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Jan 13 2023

SC Court of Appeals

THE STATE OF SOUTH CAROLINA
In The Court of Appeals

APPEAL FROM CHARLESTON COUNTY
Court of Common Pleas

Roger M. Young, Sr., Circuit Court Judge

Appellate Case No. 2022-000346

Reid Fleming,.....Appellant,

v.

LG Chem, Ltd.,.....Respondent.

RECORD ON APPEAL

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SC Court of Appeals

THE STATE OF SOUTH CAROLINA
In The Court of Appeals

APPEAL FROM THE CHARLESTON
COURT OF COMMON PLEAS

The Honorable Roger M. Young, Circuit Court Judge

Case No. 2021-CP-10-01663

Reid Fleming,

Appellant,

v.

The Planet Vape, LLC;
SCECIGARETTE, LLC; LG Chem,
Ltd.; John Doe Distributor #1; John
Doe Distributor #2; and John Doe
Distributor #3,

Of which LG Chem, Ltd. is
Respondent.

NOTICE OF APPEAL

Reid Fleming appeals the order of the Honorable Roger M. Young dated February 7, 2022, attached hereto as Exhibit A. Plaintiff's Motion for Reconsideration was denied on February 23, 2022, attached hereto as Exhibit B.

Dated: March 21, 2022

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Mar 21 2022

SC Court of Appeals

STATE OF SOUTH CAROLINA	)	
	)	IN THE COURT OF COMMON PLEAS
COUNTY OF CHARLESTON	)	NINTH JUDICIAL CIRCUIT
REID FLEMING,	)	Civil Action No. 2021-CP-10-01663
	)	
Plaintiff,	)	
	)	
vs.	)	ORDER GRANTING
	)	DEFENDANT LG CHEM, LTD.’S
THE PLANET VAPE, LLC;	)	MOTION TO DISMISS FOR
SCECIGARETTE, LLC; LG CHEM, LTD.;	)	LACK OF PERSONAL
	)	JURISDICTION
Defendants.	)	
_____	)	
	)	

Before the Court is Defendant LG Chem, Ltd.’s (“LG Chem”) Motion to Dismiss for Lack of Personal Jurisdiction. Having fully considered all of the parties’ arguments raised in the motions, memoranda, exhibits, submissions, and the arguments of counsel at the video hearing held on January 18, 2022, the Court grants LG Chem’s Motion to Dismiss for Lack of Personal Jurisdiction.

FACTS

The relevant facts are as follows: Plaintiff Reid Fleming is a resident of Anderson County, South Carolina. (Complaint, filed April 12, 2021, ¶ 1.) Plaintiff alleges that prior to the accident at issue, he purchased a number of lithium ion batteries from Defendants The Planet Vape (“Planet Vape”) and SCECIGARETTE, LLC (“SC E-Cigarette”) for use with his vaping device. He further alleges that these retailers marketed or represented the batteries as being an LG brand. (*Id.* ¶¶ 20, 21) Plaintiff also alleges that on or around May 24, 2018, he was injured when one of these lithium ion batteries exploded in his pocket (*id.* ¶ 31).

LG Chem, Ltd. is a Korean corporation with its headquarters and principal offices in Seoul, South Korea. (Aff. of Hwi Jae Lee, dated July 13, 2021, ¶ 7; Compl., ¶ 4.) The uncontroverted evidence shows the following: LG Chem has never designed, manufactured, distributed, advertised, or sold its lithium ion battery cells to consumers for use as standalone, replaceable batteries in South Carolina or anywhere else. (Lee Aff., ¶¶ 16–17.) Instead, the 18650 lithium ion cells that LG Chem manufactured are industrial component parts; they are not standalone, replaceable consumer batteries, and they were not designed to be handled by consumers. (*Id.* ¶ 16). LG Chem never authorized anyone to advertise, distribute, or sell its lithium ion cells to individual consumers for use as standalone, replaceable batteries in South Carolina, or anywhere else. (*Id.* ¶¶ 20, 21.)

In support of its motion, LG Chem provided two affidavits of Mr. Hwi Jae Lee, dated July 13, 2021 and January 11, 2022. In opposition to the Defendant’s Motion to Dismiss, Plaintiff provided the Affidavit of Plaintiff’s counsel, dated January 7, 2022, attaching copies of LG Chem’s 2018 and 2017 financial statements; import data; a Certificate of Authority and Business Registration for a subsidiary of LG Chem; and orders from a North Carolina federal district court and other South Carolina trial courts. Plaintiff also provided the Declaration of Nickie Bonenfant, dated August 10, 2021, and Appendices.

LEGAL STANDARD

“The party seeking to invoke personal jurisdiction over a non-resident defendant . . . bears the burden of establishing jurisdiction.” *Power Prods. & Servs. Co., Inc. v. Kozma*, 379 S.C. 423, 430, 665 S.E.2d 660, 664 (Ct. App. 2008). “Courts will take as true the allegations of the nonmoving party and resolve all factual disputes in its favor.” *Brown v. Inv. Mgmt. & Research*,

Inc., 323 S.C. 395, 399, 475 S.E.2d 754, 756 (1996) (resolving, in plaintiff’s favor, conflicting facts set forth in affidavits from witnesses in opposing parties).

Jurisdiction may be general or specific. *Coggeshall v. Reprod. Endocrine Assocs. of Charlotte*, 376 S.C. 12, 16, 655 S.E.2d 476, 478 (2007). Plaintiff conceded at the hearing that general jurisdiction is not at issue. To establish specific jurisdiction, a plaintiff must show that both South Carolina’s long-arm statute and constitutional due process are satisfied. Due process requires that a defendant has sufficient minimum contacts with the forum state such that maintenance of suit does not offend traditional notions of fair play and substantial justice. *Cockrell v. Hillerich & Bradsby Co.*, 363 S.C. 485, 491, 611 S.E.2d 505, 508 (2005).

To satisfy due process, the Court must find that (1) the defendant has the requisite minimum contacts with the forum, without which the court does not have the power to adjudicate the action (the power prong); and (2) the exercise of jurisdiction would be “reasonable” or “fair” (the fairness prong). *See S. Plastics Co. v. S. Commerce Bank*, 310 S.C. 256, 260, 423 S.E.2d 128, 131 (1992).

To meet the power prong, the suit must arise out of or relate to the defendant’s contacts with the forum. *See Cockrell*, 363 S.C. at 491–94, 611 S.E.2d at 509–10; *Power Prods.*, 379 S.C. at 433–35, 665 S.E.2d at 665–67; *Ford Motor Co. v. Montana Eighth Jud. Dist.*, 141 S. Ct. 1017, 1025 (2021); *Bristol-Myers Squibb Co. v. Superior Court*, 137 S. Ct. 1773, 1780 (2017). Specifically, the court must “find that the defendant directed its activities to a resident of this State and that the cause of action arises out of or relates to those activities.” *Southern Plastics*, 310 S.C. at 260, 423 S.E.2d at 131; *Power Prods.*, 379 S.C. at 432, 665 S.E.2d at 665.

DISCUSSION

The Court concludes that Plaintiff has not satisfied his burden of establishing personal jurisdiction over LG Chem, Ltd.

Plaintiff's suit arises from injuries he allegedly suffered from use of a 18650 lithium ion battery to power his electronic cigarette device. Plaintiff alleges he purchased the battery from either Defendant Planet Vape or SC E-Cigarette and that the battery was originally manufactured by LG Chem. LG Chem's motion was supported by admissible evidence that (1) it never designed, manufactured, distributed, advertised, or sold 18650 lithium ion cells for sale to or use by individual consumers as standalone, replaceable batteries; and (2) it never authorized anyone to sell its 18650 lithium ion cells directly to consumers as standalone, replaceable batteries.

1. The allegations of Plaintiff's complaint do not establish a prima facie case of jurisdiction.

At the pretrial stage, the plaintiff meets his burden of proving personal jurisdiction over a nonresident defendant by a prima facie showing of jurisdiction either (1) in the complaint or (2) in affidavits. *See Cockrell*, 363 S.C. at 491, 611 S.E.2d at 508; *Sullivan v. Hawker Beechcraft Corp.*, 397 S.C. 143, 150, 723 S.E.2d 835, 839 (Ct. App. 2012).

The Court agrees with Defendant that the allegations of Plaintiff's complaint, even if true, are not sufficient to make a prima facie showing of jurisdiction. Plaintiff did not allege or argue that LG Chem supplied 18650 lithium ion cells to a consumer market for vaping batteries in South Carolina. Instead, Plaintiff generically alleged that LG Chem conducted business in South Carolina and that LG Chem placed its lithium ion batteries and battery products into the stream of commerce with the reasonable expectation that they would be used in South Carolina. Plaintiff did not plead any jurisdictional facts specific to the particular product at issue in this suit—a 18650 lithium ion cell that was re-sold as a standalone consumer battery. Plaintiff also did not plead any facts showing a connection between his claims and any action of the Defendant directed to South Carolina. Therefore, if the Court decided the motion based solely on the pleadings, the motion should be granted.

2. LG Chem's evidence that it did not serve a consumer market for standalone 18650 batteries in South Carolina was uncontroverted.

Additionally, “[w]hen a motion to dismiss attacks the allegations of the complaint on the issue of jurisdiction, the court is not confined to the allegations of the complaint but may resort to affidavits or other evidence to determine jurisdiction.” *Coggeshall*, 376 S.C. at 16, 655 S.E.2d at 478. LG Chem supported its Motion with affidavits, and Plaintiff filed his own Affidavit, Declaration, and voluminous exhibits with attachments in opposition to the Motion.

None of the facts offered by the Plaintiff in opposition supported his burden of proof on jurisdiction. LG Chem's financial statements and the Certificate of Authority for its subsidiary do not provide evidence of any suit-related contacts between LG Chem and South Carolina. LG Chem submitted an uncontroverted affidavit showing that its subsidiary LG Chem America, Inc. (“LGCAI”), which is not a party to the case, is a separate and distinct entity with its own separate bank accounts, business records, and corporate officers, that manage and control its own day-to-day activities. (*See Reply Lee Aff.*, ¶¶ 7–8.) Plaintiff did not show that non-party LGCAI's contacts could be imputed to LG Chem and, even if he had, he also did not show that non-party LGCAI engaged in any suit-related contacts with South Carolina.

In addition, the various charts described as import data, including those attached to the Affidavit of Plaintiff's Counsel and those attached to the Declaration of Nickie Bonenfant, do not provide information showing any suit-related contacts between LG Chem and South Carolina. Instead, at best, if admissible,¹ the charts would show only that LG Chem directed unrelated

¹ LG Chem objected that the records, which purport to be summaries of information maintained by the United States Department of Customs, lack authentication and foundation and are inadmissible hearsay. The Court need not decide the issue of admissibility because it agrees with Defendant that, even if admissible, the records do not provide any information that would support Plaintiff's burden of proof. Instead, the records further support LG Chem's admissible evidence

business to South Carolina entities, including shipment of petrochemical products such as “methyl acrylate,” “acrylic acid,” and “synthetic rubber,” as well as shipment of electric vehicle batteries to car manufacturing companies. None of Plaintiff’s exhibits reflect shipment of 18650 lithium ion cells to anyone in South Carolina, let alone anyone engaged in the consumer vaping industry.

3. Business activities unrelated to the claims at issue do not support specific jurisdiction over LG Chem.

At the hearing, Plaintiff argued it was enough to show that LG Chem supplied other type of lithium ion battery products (such as electric vehicle batteries) to South Carolina entities and that such activities were sufficiently “related” to his claims to satisfy constitutional due process.

The U.S. Supreme Court has repeatedly made clear that unrelated business activities in the forum state cannot support the exercise of specific jurisdiction, no matter how extensive those in-state activities are. Even sales of the **very same product** at issue cannot support the exercise of specific jurisdiction if unrelated to the litigation. *Bristol-Myers*, 137 S. Ct. at 1781 (“[E]ven regularly occurring sales of a product in a State do not justify the exercise of jurisdiction over a claim unrelated to those sales.”) (quoting *Goodyear Dunlop Tires Operations, S.A. v. Brown*, 564 U.S. 915, 930 n.6 (2011)).

And in *Ford*, the Supreme Court took care to point out that its decision was based on Ford’s admitted in-state activities for the specific vehicles at issue—not just Ford cars, but specifically Ford Explorers and Crown Victorias. *Ford*, 141 S. Ct. at 1028 (“Ford had advertised, sold, and serviced *those two car models* in both States for many years. (*Contrast a case, which we do not address, in which Ford marketed the models in only a different State or region.*) In other words, Ford had systematically served a market in Montana and Minnesota for the very vehicles that the

that it did not supply 18650 lithium ion cells to a consumer market in South Carolina for standalone 18650 batteries.

plaintiffs allege malfunctioned and injured them in those States.”) (emphasis added).

Therefore, the Court finds that even if Plaintiff’s exhibits were admissible, shipping petrochemical products or lithium ion batteries to manufacturers in South Carolina is not sufficiently related to Plaintiff’s personal injury claims to satisfy constitutional due process.

4. The “stream of commerce” theory does not support the exercise of specific jurisdiction over LG Chem on the facts of this case.

Plaintiff relied on a “stream of commerce” theory of jurisdiction as set forth in *State v. NV Sumatra Tobacco Trading, Co.*, 379 S.C. 81, 88, 666 S.E.2d 218, 221 (2008). Defendant argued that *Sumatra* is inconsistent with more recent U.S. Supreme Court precedents and that it is factually distinguishable in any event.

The Court need not resolve the question whether the *Sumatra* Court’s formulation of the “stream of commerce” theory of jurisdiction is consistent with more recent U.S. Supreme Court decisions because the facts of this case are materially distinguishable. *Id.* at 88, 666 S.E.2d at 221 (“The question of personal jurisdiction over a nonresident defendant is one which must be resolved upon the facts of each particular case.”).

In *Sumatra*, the Indonesian cigarette manufacturer admitted that it intended to sell its cigarettes to consumers throughout the United States, including almost seven million cigarettes sold to consumers in South Carolina in one year as the direct result of its intended chain of distribution. *Id.* at 87–92, 666 S.E.2d at 221–24. Further, in *Sumatra*, the Indonesian manufacturer sold its cigarettes to its designated distributor, which then distributed the cigarettes to South Carolina for the specific purpose of distributing them to consumers as a consumer product. *Id.* at 86, 666 S.E.2d at 220.

By contrast here, even if LG Chem was the original manufacturer of the 18650 lithium ion cells (which has not been established), Plaintiff did not allege that LG Chem distributed its 18650

lithium ion cells directly to South Carolina consumers as a standalone product, or to any distributor or other intermediary for the purpose of supplying the cells directly to South Carolina consumers as a standalone product. And LG Chem's admissible evidence shows that LG Chem did not design, manufacture, distribute, advertise, or sell its 18650 battery cells directly to or for use by consumers, in South Carolina or anywhere else, as standalone, replaceable batteries and that it never authorized anyone else to do so either. These important facts distinguish *Sumatra* from the case here.

Further, the fact that the Plaintiff purchased and used the Defendant's product in South Carolina is not sufficient, even if the Defendant was aware that third parties might sell its product to consumers in the state without its authorization. "[I]t is the defendant's actions, not his expectations, that empower a State's courts to subject him to judgment." *J. McIntyre Mach., Ltd. v. Nicastro*, 564 U.S. 873, 883 (2011) (plurality op.); *Ford*, 141 S. Ct. at 1025 (the relevant "contacts must be the defendant's own choice").

As the South Carolina Supreme Court recognized in *Sumatra*, "[t]he foreseeability that is critical to due process analysis is not the mere likelihood that a product will find its way into the forum state. Rather, it is that the defendant's conduct and connection with the forum state are such that he should reasonably anticipate being haled into court there." *Sumatra*, 379 S.C. at 89, 666 S.E.2d at 222 (emphasis added) (quoting *World-Wide Volkswagen Corp. v. Woodson*, 444 U.S. 286, 297 (1980)). This standard was met in *Sumatra* in light of the volume of cigarettes the defendant admittedly distributed for sale to consumers throughout the United States, including seven million cigarettes to consumers in South Carolina. This standard is not met here, where LG Chem submitted uncontroverted evidence to establish that it did not distribute any 18650 battery cells to anyone for sale as a standalone product to consumers in South Carolina or anywhere else. (Affidavit of Hwi Jae Lee, ¶¶ 16–17, 19–21.)

5. Because Plaintiff has not met the “power prong” of the long-arm statute, the Court need not reach the fairness prong.

Because the power prong cannot be satisfied, the Court need not reach the fairness prong. Regardless, under the fairness prong, courts analyze factors such as “the burden on the defendant[;] . . . the forum state's interest in adjudicating the dispute; the plaintiff's interest in obtaining convenient and effective relief; the interstate judicial system's interest in obtaining the most efficient solution to controversies; and the shared interest of the several states in furthering fundamental substantive social policies.” *S. Plastics Co.*, 310 S.C. at 263, 423 S.E.2d at 132 (citing *World-Wide Volkswagen*, 444 U.S. 286). Subjecting LG Chem to specific jurisdiction in South Carolina would be constitutionally unreasonable and unfair when LG Chem has no contacts with South Carolina related to the claims at issue. Accordingly, even if the power prong were satisfied, which it is not, the exercise of specific jurisdiction over LG Chem would not comport with fundamental fairness.

CONCLUSION

Based on the above principles, the Court concludes that due process does not allow the exercise of personal jurisdiction over LG Chem in this case. It is undisputed that general jurisdiction is lacking. As to specific jurisdiction, Plaintiff has not shown that his claims “arise out of or relate to” any contacts formed by LG Chem with South Carolina. The Court therefore finds that Plaintiff has not met his burden of establishing that this Court can exercise personal jurisdiction over LG Chem.

It is therefore ORDERED that LG Chem, Ltd.’s Motion to Dismiss for Lack of Personal Jurisdiction is GRANTED.

It is further ORDERED that LG Chem, Ltd. is DISMISSED from this action without prejudice.

This the ____ day of _____, 2022.

Roger M. Young, Sr.
Circuit Court Judge, 9th Judicial Circuit



Charleston Common Pleas

Case Caption: Reid Fleming VS Planet Vape Llc The , defendant, et al

Case Number: 2021CP1001663

Type: Order/Dismissal

It is so ordered.

/s Roger M. Young, Sr. S.C. Circuit Judge 2134

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Mar 21 2022

SC Court of Appeals

STATE OF SOUTH CAROLINA

COUNTY OF CHARLESTON

Reid Fleming,

Plaintiff,

v.

The Planet Vape, LLC; SCECIGARETTE,
LLC; LG Chem Ltd; John Doe Distributor
#1; John Doe Distributor #2; and John Doe
Distributor #3,

Defendants.

IN THE COURT OF COMMON PLEAS
FOR THE NINTH JUDICIAL CIRCUIT

CASE NO.: 2021-CP-10-01663

**ORDER DENYING MOTION TO
RECONSIDER PURSUANT TO RULE
59(e)**

The Plaintiff filed a motion asking this Court to reconsider its Order dated February 7, 2022. Specifically, Plaintiff asks this Court to reconsider the order and argues that the written ruling is based on a misunderstanding and / or misrepresentations of fact regarding LG Chem Ltd.'s products and LG's South Carolina contacts; and it effectively leaves plaintiff with no forum in which to seek recourse against the entity that manufactured the product that harmed him. For the reasons set forth below, the motion to reconsider is DENIED.

STANDARD OF REVIEW

Motions for reconsideration will not be granted absent "highly unusual circumstances." U.S. ex rel. Becker v. Washington Savannah River Co., 305 F.3d 284, 290 (4th Cir. 2002) (stating that simple disagreements with the court's ruling will not support Rule 59(e) relief).¹ Courts have recognized three circumstances in which a court should grant a Rule 59(e) motion: (1) to accommodate an intervening change in controlling law; (2) to account for new evidence not available at trial; or (3) to correct a clear error of law or prevent manifest injustice." Hutchinson

¹ Rule 59 is substantially the same as the Federal Rule. See Elam v. S.C. Dep't of Transp., 361 S.C. 9, 21, 602 S.E. 2d 772, 779 (2004) ("Rule 59(e) in the South Carolina and federal rules of civil procedure is practically identical.").

v. Staton, 994 F.2d 1076, 1081 (4th Cir. 1993). Importantly, a motion for reconsideration is not a vehicle to re-litigate previously raised issues or “to raise argument or present evidence that could have been presented prior to the entry of judgment.” Dash v. Mayweather, C/A No. 3:10-1036-JFA, 2010 U.S. Dist. LEXIS 95277, *2 (D.S.C. Sept. 13, 2010) (quoting Exxon Shipping Co. v. Baker, 554 U.S. 471, n.5 (2008)). In other words, “[a] party cannot use Rule 59(e) to present to the court an issue the party could have raised prior to judgment but did not.” Stevens & Wilkinson of S.C., Inc. v. City of Columbia, 409 S.C. 563, 567, 762 S.E.2d 693, 695 (2014); Patterson v. Reid, 318 S.C. 183, 185, 456 S.E.2d 436, 437 (Ct. App. 1995). Nor does “[a] party’s mere disagreement with the court’s ruling . . . warrant a Rule 59(e) motion.” In re Pella Corp. Architect & Designer Series Windows Mktg., Sales Practices & Prods. Liab. Litig., 269 F.Supp. 3d 685, 691 (D.S.C. 2017); *see also* Lyons v. Fid. Nat’l Title Ins. Co., 415 S.C. 115, 135, 781 S.E.2d 126, 137 (Ct. App. 2015).

After consideration of the issues raised in the parties’ memorandums, Plaintiff’s Motion to Reconsider is DENIED.

AND IT IS SO ORDERED.

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Charleston Common Pleas

Case Caption: Reid Fleming VS Planet Vape Llc The , defendant, et al

Case Number: 2021CP1001663

Type: Order/Other

It is so ordered.

/s Roger M. Young, Sr. S.C. Circuit Judge 2134

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STATE OF SOUTH CAROLINA
COUNTY OF CHARLESTON

Reid Fleming,

Plaintiff,

v.

The Planet Vape, LLC; SCECIGARETTE,
LLC; and LG Chem Ltd.,

Defendants.

COURT OF COMMON PLEAS

C/A no. 2021-CP-_____

COMPLAINT
(Jury trial demanded)

Plaintiff alleges as follows:

Parties and venue

1. Plaintiff is a citizen and resident of Anderson County, South Carolina.
2. Defendant The Planet Vape, LLC ("Planet Vape") is a South Carolina limited liability corporation with its principal place of business in Charleston County, South Carolina.
3. Defendant SCECIGARETTE, LLC ("SCECIG") is a South Carolina limited liability company with its principal place of business in Charleston County, South Carolina.
4. Defendant LG Chem Ltd. is a foreign corporation with its principal place of business located in Seoul, South Korea.
5. John Doe Distributors #s 1-3 are unknown to plaintiff at this time; however, it is likely that plaintiff will discover other potentially responsible defendants who distributed the subject batteries to Defendants Planet Vape and SCECIG. Upon discovery of the identify of such defendants, plaintiff will move to substitute the proper party-defendant for the John Doe defendants.

6. This Court has jurisdiction over the parties and the subject matter of this action.
7. Venue is proper in this Court as the most substantial part of the alleged acts / omissions giving rise to the cause of action occurred in Charleston County.

