipment *commensurate* to the *reasonably foreseeable* fire risks in *its business operations*. The fact that the SCDF issued the plaintiff a Fire Safety Certificate provides some evidence of the adequacy of the firefighting equipment installed at the Plaintiff's Premises for its business activities. I also noted that in the SCDF investigation report, there was no suggestion that the available firefighting equipment at the Plaintiff's Premises was in any way deficient or inadequate.

223 The factual circumstances in the present case are different to those in *Sato Kogyo* or *Union Camp Chemicals*, and they do not therefore assist the defendant. Both cases are merely illustrative that under *some* circumstances and *depending on the facts*, the failure to install a suitable fire safety system to mitigate the foreseeable risks of fire associated with a party's business can, *on the facts of the case concerned*, amount to contributory negligence. The crucial distinction between the cases by the defendant and the present case is that the plaintiff *could not*, as I found above at [186], have reasonably foreseen that the contents of Skip Bin A10 would have contained substantial quantities of the Lithium Batteries. In contrast, the plaintiffs in *Sato Kogyo*, for example, "would have known that such [infra-red thermal imaging work] would generate high heat and therefore there may be a risk of fire" (at [80]).

224 Lastly, I reject the argument that the alleged breach by the plaintiff of its own Emergency Response Plan constitutes contributory negligence. There

is, firstly, a disjunction between the fact that the plaintiff's workers did not identify the type of fire and the conclusion that such failure constitutes contributory negligence. I re-emphasise that any assessment by the court as to whether an act or omission constitutes contributory negligence is intensively fact sensitive. I agree with the plaintiff that lay persons working as waste sorters in a general waste collection facility cannot reasonably be expected to be familiar with chemistry and reactive metals which are defined as toxic industrial or hazardous waste, much less be able to appreciate, *in an emergency*, the differences between an "orangey" flame and a "crimson" to "dazzling white" flame. This is in contrast to a trained expert chemist analysing the events of the day and actions taken *ex post facto*. In this regard, it is important to keep in mind that the chain of events, from the start of F1 at approximately 6.27pm, snowballed fairly quickly to the large explosion occurring at 6.38pm, merely 11 minutes later. If one considers the time lapse between F4 starting and the explosion occurring, *less than 2 minutes elapsed*. This is not a case where the plaintiff's employees had the luxury of time to investigate or assess the type of fire involved or should have been put on notice because of the unusual colour of the flames. I therefore disagree that there was a breach by the plaintiff of its Emergency Response Plan, or any breach of it that, causatively or in a blameworthy way, would amount to contributory negligence.

225 Lastly, even if one of the workers had correctly identified the type of fire as a lithium metal fire, it would not have been possible for the plaintiff to fight the fire with a specific Class D subtype fire extinguisher designed for such fires, such as a Lith-X fire extinguisher, simply because the plaintiff would not reasonably be expected to have such specialised extinguishers at the Plaintiff's Premises in the first place.

The plaintiff's inappropriate firefighting methods

226 In my judgment, the plaintiff was not contributorily negligent in its firefighting methods, whether in using (a) Class ABC and/or carbon dioxide fire extinguishers and water (*ie*, from fire hose reels and its water mist system) and/or (b) an excavator to try to isolate the fire from other wastes in the Sorting Yard.

227 As stated at [202]–[203], a party's conduct is to be assessed at *that* material time when the exigency is extant and not judged with the benefit of hindsight. When F1 ignited, the plaintiff's workers at the Sorting Yard were faced with an emergency and had to take action to contain the fire. Such emergency arose as a result of the defendant's negligence. I therefore reject the defendant's submission that the context of the fire being an "emergency situation" has "very little merit (if any)" simply because the plaintiff's response was "not in compliance with [its own Emergency Response Plan]".[257]

228 The defendant's argument is somewhat circular. I disagree that simply because the plaintiff had *an* Emergency Response Plan, its failure to comply with it *ipso facto* disentitles the plaintiff from relying on the agony of the moment principle with regard to its firefighting efforts. The argument also ignores context. An Emergency Response Plan cannot be expected to cater to *every* conceivable emergency – thus, in this case, if a lithium metal fire was not a *reasonably expected* emergency as far as the plaintiff and its business activities are concerned, then *a fortiori*, one would *not* reasonably expect it to be covered by the plaintiff's Emergency Response Plan; and *a fortiori*, the agony of the moment principle *would* come into play.

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[257] Defendant's RS at para 93.