Jurisdiction

8. The court has jurisdiction over Planet Vape and SCECIG as they are at home in South Carolina
9. The court has personal jurisdiction over LG Chem Ltd. by virtue of the following contacts LG Chem Ltd. has with the state of South Carolina:
 - a. LG Chem Ltd.'s products – lithium ion batteries – cause tortious injury or death in South Carolina by acts and omissions occurring outside the state under circumstances where LG Chem Ltd. regularly does or solicits business, engages in other persistent conduct, and / or derives substantial revenue from goods used or consumed or services rendered in the state of South Carolina;
 - b. LG Chem Ltd. produces, manufactures, and distributes batteries with the reasonable expectation that those batteries will be used in South Carolina and they are used in South Carolina;
 - c. LG Chem Ltd. transacts business in South Carolina including the shipment of battery products, either directly or through its wholly owned subsidiaries, through the ports of South Carolina; and
 - d. LG Chem Ltd. or its agents target the state of South Carolina with marketing and / or efforts to develop business relationships here.

10. LG Chem Ltd.'s contacts with South Carolina relate to plaintiff's claims in the following respects:

- a. LG Chem Ltd. serves South Carolina by virtue of delivering here, or through our ports, its lithium ion battery products;
- b. LG Chem Ltd. manufactures lithium ion battery products with the expectation that they will be distributed to and sold in South Carolina;
- c. LG Chem Ltd. distributes lithium ion battery products to South Carolina companies and through the ports of South Carolina;
- d. LG Chem Ltd. has known since 2016 that individuals use LG' Chem Ltd.'s lithium ion battery products to power devices such as flashlights and personal vaporizing devices;
- e. Armed with that awareness, LG Chem Ltd. has done virtually nothing to prevent its lithium ion battery products from being sold individually throughout the U.S. and, specifically, in South Carolina;
- f. Plaintiff was injured when one of LG Chem Ltd.'s lithium ion batteries exploded, causing him serious burn injuries;
- g. Plaintiff purchased the subject battery in Charleston, South Carolina;
- h. Plaintiff used the subject battery in South Carolina; and
- i. Plaintiff was injured by the subject battery in South Carolina.

11. South Carolina courts regularly exercise personal jurisdiction over LG Chem Ltd. in suits involving South Carolina citizens injured or burned by LG's batteries including:

- a. *Roberts v. The Planet Vape, LLC, et al.*, 2020-CP-10-00912 (Charleston County)

- b. *Williamson v. Pirates Cove Vapor Lounge, LLC, et al.*, 2019-CP-07-02270 (Beaufort County)
 - c. *Holtzendorff v. Vapor Tek USA, LLC, et al.*, 2019-CP-02-01518 (Aiken County)
 - d. *Thompson v. LG Chem Ltd., et al.*, 2019-CP-44-0054 (Union County)
 - e. *Moore v. Planet Vapor Inc.*, 2018-CP-21-02884 (Florence County)
12. LG Chem Ltd. is defending these suits here and it would not be unfair or burdensome for them to defend this action here as well.
13. In each of the above cited cases, LG Chem Ltd. has moved to dismiss the claims, contesting the circuit court's jurisdiction over it and / or its wholly owned subsidiary.
14. In each of the above cited cases, the circuit court rejected LG Chem Ltd.'s argument, property asserting jurisdiction over LG Chem Ltd.
15. LG Chem Ltd. has previously consented to the jurisdiction of the federal courts of South Carolina for a claim involving an exploding lithium ion battery.
16. This court has jurisdiction over LG Chem Ltd.

Factual allegations

17. Defendants Planet Vape and SCE-CIG are in the business of marketing and selling, amongst other things, e-cigarettes, personal vaporizers, e-liquids, and other "vaping" accessories through a number of retail stores in the Charleston area.
18. Defendant LG Chem Ltd. designs, manufactures, distributes, and sells lithium ion batteries.

19. Defendants John Doe #s 1-3 are in the business of marketing, selling, and distributing vaping products, including lithium ion batteries manufactured by LG Chem Ltd.

20. Prior to May 24, 2018, plaintiff purchased a number of lithium ion batteries from Defendants Planet Vape and SCECIG at their retail location in Charleston, South Carolina.

21. During that transaction, Planet Vape / SCECIG marketed or represented to plaintiff that the batteries he was purchasing were authentic LG Chem Ltd. batteries.

22. LG Chem Ltd. designed, manufactured, and distributed the batteries purchased by plaintiff during that transaction.

23. The LG batteries purchased by plaintiff are well known and popular batteries in the vaping community.

24. The batteries purchased by plaintiff were sourced by Planet Vape and SCECIG from either defendants John Doe Distributors #s 1-3 or directly from LG Chem Ltd.

25. The batteries were sold to plaintiff without adequate warnings, instructions for use, or other written directions.

26. The batteries were sold to plaintiff by Planet Vape / SCECIG with the expectation they would be used with an e-cigarette or vaping device.

27. At the time of sale, Planet Vape / SCECIG knew that plaintiff's intended use for the batteries was to power his vaping device.

28. At the time of distribution of the batteries, LG Chem Ltd. and / or John Doe Distributors #s 1-3 knew or could reasonably anticipate that the batteries would be used individual and / or to power vaping devices.

29. At the time of distribution, LG Chem Ltd. and / or John Doe Distributors #s 1-3 knew or had reason to know that Planet Vape / SCECIG was selling the batteries for use with vaping devices.

30. At the time of sale, Planet Vape / SCECIG marketed and sold the subject batteries as suitable and intended for use with e-cigarettes or vaping devices.

31. On or around May 24, 2018, plaintiff was seriously burned / injured when one of the LG batteries suddenly exploded in his pocket.

32. At all times, plaintiff was using the battery in a reasonably foreseeable manner.

33. Plaintiff was transported to the hospital for treatment.

34. Plaintiff received medically necessary treatment for which he incurred reasonable and necessary medical expenses.

35. As a direct and proximate result of the explosion, plaintiff suffered physical injury and disfigurement, conscious pain and suffering, mental anguish and emotional distress, and economic loss.

Causes of action

One. Strict products liability – all defendants

36. Plaintiff incorporates all prior paragraphs.

37. Plaintiff is informed and believes that at all relevant times these defendants were “sellers” as that term is defined in S.C. Code Ann. § 15-73-10, et seq.

38. The subject batteries were sold by Defendants Planet Vape and SCECIG to plaintiff.

39. The subject batteries were sold and distributed to Planet Vape / SCECIG by either John Doe Defendants #s 1-3 or LG Chem Ltd.

40. The batteries were designed, manufactured, and distributed by LG Chem Ltd.

41. The batteries were delivered to plaintiff without substantial change in the condition in which they were received, distributed, and / or sold by these defendants.

42. At all times, these defendants distributed and sold these types of batteries with the knowledge that the batteries were regularly purchased for and used as power sources for vaping devices that lack appropriate protection circuitry, battery management systems, and / or printed circuit boards.

43. At all times, these defendants distributed and sold these types of batteries with the knowledge that the batteries themselves did not contain adequate protection circuitry, printed circuit boards, positive temperature coefficients, or current interrupt devices that would prevent shorting and thermal runaway despite the availability and use of such technology in other lithium ion batteries that are available in the market.

44. At all times, these defendants distributed and sold these types of batteries with the knowledge that the batteries were regularly purchased for and used as power sources for vaping devices despite the manufacturers of such batteries explicitly prohibiting the sale of these batteries either individually or for use in vaping devices.

45. At the time of sale to plaintiff, the subject batteries were defective in design and / or manufacture and were unreasonably dangerous for the use for which they were sold to plaintiff.

46. As a proximate result of the defective and unreasonably dangerous design and / or manufacture of the subject batteries, one of them failed catastrophically during its foreseeable use which caused it to rupture and explode, causing plaintiff significant bodily injury.

47. The dangers associated with the use of the subject batteries in this application outweigh their utility, and the foreseeable risk of harm inherent in their design could have easily been reduced or avoided entirely by the incorporation of feasible, alternative designs available in the industry at the time the subject battery was manufactured, distributed, and sold.

48. These defendants failed to warn plaintiff of these inherent dangers, the unreasonably dangerous condition of the product, or the manufacturer's explicit prohibitions against vaping use of the battery, all of which also proximately caused his injuries.

Two. Negligence – all defendants

49. Plaintiff incorporates all prior paragraphs.

50. At all times, Planet Vape, SCECIG and the John Doe Defendants #s 1-3 owed a duty to plaintiff to exercise due care in the distribution and sale of the subject batteries.

51. These defendants breached that duty in a number of ways, including but not limited to:

- a. Distributing / selling batteries that were defective and unreasonably dangerous for the purpose for they were sold;
- b. Distributing / selling batteries that were not designed for or intended to be used in e-cigarettes or in any application that did not have a dedicated battery management system;
- c. Distributing / selling batteries for a use that is against the manufacturer's instructions and recommendations;
- d. Failing to adequately warn or advise the plaintiff that the subject battery was not safe to be used in an e-cigarette or individually;
- e. Failing to warn or advise the plaintiff that the subject battery was not safe to be stored loose or individually;

f. Failing to conduct due diligence regarding the actual manufacturer of the battery or to educate itself on the intended design and uses for the subject batteries before selling them to the plaintiff; and

g. Any other negligent act that is revealed through discovery.

52. At all times, LG Chem Ltd. has taking the position that its small lithium ion batteries are not designed for or intended to be used in personal vaping devices.

53. At all times, LG Chem Ltd. has taking the position that it is unreasonably dangerous for people to use its small lithium ion batteries in personal vaping devices or to store them loose in one's pocket or purse.

54. LG Chem Ltd. has known since 2016 that people individually use its small sized lithium ion batteries for various applications including flashlights and vaping devices.

55. LG Chem Ltd. has been sued numerous times throughout the United States by persons alleging they were hurt or burned by an LG Chem battery explosion that was being used individually.

56. LG Chem Ltd. also knows that its products are being re-sold by its customers or are otherwise making their way into the stream of commerce and being sold widespread for individual use.

57. LG Chem Ltd. is aware that its batteries, such as the batteries at issue here, are widely available both online and in stores across the U.S.

58. LG Chem Ltd. also knows that its batteries are being re-wrapped by its customers and / or unauthorized distributors prior to being distributed or sold individually both online and in retail locations throughout the U.S.

59. With such notice, LG Chem Ltd. has the following duties:

- a. To adequately warn potential users of the hazards associated with the individual use of its batteries;
- b. To adequately warn its customers of the hazards associated with the individual use of its batteries;
- c. To adequately warn its customers against the re-sale of LG Chem's batteries to unauthorized entities or individuals;
- d. To take steps to monitor its product distribution chain to ensure its batteries are not being sold individually, being sold on a secondary market, being re-sold, or getting into the hands of unauthorized distributors; and
- e. To take reasonable efforts to educate and warn its customers about the hazards associated with the resale and redistribution of LG Chem's batteries.

60. LG Chem Ltd. breached these duties and was negligent and reckless in that it failed to warn as set forth above, it failed to monitor its distribution chain, and it failed to take reasonable efforts to adequately guard against the widespread flow of its batteries into the U.S. and South Carolina marketplace despite its claim that the batteries should not be used individually because of the danger associated with such use.

61. As a direct and proximate result of the above breaches, acts, and omissions of these defendants, plaintiff was able to purchase the batteries, one of which exploded, causing serious injury to plaintiff.

Three. Breach of warranty – Planet Vape and SCECIG

62. Plaintiff incorporates all prior paragraphs.

63. At the time plaintiff purchased the subject batteries, Planet Vape and / or SCECIG agents or employees, during the sales process, expressly warranted the quality, safety, brand, and performance of the batteries purchased by plaintiff.

64. At the time plaintiff purchased the subject batteries, Planet Vape and / or SCECIG warranted that the subject batteries were safe, merchantable, and fit for use in vaping devices.

65. Plaintiff reasonably relied on the Planet Vape and / or SCECIG express warranties and its skill and judgment as to whether the batteries purchased were merchantable and safe and fit for vaping devices.

66. These defendants breached the express and implied warranties given to plaintiff by selling a battery for a use prohibited by the manufacturer and unreasonably dangerous for the ordinary purposes for which it was sold.

67. As a direct and proximate result of the above breaches, acts, and omissions of the defendants, the subject battery exploded and caused serious personal injury and property damage to plaintiff.

Four. Unfair trade practices – LG Chem Ltd.

68. Plaintiff incorporates all prior paragraphs.

69. LG Chem Ltd., at all times, conducted business and participated in commerce, as that term is defined by S.C. Code § 39-5-10, within this state by virtue of its distribution and sale of batteries.

70. LG Chem Ltd. engaged in deceptive acts affecting such commerce in that it permitted, either knowingly or by negligent omission, the distribution and sale of its batteries throughout the U.S. and South Carolina under circumstances where LG Chem

Ltd. knew that its batteries were widely available for sale for a use that LG Chem Ltd. knows is unauthorized and unreasonably dangerous.

71. Plaintiff relied upon LG Chem Ltd.'s status as a global manufacturer and the lack of warnings that accompany the batteries as an indication that these particular batteries were high quality and safe.

72. Plaintiff was misled into believing the batteries were appropriate to use with his vaping device by this defendant's intentional omissions.

73. As a result of this deception, plaintiff used the product individually which resulted in the product exploding, proximately causing plaintiff's injuries.

Damages request

74. Plaintiff fully incorporates all prior paragraphs.

75. Plaintiff asks for judgment against these defendants as follows:

- a. actual damages according to proof including incurred and future medical expenses, lost income, gratuitous nursing services, and other such economic loss revealed by discovery;
- b. compensatory damages permitted by law including damages for physical and mental pain and suffering and physical disfigurement;
- c. treble damages and attorneys fees as permitted for statutory violations;
- d. punitive damages as determined by the trier of fact should discovery reveal willful and wanton conduct by defendants;
- e. all costs of court; and
- f. other relief as the trier of fact deems just and proper.

Jury trial demand

Trial by jury is demanded as to all issues to the extent permitted by law.

Signature page below.
Respectfully,

**RICHARDSON, THOMAS, HALTIWANGER
MOORE & LEWIS, LLC**

By: s/Chris Moore
Chris Moore (SCB: 77934)
1513 Hampton Street
Columbia, SC 29201
T: 803.281.8147
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SMITH & GRIFFITH, LLP

John Griffith
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Anderson, South Carolina 29621
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john@griffithlawyer.com

April 12, 2021

STATE OF SOUTH CAROLINA	)	
	)	IN THE COURT OF COMMON PLEAS
COUNTY OF CHARLESTON	)	NINTH JUDICIAL CIRCUIT
REID FLEMING,	)	Civil Action No. 2021-CP-1001663
	)	
Plaintiff,	)	
	)	
vs.	)	DEFENDANT LG CHEM, LTD.’S
	)	MOTION TO DISMISS
THE PLANET VAPE, LLC;	)	FOR LACK OF PERSONAL
SCECIGARETTE, LLC; LG CHEM,	)	JURISDICTION
LTD.;	)	
	)	
Defendants.	)	
_____	)	

Pursuant to Rule 12(b)(2) of the South Carolina Rules of Civil Procedure, Defendant LG Chem, Ltd. (“LG Chem”) hereby moves the Court for an Order dismissing this lawsuit against LG Chem for lack of personal jurisdiction. LG Chem respectfully requests a hearing on this motion.

The grounds for this Motion are as follows: This is a products liability case in which Plaintiff alleges he was injured when a lithium ion battery cell he had purchased from Defendant The Planet Vape, LLC (“Planet Vape”) and SCECIGARETTE, LLC (“SC ECIG”) for use as a standalone, replaceable battery with an e-cigarette or vaping device, exploded in his pocket.

LG Chem is not subject to personal jurisdiction in this case. LG Chem is a Korean company with its headquarters and principal offices in Seoul, South Korea. LG Chem does not have continuous and systematic contacts with the State of South Carolina sufficient to render it essentially “at home” in South Carolina. Accordingly, it is not subject to the general jurisdiction of South Carolina courts. *See Ford Motor Co. v. Montana Eighth Jud. Dist. Ct.*, 141 S. Ct. 1017, 1024 (2021); *BNSF Ry. Co v. Tyrrell*, 137 S. Ct. 1549, 1558 (2017); *Daimler AG v. Bauman*, 571 U.S. 117, 127 (2014).

In addition, for specific personal jurisdiction to attach, due process requires that minimum contacts exist between the defendant and the forum state such that maintenance of the suit does not offend traditional notions of fair play and substantial justice. *See Cockrell v. Hillerich & Bradsby Co.*, 363 S.C. 485, 491–92, 611 S.E.2d 505, 508 (2005) (citing *Burger King Corp. v. Rudzewicz*, 471 U.S. 462 (1985)); *see also Ford*, 141 S. Ct. at 1024 . Further, South Carolina courts may only exercise specific jurisdiction over a foreign defendant when the plaintiff’s causes of action arises from or relates to the defendant’s contacts with South Carolina. *See Cockrell*, 363 S.C. at 491–94, 611 S.E.2d at 509–10; *Power Prods. & Servs. Co., Inc. v. Kozma*, 379 S.C. 423, 433–35, 665 S.E.2d 660, 665–67 (Ct. App. 2008); *see also Ford*, 141 S. Ct. at 1025. LG Chem never designed, manufactured, distributed, advertised, or sold lithium ion battery cells for use by individual consumers as standalone, replaceable batteries with electronic cigarette or vaping devices, whether sold as “LG” brand or “re-wrapped” and sold under another company’s brand. In addition, LG Chem never conducted any business with Defendants Planet Vape or SC ECIG, the retailers where Plaintiff alleges he purchased the subject battery at issue in this case. LG Chem never conducted any business with these entities, and never authorized them, or anyone else, to advertise, distribute, or sell LG-brand lithium ion cells directly to individual consumers for use as standalone, replaceable batteries for e-cigarette devices, or any other purpose. Accordingly, Plaintiff cannot establish that his claims arose out of or relate to contacts formed between LG Chem and South Carolina, and specific personal jurisdiction is lacking over LG Chem in this case.

Because Plaintiff has failed to meet his burden of establishing that LG Chem is subject to general or specific jurisdiction in this case, the Complaint must be dismissed.

This Motion is supported by the pleadings, applicable law, the Affidavit of Hwi Jae Lee, filed herewith as **Exhibit A**, and LG Chem’s supporting memorandum of law to be filed at a later

date, along with any exhibits and any additional affidavits or memoranda that LG Chem may hereafter file or submit to this Court.

WHEREFORE, for the foregoing reasons, LG Chem respectfully requests that the Court enter an Order dismissing LG Chem from this action for lack of personal jurisdiction and such other and further relief the Court deems just and proper.

NELSON MULLINS RILEY & SCARBOROUGH LLP

By: /s/ Rachel Hedley

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Attorneys for Defendant LG Chem, Ltd.

Columbia, South Carolina
July 15, 2021

EXHIBIT A



서울 영등포구 여의나루로 67
(여의도동, 신송빌딩) 1401호
[별지 제41호서식]

서울중앙 공증인 합동사무소

(전화) 02-3478-8200
(팩스) 02-3478-5544

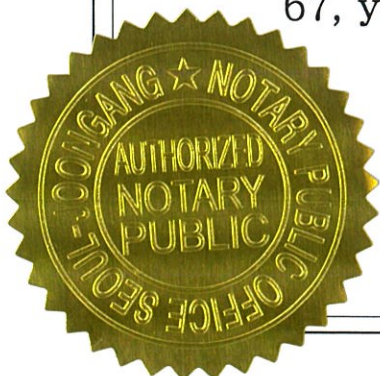
Registered No. 2021 - 1680

NOTARIAL CERTIFICATE

NOTARY PUBLIC OFFICE
SEOUL-JOONGANG

floor 14 Sinsong Bldg

67, yeouinaru-ro, yeongdeungpo-gu, Seoul, Korea



STATE OF SOUTH CAROLINA	)	
	)	IN THE COURT OF COMMON PLEAS
COUNTY OF CHARLESTON	)	NINTH JUDICIAL CIRCUIT
REID FLEMING,	)	Civil Action No. 2021-CP-1001663
	)	
Plaintiff,	)	
	)	
vs.	)	
	)	
THE PLANET VAPE, LLC;	)	
SCECIGARETTE, LLC; LG CHEM,	)	
LTD.	)	
	)	
Defendants.	)	
_____	)	



**AFFIDAVIT OF HWI JAE LEE IN SUPPORT OF DEFENDANT LG CHEM, LTD.’S
MOTION TO DISMISS FOR LACK OF PERSONAL JURISDICTION**

Personally appeared before me, Hwi Jae Lee, who first being duly sworn, deposes and says
as follows:

1. I am over the age of eighteen and am competent to testify to the matters contained
in this Affidavit.

2. This Affidavit is submitted in support of LG Chem, Ltd.’s Motion to Dismiss for
Lack of Personal Jurisdiction, and I have been authorized by LG Chem, Ltd. (“LG Chem”) to
execute this Affidavit for this purpose.

3. I have personal knowledge of the facts described in this Affidavit. If called upon
as a witness, I could and would testify competently under oath as to all such facts based upon my
personal knowledge and my review of applicable business records.

4. I am currently employed at LG Energy Solution, Ltd. (“LGES”), an entity newly
formed as of December 1, 2020, in a spin-off of LG Chem, Ltd.’s battery division. LGES is a
wholly owned subsidiary of LG Chem, Ltd.

5. My current title is Specialist, and my area of responsibility includes sales of battery packs and small application battery cells, including 18650 cylindrical lithium ion battery cells. I was formerly employed by LG Chem from 2015 through November 30, 2020. While at LG Chem, my most recent title was Sales Professional, and my responsibility included sales of 18650 lithium ion battery cells since approximately 2015.

6. As a result of the spin-off, LGES is now in possession of business records related to the business of LG Chem's former battery division, including all business records related to the design, manufacture, distribution, and sale of 18650 lithium ion battery cells.

7. LG Chem is a Korean company with its headquarters and principal place of business in Seoul, South Korea.



8. As of November 30, 2020, LG Chem did not have an office in South Carolina.

9. As of November 30, 2020, LG Chem was not registered to do business in South Carolina.

10. As of November 30, 2020, LG Chem did not have a registered agent for the service of process in South Carolina.

11. As of November 30, 2020, LG Chem did not own or lease any real property in South Carolina.

12. As of November 30, 2020, LG Chem did not have any employees who worked in South Carolina.

13. I have no reason to believe that LG Chem currently has an office in South Carolina, business registration in South Carolina, registered agent in South Carolina, property in South Carolina, or employees working in South Carolina.

14. Plaintiff alleges that he was injured on or around May 24, 2018 when a lithium ion battery exploded in his pocket. (Compl. ¶ 31.) Plaintiff contends he purchased the subject battery from Defendants The Planet Vape, LLC (“Planet Vape”) and SCECIGARETTE, LLC (“SC ECIG”), both of whom are alleged to be South Carolina limited liability companies engaged in the business of selling vaping products and accessories. (*Id.* ¶¶ 17, 20, 38.)

15. LG Chem previously manufactured lithium ion battery cells for use in specific applications by sophisticated companies. LG Chem no longer manufactures or sells lithium ion battery cells. As of December 1, 2020, LGES now manufactures and sells “LG” brand lithium ion battery cells, including 18650 lithium ion battery cells.

16. LG Chem never designed, manufactured, distributed, advertised, or sold lithium ion battery cells for use by individual consumers as standalone, replaceable batteries. The 18650 lithium ion cells LG Chem manufactured are industrial component parts; they are not standalone, replaceable consumer batteries, and they were not designed to be handled by consumers.

17. LG Chem never distributed, advertised, or sold any lithium ion battery cells directly to consumers for use as standalone, replaceable batteries, and never authorized any manufacturer, wholesaler, distributor, retailer, re-seller, or other individual or entity to do so.

18. If the subject battery identified in Plaintiff’s Complaint was, in fact, an LG brand lithium ion cell, the cell was not designed or manufactured in the State of South Carolina.

19. LG Chem never distributed, supplied, sold, or shipped any lithium ion battery cells of any type to anyone in South Carolina known to LG Chem to be engaged in the

business of selling lithium ion battery cells directly to individual consumers for use as standalone, replaceable batteries to power vaping devices.

20. As of November 30, 2020, LG Chem had never conducted any business with Planet Vape or SC ECIG, the South Carolina retailers where Plaintiff contends he purchased the subject battery. LG Chem did not direct or control the actions of Planet Vape or SC ECIG, and did not authorize Planet Vape, SC ECIG, or anyone else, to advertise, distribute, or sell LG 18650 lithium ion cells directly to consumers in South Carolina, or anywhere, as standalone, replaceable batteries. LG Chem never provided, advertised, or authorized consumer repair or replacement services for LG 18650 lithium ion cells in South Carolina.

21. LG Chem never authorized any manufacturer, importer, ~~distributor~~, wholesaler, retailer, re-seller, or other individual or entity to advertise, distribute, or sell LG lithium ion cells for use by individual consumers as standalone, replaceable batteries for e-cigarette devices.

I, Hwi Jae Lee, hereby declare under penalty of perjury that the foregoing statements made by me are true and correct.

FURTHER AFFIANT SAYETH NOT.

Executed this 13th day of July, 2021.



Hwi Jae Lee

SWORN to and subscribed before me

This 13th day of July, 2021.

SONG JUNKIL (L.S.)
Notary Public for SEOUL JOONGANG
NOTARY PUBLIC OFFICE
My Commission Expires: 2030.04.16

서울 영등포구 여의나루로 67
(여의도동, 신송빌딩) 1401호
[별지 제42호서식]

서울중앙 공증인 합동사무소

(전화) 02-3478-8200
(팩스) 02-3478-5544

등부 2021 년 제 1680호

Registered No. 2021-1680

인 증

NOTARIAL CERTIFICATE

HWI JAE LEE -----

위 진술서 -----

에 기재된 이휘재 -----

은 본 공증인의 면전에서 위 사서증서에
자기가 서명 - 한 것임을 자인하였다.

personally appeared before me and
admitted his(her) subscription to the
attached AFFIDAVIT. -----

2021년 07월 13일

이 사무소에서 위 인증한다.

This is hereby attested on this
13th day of Jul. 2021 at this office.

서울중앙 공증인 합동사무소

서울남부지방검찰청 소 속

서울 영등포구 여의나루로 67
(여의도동, 신송빌딩) 1401호

**NOTARY PUBLIC OFFICE
SEOUL-JOONGANG**

Seoul Southern
District Prosecutor's Office

floor 14 Sinsong Bldg
67, yeouinaru-ro, yeongdeungpo-gu, Seoul, Korea

공증인

송 준 길





Signature of the Notary Public

Song Jun kil

본 사무소는 인가번호 제158호에 의거하여
2019년 01월 20일 법무부 장관으로부터
공증인 업무를 행할 것을 인가 받았다.

This office has been authorized by the
Minister of Justice, the Republic of
Korea, to act as Notary Public Since
20, Jan. 2019 Under Law No.158.

STATE OF SOUTH CAROLINA	)	IN THE COURT OF COMMON PLEAS
	)	FOR THE NINTH JUDICIAL CIRCUIT
COUNTY OF CHARLESTON	)	CASE NO.: 2021-CP-10-01663
	)	
Reid Fleming,	)	
	)	ANSWER
Plaintiff,	)	(Jury Trial Demanded)
	)	
vs.	)	
	)	
The Planet Vape, LLC;	)	
SCECigarette, LLC; and	)	
LG Chem Ltd., John Doe	)	
Distributor #1; John Doe Distributor	)	
#2; and John Doe Distributor #3,	)	
	)	
Defendants.	)	
	)	

Defendant SCECigarette, LLC ("Defendant SCECIG") answers Plaintiff Reid Fleming's ("Plaintiff") April 12, 2021 Complaint ("the Complaint") as follows and denies each and every allegation not specifically hereinafter admitted:

FOR A FIRST DEFENSE
(General Denial)

1. Defendant SCECIG denies each and every allegation of Plaintiff's Complaint not specifically admitted herein.
2. Upon information and belief, Defendant SCECIG admits Paragraph 1 of the Complaint.
3. Regarding Paragraph 2 of the Complaint, Defendant SCECIG is without sufficient information either to admit or to deny; and as such denies this Paragraph and demands strict proof thereof.
4. Defendant SCECIG admits Paragraph 3 of the Complaint.
5. Regarding Paragraphs 4-5 of the Complaint, Defendant SCECIG is without sufficient information either to admit or to deny; and as such denies these Paragraphs and demands strict proof thereof.
6. Defendant SCECIG admits Paragraph 6 of the Complaint.
7. Regarding Paragraph 7 of the Complaint, Defendant SCECIG is without sufficient

information either to admit or to deny; and as such denies this Paragraph and demands strict proof thereof.

8. Regarding Paragraph 8 of the Complaint, Defendant SCECIG admits only that the Court has jurisdiction over Defendant SCECIG; and the remainder is denied and strict proof is demanded.

9. Regarding Paragraphs 9-16 of the Complaint, Defendant SCECIG is without sufficient information either to admit or to deny; and as such denies this Paragraph and demands strict proof thereof.

10. Defendant SCECIG denies Paragraph 17 of the Complaint and demands strict proof thereof.

11. Regarding Paragraphs 18-19 of the Complaint, Defendant SCECIG is without sufficient information either to admit or to deny; and as such denies this Paragraph and demands strict proof thereof.

12. Defendant SCECIG denies Paragraphs 20-21 of the Complaint and demands strict proof thereof.

13. Regarding Paragraphs 22-24 of the Complaint, Defendant SCECIG is without sufficient information either to admit or to deny; and as such denies this Paragraph and demands strict proof thereof.

14. Regarding Paragraphs 25-27 of the Complaint, Defendant SCECIG is without sufficient information either to admit or to deny; and as such denies this Paragraph and demands strict proof thereof.

15. Regarding Paragraphs 28-29 of the Complaint, Defendant SCECIG is without sufficient information either to admit or to deny; and as such denies this Paragraph and demands strict proof thereof.

16. Defendant SCECIG denies Paragraphs 30-35 of the Complaint and demands strict proof thereof.

17. Regarding Paragraph 36 of the Complaint, no response is required.

18. Defendant SCECIG denies Paragraphs 37-38 of the Complaint and demands strict proof thereof.

19. Regarding Paragraphs 39-48 of the Complaint, Defendant SCECIG is without

sufficient information either to admit or to deny; and as such denies this Paragraph and demands strict proof thereof.

20. Regarding Paragraph 49 of the Complaint, no response is required.

21. Defendant SCECIG denies Paragraphs 50-51 of the Complaint and demands strict proof thereof.

22. Regarding Paragraphs 52-61 of the Complaint, Defendant SCECIG is without sufficient information either to admit or to deny; and as such denies this Paragraph and demands strict proof thereof.

23. Regarding Paragraph 62 of the Complaint, no response is required.

24. Regarding Paragraphs 63-67 of the Complaint, Defendant SCECIG is without sufficient information either to admit or to deny; and as such denies this Paragraph and demands strict proof thereof.

25. Regarding Paragraph 68 of the Complaint, no response is required.

26. Regarding Paragraphs 69-73 of the Complaint, Defendant SCECIG is without sufficient information either to admit or to deny; and as such denies this Paragraph and demands strict proof thereof.

27. Regarding Paragraph 74 of the Complaint, no response is required.

28. Defendant SCECIG denies Paragraph 75 of the Complaint and demands strict proof thereof.

FOR A SECOND DEFENSE
(12(b)(6) Failure to State a Claim)

29. Plaintiff's claims are barred because they fail to state facts sufficient to constitute a cause of action.

FOR A THIRD DEFENSE
(Comparative Negligence)

30. Plaintiff's claims are barred, or must be reduced, because even if Defendant SCECIG was negligent as alleged by the Plaintiff, which is specifically denied, Defendant SCECIG's negligence must be measured against the negligence of Plaintiff in failing and refusing to exercise reasonable care in the handling and storing of the subject battery.

FOR A FOURTH DEFENSE

(Express & Implied Assumption of the Risk)

31. Plaintiff's claims are barred by the doctrine of assumption of the risk.

FOR A FIFTH DEFENSE
(S.C. Code §15-73-10)

32. Plaintiff's claim for Strict Liability/Failure to Warn is barred, because the subject battery was not defective or unreasonably dangerous.

FOR A SIXTH DEFENSE
(S.C. Code §36-2-314)

33. Plaintiff's claim for Implied Warranty of Merchantability is barred, because the subject battery was merchantable.

FOR A SEVENTH DEFENSE
(No Recommendation of Battery)

34. Plaintiff's claim for Implied Warranty of Fitness for a Particular Purpose is barred, because Defendant SCECIG did not recommend the subject battery.

FOR AN EIGHTH DEFENSE
(S.C. Code §39-5-40)

35. Plaintiff's claim for Unfair Trade Practices is barred, because the South Carolina Unfair Trade Practices Act does not apply to the sale of Electronic Nicotine Delivery Systems (ENDS), which is regulated by the Federal Drug Administration.

FOR A NINTH DEFENSE
(Spoliation of Evidence)

36. Plaintiff's claims are barred by the doctrine of spoliation of evidence.

FOR A TENTH DEFENSE
(Intervening/Superseding Cause)

37. Plaintiff's claims are barred, because even if Defendant SCECIG was negligent

as alleged by Plaintiff, which is specifically denied, the intervening and/or superseding negligence of an entity or entities other than Defendant SCECIG was the direct and proximate cause of the damages suffered by Plaintiff.

FOR AN ELEVENTH DEFENSE
(Failure to Maintain)

38. Plaintiff's damages, if any, are due to and a result of Plaintiff's failure to properly and adequately maintain and store the subject battery.

FOR A TWELFTH DEFENSE
(Improper Claim for Punitive Damages)

39. Punitive damages are inappropriate, because Defendant SCECIG did not engage in any malicious, reckless, wrongful or intentional conduct upon which an award of punitive damages could be based.

FOR A THIRTEENTH DEFENSE
(Sole Negligence of Plaintiff)

40. Plaintiff's claims are barred because the damages suffered by Plaintiff, if any, were due solely to and caused by the negligence, carelessness, recklessness, willfulness and wantonness of the Plaintiff and/or its agents in failing and refusing to exercise reasonable care in the maintenance and/or storage of the subject battery.

FOR A FOURTEENTH DEFENSE
(Sole Negligence of Others)

41. Plaintiff's claims are barred because the damages suffered by Plaintiff, if any, were due solely to and caused by the negligence, carelessness, recklessness, willfulness and wantonness of an entity or entities or person other than Defendant SCECIG.

FOR A FIFTEENTH DEFENSE
(Additional Defenses & Reservation of Other Defenses)

42. Defendant SCECIG hereby gives notice that it intends to rely upon such other

affirmative defenses as may become available or apparent during the course of discovery, and thus reserves the right to amend its Answer to assert any such defense.

WHEREFORE, Defendant SCECIG demands judgment as follows:

- a. For dismissal of Plaintiff's Complaint against Defendant SCECIG;
- b. For a reasonable attorney's fee and costs incurred in defending this action; and
- c. For such other relief as this Court deems just and proper.

SANDERS LAW FIRM, LLC

s/ Thomas O. Sanders, IV
Thomas O. Sanders, IV
1738 Three Oaks Avenue
Charleston, South Carolina 29407
(843) 573-8828
ATTORNEY FOR DEFENDANT SCECIG

September 10, 2021
Charleston, South Carolina

STATE OF SOUTH CAROLINA	)	
	)	IN THE COURT OF COMMON PLEAS
COUNTY OF CHARLESTON	)	NINTH JUDICIAL CIRCUIT
REID FLEMING,	)	Civil Action No. 2021-CP-1001663
	)	
Plaintiff,	)	
	)	
vs.	)	DEFENDANT LG CHEM, LTD.’S
	)	MEMORANDUM IN SUPPORT
THE PLANET VAPE,	)	OF MOTION TO DISMISS
LLC;SCECIGARETTE, LLC; LG CHEM,	)	FOR LACK OF PERSONAL
LTD.;	)	JURISDICTION
	)	
Defendants.	)	
_____	)	

Defendant LG Chem, Ltd. (“LG Chem”) respectfully submits this memorandum of law in support of its Motion to Dismiss Plaintiff’s Complaint against it for lack of personal jurisdiction, pursuant to South Carolina Rule of Procedure 12(b)(2).

INTRODUCTION

This is a products liability case, in which Plaintiff alleges he was injured when one of the lithium ion batteries he purchased from defendants The Planet Vape, LLC (“Planet Vape”) and SC E-Cigarette, LLC (“SC E-Cigarette”), for use with his vaping device, exploded in his pocket. Plaintiff alleges that LG Chem was the manufacturer of the battery and that John Doe Distributors #1 through 3 distributed the subject battery to Planet Vape and SC E-Cigarette.

Defendant LG Chem is a Korean corporation with its headquarters and principal offices in Seoul, South Korea. LG Chem never designed, manufactured, distributed, advertised, or sold any lithium ion battery cells directly to consumers for use as standalone, replaceable batteries, in South Carolina or anywhere else. The lithium ion cells that LG Chem manufactured are industrial

component parts that are designed to be incorporated into battery packs with protective circuitry. They are not standalone, replaceable consumer batteries, and they were not designed to be handled by consumers. LG Chem never authorized anyone to sell its 18650 battery cells directly to consumers as standalone, replaceable batteries, and never sold any lithium ion battery cells to anyone known to LG Chem to be engaged in the business of supplying 18650 lithium ion battery cells to consumers as standalone, replaceable batteries. Accordingly, LG Chem lacks suit-related contacts with South Carolina, and due process is not satisfied by the exercise of jurisdiction over LG Chem in this case.

The above facts are undisputed, and the allegations of Plaintiff's complaint—even if true—do not show otherwise. Therefore, the exercise of either general or specific personal jurisdiction over LG Chem would violate constitutional due process and offend traditional notions of fair play and substantial justice. For these reasons, the Court should dismiss Plaintiff's claims against LG Chem.

FACTS

A. The nature of Plaintiff's claims.

Plaintiff Reid Fleming is a resident of Anderson County, South Carolina. (Complaint, filed April 12, 2021, ¶ 1.) Plaintiff alleges that prior to the accident at issue, he purchased from Planet Vape and SC E-Cigarette a number of lithium ion batteries, which these retailers marketed or represented as being LG batteries. (*Id.* ¶¶ 20, 21.) Plaintiff alleges that on or around May 24, 2018, he was injured when an LG lithium ion battery he had purchased from Planet Vape and SC E-Cigarette exploded in his pocket. (*Id.* ¶ 31.)

B. LG Chem’s lack of suit-related contacts with South Carolina.

LG Chem is a Korean corporation with its headquarters and principal offices in Seoul, South Korea. (**Exhibit A**, Affidavit of Hwi Jae Lee, dated July 13, 2021, ¶ 7; Compl., ¶ 4.) LG Chem does not have an office in South Carolina; is not registered to do business in South Carolina; does not have a registered agent for the service of process in South Carolina; does not own or lease any real property in South Carolina; and does not have any employees who work in South Carolina. (Lee Aff. ¶¶ 8–13.)

LG Chem has never designed, manufactured, distributed, advertised, or sold its lithium ion battery cells to consumers for use as standalone, replaceable batteries in South Carolina or anywhere else. (Lee Aff., ¶¶ 16–17.) The lithium ion cells that LG Chem manufactured are industrial component parts; they are not standalone, replaceable consumer batteries, and they were not designed to be handled by consumers. (*Id.* ¶ 16.)

LG Chem never conducted any business with the entity or entities allegedly involved in distributing or selling the subject battery cell to a South Carolina vape shop, and never authorized them or anyone else to advertise, distribute, or sell its lithium ion cells to individual consumers for use as standalone, replaceable batteries. (*Id.* ¶¶ 20, 21.) LG Chem never distributed, supplied, sold, or shipped any lithium ion battery cells to anyone in South Carolina known to LG Chem to be engaged in the business of selling 18650 lithium ion cells directly to individual consumers for use as standalone, replaceable batteries to power vaping devices. (*Id.* ¶ 19.)

LEGAL STANDARD

“The question of personal jurisdiction over a nonresident defendant is one which must be resolved upon the facts of each particular case.” *Cockrell v. Hillerich & Bradsby Co.*, 363 S.C. 485, 611 S.E.2d 505 (2005). “The party seeking to invoke personal jurisdiction over a non-resident

defendant . . . bears the burden of establishing jurisdiction.” *Power Prods. & Servs. Co., Inc. v. Kozma*, 379 S.C. 423, 430, 665 S.E.2d 660, 664 (Ct. App. 2008). “Courts will take as true the allegations of the nonmoving party and resolve all factual disputes in its favor.” *Brown v. Inv. Mgmt. & Research, Inc.*, 323 S.C. 395, 399, 475 S.E.2d 754, 756 (1996) (resolving, in plaintiff’s favor, conflicting facts set forth in affidavits from witnesses in opposing parties).

At the pretrial stage, the plaintiff meets his burden of proving personal jurisdiction over a nonresident defendant by a prima facie showing of jurisdiction either (1) in the complaint or (2) in affidavits. *See Cockrell*, 363 S.C. at 491, 611 S.E.2d at 508; *Sullivan v. Hawker Beechcraft Corp.*, 397 S.C. 143, 150, 723 S.E.2d 835, 839 (Ct. App. 2012). However, a plaintiff must allege specific facts to establish the contacts necessary to invoke either general or specific jurisdiction. *See Power Prods.*, 379 S.C. at 433, 434, 436, 665 S.E.2d at 665, 666, 667 (affirming trial court’s dismissal based on lack of personal jurisdiction because plaintiff did not establish facts—either through the complaint or affidavits—to confer jurisdiction). Conclusory allegations will not suffice. *Id.* at 433–35, 665 S.E.2d at 665–66.

Additionally, “[w]hen a motion to dismiss attacks the allegations of the complaint on the issue of jurisdiction, the court is not confined to the allegations of the complaint but may resort to affidavits or other evidence to determine jurisdiction.” *Coggeshall v. Reprod. Endocrine Assocs. of Charlotte*, 376 S.C. 12, 16, 655 S.E.2d 476, 478 (2007).

Here, the Court should consider LG Chem’s affidavit that provides admissible facts showing that jurisdiction does not exist. *See, e.g., Power Products*, 379 S.C. at 428, 665 S.E.2d at 663 (citing defendants’ affidavits submitted to negate facts alleged in the complaint and support their argument that there was an insufficient nexus from their actions to support jurisdiction); *Hidria, USA, Inc. v. Delo*, 415 S.C. 533, 538, 783 S.E.2d 839, 841 (Ct. App. 2016) (citing to

affidavits submitted by both plaintiff and defendant in affirming the trial court's dismissal); *Grant v. Lowe's Home Centers LLC*, No. 9:20-CV-00764-DCN, 2020 WL 1494070, at *3 (D.S.C. Mar. 27, 2020) ("In cases where the defendant provides evidence which denies facts essential for jurisdiction, the plaintiff must, under threat of dismissal, present sufficient evidence to create a factual dispute on each jurisdictional element which has been denied by the defendant and on which the defendant has presented evidence.").

ARGUMENT

I. General jurisdiction is lacking because LG Chem is not "at home" in South Carolina.

A court may assert general jurisdiction over foreign corporations when their affiliations with the forum state "are so 'continuous and systematic' as to render them essentially at home in the forum State." *Daimler AG v. Bauman*, 571 U.S. 117, 127 (2014) (quoting *Goodyear Dunlop Tires Operations, S.A. v. Brown*, 564 U.S. 915, 925 (2011)); see also *Ford Motor Co. v. Montana Eighth Jud. Dist. Ct.*, 141 S. Ct. 1017, 1024 (2021). Only in an "exceptional case" can a court exercise general jurisdiction in a forum that is not "the corporation's place of incorporation [or] its principal place of business." *BNSF Ry. Co. v. Tyrrell*, 137 S. Ct. 1549, 1558 (2017). An example of an exceptional case is when war forces a "corporation's owner to temporarily relocate the enterprise from the Philippines to Ohio," which becomes "the center of the corporation's wartime activities." *Id.* (quoting *Perkins v. Benguet Consol. Mining Co.*, 342 U.S. 437, 448 (1952)).

In *BNSF*, the Supreme Court held that Montana could not exercise general jurisdiction over BNSF even though the railway company had "over 2,000 miles of railroad track and more than 2,000 employees in Montana." *Id.* at 1559. And in *Daimler*, the Supreme Court declined plaintiffs' invitation to "look beyond the exemplar bases *Goodyear* identified [place of incorporation and principal place of business], and approve the exercise of general jurisdiction in

every State in which a corporation ‘engages in a substantial, continuous, and systematic course of business.’ ” 571 U.S. at 137–38. “That formulation . . . is unacceptably grasping” and would impermissibly result in “exorbitant exercises of all-purpose jurisdiction” in every “State in which [a company’s] sales are sizable.” *Daimler*, at 138, 139. “A corporation that operates in many places can scarcely be deemed at home in all of them.” *Id.* at 139 n.20. “Otherwise, ‘at home’ would be synonymous with ‘doing business’ tests framed before specific jurisdiction evolved in the United States.” *Id.*

LG Chem is not “at home” in South Carolina. It is undisputed that South Carolina is not LG Chem’s place of incorporation or its principal place of business (*see* Complaint ¶ 4; Lee Aff. ¶ 7). LG Chem has no other continuous or systematic contacts with South Carolina that could satisfy the Supreme Court’s standard for an “exceptional case,” (Lee Aff. ¶¶ 8–13), and Plaintiff does not allege otherwise. Accordingly, there is no basis for exercising general jurisdiction over LG Chem.

II. Specific jurisdiction is lacking because Plaintiff’s claims do not arise out of or relate to any minimum contacts formed by LG Chem with South Carolina.

To establish specific jurisdiction, Plaintiff must show that both South Carolina’s long-arm statute and constitutional due process are satisfied. Due process requires that a defendant has sufficient minimum contacts with the forum state such that maintenance of suit does not offend traditional notions of fair play and substantial justice. *Cockrell*, 363 S.C. at 491, 611 S.E.2d at 508.

South Carolina courts recognize that to satisfy due process, the court must find that (1) the defendant has the requisite minimum contacts with the forum, without which the court does not have the power to adjudicate the action (the power prong); and (2) the exercise of jurisdiction would be “reasonable” or “fair” (the fairness prong). *See S. Plastics Co. v. S. Commerce Bank*, 310 S.C. 256, 260, 423 S.E.2d 128, 131 (1992).

To meet the power prong, the suit must arise out of or relate to the defendant's contacts with the forum. *See Cockrell*, 363 S.C. at 491–94, 611 S.E.2d 505, 509–10 (2005); *Power Prods.*, 379 S.C. at 433–35, 665 S.E.2d at 665–67; *see also Ford Motor Co. v. Montana Eighth Jud. Dist.*, 141 S. Ct. 1017, 1025 (2021); *Bristol-Myers Squibb Co. v. Superior Court*, 137 S. Ct. 1773, 1780 (2017) (citing *Daimler*, 571 U.S. at 127; *J. McIntyre Mach., Ltd. v. Nicastro*, 564 U.S. 873, 881 (2011)). Specifically, the court must “find that the defendant directed its activities to a resident of this State and that the cause of action arises out of or relates to those activities.” *Southern Plastics*, 310 S.C. at 260, 423 S.E.2d at 131; *Power Prods.*, 379 S.C. at 432, 665 S.E.2d at 665. Here, Plaintiff has not met his burden in showing that his claims arise out of or relate to activities LG Chem directed to residents of South Carolina, and the power prong is not satisfied.