229 I accept that the plaintiff's use of water the fire extinguishers available to it in the firefighting process was not unreasonable in the circumstances. First, and related to my finding at [224], the plaintiff's workers could not have reasonably suspected that the fire was a metal fire even if its colour was "crimson" to "dazzling white" as opposed to "orangey". The plaintiff's workers also could not be reasonably expected to know that water and Class ABC and/or carbon dioxide fire extinguishers are unsuitable for the *specific* fires at the Sorting Yard on 7 June 2017; more so, when the firefighting methods and media used by the plaintiff's workers to fight fires F1 and F2 *were successful* in extinguishing them.

230 Secondly, even the expert evidence was divided on whether water and the use of an excavator were unreasonable firefighting methods. Mr Tan Jin Thong's evidence on firefighting is that water is a "conventional way to fight lithium battery fires" as it produces a "cooling effect" which can "extinguish the waste fire and cool down the heat so as to prevent rekindling of the fire".[258] His evidence is also that an excavator is "the best and most effective way [of] isolating fire".[259] According to him, "it is not wrong" to use an extinguishing medium which has a "cooling effect" since it removes heat, which is one of the points of the "triangle of combustion"[260] (the other two being oxygen and fuel[261]). The SCDF likewise used "water and foam" in its firefighting efforts at the Plaintiff's Premises.[262]

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258 Day 7 Transcript dated 25 February 2021 at p 10, lines 16–24.

259 Day 8 Transcript dated 26 February 2021 at p 6, lines 3–5.

260 Day 7 Transcript dated 25 February 2021 at p 138, lines 21–25.

261 Day 8 Transcript dated 26 February 2021 at p 177, line 23 to p 178, line 3.

262 Day 4 Transcript dated 5 February 2021 at p 7, line 11.

231 Ms Lim's evidence is that lithium is a "very reactive alkaline metal" such that, if lithium metal is exposed to the environment, "the moisture in the environment is going to cause it to catch fire". It "will also react with oxygen … carbon dioxide … [and] nitrogen that is in the air".[263] In her expert opinion, "water aggravated [the fire]".[264] She was of the view that water may be used only "if it is a very small amount of lithium batteries" and a large volume of water was used so as to "flood it".[265]

232 In my view, when faced with sudden and persistent fires, it is not unreasonable or negligent conduct if a party uses whatever fire extinguishing media or equipment that is immediately available to it so as to reduce heat and/or to isolate a fire so as to starve it of fuel, as was the case here. This is *not* to say that I find the plaintiff's response reasonable *only because* the SCDF had acted in a like manner (*ie*, in using water jets) or may have acted in a like manner (*eg*, in using an excavator to isolate the fire). As the defendant highlights, the plaintiff's workers may not necessarily be trained in using an excavator for the purposes of firefighting[266] and the volume and pressure of water used by the SCDF is "significantly greater" than that used by the plaintiff.[267] Nevertheless, the more important question is – should the plaintiff be blamed for resorting to water, Class ABC and/or carbon dioxide fire extinguishers, its water mist system and an excavator to fight the fires (the nature of which was not reasonably known at the time) *in the heat of the moment* (no pun intended)? I have no hesitation that the answer to that question is "No".

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263 Day 7 Transcript dated 25 February 2021 at p 94, lines 4–19.

264 Day 7 Transcript dated 25 February 2021 at p 216, lines 1–2.

265 Day 7 Transcript dated 25 February 2021 at p 23, lines 7–12.

266 Defendant's CS at para 262.

267 Defendant's CS at para 260; Defendant's RS at para 94.

233 At least with regard to F1 to F3, the plaintiff's workers would have reasonably formed the view that the firefighting methods and media that they had utilised *were effective* in containing those fires. F3 was put out with the use of a rake to rake over the package that caught fire, but the point remains that at least from 6.27pm when F1 started to about 6.30pm when F3 had been put out, there was no indication that the plaintiff's firefighting efforts were ineffective.