A. Even accepting the factual allegations of Plaintiff's Complaint as true, Plaintiff has not made a prima facie showing of specific jurisdiction.

Plaintiff's Complaint does not set forth specific facts that meet his burden of proof. The majority of his jurisdictional allegations merely parrot the language of the long-arm statute, with no facts to support the boilerplate legal conclusions.¹ In addition, Plaintiff generally alleges that LG Chem conducts business in South Carolina or with South Carolina entities, or that LG Chem makes use of South Carolina ports, without making any specific allegations that would show either contacts with South Carolina related to the particular product at issue in this case or how those contacts might possibly relate to Plaintiff's claims in this case.

¹ *See, e.g.,* Compl. ¶ 9(a) “LG Chem Ltd.’s products . . . cause tortious injury or death in South Carolina by acts or omissions occurring outside the state under circumstances where LG Chem Ltd. regularly does or solicits business, engages in other persistent conduct and/or derives substantial revenue from goods used or consumed or services rendered in the state of South Carolina.”

LG Chem’s unrelated business activities with regard to any other products, whether other types of “lithium-ion battery products”² or any of the many other component products LG Chem manufactures (such as resin or latex), have absolutely nothing to do with Plaintiff’s claims for injury allegedly resulting from use of a lithium-ion battery cell he bought from a South Carolina vape store for use as a standalone, replaceable, consumer battery. And even if Plaintiff had alleged that LG Chem did *any* business in South Carolina for the specific product at issue in this case—which he did not—such allegations would still be insufficient without facts connecting those contacts with his claims.

Plaintiff cannot meet his burden of proving jurisdiction by making vague and conclusory allegations that LG Chem conducted business in South Carolina, without showing, by specific facts, that the business was related to Plaintiff’s claims. Instead, a plaintiff must allege specific facts to establish the contacts necessary to invoke either general or specific jurisdiction. *See Power Prods.*, 379 S.C. at 433, 434, 436, 665 S.E.2d at 665, 666, 667 (affirming trial court’s dismissal based on lack of personal jurisdiction because plaintiff did not establish facts—either through the complaint or affidavits—to confer jurisdiction). Conclusory allegations will not suffice. *Id.* at 433, 665 S.E.2d at 665, 666.

Because the conclusory jurisdictional allegations contain no supporting facts, the Complaint does not meet the pleading requirements to satisfy Plaintiff’s prima facie burden under

² For example, “lithium-ion battery products” could mean cells the size and shape of a purse or briefcase, which can be joined together in battery systems the size of an office desk to power electric vehicles, such as cars and buses. This case involves a very specific type of lithium ion battery product, an industrial component part known as an 18650 battery cell, which is cylindrical in shape and measures 65 mm in length and 18 cm in diameter. LG Chem sold 18650 battery cells to sophisticated companies to be used in building battery packs for products such as cordless power tools. The battery packs provide a protective housing and contain protective circuitry for the safe operation of the battery pack.

either the long-arm statute or due process requirements. *See Sullivan*, 397 S.C. at 150–51, 723 S.E.2d at 839 (affirming trial court’s granting of Rule 12(b)(2) motion for plaintiff’s failure to allege any facts to show that defendants had regular transactions of business or solicitation, engaged in a persistent course of conduct, derived substantial revenue, or consumed goods or services rendered in South Carolina).

In *Sonoco Products Co. v. ACE INA Insurance*, 877 F. Supp. 2d 398, 407 (D.S.C. 2012), the United States District Court for the District of South Carolina dismissed a case against a Canadian insurance company for lack of jurisdiction. Applying the same legal standard as South Carolina state courts (by construing the allegations in the light most favorable to plaintiff, drawing all inferences and resolving all factual disputes in its favor), the court held that the plaintiffs “offer nothing more than a conclusory statement to show that ACE INA solicited business in South Carolina.” *Id.* at 407 (citing *Masselli & Lane, PC v. Miller & Schuh, PA*, 215 F.3d 1320 (Table) (4th Cir. 2000), for the proposition that a court need not “credit conclusory allegations” when deciding whether a plaintiff makes a prima facie showing of personal jurisdiction).

Here, the allegations in Plaintiff’s complaint are pleaded in the same way that the *Sullivan* and *Sonoco* courts found to be insufficient to meet a prima facie showing of personal jurisdiction, and merely alleging legal conclusions in the Complaint does not meet the fact-pleading standard required by South Carolina courts.

B. Plaintiff’s allegations focus on third party activities, when the jurisdictional analysis depends on the defendant’s own contacts with the forum.

The minimum contacts analysis focuses on the defendant’s conduct in “direct[ing] its activities to residents of South Carolina.” *Hidria, USA, Inc. v. Delo*, 415 S.C. 533, 783 S.E.2d 839, 843 (Ct. App. 2016); *see also Cockrell*, 363 S.C. at 494, 611 S.E.2d at 510. “In addition, the defendant’s activities directed to a resident of this State must be its own and not the unilateral

activities of some other entity.” *S. Plastics*, 310 at 261, 423 S.E.2d at 131; *see also Walden v. Fiore*, 571 U.S. 277, 291 (2014) (holding that, for purposes of personal jurisdiction, “it is the defendant, not the plaintiff or third parties, who must create contacts with the forum State”); *Madden v. Petland Summerville, LLC*, No. 2:20-CV-02953-DCN, 2021 WL 5770294, at *4 (D.S.C. Dec. 6, 2021) (finding that marketing actions—which were those of a Summerville, South Carolina franchise, not the defendant franchisor—could not be attributed to the nonresident franchisor for jurisdictional purposes) (citing *Walden*, 571 U.S. at 278).

For example, Plaintiff’s allegation that he purchased and used the product from a retailer in the state and was injured in the forum state, even if true, focuses only on the conduct of the Plaintiff and other third parties, not the conduct of LG Chem. Even if true, these allegations do not establish that LG Chem formed a suit-related connection with the state. *See Walden*, 571 U.S. at 277 (holding that the operative question “is not where the plaintiff experienced a particular injury or effect but whether the defendant’s conduct connects [it] to the forum in a meaningful way”).

The U.S. Supreme Court recently addressed this issue in *Ford Motor Co. v. Montana Eighth Judicial District Court*, 141 S. Ct. 1017 (2021). In *Ford*, the Supreme Court reiterated that the constitutional touchstone focuses on the contacts between the defendant and the forum state—not contacts with the forum formed by the plaintiff or other third parties. Although the Supreme Court rejected Ford’s argument that there must be a strict *causal* connection between the defendant’s in-state conduct and the plaintiff’s claims, the Court nevertheless reiterated that the specific jurisdiction analysis must focus on the extent and nature of the defendant’s conduct directed to the forum state and the degree to which that conduct is related to the plaintiff’s claims. 141 S. Ct. at 1027–28; *see also Bristol-Myers*, 137 S. Ct. at 1781 (“When there is no such

connection, specific jurisdiction is lacking regardless of the extent of a defendant's unconnected activities in the State.”).

In *Ford*, which consolidated two cases that originated in Montana and Minnesota state courts, the Supreme Court found that those two states had properly exercised personal jurisdiction over Ford in cases in which a consumer plaintiff asserted product liability claims against the company based on use of a Ford vehicle that had arrived in the forum state (where the accident occurred) as the result of consumer relocations and resales, and was not designed, manufactured, or sold in the forum by Ford. Although Ford did not bring the specific vehicles to the forum states, Ford itself engaged in extensive and wide-ranging activities in the forum state in furtherance of its undisputed intention to serve a consumer market for the very same type of vehicles at issue.

It was Ford, not unauthorized third parties, that supplied consumers in Minnesota and Montana with Ford vehicles (and specifically Explorers and Crown Victorias); it was Ford, not unauthorized third parties, that advertised those vehicles to in-state consumers on TV and billboards and by “every means imaginable”; and it was Ford that licensed dealers to sell, maintain, and repair Ford cars in Minnesota and Montana. *Ford*, 141 S. Ct. at 1028. As the Court noted, Ford had “a veritable truckload” of relevant, suit-related contacts with the forum States. *Id.* at 1031.

By contrast, here, it was unauthorized third parties—not LG Chem—that supplied consumers in South Carolina with lithium ion battery cells through retail stores that had no connection to LG Chem. There were no retailers licensed by LG Chem to supply LG lithium ion battery cells directly to consumers. There were no dealers authorized by LG Chem to repair or replace lithium ion battery cells for consumers. There were no TV or billboards or other advertisements whereby LG Chem “urged” consumers to purchase lithium ion battery cells as

standalone, replaceable batteries for any purpose. Any connections that exist between South Carolina and this lawsuit were formed entirely by Plaintiff and other third parties; none by LG Chem.

Similarly, in *Cockrell*, the Supreme Court of South Carolina found personal jurisdiction was lacking over defendants—the University of Massachusetts at Lowell Baseball Research Center and James Sherwood, a mechanical engineer and Director of the Research Center—because the subject product (baseball bats) “did not arrive in South Carolina through the respondents’ efforts.” 363 S.C. at 494, 611 S.E.2d at 510. Instead, the bats arrived in South Carolina through the unilateral efforts of the distributor, Hillerich.

Here, LG Chem’s purported involvement with the subject suit is even more attenuated than the defendants in *Cockrell*. LG Chem has introduced admissible, uncontroverted evidence showing that it never served a consumer market in South Carolina for standalone, replaceable 18650 batteries and never authorized anyone to sell its 18650 cells directly to consumers for use as standalone, replaceable batteries. (*See* Lee Aff. ¶¶ 15–17, 19–22.) Accordingly, LG Chem has not formed any contacts with South Carolina related to Plaintiff’s claims for personal injury resulting from use of an LG 18650 lithium ion battery cell as a standalone battery to power his e-cigarette device. As a matter of law, therefore, the requisite connection among LG Chem, South Carolina, and Plaintiff’s claims is missing.

C. Plaintiff cannot rely on an outdated “stream of commerce” theory of jurisdiction when the “relatedness” element of the due process analysis central to the U.S. Supreme Court’s more recent precedents is not satisfied.

Plaintiff alleges that LG Chem manufactured a product outside the state and expected that it would be distributed or misused [by others] in South Carolina. *See* Compl. ¶ 10(b), 10(d)–(e)).

However, alleged awareness of third party actions is legally insufficient to support the exercise of specific jurisdiction. Instead, “it is the defendant’s actions, not his expectations, that empower a State’s courts to subject him to judgment.” *J. McIntyre Mach., Ltd. v. Nicastro*, 564 U.S. 873, 883 (2011) (plurality op.); *Ford*, 141 S. Ct. at 1025 (the relevant “contacts must be the defendant’s own choice”); *World-Wide Volkswagen Corp. v Woodson*, 444 U.S. 286, 297 (1980) (“[T]he foreseeability that is critical to due process analysis is not the mere likelihood that a product will find its way into the forum State. Rather, it is that the defendant’s conduct and connection with the forum State are such that he should reasonably anticipate being haled into court there.”). The South Carolina Supreme Court’s most recent decision addressing “stream of commerce” jurisdiction, *State v. NV Sumatra Tobacco Trading, Co.*, 379 S.C. 81, 666 S.E.2d 218 (2008), pre-dating *J. McIntyre*, *Bristol-Myers*, and *Ford*, cannot be applied to compel a result that is inconsistent with those U.S. Supreme Court precedents.

I. Sumatra cannot be read or applied in a way that is inconsistent with the U.S. Supreme Court’s express rejection of “nationwide” personal jurisdiction and central focus on the relationship among the forum, the defendant, and the claims at issue.

In *J. McIntyre*, the New Jersey Supreme Court had held that jurisdiction was proper “because the injury occurred in New Jersey; because petitioner knew or reasonably should have known ‘that its products are distributed through a nationwide distribution system that might lead to those products being sold in any of the fifty states’; and because petitioner failed to ‘take some reasonable step to prevent the distribution of its products in [New Jersey].’” *Id.* at 879 (Kennedy, J., plurality opinion) (quoting *Nicastro v. McIntyre Mach. Am., Ltd.*, 987 A.2d 575, 592 (N.J. 2010)). In reaching that conclusion, the New Jersey Supreme Court cited the South Carolina Supreme Court’s decision in *Sumatra* as an exemplar of the “stream of commerce” theory of jurisdiction supporting “nationwide” jurisdiction.

But the United States Supreme Court reversed the New Jersey Supreme Court in *J. McIntyre*, concluding that “the New Jersey Supreme Court’s holding and its account of what it called ‘[t]he stream-of-commerce doctrine of jurisdiction,’ were incorrect, however.” 564 U.S. at 879. Justice Breyer, although concurring in the judgment on narrower grounds, nevertheless agreed with the plurality that the New Jersey Supreme Court’s view that a manufacturer “is subject to jurisdiction for a products-liability action so long as it ‘knows or reasonably should know that its products are distributed through a nationwide distribution system that *might* lead to those products being sold in any of the fifty states’” does not comport with due process. *Id.* at 891 (Breyer, J., concurring) (emphasis in original). To adopt the New Jersey Supreme Court’s “view would abandon the heretofore accepted inquiry of whether, focusing upon the relationship between ‘the defendant, the forum, and the litigation,’ it is fair, in light of the defendant’s contacts *with that forum*, to subject the defendant to suit there.” *Id.* (emphasis in original) (quoting *Shaffer v. Heitner*, 433 U.S. 186, 204 (1977)).

Of note, in a post-*J. McIntyre* case involving the same Sumatra defendant that was the basis for South Carolina’s *Sumatra* decision, the Tennessee Supreme Court concluded that *J. McIntyre* led it to reach the opposite conclusion on personal jurisdiction. *See State v. NV Sumatra Tobacco Trading Co.*, 403 S.W.3d 726, 765 (Tenn. 2013) (recognizing that “[i]f New Jersey lacked jurisdiction over J. McIntyre Machinery, which vigorously and directly targeted American markets, including New Jersey, then Tennessee surely lacks jurisdiction over NV Sumatra”).

In *Sumatra*, our Supreme Court recognized that “[t]he foreseeability that is critical to due process analysis is not the mere likelihood that a product will find its way into the forum state. Rather, it is that the defendant's conduct and connection with the forum state are such that he should reasonably anticipate being haled into court there.” *Id.* at 89, 666 S.E.2d 222 (emphasis

added). The Court concluded this standard was met in *Sumatra* in light of the volume of cigarettes the defendant admittedly distributed for sale to consumers throughout the United States, including 7 million cigarettes to consumers in South Carolina. But here, LG Chem denies that it distributed any 18650 battery cells to anyone for sale as a standalone product to consumers in South Carolina—or anywhere else.

Reading *Sumatra* to support the exercise of personal jurisdiction over a foreign manufacturer based solely on a plaintiff's allegation that the foreign defendant manufactured its product in a foreign country with the expectation or awareness that third parties would sell its product throughout the United States and in the State of South Carolina would be squarely at odds with controlling United States Supreme Court precedents and inconsistent with the facts supporting the Court's ruling in *Sumatra*.

2. *Sumatra is readily distinguishable on its facts, where the undisputed evidence in this case establishes that LG Chem did not distribute lithium ion batteries as standalone products to consumers throughout the United States, or in South Carolina.*

In *Sumatra*, the South Carolina Supreme Court recognized that “[t]he question of personal jurisdiction over a nonresident defendant is one which must be resolved upon the facts of each particular case,” 379 S.C. at 88, 666 S.E.2d at 221 (emphasis added). The facts of the case before this Court are highly distinguishable from those in *Sumatra*. In that case, the Indonesian cigarette manufacturer admitted that it intended to sell its cigarettes to consumers throughout the United States, including almost seven million cigarettes sold to consumers in South Carolina in one year as the direct result of its intended chain of distribution. *Id.* at 87–92, 666 S.E.2d at 221–24. Further, in *Sumatra*, the Indonesian manufacturer sold its cigarettes to its designated distributor, which then distributed the cigarettes to South Carolina for the specific purpose of distributing them to consumers as a consumer product. *Id.*, at 86, 666 S.E.2d at 220.

By contrast, here, Plaintiff does not allege, nor could he, that LG Chem distributed its 18650 lithium ion battery cells directly to consumers as a standalone product, or to any distributor or other intermediary for the purpose of supplying the cells directly to consumers as a standalone product. And LG Chem's admissible evidence shows that LG Chem did not design, manufacture, distribute, advertise, or sell its 18650 battery cells directly to or for use by consumers as standalone, replaceable batteries, and that it never authorized anyone else to do so either. This important fact readily and materially distinguishes *Sumatra* from the case before this Court. The *Sumatra* court itself recognized that a decision on personal jurisdiction must be based on the unique facts of each case, and the distinguishable facts of this case cannot be shoehorned within the holding of *Sumatra*.

D. Plaintiff's conclusory allegation of "relatedness" does not satisfy his burden.

Although Plaintiff alleges, in conclusory fashion, that "LG Chem, Ltd.'s contacts with South Carolina relate to plaintiff's claims," (Compl., ¶ 10), he fails to support that boilerplate legal conclusion with supporting facts, and there are none. For example, Plaintiff alleges that LG Chem delivers lithium ion battery products to South Carolina ports, but he does not allege that they are the same products at issue in this case, nor does he allege that LG Chem delivers the specific products at issue in this case to a consumer market in South Carolina (and it does not). Even if LG Chem had supplied lithium ion battery cells to a car manufacturer in South Carolina, that is not the same product, and it has nothing to do with a consumer vaping market for standalone, 18650 batteries. Plaintiff has not offered specific factual allegations that, if true, would support a finding of relatedness, nor can he possibly introduce any evidence to support the constitutionally required suit-related connection between LG Chem and South Carolina.

The U.S. Supreme Court's recent precedents make clear that the manufacturer's forum contacts must relate to the specific product at issue in the suit, not any product a manufacturer

might sell. *See Ford*, 141 S. Ct. at 1028 (“Ford had advertised, sold, and serviced those two car models in both States for many years. (*Contrast a case, which we do not address, in which Ford marketed the models in only a different State or region.*) In other words, Ford had systematically served a market in Montana and Minnesota for the very vehicles that the plaintiffs allege malfunctioned and injured them in those States.”) (emphasis added). Indeed, even when the manufacturer has extensive in-state contacts for the very product at issue, these contacts cannot support the exercise of specific jurisdiction if unrelated to the litigation. *Bristol-Myers*, 137 S. Ct. at 1781 (“[E]ven regularly occurring sales of a product in a State do not justify the exercise of jurisdiction over a claim unrelated to those sales.”); *Goodyear*, 564 U.S. at 919 n. 6.

Plaintiff makes no such allegations, and Plaintiff cannot possibly offer any evidence showing that LG Chem supplied a consumer market in South Carolina for standalone 18650 batteries, because it is simply not true. Instead, Plaintiff alleges only that LG Chem was aware that individual consumers were using its battery cells to power vaping devices and that LG Chem allegedly did not attempt to prevent such third party misuse of its battery cells. These allegations, even if true (which they are not), would not establish that LG Chem formed any suit-related connections with South Carolina; instead, these allegations focus only on LG Chem’s alleged awareness of the activities of third parties that diverted its 18650 battery cells from their intended chain of distribution and re-sold them into a consumer vaping market for standalone 18650 batteries without LG Chem’s authorization.

The United States Supreme Court reiterated earlier this year in *Ford* that the relatedness element of the specific jurisdiction analysis “imposes real limits.” The Supreme Court has long held that specific jurisdiction requires “a connection between the defendant's contacts with the forum and the specific claims at issue.” *Ford*, 141 S. Ct. at 1026 (quoting *Bristol-Myers*, 137 S.

Ct. at 1776); *see also* *Walden*, 571 U.S. at 284; *Helicopteros Nacionales de Colombia, S.A. v. Hall*, 466 U.S. 408, 414 (1984) (“When a controversy is related to or ‘arises out of’ a defendant’s contacts with the forum, the Court has said that a ‘relationship among the defendant, the forum, and the litigation’ is the essential foundation of in personam jurisdiction.”); *Fidrych v. Marriott Int’l, Inc.*, 952 F.3d 124, 140 (4th Cir. 2020) (“Marriott’s qualification to do business in South Carolina and its involvement in ninety hotels in the state have nothing to do with the claims asserted in this case and thus are not relevant to our inquiry.”) (citing *Walden*, 571 U.S. at 284). Plaintiff has not and cannot make that showing here.

Indeed, in *Bristol-Myers*, the non-resident defendant had five research laboratories in the forum state that employed 160 employees, 250 in-state sales representatives, an in-state government advocacy center, and an in-state distributor for the very drug at issue in the case (Plavix), but the Court still found jurisdiction lacking because those extensive, in-state contacts were not related to the non-resident plaintiffs’ claims. *Bristol-Myers*, 137 S. Ct. at 1781 (“[E]ven regularly occurring sales of a product in a State do not justify the exercise of jurisdiction over a claim unrelated to those sales.”); *Goodyear*, 564 U.S. at 919 n. 6. LG Chem has no such contacts with South Carolina for its 18650 battery cells, and Plaintiff does not allege otherwise.

Just last month, a California Court of Appeal found personal jurisdiction lacking over LG Chem in a similar case in California, despite evidence (which does not exist here) that LG Chem supplied 18650 battery cells to original equipment manufacturers and battery packers in the forum state (California) because those sales were unrelated to the plaintiff’s claims. *See, Kadow v. LG Chem, Ltd.*, No. B309854, 2021 WL 5935657, at *1 (Cal. Ct. App. Dec. 16, 2021 (affirming the trial court’s order granting LG Chem’s motion to quash for lack of personal jurisdiction); *see also* *LG Chem, Ltd. v. Turner*, No. 14-19-00326-CV, 2021 WL 2154075, at *5 (Tex. App. May 27,

2021) and *LG Chem, Ltd. v. Granger*, No. 14-19-00814-CV, 2021 WL 2153761, at *5 (Tex. App. May 27, 2021) (two post-*Ford* cases, based on similar jurisdictional facts and law, finding that “while it is undisputed that appellant sells some amount and some types of lithium-ion batteries into Texas and has a relationship with Stanley Black and Decker, there is no evidence, nor even an allegation that these connections with Texas are in any way connected to appellee's claims.”) In addition, last year, the Missouri Supreme Court found personal jurisdiction lacking over LG Chem in that state, rejecting the plaintiff’s argument that jurisdiction could be exercised based on LG Chem’s alleged awareness that third parties were selling its 18650 battery cells to consumers in Missouri. *State ex rel. LG Chem, Ltd. v. McLaughlin*, 599 S.W.3d 899 (Mo. 2020).

Here, Plaintiff has not alleged any facts or offered any evidence that could support a finding that his claims arise from or relate to any contacts LG Chem itself formed with South Carolina, and there are none. Even if Plaintiff showed that LG Chem directed products to industrial customers in South Carolina (such as petrochemicals or other types of lithium ion battery cells delivered to car manufacturers), that business is not sufficiently related to Plaintiff’s claims that he was injured by use of a lithium ion battery he bought from a South Carolina vape store as a standalone battery to power his e-cigarette device to satisfy constitutional due process.

E. The existence of other lawsuits is irrelevant to the jurisdictional analysis.

Plaintiff alleges that LG Chem has previously been sued and defended other lawsuits in South Carolina. Even if true, this allegation is insufficient to support the exercise of jurisdiction over LG Chem in this case, where LG Chem has not consented to jurisdiction. *See, e.g., Dow Chem. Co. v. Calderon*, 422 F.3d 827, 833 (9th Cir. 2005) (holding that “defense on the merits in a suit brought by one party cannot constitute consent to suit as a defendant brought by different parties”); *Klinghoffer v. S.N.C. Achille Lauro Ed Altri-Gestione Motonave Achille Lauro in*

Amministrazione Straordinaria, 937 F.2d 44, 50 n.5 (2d Cir. 1991) (“A party’s consent to jurisdiction in one case, however, extends to that case alone. It in no way opens that party up to other lawsuits in the same jurisdiction in which consent was given, where the party does not consent and no other jurisdictional basis is available.”); *Funai Elec. Co. v. Personalized Media Commc’ns, LLC*, Civ. No. 15-558-RGA, 2016 WL 370708, at *2-3 (D. Del. Jan. 29, 2016); *Bertolini-Mier v. Upper Valley Neurology Neurosurgery, P.C.*, No. 5:15-cv-35, 2016 WL 7174646, at *3 (D. Vt. Dec. 7, 2016); *Fesniak v. Equifax Mortg. Servs. LLC*, No. 14-3728, 2015 WL 2412119, at *6 (D. N.J. May 21, 2015).

Finally, that other South Carolina trial courts have denied motions to dismiss filed by LG Chem in other cases is not dispositive or binding on this Court. *See also Cockrell*, 363 S.C. at 491, 611 S.E.2d at 508 (“The question of personal jurisdiction over a nonresident defendant is one which must be resolved upon the facts of each particular case.”). LG Chem respectfully submits those decisions were not consistent with the requirements of constitutional due process.

In addition, in his Complaint at Paragraph 11, Plaintiff makes inaccurate statements regarding other lawsuits in South Carolina. For example, in *Roberts v. The Planet Vape*, the plaintiff in that case dismissed his suit against LG Chem after he determined that LG Chem was not the manufacturer of the cell. And in *Thompson v. Rolling Fog Vapor, et al.*, the case is stayed while the Court of Appeals considers LG Chem’s appeal of the order denying its motion to dismiss.

III. The fairness prong need not be considered, as Plaintiff has failed to satisfy the power prong.

Because the power prong cannot be satisfied, the Court need not reach the fairness prong. Regardless, Plaintiff cannot establish that the exercise of specific jurisdiction over LG Chem is constitutionally reasonable or fair. Under the fairness prong, courts analyze factors such as “the burden on the defendant[;] . . . the forum state's interest in adjudicating the dispute; the plaintiff's

interest in obtaining convenient and effective relief; the interstate judicial system's interest in obtaining the most efficient solution to controversies; and the shared interest of the several states in furthering fundamental substantive social policies.” *S. Plastics Co.*, 310 S.C. at 263, 423 S.E.2d at 132 (citing *World–Wide Volkswagen Corp. v. Woodson*, 444 U.S. 286 (1980)). “The weaker the contacts . . . the less likely it is that jurisdiction is reasonable.” *Grayson Consulting, Inc. v. Cathcart*, Nos. 2:07-cv-00593, 2013 WL 5755400, at *3 (D.S.C. Oct. 23, 2013).

Consideration of these factors affirms that subjecting LG Chem to specific jurisdiction in South Carolina would be constitutionally unreasonable. It would be unfair and unreasonable to subject LG Chem to personal jurisdiction in South Carolina when LG Chem has no contacts with South Carolina related to the claims at issue. Accordingly, even if the power prong were satisfied, which it is not, the exercise of specific jurisdiction over LG Chem would not comport with fundamental fairness.

CONCLUSION

For the foregoing reasons, Defendant LG Chem respectfully requests an Order dismissing Plaintiff’s claims against it for lack of personal jurisdiction. LG Chem is not subject to general jurisdiction because it cannot fairly be said to be “at home” in South Carolina. LG Chem is not subject to specific jurisdiction because Plaintiff’s claims do not arise from or relate to minimum contacts formed by LG Chem with South Carolina. Accordingly, due process is not satisfied, and Plaintiff’s claims against LG Chem should be dismissed.

WHEREFORE, for the foregoing reasons, LG Chem respectfully requests that the Court enter an Order dismissing LG Chem from this action for lack of personal jurisdiction and such other and further relief the Court deems just and proper.

Respectfully submitted,

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Attorneys for Defendant LG Chem, Ltd.

Columbia, South Carolina
January 7, 2022

STATE OF SOUTH CAROLINA
COUNTY OF CHARLESTON

Reid Fleming,

Plaintiff,

v.

The Planet Vape, LLC; SCECIGARETTE,
LLC; LG Chem Ltd.; John Doe Distributor
#1; John Doe Distributor #2; and John Doe
Distributor #3,

Defendants.

IN THE COURT OF COMMON PLEAS

C/A no. 2021-CP-1001663

**AFFIDAVIT OF CHRIS MOORE RE
EXHIBITS TO PLAINTIFF'S
RESPONSE IN OPPOSITION TO
DEFENDANT LG CHEM, LTD.'S
MOTION TO DISMISS FOR LACK OF
PERSONAL JURISDICTION**

I, Chris Moore, do hereby declare that the following is true and correct:

1. I am an attorney at law, licensed to practice in the State of South Carolina. I have been licensed to practice in the State of South Carolina since 2008.
2. I am one of the attorneys of record for Plaintiff.
3. I have knowledge of the matters stated herein.
4. Attached hereto as **Exhibit 1** is a true and accurate copy of the document entitled "LG Chem Ltd. and Subsidiaries Consolidated Financial Interim Financial Statements, June 30, 2018 and 2017" obtained from the website https://www.lgchem.com/upload/file/audit-report/2018_2Q_ConFS_ENG.pdf.
5. Attached hereto as **Exhibit 2** is a true and accurate copy of the Order of the Honorable Max O. Cogburn, Jr., United States District Judge for the Western District of North Carolina in the matter of *Celgard, LLC v. LG Chem, Ltd.*, No. 3:14-CV-00043-MOC-DC, 2015 WL 2412467 (W.D.N.C. May 21, 2015) obtained by counsel.
6. Attached hereto as **Exhibit 3** is a true and accurate copy of US Customs Import Data reflecting Shipments from LG Chem, Ltd., with LG Chem America Inc. acting as consignee

on over 818 shipments to South Carolina Ports dating back to 2006 obtained by counsel from the online subscription-based customs and import database operated by Import Genius, available via <https://www.importgenius.com/>.

7. Attached hereto as **Exhibit 4** is a true and accurate copy of Import Key data on 2018-2019 LG lithium ion batteries sold to South Carolina obtained by counsel from the online subscription based customs and import database operated by Import Key, available via <http://www.importkey.com/>.

8. Attached hereto as **Exhibit 5** is a true and accurate copy of LG Chem America, Inc.'s Certificate of Authority and Business Registration with the South Carolina Secretary of State initially obtained on September 15, 2010.

9. Attached hereto as **Exhibit 6** is a true and accurate copy of the April 30, 2019, Order Denying LG Chem America, Inc.'s Motion to Dismiss of the Hon. Michael G. Nettles, Presiding Judge, Twelfth Judicial Circuit, in the matter of *Moore v. Planet Vapor, Inc. et al.*, No. 2018-CP-02884 (Ct. Comm. Pleas, Florence Cnty, 2019).

10. Attached hereto as **Exhibit 7** is a true and accurate copy of the June 22, 2021, Order Denying LG Chem Ltd.'s Motion to Dismiss of the Hon. Judge Jefferson, Presiding Judge, Fourteenth Judicial Circuit, in the matter of *Williamson v. Pirates Cove Vapor Lounge, LLC, et al.*, Case No. 2019-CP-07-02270 (Ct. Comm. Pleas, Beaufort Cnty, 2019).

11. Attached hereto as **Exhibit 8** is a true and accurate copy of the May 6, 2020, Order Denying LG Chem Ltd.'s Motion to Dismiss of the Hon. Courtney Clyburn Pope, Presiding Judge, Second Judicial Circuit, in the matter of *Joshua Holtzendorff v. LG Chem, Ltd. et al.*, Case No. 2018-CP-0201518 (Ct. Comm. Pleas, Aiken Cnty, 2020).

12. Attached hereto as **Exhibit 9** is a true and accurate copy of the December 17, 2020, Form 4 Order Denying LG Chem Ltd.'s Motion to Dismiss of the Hon. Bentley D. Price, Presiding Judge, Ninth Judicial Circuit, in the matter of *Nicholas Keith Roberts v. LG Chem, Ltd. et al.*, Case No. Civil Action No. 2020-CP-100912 (Ct. Comm. Pleas, Charleston Cnty, 2020).

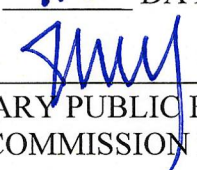
13. I hereby declare that to the best of my knowledge the statement set forth herein are true and accurate, and that this declaration was voluntarily executed on January 7, 2022.

SO SWORN.



Chris Moore
Attorney for Plaintiff

SWORN TO AND SUBSCRIBED BEFORE ME
THIS 7th DAY OF January, 2022



NOTARY PUBLIC FOR SOUTH CAROLINA
MY COMMISSION EXPIRES: 10/25/28

STATE OF SOUTH CAROLINA

COUNTY OF CHARLESTON

Reid Fleming,

Plaintiff,

v.

The Planet Vape, LLC; SCECIGARETTE,
LLC; LG Chem Ltd.; John Doe Distributor
#1; John Doe Distributor #2; and John Doe
Distributor #3,

Defendants.

IN THE COURT OF COMMON PLEAS

C/A no. 2021-CP-1001663

**PLAINTIFF’S RESPONSE IN
OPPOSITION TO DEFENDANT LG
CHEM, LTD.’S MOTION TO DISMISS
FOR LACK OF PERSONAL
JURISDICTION**

Plaintiff Reid Fleming respectfully submits this response in opposition to defendant LG Chem, Ltd.’s (LG Chem) motion to dismiss for lack of personal jurisdiction.

I. Introduction

This is a product liability action. Plaintiff Reid Fleming, a resident of Anderson County, South Carolina purchased a lithium ion battery (“subject battery”) from SCECIGARETTE, LLC, d/b/a “Planet Vape” at one of its retail locations in Charleston County, South Carolina.¹ Plaintiff was seriously burned and injured when the subject battery, which is manufactured by LG Chem, suddenly exploded in his pocket.² This action followed. Plaintiff alleges that LG Chem designed, manufactured, distributed batteries, including the subject battery, that were defective in design or manufacture. Plaintiff also alleges LG Chem distributed its battery products with the expectation that they would be sold / used in South Carolina.³

¹ See Compl. ¶¶ 1, 20.

² *Id.* at ¶ 31.

³ *Id.*

Defendant LG Chem argues that this Court, by exercising personal jurisdiction over LG Chem, violates due process because it lacks minimum contacts with South Carolina. However, LG Chem's motion to dismiss is merely a substantive attack on plaintiff's complaint masquerading as a "jurisdictional challenge" with little evidence to contest this Court's jurisdiction over LG Chem.

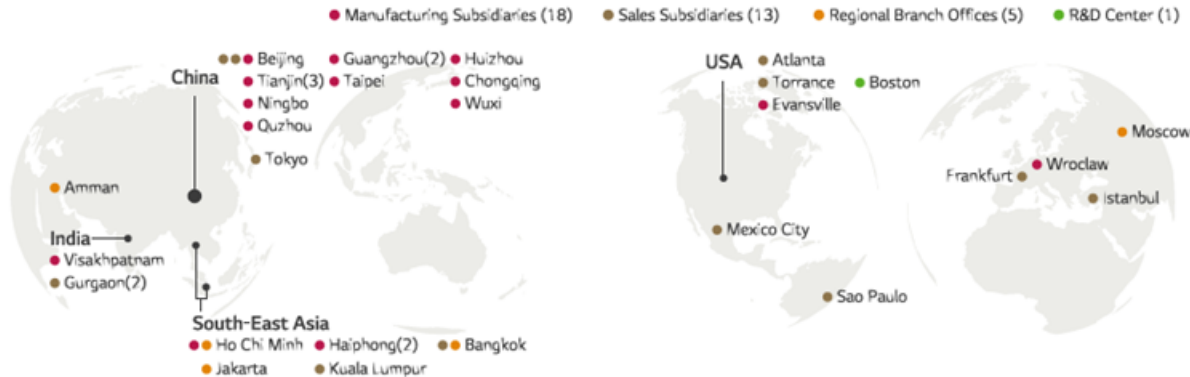
LG Chem is a multinational company that bills itself a top 5 most valuable chemical company in the world:



⁴ LG Chem boasts over \$26.4 billion in sales in 2020 and wholly owns sales, manufacturing, and research and development divisions that operate here in the U.S.:

⁴ See [https://www.lgchem.com/upload/file/introduce/2021_Introduction_of_LGChem_EN\[19\].pdf](https://www.lgchem.com/upload/file/introduce/2021_Introduction_of_LGChem_EN[19].pdf) (last visited Jan. 7, 2022).

Introduction of LG Chem

LG Chem | Overseas Sites

5.

Despite this, LG Chem submitted the affidavit of Hwi Jaw Lee (“Mr. Lee”) to support its position that it does not have sufficient contacts here.⁶ Mr. Lee is a “Specialist” at LG Energy Solution, Ltd. (LGES), which Mr. Lee describes a “spin-off of LG Chem’s battery division.”⁷ This affidavit is devoid of any material evidence supporting LG Chem’s jurisdictional challenge, and instead makes conclusory and unsupported statements regarding LG Chem’s business activities and battery products.⁸

This motion should be denied because (1) South Carolina Circuit Courts have addressed *and denied* this precise argument on at least five other occasions under identical or similar facts, each time finding LG Chem possesses sufficient minimum contacts with South Carolina; (2) LG Chem has sufficient minimum contacts with South Carolina because it places its battery products, including the subject battery, into the stream of commerce with the reasonable expectation that they will be sold / used in South Carolina; and (3) maintaining this suit is both fair and reasonable, and maintenance of this suit does not offend the traditional notions of fair play and substantial justice.

⁵ *Id.*

⁶ See Ex. A to LG Chem’s Motion to Dismiss (“Lee Aff.”).

⁷ *Id.* at ¶¶ 4, 5.

⁸ *Id.*

Respectfully, plaintiff requests that the court deny LG Chem's motion to dismiss.

II. Jurisdictional facts & additional evidence

On or around May 24, 2018, plaintiff Reid Fleming was seriously burned and injured when the subject battery, allegedly manufactured by LG Chem, suddenly exploded in his pocket.⁹ Prior to this incident, the batteries were sourced by The Planet Vape / SCECIG from either the yet unidentified John Doe Distributors #s 1-3, or directly from LG Chem.¹⁰ Plaintiff's claims against LG Chem are based on theories of strict products liability, negligence, and unfair trade practices.¹¹ *See* Compl. at Part 1-2, 4.

Plaintiff alleges that LG Chem is subject to the jurisdiction of this Court through South Carolina's long arm statute at S.C. Code Ann. § 36-2-803, and because LG Chem's minimum contacts with the state of South Carolina satisfy the requirements of due process. Specifically, plaintiff alleges that LG Chem "regularly does or solicits business, engages in other persistent conduct, and / or derives substantial revenue from goods used or consumer or services rendered in the state of South Carolina."¹² Further, that LG Chem "produces, manufactures, and distributes batteries with the reasonable expectation that those batteries will be used in South Carolina and that they are used in South Carolina."¹³ Plaintiff also alleges that LG Chem "transacts business in South Carolina including the shipment of battery products, either directly or through its wholly owned subsidiaries through the ports of South Carolina,"¹⁴ and that LG Chem or its agents "target the state of South Carolina with marketing and / or efforts to develop business relationships."¹⁵

⁹ *See* Compl. at ¶ 31.

¹⁰ *Id.* at ¶ 24.

¹¹ *Id.* at Parts 1-2, 4.

¹² *Id.* at ¶ 9(a).

¹³ *Id.* at ¶ 9(b).

¹⁴ *Id.* at ¶ 9(c).

¹⁵ *Id.* at ¶ 9(d).

Of note, plaintiff also alleges that LG Chem has known since 2016 that individuals use these lithium-ion battery products individually to power consumer products like flashlights and vaping devices. Yet despite this knowledge, “LG Chem has done virtually nothing to prevent its lithium ion battery products from being sold individually throughout the U.S. and, specifically, in South Carolina.”¹⁶

It follows that in response to LG Chem’s motion to dismiss, plaintiff submits publicly available evidence to support its response in opposition to defendant’s motion.¹⁷ First, LG Chem America, Inc. (LGCAI), is the United States subsidiary to the parent corporation and defendant here, LG Chem. LG Chem describes LGCAI as doing business as LG Chem’s subsidiary in “sales and trading.”¹⁸ Specifically, in *Celgard LLC v. LG Chem, Ltd.*, LG Chem made representations that it targeted the U.S. market with the sales of lithium ion batteries.¹⁹ Specifically, the Court Order reviewing and affirming personal jurisdiction over LG Chem noted that “[LG Chem] went to great lengths to describe the expanse of its participation in the U.S. economic markets:

‘Defendants sell in the order of \$0.76 million every day attributable to the accused batteries sold or imported into the United States..... Worldwide, that number jumps to \$6 million in daily sales. Defendants have yearly revenue of \$278 million attributable to the accused batteries sold or imported into the United States (and \$2.4 billion worldwide). Beyond that, Defendants do business *every day* with companies at the center of the U.S. economy.’ ”²⁰

The *Celgard* court highlighted LG Chem’s elucidation of the repercussions for LG Chem’s lithium ion battery sales in the U.S. if plaintiff’s injunction was granted: taking the batteries “off the shelves” in U.S. stores such as Wal-Mart and Best Buy.²¹ Additional documents referenced in the above-noted Order including the “Declaration of Juan (S.H.) Oh,” were attached in support of

¹⁶ *Id.* at ¶¶ 10(d)-(e).

¹⁷ *See* Moore Aff.

¹⁸ *See* Moore Aff. Ex. 1 at 10.

¹⁹ *See* Moore Aff. Ex. 2.

²⁰ *Id.* at *25.

²¹ *Id.*

LGCAI's opposition to the requested injunction. Mr. Oh's declaration details LGC's creation of a wholly owned subsidiary in the U.S. specifically regarding lithium-ion batteries:

As noted above, LGCAI (LG Chem America, Inc.) a wholly-owned subsidiary of LGC, is a Delaware company headquartered in Englewood Cliffs, New Jersey. See Declaration of Juan (S.H.) Oh ("Juan Decl."), (Document No. 33), ¶ 2; Def. Mem. Mot. Dismiss (Document No. 227), p. 4). LGCAI is responsible for marketing LGC petrochemicals, information and electronic materials, **and batteries to customers in the United States.** (Juan Decl, ¶ 2). **LGCAI also acts as a product distributor for LGC's customers in the U.S. and is responsible for sales and program management to U.S. customers** ... *Id.*²²

In addition to LGCAI's assistance in the import of LG Chem products, specifically its battery products, starting November 1, 2006, LG Chem transported and continues to transport its battery products into South Carolina through the Port of Charleston and other U.S. ports to ultimately end up to South Carolina.²³ This data, relied on in other proceedings in the South Carolina circuit courts,²⁴ has aided the courts in finding jurisdiction over LG Chem proper; it shows 984 shipments through the Port of Charleston, with 818 of those shipments co-signed by LGCAI.²⁵ Moreover in 2018 to 2019, 13 shipments of LG Chem lithium ion batteries went through the Port of Charleston and shipped out to businesses operating in South Carolina including *inter alia* Continental Tire in Sumter, Covidien in Greenwood, Fitesa Simpsonville in Simpsonville, Flex in West Columbia, Milliken Company in Spartanburg,²⁶ and Volvo Car US Operations, Inc. in Ridgeville.²⁷

This is all to say that LG Chem should not be permitted to shirk their responsibility to design, manufacture, and distribute safe battery products to the American people, specifically

²² *Id.* at *26 (emphasis added).

²³ See Moore Aff. Ex. 3.

²⁴ This data is relied on in *Thompson, Roberts, Moore, and Holtendorff* discussed *infra*.

²⁵ *Id.*

²⁶ See Moore Aff. Ex. 4.

²⁷ See Moore Aff. Ex. 3 (10 of 13 shipments of LG products through the Port of Charleston identified in the 2018-2019 period were batteries delivered to Volvo in Ridgeville, SC).

plaintiff Reid Fleming, by pointing fingers at others to dodge this court's valid exercise of personal jurisdiction.

III. Legal Standard

When challenged via a Rule 12(b)(2) motion, the plaintiff has the burden of showing jurisdiction is proper; however, the law is well-settled that at the pre-trial stage only a *prima facie* showing is required, and no other evidence is necessary. *See Brown v. Inv. Mgmt. & Research, Inc.*, 323 S.C. 395, 399, 475 S.E.2d 754, 756 (1996) (citing *Mid-State Distribs., Inc. v. Century Importers, Inc.*, 310 S.C. 330, 426 S.E.2d 777 (1993)). Affidavits may be submitted to show jurisdiction; however, the allegations contained in the complaint are normally sufficient to warrant the exercise of jurisdiction. *Brown*, 323 S.C. at 399, 475 S.E.2d at 756 (citing *Springmasters, Inc. v. D & M Mfg.*, 402 S.E.2d 192 (Ct. App. 1991)). The question of personal jurisdiction over a nonresident defendant is one which must be resolved upon the facts of each particular case. *See Engineered Prods. v. Cleveland Crane & Eng'g*, 262 S.C. 1, 201 S.E.2d 921 (1974).

“Courts will take as true the allegations of the nonmoving party and resolve all factual disputes in its favor.” *Brown*, 323 S.C. at 399, 475 S.E.2d at 756 (citing 5A Charles A. Wright & Arthur R. Miller, *Federal Practice and Procedure* § 1351 (Supp. 1995)). *also see Combs v. Bakker*, 886 F.2d 673, 676 (4th Cir. 1989) (noting that on motion to dismiss for lack of jurisdiction “the court must construe all relevant pleading allegations in the light most favorable to the plaintiff, assume credibility, and draw the most favorable inferences for the existence of jurisdiction.”). When a demand for dismissal for lack of personal jurisdiction is predicated strictly on affidavits, the plaintiff's burden is “relatively slight.” *See Am. Greetings Corp. v. Cohn*, 839 F.2d 1164, 1168-

1169 (6th Cir. 1988); and see *Estate of Thompson ex rel. Estate of Rakestraw v. Toyota Motor Corp. Worldwide*, 545 F.3d 357, 360-361 (6th Cir. 2008).

IV. Argument

I. Mr. Lee's affidavit fails to refute or address plaintiff's allegations and additional evidence.

LG Chem's only support for its motion to dismiss, the affidavit of Mr. Lee, is an unconvincing attempt to disavow any connection between its actions directed toward South Carolina and plaintiff's claims, positing that specific jurisdiction in South Carolina is improper.²⁸ In reality, the affidavit is a failed attempt at discrediting this court's jurisdiction through conclusory and unsupported statements. Mr. Lee states no grounds to deny LG Chem's contacts with or shipments to South Carolina.