234 I am also not persuaded that the plaintiff was contributorily negligent in failing to alert the SCDF earlier *ie*, "upon the discovery of" the Lithium Batteries by the plaintiff's workers. First, it is not clear to me, from a review of the CCTV footage that it can be categorically said that at approximately 6.29pm, one of the plaintiff's workers picked up one of the packages *and* checked its contents. Based on the CCTV footage, it shows one of the workers picking up one of the packages, placing it back down on the floor and then picking up another. However, it is not entirely clear from the CCTV footage that the packages *were* opened or that the contents were in fact checked. Nevertheless, even if the plaintiff's workers did check and noticed that the light-coloured packages contained numerous batteries, such discovery does not mean that it was unreasonable, from that moment onwards, for the plaintiff to continue its firefighting efforts or that the SCDF should have been alerted then while the plaintiff continued its attempts to control the fire. As I have already discussed above, it is undisputed that both F1 and F2 were successfully extinguished. Nor could it be said that F3 was an "uncontrollable fire" and it too appeared to have been successfully put out. In my view, in those prevailing circumstances on the ground at the material time, it was *not* unreasonable for the plaintiff to continue containing the further fires without alerting the SCDF then and the plaintiff should not be blamed *ex post facto* with the benefit of hindsight. In this regard,

I could not accept Ms Lim's opinion as it sought to slice and dice the plaintiff's actions with too fine a knife and when viewed with the benefit of hindsight.

235 Even if the plaintiff ought to have called the SCDF earlier, in my view, it should have been no earlier than when F4 broke out at approximately 6.36pm (actual time). I agree with the plaintiff that it would not have made much difference, if any, in mitigating the plaintiff's damage. Even if an employee alerted the SCDF as soon as F4 started at approximately 6.36pm, the SCDF would have only arrived at the scene at about 6.41pm (*ie*, about five minutes after the call), which would be *well after* the large explosion had occurred at approximately 6.38pm. It would likewise make no material difference to the damage sustained by the plaintiff as a result of the fires and explosion on 7 June 2017, whether the call to SCDF was made immediately after the large explosion instead of some four minutes later.

236 Finally, even if I did accept the defendant's case that water and Class ABC and/carbon dioxide fire extinguishers are inappropriate fire extinguishing media for lithium metal fires, and that the use of the excavator caused burning materials to drop from the claws of the excavator and ignite additional fires, they would at best suggest that the plaintiff's firefighting methods were, in hindsight, a "less than optimum solution". Even if so, this is not enough for me to find that the plaintiff responded in an unreasonable and blameworthy manner.

The plaintiff's lack of protocol for segregating waste and risk assessments in relation to such segregation

237 In the absence of evidence to the contrary, I am prepared to assume that it is more likely than not that the plaintiff "failed to incorporate" (in its Hazard Identification Document) principles pertaining to hazard identification, risk evaluation, and risk controls as the defendant contends (at [210]). However,

that does not advance the defendant's case very much. I do not consider that any such failure bore any relevant or causative link to the occurrence of the fires and the explosion. Nor does it necessarily follow that the plaintiff was therefore careless in looking after its own safety.

238 On the facts, I am satisfied that the actions *actually* taken on the day by the plaintiff's workers could not be faulted. Thus, any failure on the plaintiff's part to have in place a compliant Hazard Identification Document, even if proven, was strictly irrelevant and bore no causal relation to whether the plaintiff was guilty of contributory negligence.

239 For all of the reasons set out in this section of my judgment, I conclude that there was *no contributory negligence* on the part of the plaintiff. As such, the question of apportionment of liability does not arise and the plaintiff is entitled to its damages claim in full.

Pre-judgment interest

240 The applicable principles on whether pre-judgment interest ought to be awarded under s 12 of the CLA are well-established and have been summarised by the Court of Appeal in *Grains and Industrial Products Trading Pte Ltd v Bank of India and another* [2016] 3 SLR 1308 at [137]–[141]. While pre-judgment interest is not awarded "as of right", claimants who have been "kept out of pocket without basis should be able to recover interest on money that is found to have been owed to them from the date of their entitlement until the date it is paid" (at [138]).

241 In its Statement of Claim (Amendment No.1), the plaintiff claims interest pursuant to s 12 of the CLA. The defendant made no specific submissions in respect of whether pre-judgment interest ought or ought not to

be awarded. As a matter of principle, the right to damages for the tort of negligence runs from the date of loss. I am satisfied that it would be appropriate in this case to allow pre-judgment interest on the Claim Amount and for such interest to run from 8 June 2017 (*ie*, the day immediately after the date of the incident).

Conclusion

242 On the evidence before me, I am satisfied that the Agreement was for the plaintiff to collect, process (if necessary), and dispose of the defendant's general waste only, and that the Segregation Request made by the defendant on 7 June 2017 to the plaintiff was to segregate bulky non-incinerable general waste from incinerable general waste.