Nowhere in LG Chem's motion or accompanying affidavit does LG Chem deny targeting, marketing, or shipping its products directly to South Carolina. This is so because LG Chem did in fact direct its products – specifically its batteries – to be sold / used in South Carolina.²⁹ Also, Mr. Lee attests that as of December 1, 2020, LG Chem no longer manufactured or sold lithium ion batteries; but as plaintiff's injury occurred in May of 2018, this has no relevance to this action.³⁰

Importantly, Mr. Lee's affidavit also features misplaced emphasis on LG Chem's authorization (or lack thereof) to do business with Planet Vape / SCECIG, the other named defendants.³¹ South Carolina has adopted Justice Brennan's stream of commerce theory from *Asahi Metal Indus. Co. v. Superior Ct. of California*, and as a result, LG Chem need only place its battery products into the stream of commerce with a “regular and anticipated flow . . . from

²⁸ See Lee Aff.

²⁹ See *infra* part II.

³⁰ See Lee Aff. ¶ 15.

³¹ See *Id.* at ¶ 20-21.

manufacture to distribution to retail sale” in order to be subject to the jurisdiction of this court and satisfy due process. 480 U.S. 102, 117 (1987) (discussed *supra* at Part VI(B)). Therefore, LG Chem’s authorization to Planet Vape / SCECIG, or lack thereof, is of no importance to the jurisdiction of the court.

Finally, Mr. Lee’s myopic and unsupported assertions that LG Chem “did not have an office,” “was not registered to do business,” “did not have a registered agent,” “did not own or lease any real property,” and “did not have any employees,”³² in addition to stating that he “has no reason to believe that LG Chem currently has an office, . . . business registration, . . . registered agent, . . . property, . . . or employees” in the state of South Carolina³³ blatantly ignores the reality that LG Chem previously admitted to working in concert with LGCAI to market and distribute lithium ion batteries throughout the United States including South Carolina, and, is and has been authorized with the Secretary of State to do business in South Carolina through a registered agent since September 15, 2010.³⁴

II. South Carolina Courts have repeatedly found LG Chem subject to personal jurisdiction under the same or similar facts.

South Carolina courts regularly exercise personal jurisdiction over LG Chem in lawsuits involving South Carolina citizens burned and injured by LG Chem’s battery products. Still, LG Chem pushes the same arguments with the hope of achieving a different result.

In *Moore v. Planet Vapor Inc.*,³⁵ the plaintiff was severely burned by an LG Chem lithium ion battery that exploded in her pocket which she purchased from a Planet Vapor, Inc. in South Carolina. Judge Nettles denied LG Chem America, Inc.’s motion to dismiss for lack of personal

³² *Id.* at ¶¶ 8-12.

³³ *Id.* at ¶ 12.

³⁴ *See Moore Aff. Ex. 5.*

³⁵ *See Moore Aff. Ex. 6.*

jurisdiction, finding instead that the Court had specific jurisdiction over the parties by virtue of satisfying South Carolina's long arm statute and the requirements of due process. The facts here are substantially the same.

Also in *Williamson v. Pirates Cove Vapor Lounge, LLC, et al.*,³⁶ Judge Jefferson denied LG Chem's motion to dismiss finding LG Chem subject to the jurisdiction of the Ninth Judicial Circuit Court in Beaufort. In that case, plaintiff suffered severe burns when a lithium ion battery manufactured by LG Chem and purchased from Pirate's Cove Vapor Lounge, exploded in his pocket. The facts here are substantially the same.

In another substantially similar proceeding, *Holtzendorff v. Vapor Tek USA, LLC, et al.*,³⁷ plaintiff was severely burned when a lithium ion battery manufactured by LG Chem and purchased from Vapor Tek USA in Aiken exploded in his pocket. Judge Pope denied LG Chem's motion finding LG Chem subject to jurisdiction of the Second Judicial Circuit on the same evidence submitted in *Moore*. The facts here are substantially the same.

Again, in *Roberts v. The Planet Vape, LLC, et al.*,³⁸ Judge Price, sitting for the Ninth Judicial Circuit, denied LG Chem's Motion to Dismiss in a substantially similar matter finding that the court could exercise personal jurisdiction over LG Chem.

Plaintiff respectfully submits that the sound reasoning in all of the preceding cases applies with equal force in this matter due to the substantially similar – virtually identical – facts and circumstances. In each of those cases the plaintiff alleges an LG Chem lithium ion battery was purchased, exploded, and caused severe burn injuries in South Carolina. There is no distinction in the facts of Plaintiff's Fleming's case that would demand a different result. LG Chem is subject

³⁶ See Moore Aff. Ex. 7.

³⁷ See Moore Aff. Ex. 8.

³⁸ See Moore Aff. Ex. 9.

to this Court's jurisdiction.

III. Plaintiff has stated a *prima facie* case of jurisdiction sufficient to satisfy the requirements of both the South Carolina Long Arm Statute, and the requirements of Due Process.

A. This Court has jurisdiction over LG Chem pursuant South Carolina's Long Arm Statute.

This Court has jurisdiction over LG Chem by virtue of its minimum contacts with South Carolina such that maintenance of this suit does not offend the traditional notions of fair play and substantial justice. *Cockrell v. Hillerich & Bradsby Co.*, 363 S.C. 485, 492, 611 S.E.2d 505, 509 (2005) (citing *Burger King Corp. v. Rudzewicz*, 471 U.S. 462, 105 S.Ct. 2174, 85 L.Ed.2d 528 (1985)). In South Carolina, the long arm statute is coextensive with the due process clause, meaning the only question necessary to consider here is whether the exercise of personal jurisdiction would violate due process. *See Cockrell*, 363 S.C. at 491, 611 S.E.2d at 508. Still, plaintiff satisfies the requirements of the long arm statute.

LG Chem has directed its activities toward South Carolina by placing its battery products into the stream of commerce and targeting the state. Specific jurisdiction allows the court to exercise personal jurisdiction over a non-resident defendant when the cause of action arises specifically from the defendant's contacts with the forum. *Id.*

South Carolina's long arm statute provides in part:

(A) A court may exercise personal jurisdiction over a person who acts directly or by an agent as to a cause of action arising from the person's:

(1) transacting any business in this State;

...

(4) causing tortious injury or death in this State by an act or omission outside this State if he regularly does or solicits business, or engages in any other persistent course of conduct, or derives substantial revenue from goods used or consumed or services rendered in this State;

...

(8) production, manufacture, or distribution of goods with the reasonable expectation that those goods are to be used or consumed in this State and are so used or consumed.

S.C. Code Ann. § 36-2-803.

Plaintiff has met his *prima facie* burden of showing that LG Chem's conduct comports with the long arm statute, specifically satisfying subsections (1), (4), and (8) of S.C. Code Ann. § 36-2-803. LG Chem caused tortious injury in this state, and produced, manufactured, and / or distributed its goods with the reasonable expectation that they would have been purchased and used in South Carolina. Here, plaintiff alleges the subject battery was purchased, used, and caused tortious injury and damage in South Carolina.³⁹

B. LG Chem has sufficient minimum contacts with South Carolina.

Exercising personal jurisdiction over LG Chem satisfies due process because LG Chem has minimum contacts with South Carolina. First, "the foreseeability that is critical to due process analysis is not the mere likelihood that a product will find its way into the forum state. Rather, it is that the defendant's conduct and connection with the forum state are such that he should reasonably anticipate being haled into court there." *Cockrell*, 363 S.C. at 492, 611 S.E.2d at 509 (2005) (citing *World-Wide Volkswagen Corp.*, 444 U.S. at 297, 100 S.Ct. 559).

The South Carolina Supreme Court has adopted Justice Brennan's stream of commerce theory to determine jurisdiction over a foreign defendant⁴⁰:

The stream of commerce refers not to unpredictable currents or eddies, but to the regular and anticipated flow of products from manufacture to distribution to retail sale Accordingly, most courts and commentators have found that jurisdiction premised on the placement of a product into the stream of commerce is consistent with the Due Process Clause, and have not required a showing of additional conduct.

Asahi, 480 U.S. at 117 (1987).

³⁹ See Compl. ¶ 9(a)-(d).

⁴⁰ See *State v. NV Sumatra Tobacco Trading, Co. (NV Sumatra)*, 379 S.C. 81, 90, 666 S.E.2d 218, 223 (2008)

In *NV Sumatra*, the South Carolina Supreme Court found that exercising personal jurisdiction over a foreign manufacturer of cigarettes, an Indonesian corporation, was proper despite extensive layers of importers and distributors between the manufacturer and the state of South Carolina. *See NV Sumatra*, 379 S.C. at 85-6. Specifically, the court found minimum contacts satisfied by the manufacturer admitting to manufacturing the cigarettes; finding that 6,868,000 cigarettes were sold in South Carolina; and because U.S.-required health warnings were on the packaging along with an “American Blend” label, and the Surgeon General’s warning. *Id.* at 90. The court noted that the volume of cigarettes sold to the United States made it reasonable for the foreign defendant to be haled into the South Carolina courts.

Here, LG Chem knowingly placed its battery products into the stream of commerce with the expectation that they would be sold and used in South Carolina, and they were. Again, not only does LG Chem have a Certificate of Authority to do business in South Carolina through a registered agent, LGCAI since September of 2010,⁴¹ but LG Chem has secured many shipments of its battery products through the Port of Charleston as discussed previously, with those products ending up in businesses operating in South Carolina. Like in *NV Sumatra*, given the sheer volume of lithium-ion batteries and battery products sold to and through South Carolina, it is reasonable for this court to exercise jurisdiction over LG Chem, and LG Chem can reasonably anticipate being haled into court in South Carolina as a result.

When a corporation purposefully directs its activities to the forum state, minimum contacts is satisfied. *See Burger King Corp*, 471 U.S. at 476. Here, LG Chem manufactured, distributed, and / or sold its battery products – including the subject battery – with the reasonable expectation that it would be purchased or used in the United States, including South Carolina, and it was.

C. Exercising personal jurisdiction over LG Chem is fair and reasonable.

⁴¹ *See Moore Aff. Ex. 5.*

Exercising jurisdiction over LG Chem is both fair and reasonable. The U.S. Supreme Court has previously stated that the exercise of jurisdiction is reasonable where it is based on the efforts of a company to serve, either directly or indirectly, the market for its product. *World-Wide Volkswagen*, 444 U.S. at 297-98. Further, the South Carolina Supreme Court considers the following to determine whether the fairness prong has been satisfied:

(1) the duration of the activity of the nonresident within the state; (2) the character and circumstances of the commission of the nonresident's acts; (3) the inconvenience resulting to the parties by conferring or refusing to confer jurisdiction over the nonresident; and (4) the State's interest in exercising jurisdiction.

NV Sumatra, 379 S.C. at 91.

LG Chem has been authorized to do business, ***and has been doing business***, in South Carolina since its sales subsidiary initially received its Certificate of Authority on September 15, 2010. Certainly, after over a decade of business activity in this state, it is fair to require LG Chem to defend its product in a South Carolina court. *See Moosally v. W.W. Norton & Co.*, 358 S.C. 320, 336 (Ct. App. 2004) (finding the fairness prong satisfied when the defendant regularly directed its business to South Carolina). Next, the character and circumstances of LG Chem's acts and omissions resulted in various shipments of battery products to South Carolina through its Ports, targeting, marketing to, and distributing to South Carolina, all rendering it fair that this court exercise jurisdiction over LG Chem.

The third factor, inconvenience to the parties, places a minimal burden on both plaintiff and LG Chem. LG Chem's wholly owned subsidiary, LGCAI, is authorized to transact business in South Carolina. Specifically, when considering the other proceedings against LG Chem filed in South Carolina, requiring LG Chem to defend itself here places a minimal burden on the entity, and is overall fair to both parties. Even so, any inconvenience to LG Chem is outweighed by the

State's interest in seeking redress for its citizens. *See NV Sumatra, Co.*, 379 S.C. at 91 ("While it may be inconvenient [for a foreign corporation] to travel to the United States to defend the action against it, the State's interest in exercising jurisdiction outweighs any such inconvenience."). Moreover, LG Chem is already litigating half a dozen or more of these cases in South Carolina. And LG Chem's national litigation strategy for defending substantially similar cases nationwide is being handled by Nelson Mullins, a law firm headquartered in South Carolina. The only potential inconvenience here would be requiring Reid Fleming, a South Carolina resident, to bring these claims in South Korea.

Under the final factor set out in *NV Sumatra*, South Carolina has an interest in providing redress for its citizens. *Burger King Corp.*, 471 U.S. at 473 ("A State generally has a 'manifest interest' in providing its residents with a convenient forum for redressing injuries inflicted by out-of-state actors."). Here, plaintiff was severely burned from a defective product manufactured by LG Chem, and LG Chem should be held to answer for such allegations. South Carolina's interest in exercising jurisdiction over LG Chem is fair to provide redress for plaintiff Reid Fleming. Overall, it is both fair and reasonable to subject LG Chem to the jurisdiction of the State of South Carolina, requiring it to defend itself in this suit and in this forum.

CONCLUSION

Plaintiff has exceeded its burden and established that this Court has specific personal jurisdiction over LG Chem, and plaintiff asks that this Court deny LG Chem's motion to dismiss for lack of specific personal jurisdiction. In the interest of justice, and consistent with the South Carolina long-arm statute and due process requirements, LG Chem must answer in South Carolina for the known defects in its products which have once again resulted in serious injury to another South Carolina resident.

Plaintiff requests this court deny defendant LG Chem's motion to dismiss.

Respectfully,

**RICHARDSON, THOMAS, HALTIWANGER
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January 7, 2022

LG Chem, Ltd. and Subsidiaries

Consolidated Interim Financial Statements
June 30, 2018 and 2017

LG Chem, Ltd. and Subsidiaries
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June 30, 2018 and 2017

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Report on Review of Interim Financial Statements

(English Translation of a Report Originally Issued in Korean)

To the Shareholders and Board of Directors of
LG Chem, Ltd.

Reviewed Financial Statements

We have reviewed the accompanying consolidated interim financial statements of LG Chem, Ltd. and its subsidiaries (collectively referred to as the "Group"). These financial statements consist of the consolidated interim statement of financial position of the Group as at June 30, 2018, and the related consolidated interim statements of profit or loss and comprehensive income for the three-month and six-month periods ended June 30, 2018 and 2017, and consolidated interim statements of changes in equity and cash flows for the six-month periods ended June 30, 2018 and 2017, and a summary of significant accounting policies and other explanatory notes, expressed in Korean won.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these consolidated interim financial statements in accordance with International Financial Reporting Standards as adopted by the Republic of Korea (Korean IFRS) 1034 *Interim Financial Reporting*, and for such internal control as management determines is necessary to enable the preparation of consolidated interim financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to issue a report on these consolidated interim financial statements based on our review.

We conducted our review in accordance with quarterly or semi-annual review standards established by the Securities and Futures Commission of the Republic of Korea. A review of interim financial information consists of making inquiries, primarily of persons responsible for financial and accounting matters, and applying analytical and other review procedures. A review is substantially less in scope than an audit conducted in accordance with Korean Standards on Auditing and consequently does not enable us to obtain assurance that we would become aware of all significant matters that might be identified in an audit. Accordingly, we do not express an audit opinion.

Conclusion

Based on our review, nothing has come to our attention that causes us to believe the accompanying consolidated interim financial statements are not presented fairly, in all material respects, in accordance with Korean IFRS 1034 *Interim Financial Reporting*.

Other Matters

We have audited the consolidated statement of financial position of the Group as at December 31, 2017, and the related consolidated statements of profit or loss, comprehensive income, changes in equity and cash flows for the year then ended, in accordance with Korean Standards on Auditing. We expressed an unqualified opinion on those financial statements, not presented herein, in our audit report dated March 6, 2018. The consolidated statement of financial position as at December 31, 2017, presented herein for comparative purposes, is consistent, in all material respects, with the above audited statement of financial position as at December 31, 2017.

Review standards and their application in practice vary among countries. The procedures and practices used in the Republic of Korea to review such financial statements may differ from those generally accepted and applied in other countries.

The image shows a stylized, handwritten signature of "Samil PricewaterhouseCoopers" in black ink. The signature is written in a cursive, flowing style, with the word "Samil" in a larger, more prominent script, followed by "PricewaterhouseCoopers" in a slightly smaller, more uniform script.

Seoul, Korea
August 14, 2018

This report is effective as of August 14, 2018, the review report date. Certain subsequent events or circumstances, which may occur between the review report date and the time of reading this report, could have a material impact on the accompanying consolidated interim financial statements and notes thereto. Accordingly, the readers of the review report should understand that there is a possibility that the above review report may have to be revised to reflect the impact of such subsequent events or circumstances, if any.

LG Chem, Ltd. and Subsidiaries
Consolidated Interim Statements of Financial Position
June 30, 2018 (Unaudited) and December 31, 2017

<i>(in millions of Korean won)</i>	Notes	June 30, 2018 (Unaudited)	December 31, 2017
Assets			
Current assets			
Cash and cash equivalents	3, 5, 6	2,351,721	2,249,341
Trade receivables	3, 5, 7, 31	5,145,795	4,448,669
Other receivables	3, 5, 7, 31	644,181	770,776
Prepaid income taxes		270	932
Financial assets	3, 5, 8	169	-
Other current assets	13	530,905	376,814
Inventories	9	3,949,709	3,352,454
Assets held for sale	35	4,268	6,595
Total current assets		<u>12,627,018</u>	<u>11,205,581</u>
Non-current assets			
Other receivables	3, 5, 7	121,179	126,429
Financial assets	3, 5, 8	35,131	23,782
Investments in associates and joint ventures	1, 10, 33	256,686	264,096
Deferred tax assets	28	318,883	281,506
Property, plant and equipment	11	12,077,767	11,211,482
Intangible assets	12	1,857,954	1,823,155
Investment properties		1,021	1,027
Other non-current assets	13	103,643	104,163
Total non-current assets		<u>14,772,264</u>	<u>13,835,640</u>
Total assets		<u>27,399,282</u>	<u>25,041,221</u>
Liabilities			
Current liabilities			
Trade payables	3, 5, 31	2,155,719	2,014,779
Other payables	3, 5, 31	1,448,444	1,847,222
Borrowings	3, 5, 14	1,903,102	1,451,324
Provisions	15	95,622	62,940
Income tax payables	28	248,458	414,110
Other current liabilities	17	770,768	854,283
Liabilities held for sale	35	30	31
Total current liabilities		<u>6,622,143</u>	<u>6,644,689</u>
Non-current liabilities			
Other payables	3, 5	10,265	8,646
Borrowings	3, 5, 14	3,210,899	1,593,625
Financial liabilities	3, 5, 8	534	-
Provisions	15	169,599	163,476
Net defined benefit liabilities	16	251,237	180,681
Deferred tax liabilities	28	39,485	42,627
Other non-current liabilities	17	86,446	68,900
Total non-current liabilities		<u>3,768,465</u>	<u>2,057,955</u>
Total liabilities		<u>10,390,608</u>	<u>8,702,644</u>

LG Chem, Ltd. and Subsidiaries
Consolidated Interim Statements of Financial Position
June 30, 2018 (Unaudited) and December 31, 2017

<i>(in millions of Korean won)</i>	Notes	June 30, 2018 (Unaudited)	December 31, 2017
Equity			
Share capital	1, 19	391,406	391,406
Capital surplus		2,274,386	2,274,386
Other components of equity	21	(362,676)	(362,676)
Accumulated other comprehensive income		(93,912)	(173,839)
Retained earnings	20	14,584,854	14,039,250
Equity attributable to owners of the Parent Company		<u>16,794,058</u>	<u>16,168,527</u>
Non-controlling interest		214,616	170,050
Total equity		<u>17,008,674</u>	<u>16,338,577</u>
Total liabilities and equity		<u>27,399,282</u>	<u>25,041,221</u>

The above consolidated interim statements of financial position should be read in conjunction with the accompanying notes.

LG Chem, Ltd. and Subsidiaries
Consolidated Interim Statements of Profit or Loss
Three-Month and Six-Month Periods Ended June 30, 2018 and 2017 (Unaudited)

(in millions of Korean won, except per share amounts)	Notes	Period Ended June 30			
		2018		2017	
		(Unaudited)		(Unaudited)	
		Three months	Six months	Three months	Six months
Revenue	31, 33	7,051,853	13,605,443	6,382,062	12,868,730
Cost of sales	23, 31	(5,580,273)	(10,792,302)	(5,011,211)	(10,084,263)
Gross profit		1,471,580	2,813,141	1,370,851	2,784,467
Selling and administrative expenses	22, 23, 31	(768,289)	(1,459,009)	(643,981)	(1,260,689)
Operating profit	33	703,291	1,354,132	726,870	1,523,778
Finance income	5, 25	70,032	117,859	63,614	120,557
Finance costs	5, 25	(146,313)	(180,223)	(56,632)	(157,819)
Share of net profit of associates and joint ventures accounted for using the equity method	10	(1,200)	(457)	426	3,657
Other non-operating income	5, 26	179,852	243,804	177,983	271,059
Other non-operating expenses	5, 27	(161,410)	(237,667)	(182,667)	(333,337)
Profit before income tax	32	644,252	1,297,448	729,594	1,427,895
Income tax expense	28	(150,857)	(251,309)	(139,272)	(289,476)
Profit for the period		493,395	1,046,139	590,322	1,138,419
Profit is attributable to:					
Owners of the Parent Company		477,724	1,009,073	577,077	1,108,567
Non-controlling interests		15,671	37,066	13,245	29,852
Earnings per share attributable to the equity holders of the Parent Company (in won)	29				
Basic earnings per ordinary share		6,234	13,169	7,531	14,467
Basic earnings per preferred share		6,247	13,194	7,544	14,492
Diluted earnings per ordinary share		6,177	13,063	7,531	14,467
Diluted earnings per preferred share		6,190	13,088	7,544	14,492

The above consolidated interim statements of profit or loss should be read in conjunction with the accompanying notes.

LG Chem, Ltd. and Subsidiaries
Consolidated Interim Statements of Comprehensive Income
Three-Month and Six-Month Periods Ended June 30, 2018 and 2017 (Unaudited)

	Notes	Period Ended June 30			
		2018		2017	
		(Unaudited)		(Unaudited)	
		Three months	Six months	Three months	Six months
Profit for the period		493,395	1,046,139	590,322	1,138,419
Other comprehensive income					
<i>Items that will not be reclassified to profit or loss</i>					
Remeasurements of net defined benefit liability	16	(2,010)	(4,673)	(2,897)	(10,218)
Gain on valuation of financial assets at fair value through other comprehensive income		1,247	3,568	-	-
Shares of remeasurements of net defined benefit liabilities of associates		(210)	(60)	2	62
Income tax relating to these items		178	2	700	2,472
<i>Items that may be subsequently reclassified to profit or loss</i>					
Exchange differences on translation of foreign operations		5,824	86,920	59,505	(52,792)
Cash flow hedge		233	233	-	-
Shares of other comprehensive income of joint ventures and associates		135	1,836	(362)	(3,521)
Changes in valuation of available-for-sale financial instruments		-	-	(1,411)	(1,329)
Income tax relating to these items		(358)	(3,689)	1,527	(1,830)
Other comprehensive income for the period, net of tax		5,039	84,137	57,064	(67,156)
Total comprehensive income for the period		498,434	1,130,276	647,386	1,071,263
Total comprehensive income for the period is attributable to:					
Owners of the Parent Company		483,143	1,085,710	629,755	1,045,463
Non-controlling interest		15,291	44,566	17,631	25,800

The above consolidated interim statements of comprehensive income should be read in conjunction with the accompanying notes.

LG Chem, Ltd. and Subsidiaries
Consolidated Interim Statements of Changes in Equity
Six-Month Periods Ended June 30, 2018 and 2017 (Unaudited)

(in millions of Korean won)

	Notes	Attributable to owners of the Parent Company						Non-controlling interests	Total equity
		Share capital	Capital surplus	Other components of equity	Accumulated other comprehensive income	Retained earnings	Total		
Balance at January 1, 2017		369,500	1,157,772	(15,699)	(36,993)	12,462,772	13,937,352	113,615	14,050,967
Comprehensive income									
Profit for the period		-	-	-	-	1,108,567	1,108,567	29,852	1,138,419
Remeasurements of net defined benefit liability	16	-	-	-	-	(7,749)	(7,749)	3	(7,746)
Exchange differences on translation of foreign operations		-	-	-	(50,888)	-	(50,888)	(4,055)	(54,943)
Change in the fair value of available-for-sale financial instruments		-	-	-	(1,008)	-	(1,008)	-	(1,008)
Others		-	-	-	(3,521)	62	(3,459)	-	(3,459)
Total comprehensive income for the period		-	-	-	(55,417)	1,100,880	1,045,463	25,800	1,071,263
Transactions with owners:									
Business combination	34	21,906	1,116,614	(337,211)	-	-	801,309	-	801,309
Purchase of treasury shares	34	-	-	(2,250)	-	-	(2,250)	-	(2,250)
Dividends	30	-	-	-	-	(368,055)	(368,055)	(17,627)	(385,682)
Others		-	-	-	-	(726)	(726)	(245)	(971)
Total transactions with owners		21,906	1,116,614	(339,461)	-	(368,781)	430,278	(17,872)	412,406
Balance at June 30, 2017 (Unaudited)		391,406	2,274,386	(355,160)	(92,410)	13,194,871	15,413,093	121,543	15,534,636
Balance at January 1, 2018		391,406	2,274,386	(362,676)	(173,839)	14,039,250	16,168,527	170,050	16,338,577
Comprehensive income									
Profit for the period		-	-	-	-	1,009,073	1,009,073	37,066	1,046,139
Remeasurements of net defined benefit liability	16	-	-	-	-	(3,394)	(3,394)	-	(3,394)
Exchange differences on translation of foreign operations		-	-	-	75,795	-	75,795	7,500	83,295
Gain on valuation of financial assets at fair value through other comprehensive income		-	-	-	2,291	-	2,291	-	2,291
Others		-	-	-	2,005	(60)	1,945	-	1,945
Total comprehensive income for the period		-	-	-	80,091	1,005,619	1,085,710	44,566	1,130,276
Transactions with owners:									
Dividends	30	-	-	-	-	(460,058)	(460,058)	-	(460,058)
Others		-	-	-	(164)	43	(121)	-	(121)
Total transactions with owners		-	-	-	(164)	(460,015)	(460,179)	-	(460,179)
Balance at June 30, 2018 (Unaudited)		391,406	2,274,386	(362,676)	(93,912)	14,584,854	16,794,058	214,616	17,008,674

The above consolidated interim statements of changes in equity should be read in conjunction with the accompanying notes.

LG Chem, Ltd. and Subsidiaries
Consolidated Interim Statements of Cash Flows
Six-Month Periods Ended June 30, 2018 and 2017 (Unaudited)

(in millions of Korean won)

	Notes	Period Ended June 30	
		2018 (Unaudited)	2017 (Unaudited)
Cash flows from operating activities			
Cash generated from operations	32	592,066	1,442,876
Interest received		21,314	13,625
Interest paid		(53,154)	(51,353)
Dividends received		9,992	10,204
Income taxes paid		(451,897)	(236,456)
Net cash inflow from operating activities		<u>118,321</u>	<u>1,178,896</u>
Cash flows from investing activities			
Decrease in other receivables		514,754	622,072
Decrease in other non-current receivables		33,950	40,300
Decrease in other current financial assets		359	-
Proceeds from disposal of investments in subsidiaries		-	343
Proceeds from disposal of investments in associates		19,499	-
Proceeds from disposal of financial assets		8,465	-
Proceeds from disposal of property, plant and equipment		217,071	8,930
Proceeds from disposal of intangible assets		1,137	7,569
Government grants received		-	29,628
Business combination, net of cash acquired		-	43,759
Proceeds from disposal of business		-	2,022
Increase in other receivables		(465,157)	(261,100)
Increase in other non-current receivables		(16,537)	(47,219)
Acquisition of investments in associates and joint ventures		(2,061)	(28,720)
Acquisition of financial assets		(15,187)	(1,709)
Acquisition of property, plant and equipment		(1,804,602)	(762,869)
Acquisition of intangible assets		(49,688)	(34,109)
Net cash inflow (outflow) from investing activities		<u>(1,557,997)</u>	<u>(381,103)</u>
Cash flows from financing activities			
Proceeds from borrowings		2,206,602	1,144,734
Repayments of borrowings		(207,199)	(1,289,363)
Dividends paid		(460,058)	(385,682)
Purchase of treasury shares		-	(2,250)
Net cash outflow from financing activities		<u>1,539,345</u>	<u>(532,561)</u>
Net increase in cash and cash equivalents		99,669	265,232
Cash and cash equivalents at the beginning of the period		2,249,341	1,474,367
Effects of exchange rate changes on cash and cash equivalents		2,711	(9,661)
Cash and cash equivalents at the end of the period		<u>2,351,721</u>	<u>1,729,938</u>

The above consolidated interim statements of cash flows should be read in conjunction with the accompanying notes.

LG Chem, Ltd. and Subsidiaries

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1. General Information

General information about LG Chem, Ltd. (the Parent Company), the controlling company in accordance with Korean IFRS 1110 *Consolidated Financial Statements*, and its subsidiaries (collectively referred to as “the Group”) is as follows:

1.1 The Parent Company

The Parent Company was spun off on April 1, 2001, from LG Chem Investment Ltd. (now LG Corp., formerly LG Chemical Ltd.).

As at June 30, 2018, the Parent Company has its manufacturing facilities in Yeosu, Daesan, Ochang, Cheongju, Ulsan, Naju, Iksan, Paju, Osong, Onsan and Gimcheon.

The Parent Company is authorized to issue 292 million shares of ordinary shares with par value of ₩5,000 per share. As at June 30, 2018, the Parent Company has issued 70,592,343 ordinary shares (₩352,962 million) and 7,688,800 preferred shares (₩38,444 million). The largest shareholder of the Parent Company is LG Corp., which owns 33.34% of the Parent Company's ordinary shares. Preferred shareholders have no voting rights but are entitled to receive dividends at a rate 1% more than those paid to ordinary shareholders.

1.2 Business Overview

The Group is engaged in Basic materials & Chemicals business, Energy solutions, IT & Electronics materials and Advanced materials business, and also engaged in Life Sciences business acquired through a merger with LG Life Sciences, Ltd. in January 2017. In addition, the Parent Company acquired 100% shares of FarmHannong Co., Ltd., in April 2016, which is engaged to manufacture crop protection products, seeds, fertilizers and others.

The Basic materials & Chemicals business includes production of olefin petrochemicals, such as ethylene, propylene, butadiene from Naphtha, and aromatic petrochemicals such as benzene. It also includes production of synthetic resin and synthetic components from olefin, and aromatic petrochemicals. This business bears characteristics of a large-volume process industry. The Group's major products are PE, PP, BPA, ABS, EP, PVC, plasticizers, acrylic, SAP, synthetic rubber, a special resin, and others.

The Energy solutions business manufactures and supplies batteries ranging from IT & New application batteries for mobile phones and laptop computers, to automotive batteries for electric vehicles and ESS batteries. Demand of small sized batteries for new applications such as electric tools and electric driving devices as well as traditional IT devices is increasing recently and the automotive battery business is also expected to expand rapidly due to an increasing demand of the batteries in associated with enhanced environment regulation in developed countries. Demand for ESS is expanding with an increasing importance of efficient usage of electricity and generation of renewable energy.

The IT & Electronics material business manufactures and supplies various kinds of IT materials such as polarizer, glass substrate, OLED film, semiconductor materials and RO membranes, which will be the next growth engine for future. Advanced materials business manufactures and supplies display and battery materials for LCD Photoresist, OLED materials, battery materials and others.

The Life Sciences business manufactures and supplies pharmaceutical products, such as quinolone antibiotics ‘Factive’, human growth hormone ‘Eutropin’, diabetes drug ‘Zemiglo’, bovine somatotropin ‘Boostin’, hyaluronic acid filler ‘YVOIRE’ and others, as well as fine chemical products, such as herbicide ‘PYANCHOR’ for rice farming and others.

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FarmHannong Co., Ltd., subsidiary of the Parent Company, manufactures and sells crop protection products, seeds, fertilizers and others. The crop protection business provides high value products such as environmentally-friendly pesticide. The fertilizer business leads developing a next generation fertilizers such as eco-friendly organic and functional fertilizers, and potting soil. The seed business puts priority on retaining various genetic resources and developing rare breeds with high profit in order to remain competitive in a future food industry.

1.3 Consolidated Subsidiaries, Associates and Joint Ventures

	June 30, 2018			
	Percentage of ownership (%)	Business location	Closing month	Business activities
Consolidated subsidiaries				
Ningbo LG Yongxing Chemical Co., Ltd. ¹	75	China	December	ABS/SBL manufacturing and sales
Ningbo Zhenhai LG Yongxing Trade Co., Ltd. ¹	75	China	December	ABS sales
LG Chem HK Ltd.	100	Hong Kong	December	Sales and trading
LG Chem America, Inc. ²	100	USA	December	Sales and trading
LG Chemical India Pvt. Ltd. ³	100	India	December	Synthetic resin manufacturing and sales
LG Polymers India Pvt. Ltd. ³	100	India	December	PS manufacturing
LG Chemical (Guangzhou) Engineering Plastics Co., Ltd.	100	China	December	EP manufacturing and sales
LG Chem (Nanjing) Information & Electronics Materials Co., Ltd. ⁴	100	China	December	Battery/ Polarizer Manufacturing and sales
LG Chem (Taiwan), Ltd.	100	Taiwan	December	Polarizer manufacturing and sales
LG Chem Display Materials (Beijing) Co., Ltd.	100	China	December	Polarizer manufacturing
Tianjin LG Bohai Chemical Co., Ltd. ⁵	75	China	December	PVC, VCM, EDC manufacturing and sales
Tianjin LG BOTIAN Chemical Co., Ltd. ⁵	56	China	December	SBS manufacturing and sales
LG Chem (China) Investment Co., Ltd. ⁶	100	China	December	China holding company
LG Chem (Tianjin) Engineering Plastics Co., Ltd.	100	China	December	ABS/EP manufacturing and sales
LG Chem Europe GmbH	100	Germany	December	Sales and trading
LG Chem Poland Sp. z o.o.	100	Poland	December	Polarizer manufacturing
LG Chem Michigan Inc. ²	100	USA	December	Automotive battery research and manufacturing
LGC Petrochemical India Private Ltd.	100	India	December	Synthetic resin manufacturing and sales
HAENGBOKNURI CO., LTD.	100	Korea	December	Facility management and general cleaning
LG CHEM TK Kimya SANAYI VE TIC. Ltd. STI.	100	Turkey	December	Sales and trading
LG Chem Japan Co., Ltd.	100	Japan	December	Sales and trading
LG NanoH2O, Inc. ²	100	USA	December	Water processing membrane research and manufacturing
NanoH2O (Jiangsu) Water Processing Technology Co. Ltd.	100	China	December	Water processing membrane research and manufacturing
Nanjing LG Chem New Energy Battery Co., Ltd. ⁷	50	China	December	Automotive battery manufacturing and sales
LG Chem (Chongqing) Engineering Plastics Co., Ltd.	100	China	December	EP manufacturing and sales
LG Chem Wroclaw Energy sp. z o.o. ⁸	100	Poland	December	Automotive battery research and manufacturing
LG Chem(HUIZHOU) Petrochemical Co., Ltd.	70	China	December	ABS manufacturing and sales
FarmHannong Co., Ltd. ⁹	100	Korea	December	Agricultural pesticide manufacturing
FarmHwaong Co., Ltd. ^{9,10}	68	Korea	December	Vegetables and fruit farming
Farm Hannong (Heilongjiang) Chemical Co., Ltd. ⁹	100	China	December	Agricultural pesticide manufacturing
LG Life Sciences India Pvt. Ltd.	100	India	December	Pharmaceutical products sales

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LG Life Sciences (Beijing) Co., Ltd.	100	China	December	Pharmaceutical products sales
LG Life Sciences (Thailand) Ltd.	100	Thailand	December	Pharmaceutical products sales
LG Life Sciences America Inc. ⁶	100	USA	December	Agricultural pesticide sales
Sarangnuri Ltd.	100	Korea	December	Pharmaceutical products packaging
LG Chem Hai Phong Vietnam Co., Ltd.	100	Vietnam	December	Polarizer manufacturing and sales
LG Chem Australia Pty Ltd.	100	Australia	December	ESS sales
LG Chem Mexico S.A. de C.V. ¹¹	100	Mexico	December	Sales and trading
FarmHannong(Thailand) Ltd. ^{9,12}	100	Thailand	December	Research and development on seeds
LG Chem Hai Phong engineering Plastics Ltd. ¹³	100	Vietnam	December	EP manufacturing and sales
LG Chem (Guangzhou) Information & Electronics Materials Co.,Ltd. ¹⁴	100	China	December	Polarizer manufacturing

Associates

LG Holdings (HK) Ltd.	26	Hong Kong	December	Sales and trading
TECWIN Co., Ltd.	21	Korea	December	Environment solution and Construction of chemical plant
LG Chem BRASIL INTERMEDIACAO DE NEGOCIOS DO SETOR QUIMICO LTDA. ¹⁵	100	Brazil	December	Sales and trading
LG Chem Malaysia SDN.BHD. ¹⁵	100	Malaysia	December	Sales and trading
LG Fuel Cell Systems Inc.	23	USA	December	Power fuel cell research
FJ Composite Material Co., Ltd.	33	Japan	May	Heat diffuser research and manufacturing
WUXI CL New Energy Technology Ltd. ¹⁶	30	China	December	ESS manufacturing and sales
LG Life Sciences Poland Ltd. ¹⁵	100	Poland	December	Pharmaceutical products sales
Combustion Synthesis Co., Ltd. ¹⁷	30	Japan	March	Nitride-based ceramic powder production

Joint ventures

LG VINA Chemical Co., Ltd.	40	Vietnam	December	DOP production and sales
HL Greenpower Co., Ltd.	49	Korea	December	Automotive battery manufacturing and sales
SEETEC Co., Ltd.	50	Korea	December	Plant utility and distribution, research assistance service

¹ As at June 30, 2018, Ningbo LG Yongxing Chemical Co., Ltd. owns 100% of Ningbo Zhenhai LG Yongxing Trading Co., Ltd.'s shares.

² During the period ended June 30, 2018, LG Chem Power Inc. was merged into LG Chem Michigan Inc. In addition, LG Chem Michigan Inc. owns 100% of LG Chem America, Inc. and LG NanoH2O, Inc.'s shares.

³ As at June 30, 2018, LG Chemical India Pvt. Ltd. owns 100% of LG Polymers India Pvt. Ltd.'s shares.

⁴ During the period ended June 30, 2018, the Group acquired additional shares of LG Chem (Nanjing) Information & Electronics Materials Co.,Ltd. for ₩ 139,762 million.

⁵ As at June 30, 2018, Tianjin LG Bohai Chemical Co.,Ltd. owns 20.30% shares of Tianjin LG Botian Chemical Co.,Ltd.

⁶ During the period ended June 30, 2018, the Group acquired additional shares of LG Chem (China) Investment Co.,Ltd. for ₩ 29,228 million.

⁷ Although the Group owns less than 50% of the voting rights of Nanjing LG Chem New Energy Battery Co., Ltd., the Group is considered to have control over the investee as the Group can exercise the majority voting rights in its decision-making process in accordance with the shareholders' agreement.

⁸ During the period ended June 30, 2018, the Group acquired additional shares of LG Chem Wroclaw Energy sp. Z o.o. for ₩ 152,506 million.

⁹ As at June 30, 2018, FarmHannong Co., Ltd. owns 100% of Farm Hannong (Heilongjiang) Chemical Co., Ltd., LG Life Sciences America Inc. and FarmHannong(Thailand) Ltd., and also holds 68.36% of FarmHwaong Co., Ltd.

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- ¹⁰ As at June 30, 2018, FarmHwaong Co., Ltd.'s assets and liabilities are classified as assets and liabilities held for sale (Note 35).
¹¹ During the period ended June 30, 2018, the Group newly acquired 100% shares of LG Chem Mexico S.A. de C.V. for ₩ 394 million.
¹² During the period ended June 30, 2018, the Group newly acquired 100% shares of FarmHannong(Thailand) Ltd. for ₩ 2,586 million.
¹³ During the period ended June 30, 2018, the Group newly acquired 100% shares of LG Chem Hai Phong Engineering Plastics Ltd. for ₩ 15,344 million.
¹⁴ During the period ended June 30, 2018, the Group newly acquired 100% shares of LG Chem (Guangzhou) Information & electronics Materials Co.,Ltd. for ₩ 54,109 million.
¹⁵ Classified as an investment in associate due to its small size.
¹⁶ During the period ended June 30, 2018, the Group acquired additional shares of WUXI CL New Energy Technology Ltd. for ₩ 558 million.
¹⁷ During the period ended June 30, 2018, the Group newly acquired shares of Combustion Synthesis Co., Ltd. for ₩ 1,503 million.

1.4 Summarized Financial Information of Subsidiaries, Associates and Joint Ventures

Summarized financial information (before elimination of intercompany transactions and adjustments for differences in accounting policies) of subsidiaries, associates and joint ventures is as follows:

(in millions of Korean won)

	June 30, 2018				
	Assets	Liabilities	Equity	Revenue	Profit (loss) for the period
Subsidiaries					
Ningbo LG Yongxing Chemical Co., Ltd.	1,111,347	417,644	693,703	1,100,282	114,922
Ningbo Zhenhai LG Yongxing Trade Co., Ltd.	5,547	1,629	3,918	14,036	301
LG Chem HK Ltd.	88,514	70,431	18,083	238,173	214
LG Chem America, Inc.	234,513	212,573	21,940	380,099	1,517
LG Chemical India Pvt. Ltd.	32,718	26	32,692	-	12
LG Polymers India Pvt. Ltd.	141,505	58,949	82,556	126,527	5,328
LG Chemical (Guangzhou) Engineering Plastics Co., Ltd.	113,460	52,291	61,169	110,085	(6,222)
LG Chem (Nanjing) Information & Electronics Materials Co., Ltd.	2,975,407	1,687,375	1,288,032	1,538,925	(313)
LG Chem (Taiwan), Ltd.	116,780	56,492	60,288	82,043	(267)
LG Chem Display Materials (Beijing) Co., Ltd.	42,588	14,775	27,813	42,659	939
Tianjin LG Bohai Chemical Co., Ltd.	320,752	215,936	104,816	268,828	7,309
Tianjin LG BOTIAN Chemical Co., Ltd.	45,980	40,248	5,732	77,958	3,401
LG Chem (China) Investment Co., Ltd.	391,892	187,900	203,992	28,057	2,251
LG Chem (Tianjin) Engineering Plastics Co., Ltd.	68,231	24,022	44,209	44,224	(3,055)
LG Chem Europe GmbH	282,234	249,000	33,234	338,485	3,639
LG Chem Poland Sp. z o.o.	66,477	32,158	34,319	64,011	1,390
LG Chem Michigan Inc.	414,629	264,763	149,866	156,450	7,829
LGC Petrochemical India Private Ltd.	2,786	503	2,283	2,203	225
HAENGBOKNURI CO., LTD.	2,699	1,147	1,552	4,089	198
LG CHEM TK Kimya SANAYI VE TIC. Ltd. STI.	9,737	8,074	1,663	15,713	370
LG Chem Japan Co., Ltd.	4,062	564	3,498	2,957	293
LG NanoH2O, Inc. ¹	13,727	2,438	11,289	9,366	1,488
NanoH2O (Jiangsu) Water Processing Technology Co. Ltd.	4,233	1,215	3,018	-	(12)
Nanjing LG Chem New Energy Battery Co., Ltd.	591,938	480,654	111,284	262,793	5,188
LG Chem (Chongqing) Engineering Plastics Co., Ltd.	37,495	9,136	28,359	17,545	(2,150)

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LG Chem Wroclaw Energy sp. z o.o.	515,581	274,204	241,377	49,875	(37,019)
LG Chem(HUIZHOU) Petrochemical Co., Ltd.	302,079	210,269	91,810	200,618	6,199
FarmHannong Co., Ltd. ¹	1,263,393	696,185	567,208	424,502	36,364
LG Life Sciences India Pvt. Ltd.	6,180	4,173	2,007	5,565	(162)
LG Life Sciences (Beijing) Co., Ltd.	1,144	43	1,101	502	(111)
LG Life Sciences (Thailand) Ltd.	12,375	6,527	5,848	13,426	2,329
Sarangnuri Ltd.	265	52	213	157	46
LG Chem Hai Phong Vietnam Company Ltd.	13,131	6,808	6,323	10,159	2,898
LG Chem Austrailia Pty Ltd.	726	91	635	812	98
LG Chem Mexico S.A. de C.V.	503	47	456	301	45
LG Chem Hai Phong engineering Plastics Ltd.	15,849	36	15,813	-	(50)
LG Chem (Guangzhou) Information & electronics Materials Co.,Ltd.	54,353	28	54,325	-	4
Associates					
LG Holdings (HK) Ltd.	249,538	43,027	206,511	25,129	10,503
TECWIN Co., Ltd.	79,106	32,206	46,900	-	-
LG Chem BRASIL INTERMEDIACAO DE NEGOCIOS DO SETOR QUIMICO LTDA.	186	131	55	833	20
LG Chem Malaysia SDN.BHD.	281	22	259	308	8
LG Fuel Cell Systems Inc.	24,605	6,772	17,833	3,030	(25,398)
FJ Composite Material Co., Ltd.	7,197	2,899	4,298	763	(179)
WUXI CL New Energy Technology Ltd.	10,647	5,641	5,006	-	(237)
LG Life Sciences Poland Ltd.	128	92	36	86	(23)
Combustion Synthesis Co., Ltd.	1,277	28	1,249	93	(235)
Joint ventures					
LG VINA Chemical Co., Ltd.	20,105	13,168	6,937	28,545	407
HL Greenpower Co., Ltd.	196,244	158,188	38,056	114,126	181
SEETEC Co., Ltd.	333,485	45,866	287,619	245,892	7,184

¹ Included its subsidiaries' financial information from an intermediate parent perspective and not applied adjustments of a fair value evaluation due to the business combination in the consolidated financial statements.