243 In all of the circumstances of the present case, I am satisfied that the defendant owed the plaintiff a duty of care to ensure that only general waste was disposed of into Skip Bin A10 for the plaintiff's collection, processing (if necessary) and disposal. In breach of such duty, a substantial quantity of the Lithium Batteries (weighing at least 200 kilograms) was disposed of into Skip Bin A10 while it was at the Defendant's Premises some time between 6 and 7 June 2017. That, in turn, resulted in the fires and explosion that occurred at the Plaintiff's Premises following the unloading of the waste from Skip Bin A10 at the Plaintiff's Premises shortly after 6.20pm on 7 June 2017. The plaintiff's subsequent actions were not so wholly unreasonable so as to constitute a *novus actus interveniens*. Nor was the plaintiff careless in looking after its own safety as to be contributorily negligent for the damage caused to the Plaintiff's Premises by the fires and the ensuing explosion.

244 Whilst the plaintiff's Contract Claim fails, its Negligence Claim succeeds and the defendant is accordingly liable to the plaintiff for the Claim Amount. I therefore grant judgment in favour of the plaintiff against the defendant for the sum of S$579,641.50, plus interest on that sum at the rate of 5.33% per annum from 8 June 2017 to the date of judgment.

245 I shall hear the parties separately on costs.

S Mohan
Judicial Commissioner

S Selvam s/o Satanam and Amraesh Arun Balachandran (Ramdas & Wong) for the plaintiff;
Wang Ying Shuang and Osman Khan (Rajah & Tann Singapore LLP) for the defendant.

Annex 1: Photographs of the Lithium Batteries

A.1 Lithium Batteries with unsealed outer metal casings:

A.2 Unfinished Lithium Batteries with no metal casings:

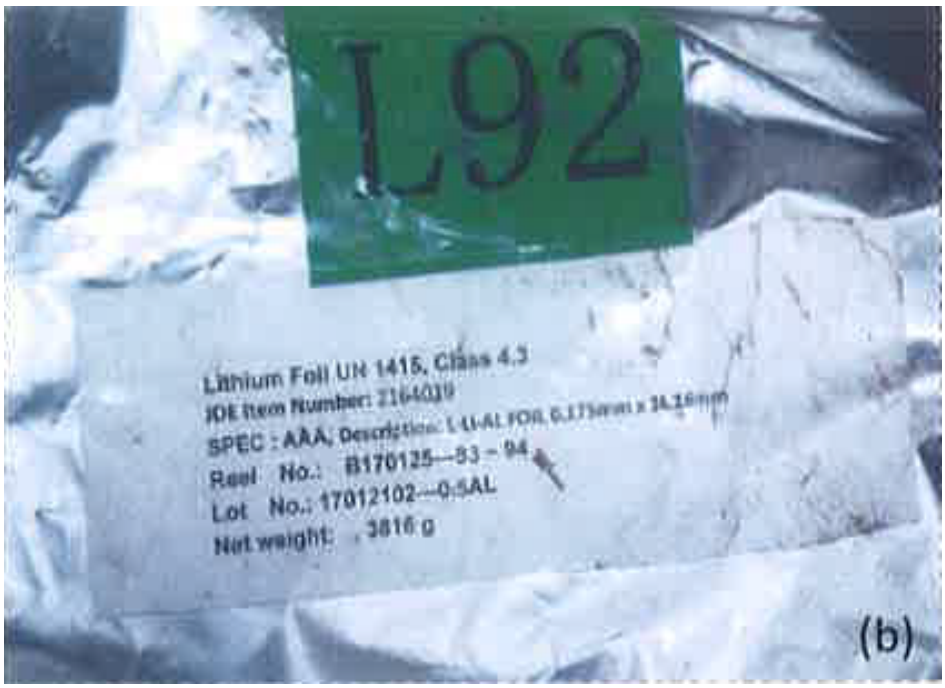
Annex 2: Screenshots from CCTV Footage

A.3 Footage from Camera 13 of F4 fire at 18:37:54 (18:31:54 CCTV time):

A.4 Footage from Camera 13 of explosion at 18:37:55 (18:31:55 CCTV time):

Annex 3: Photographs of Packages Containing the Lithium Batteries

A.5 Packages labelled "Lithium Foil UN 1415":



Annex 4: Photographs of Packages Containing the Lithium Batteries

A.6 Package labelled "Jelly Roll with Lithium":

Annex 5: Screenshots from CCTV Footage (Plaintiff's Sorting Yard)

A.7 Footage from Camera 2 at 18:23:41 (18:17:41 CCTV time):

A.8 Footage from Camera 13 at 18:24:33 (18:18:33 CCTV time):