(in millions of Korean won)

	December 31, 2017			2017	
	Assets	Liabilities	Equity	Revenue	Profit (loss) for the period
Subsidiaries					
Ningbo LG Yongxing Chemical Co., Ltd.	1,007,732	449,049	558,683	1,032,967	91,198
Ningbo Zhenhai LG Yongxing Trade Co., Ltd.	10,420	6,927	3,493	21,684	454
LG Chem HK Ltd.	96,752	79,690	17,062	256,931	342
LG Chem America, Inc.	191,011	171,566	19,445	389,815	3,688
LG Chemical India Pvt. Ltd.	32,716	5	32,711	-	19
LG Polymers India Pvt. Ltd.	93,999	15,651	78,348	123,943	7,514
LG Chemical (Guangzhou) Engineering Plastics Co., Ltd.	109,443	44,342	65,101	93,409	1,918
LG Chem (Nanjing) Information & Electronics Materials Co., Ltd.	2,410,548	1,301,136	1,109,412	1,344,654	56,278
LG Chem (Taiwan), Ltd.	122,310	60,462	61,848	93,998	4,278
LG Chem Display Materials (Beijing) Co., Ltd.	40,158	14,196	25,962	33,293	1,681
Tianjin LG Bohai Chemical Co., Ltd.	349,416	255,165	94,251	261,005	13,465
Tianjin LG BOTIAN Chemical Co., Ltd.	48,438	46,298	2,140	82,102	(6,725)
LG Chem (China) Investment Co., Ltd.	324,605	153,146	171,459	29,968	3,046
LG Chem (Tianjin) Engineering Plastics Co., Ltd.	64,708	19,057	45,651	43,117	(166)

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LG Chem Europe GmbH	231,237	202,012	29,225	254,604	8,810
LG Chem Poland Sp. z o.o.	64,841	30,877	33,964	44,812	1,527
LG Chem Michigan Inc.	232,301	138,085	94,216	105,505	11,426
LG Chem Power Inc.	18,640	6,013	12,627	21,952	1,985
LGC Petrochemical India Private Ltd.	2,502	390	2,112	2,149	187
HAENGBOKNURI CO., LTD.	2,292	939	1,353	3,354	3
LG CHEM TK Kimya SANAYI VE TIC. Ltd. STI.	6,618	5,113	1,505	11,463	207
LG Chem Japan Co., Ltd.	3,462	470	2,992	3,070	334
LG NanoH2O, Inc. ¹	10,269	971	9,298	8,366	1,428
NanoH2O (Jiangsu) Water Processing Technology Co. Ltd.	4,103	1,173	2,930	-	(1,831)
Nanjing LG Chem New Energy Battery Co., Ltd.	478,421	375,998	102,423	87,623	8,335
LG Chem (Chongqing) Engineering Plastics Co., Ltd.	35,028	5,559	29,469	8,974	(2,219)
LG Chem Wroclaw Energy sp. z o.o.	330,033	202,131	127,902	10,256	1,879
LG Chem(HUIZHOU) Petrochemical Co., Ltd.	290,840	208,170	82,670	170,803	1,500
FarmHannong Co., Ltd. ¹	1,152,122	621,754	530,368	439,625	35,072
LG Life Sciences India Pvt. Ltd.	7,143	4,923	2,220	4,851	(910)
LG Life Sciences (Beijing) Co., Ltd.	1,191	20	1,171	399	(7)
LG Life Sciences (Thailand) Ltd.	10,008	6,595	3,413	10,305	1,321
Sarangnuri Ltd.	227	60	167	137	35
LG Chem Hai Phong Vietnam Company Ltd.	4,480	1,266	3,214	-	-
LG Chem Australia Pty Ltd.	559	12	547	-	-
Associates					
LG Holdings (HK) Ltd.	249,896	60,681	189,215	23,624	7,150
TECWIN Co., Ltd.	79,106	32,206	46,900	-	-
LG Chem BRASIL INTERMEDIACAO DE NEGOCIOS DO SETOR QUIMICO LTDA.	164	123	41	997	(29)
LG Chem Malaysia SDN.BHD.	252	19	233	288	10
LG Fuel Cell Systems Inc.	48,444	4,701	43,743	987	(20,422)
FJ Composite Material Co., Ltd.	7,052	2,858	4,194	378	(255)
WUXI CL New Energy Technology Ltd.	4,521	1,180	3,341	-	-
LG Life Sciences Poland Ltd.	124	72	52	-	-
Joint ventures					
LG VINA Chemical Co., Ltd.	17,539	9,242	8,297	24,429	1,012
HL Greenpower Co., Ltd.	190,881	151,728	39,153	200,452	2,403
SEETEC Co., Ltd.	344,189	43,751	300,438	242,790	9,349

¹ Included its subsidiaries' financial information from an intermediate parent perspective and not applied adjustments of a fair value evaluation due to the business combination in the consolidated financial statements.

1.5 Changes in Scope for Consolidation

Subsidiaries newly included in the consolidation for the six-month period ended June 30, 2018, are as follows:

Subsidiary	Reason
LG Chem Mexico S.A. de C.V.	Newly established
FarmHannong(Thailand) Ltd.	Newly established
LG Chem Hai Phong Engineering Plastics Ltd.	Newly established
LG Chem (Guangzhou) Information & Electronics Materials Co., Ltd.	Newly established

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Subsidiaries excluded from the consolidation for the six-month period ended June 30, 2018, are as follows:

Subsidiary	Reason
LG Chem Power Inc.	Merged into LG Chem Michigan Inc.

2. Summary of Significant Accounting Policies

The principal accounting policies applied in the preparation of these consolidated financial statements are set out below. These policies have been consistently applied to all the periods presented, unless otherwise stated.

2.1 Basis of Preparation

The Group maintains its accounting records in Korean won and prepares statutory financial statements in the Korean language (Hangul) in accordance with International Financial Reporting Standards as adopted by the Republic of Korea (Korean IFRS). The accompanying consolidated interim financial statements have been condensed, restructured and translated into English from the Korean language financial statements.

The Group's condensed consolidated interim financial statements for the six-month period ended June 30, 2018, have been prepared in accordance with Korean IFRS 1034 Interim Financial Reporting. The condensed consolidated interim financial statements have been prepared in accordance with Korean IFRS which is effective or early adopted as at June 30, 2018.

(a) New and amended standards adopted by the Group

The Group has applied the following standards and amendments for the first time for their annual reporting period commencing January 1, 2018.

- Korean IFRS 1109 *Financial Instruments*

The Group has applied Korean IFRS 1109 *Financial Instruments* on January 1, 2018, the date of initial application. In accordance with the transitional provisions in Korean IFRS 1109, comparative figures have not been restated, and the impact of the change in accounting policy following the adoption of IFRS 9 are recognized in the opening balance sheet on January 1, 2018. The application of the standard has following impacts on the financial statements.

On the date of initial application, January 1, 2018, the financial instruments of the Group with any reclassifications noted, were as follows:

(in millions of Korean won)		Measurement category		Carrying amount		
		Korean IFRS 1039	Korean IFRS 1109	Korean IFRS 1039	Korean IFRS 1109	Difference
Current financial assets						
			Amortized costs	4,448,669	4,218,196	(230,473)
Trade receivables	Amortized costs		Fair value through other comprehensive income	-	230,473	230,473
Cash and cash equivalents	Amortized costs		Amortized costs	2,249,341	2,249,341	-

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Other receivables	Amortized costs	Amortized costs	770,776	770,776	-
Non-current financial assets					
Equity instruments	Available-for-sale financial assets	Fair value through other comprehensive income	23,782	16,982	(6,800)
Debt instruments	Available-for-sale financial assets	Fair value through profit or loss	-	6,800	6,800
Other receivables	Amortized costs	Amortized costs	126,429	126,429	-

(i) Financial assets at amortized cost classified as fair value through other comprehensive income

Certain trade receivables were reclassified from financial assets at amortized cost to fair value through other comprehensive income, as the Group's business model is achieved both by collecting contractual cash flows and selling of these assets. The contractual cash flows of these investments are solely principal and interest. As a result, debt instruments with a fair value of ₩ 230,473 million were reclassified from financial assets at amortized cost to financial assets at fair value through other comprehensive income on January 1, 2018.

(ii) Reclassification of equity investments from available-for-sale to fair value through other comprehensive income

The Group elected to present changes in the fair value of all its equity investments previously classified as available-for-sale, because these investments are not held for trading, in other comprehensive income. As a result, assets with a fair value of ₩16,982 million were reclassified from available-for-sale financial assets to financial assets at fair value through other comprehensive income. As at January 1, 2018, as related accumulated other comprehensive income of ₩ 418 million were not reclassified to profit or loss even though these assets are disposed of.

(iii) Reclassification of equity investments from available-for-sale to fair value through profit or loss

As at January 1, 2018, the Group classified equity investments, amounted of ₩6,800 million from available-for-sale to fair value through profit or loss, and did not classified to amortized costs as their cash flows are not solely payment of principal.

(iv) Other financial assets

Equity securities held for trading and contingent consideration are all required to be held as fair value through profit or loss under Korean IFRS 1109. There was no impact on the amounts recognized in relation to these assets from the adoption of Korean IFRS 1109.

- Korean IFRS 1115 *Revenue from Contracts with Customers*

The Group has elected to apply Korean IFRS 1115 *Revenue from Contracts with Customers*. In accordance with the transition provisions in Korean IFRS 1115, comparative figures have not been restated. The Group does not expect the amendment to have a significant impact on the financial statements.

- Amendments to Korean IFRS 1028 *Investments in Associates and Joint Ventures*
- Amendments to Korean IFRS 1102 *Share-based Payment*
- Enactment of Interpretation 2122 *Foreign Currency Transaction and Advance Consideration*
- Amendments to Korean IFRS 1040 *Investment Property*

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(b) New standards and interpretations not adopted by the Group

Certain new accounting standards and interpretations that have been published that are not mandatory for annual reporting period commencing January 1, 2018 and have not been early adopted by the Group are set out below.

- Enactment of Korean IFRS 1116 *Leases*

2.2 Significant Accounting Policies

Significant accounting policies and method of computation used in the preparation of the consolidated interim financial statements are consistent with those of the consolidated financial statements for the year ended December 31, 2017, except for the changes due to the application of amendment and enactments of standards described in Note 2.1.(a) and the ones described below.

2.2.1 Income Tax Expense

Income tax expense for the interim period is recognized based on management's best estimate of the weighted average annual income tax rate expected for the full financial year. The estimated average annual tax rate is applied to the pre-tax income.

2.2.2 Financial Assets

(a) Classification

From January 1, 2018, the Group classifies its financial assets in the following measurement categories:

- those to be measured subsequently at fair value (either through other comprehensive income, or through profit or loss), and
- those to be measured at amortized cost

The classification depends on the entity's business model for managing the financial assets and the contractual terms of the cash flows.

For financial assets measured at fair value, gains and losses are recorded in either profit or loss or other comprehensive income. For investments in debt instruments, this will depend on the business model in which the investment is held. The Group reclassifies debt investments only when its business model for managing those assets changes.

For investments in equity instruments that are not held for trading, the Group presents subsequent changes in fair value of the investments in equity instruments in other comprehensive income at initial recognition.

(b) Measurement

At initial recognition, the Group measures a financial asset, in the case of a financial asset not at fair value through profit or loss, at its fair value plus transaction costs that are directly attributable to the acquisition of the financial asset or the issuance of the financial liabilities. Transaction costs of financial assets carried at fair value through profit or loss are expensed in profit or loss.

Hybrid (combined) contracts with embedded derivatives are considered in their entirety when determining whether their cash flows are solely payment of principal and interest.

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Debt instruments

Subsequent measurement of debt instruments depends on the Group's business model for managing the asset and the cash flow characteristics of the asset. The Group classifies its debt instruments into one of the following three measurement categories:

- **Amortized cost:** Assets that are held for collection of contractual cash flows where those cash flows represent solely payments of principal and interest are measured at amortized cost. A gain or loss on a debt investment that is subsequently measured at amortized cost and is not part of a hedging relationship is recognized in profit or loss when the asset is derecognized or impaired. Interest income from these financial assets using the effective interest rate method is included in 'finance income'.
- **Fair value through other comprehensive income:** Assets that are held for collection of contractual cash flows and for selling the financial assets, where the assets' cash flows represent solely payments of principal, are measured at fair value through other comprehensive income. Movements in the carrying amount are taken through other comprehensive income, except for the recognition of impairment loss (and reversal of impairment loss), interest income and foreign exchange gains and losses which are recognized in profit or loss. When the financial asset is derecognized, the cumulative gain or loss previously recognized in other comprehensive income is reclassified from equity to profit or loss. Interest income from these financial assets using the effective interest rate method is included in 'finance income'. Foreign exchange gains and losses are presented in 'finance income or finance costs' and impairment loss is presented in 'other non-operating expenses'.
- **Fair value through profit or loss:** Assets that do not meet the criteria for amortized cost or fair value through other comprehensive income are measured at fair value through profit or loss. A gain or loss on a debt investment that is subsequently measured at fair value through profit or loss and is not part of a hedging relationship is recognized in profit or loss and presented net in the statement of profit or loss within 'other income or other expenses' in the period in which it arises.

Equity instruments

The Group subsequently measures all equity investments at fair value. Fair value gains and losses on equity investments in other comprehensive income is no subsequent reclassification of fair value gains and losses to profit or loss following the derecognition of the investment. Dividends from such investments continue to be recognized in profit or loss as 'finance income' when the Group's right to receive payments is established.

Changes in the fair value of financial assets at fair value through profit or loss are recognized in 'other income or other expenses' in the statement of profit or loss as applicable. Impairment loss (and reversal of impairment loss) on equity investments measured at fair value through other comprehensive income are not reported separately from other changes in fair value.

(c) Impairment

The Group assesses the expected credit losses associated with its debt instruments carried at amortized cost or fair value through other comprehensive income on the basis of future prospects. The impairment methodology applied depends on whether there has been a significant increase in credit risk. For trade receivables, the Group applies the simplified approach, which requires expected lifetime losses to be recognized from initial recognition of the receivables.

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2.2.3 Revenue Recognition

From January 1, 2018, the Group has applied Korean IFRS 1115 *Revenue from Contracts with Customers*.

Korean IFRS 1018 and other previous revenue standard identify revenue as income that arises in the course of ordinary activities of an entity and provides guidance on a variety of different types of revenue, such as, sale of goods, rendering of services, interest, dividends, royalties and construction contracts. However, the new standard is based on the principle that revenue is recognized when control of a good or service transfers to a customer so the notion of the control replaces the existing notion of risks and rewards. A new five-step process must be applied before revenue from contract with customers can be recognized:

- Identify contracts with customers
- Identify the separate performance obligation
- Determine the transaction price of the contract
- Allocate the transaction price to each of the separate performance obligations, and
- Recognize the revenue as each performance obligation is satisfied.

The adoption of Korean IFRS 1115 does not have a significant impact on the financial statements.

(a) Identify performance obligation

With regard to the contract of selling products to the customer, the Group identifies the services provided separately to the customer as a different performance obligation. When the Group makes a sales contract with the customer, the standard warranty period for each product and customer is set up considering the legal warranty period. Even though the standard warranty period has been expired, the warranties are recognized as a revenue and is identified as a separate performance obligation when the Group provides additional warranties for the quality of product or when the customer has an option to purchase additional warranties separately.

(b) A performance obligation satisfied at a point in time

The revenue from the sale of goods is recognized at the time they are delivered to the customer. Delivery occurs when the products have been shipped to the specific location, the risks of obsolescence and loss have been transferred to the customer, and either the customer has accepted the products in accordance with the sales contract, the acceptance provisions have lapsed, or the group has objective evidence that all criteria for acceptance have been satisfied.

The goods are often sold with volume discounts, and it is the group's policy to sell its products to the customer with a right of return. Accumulated experience is used to estimate for the discounts and the refund, and the volume discounts is calculated based on the periodical forecast sales. The warranty provision for the sales and refund is reasonably estimated and recognized properly.

(c) Refunds

A gross contract liability for the expected refunds to customers is recognized as adjustment to revenue, and the Group has a right to recover the product from the customer where the customer exercises his right of return and recognizes an asset and a corresponding adjustment to cost of sales. A right to recover the products is measured at former carrying amount of the product less the costs to recover the products.

(d) Significant financing component

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As a practical expedient, the Group need not adjust the promised amount of consideration for the effects of a significant financing component as the period between when the entity transfers a promised good or service to a customer and when the customer pays for that good or service is generally one year or less.

3. Financial Risk Management

3.1 Financial Risk Factors

The Group's activities expose it to a variety of financial risks: market risk, credit risk and liquidity risk. The Group's overall risk management program focuses on the unpredictability of financial markets and seeks to minimize potential adverse effects on the financial performance of the Group. The Group uses derivative financial instruments to hedge certain risk exposures.

Risk management is carried out by the Group's finance team under policies approved by the Corporate Management Committee. The finance team identifies, evaluates and hedges financial risks in close co-operation with the Group's operating units. The Corporate Management Committee reviews and approves written principles for overall risk management, as well as written policies covering specific areas, such as foreign exchange risk, interest rate risk, and credit risk, use of derivative financial instruments and non-derivative financial instruments, investment of excess liquidity.

(1) Market risk

1) Foreign exchange risk

The Group operates internationally and is exposed to foreign exchange risk arising from foreign currency exposures, primarily with respect to the US dollar. Foreign exchange risk arises from future commercial transactions, recognized assets and liabilities.

Management has set up a policy to require group companies to manage their foreign exchange risk against their functional currency. The Group manages maximum loss for currency risk exposures within acceptable range by using currency risk management model and hires employees who are exclusively responsible for currency risk management.

The Group has certain investments in foreign operations, whose net assets are exposed to foreign currency translation risk. Currency exposure arising from the net assets of the Group's foreign operations is managed primarily through borrowings denominated in the relevant foreign currencies.

As at June 30, 2018 and December 31, 2017, the Group's monetary assets and liabilities denominated in currencies other than its functional currency, are as follows:

<i>(in millions of Korean won)</i>	June 30, 2018		December 31, 2017	
	Assets	Liabilities	Assets	Liabilities
USD	2,343,579	2,046,060	2,337,448	1,561,175
EUR	232,491	404,318	174,464	21,226
JPY	21,420	110,028	36,304	109,162
CNY and others	68,739	5,030	60,616	1,512

As at June 30, 2018 and December 31, 2017, if the Group's functional currency had weakened / strengthened by 10% against the US dollar with all other variables held constant, profit before

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income tax would have been affected as follows:

<i>(in millions of Korean won)</i>	June 30, 2018		December 31, 2017	
	10% Increase	10% Decrease	10% Increase	10% Decrease
USD	29,752	(29,752)	77,627	(77,627)

The above sensitivity analysis has been performed for monetary assets and liabilities denominated in foreign currencies other than the Group's functional currency at the reporting date.

2) Price risk

The Group is exposed to equity securities price risk arises from investments held by the Group and classified in the consolidated interim statement of financial position as non-current financial assets. The Group's equity investments are publicly traded and are related to the KOSPI index.

The table below summarizes the impact of increases/decreases of the listed stock price index on the Group's equity before tax effects as at June 30, 2018 and December 31, 2017. The analysis is based on the assumption that the equity index has increased/decreased by 10% with all other variables held constant, and that all the Group's equity instruments moved in line with the index.

<i>(in millions of Korean won)</i>	June 30, 2018		December 31, 2017	
	10% Increase	10% Decrease	10% Increase	10% Decrease
KOSPI	-	-	553	(553)

3) Interest rate risk

Interest rate risk is defined as the risk that the interest income or expenses arising from deposits and borrowings will fluctuate because of changes in future market interest rate. The interest rate risk mainly arises through floating rate deposits and borrowings. The objective of interest rate risk management lies in maximizing corporate value by minimizing uncertainty in interest rates fluctuations and net interest expense.

The Group adequately minimizes risks from interest rate fluctuations through various policies, such as sharing excess cash within the Group (internal cash sharing) to minimize external borrowings, avoiding high rate borrowings, reforming capital structure, managing an appropriate ratio of fixed rate borrowings and floating rate borrowings, monitoring a fluctuation of domestic and foreign interest rates daily, weekly and monthly, establishing alternatives, and balancing floating rate short-term borrowings with floating rate deposits.

The table below summarizes the impact of increases/decreases of interest rate on the Group's equity and post-tax profit for the six-month periods ended June 30, 2018 and 2017. The analysis is based on the assumption that the interest rate has increased/decreased by 1% (100 basis points) with all other variables held constant.

<i>(in millions of Korean won)</i>	Impact on post-tax profit		Impact on equity	
	2018	2017	2018	2017
Increase	(16,522)	(14,521)	(16,522)	(14,521)
Decrease	16,522	14,521	16,522	14,521

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(2) Credit risk

Credit risk is managed on the Group basis. Credit risk arises from debt instruments at amortized cost or fair value through other comprehensive income. The maximum exposure to credit risk as at June 30, 2018 and December 31, 2017, is as follows:

(in millions of Korean won)

	June 30, 2018		
	Amount before allowance	Impairment allowance	Carrying amount (maximum exposure)
Amortized cost	8,088,010	(11,264)	8,076,746
Fair value through other comprehensive income	186,089	-	186,089
	<u>8,274,099</u>	<u>(11,264)</u>	<u>8,262,835</u>

(in millions of Korean won)

	December 31, 2017		
	Amount before allowance	Impairment allowance	Carrying amount (maximum exposure)
Amortized cost	7,373,206	(8,511)	7,364,695
Fair value through other comprehensive income	230,473	-	230,473
Total	<u>7,603,679</u>	<u>(8,511)</u>	<u>7,595,168</u>

The Group has established the following policies and procedures to manage credit risks.

To manage credit risks relating to trade receivables, the Group evaluates the credit rating of customers and determines credit limit for each customer based on the information provided by credit rating agencies and other available financial information before commencing business with new customers. The credit risks relating to trade receivables are also mitigated by insurance contracts, collateral as well as payment guarantees.

The Group has entered into export bond insurance contracts with Korea Trade Insurance Corporation to mitigate credit risks relating to export trade receivables to overseas customers. The Group is also provided with collateral by customers depending on their credit rating or payment guarantees from the customers' financial institutions if necessary.

The Group has deposited its cash and cash equivalents and other long-term deposits in several financial institutions, such as Woori Bank and others. The Group has also entered into derivative contract with several financial institutions. The Group maintains business relationship with those financial institutions with high credit ratings evaluated by independent credit rating agencies and accordingly, credit risks associated with these financial institutions are limited.

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(3) Liquidity risk

Finance team of the Group monitors rolling forecasts of the Group's liquidity requirements to ensure it has sufficient cash to meet operational needs while maintaining sufficient headroom on its undrawn committed borrowing facilities at all times so that the Group does not breach borrowing limits or covenants (where applicable) on any of its borrowing facilities. The Group's liquidity management policy involves projecting cash flows in major currencies and considering the level of liquid assets necessary to meet these, monitoring balance sheet liquidity ratios against internal and external regulatory requirements and maintaining debt financing plans.

The table below analyzes the Group's non-derivative financial liabilities into relevant maturity groupings based on the remaining period at the reporting period to the contractual maturity date. Cash flows presented below are gross cash flows before discount, and includes cash flows for interests.

(in millions of Korean won)

	June 30, 2018			
	Less than 1 year	Between 1-2 years	Between 2-5 years	Over 5 years
Borrowings (excluding financial lease liabilities)	1,958,697	467,422	2,089,678	951,676
Finance lease liabilities	5,192	5,177	15,532	7,944
Trade and other payables	3,604,163	7,138	2,985	142
Total	5,568,052	479,737	2,108,195	959,762

(in millions of Korean won)

	December 31, 2017			
	Less than 1 year	Between 1-2 years	Between 2-5 years	Over 5 years
Borrowings (excluding financial lease liabilities)	1,472,881	333,734	1,076,000	327,225
Finance lease liabilities	5,253	5,177	15,532	10,532
Trade and other payables	3,862,001	6,927	1,576	142
Total	5,340,135	345,838	1,093,108	337,899

As at June 30, 2018, the Group has entered into swap contracts for which cash flow hedge accounting is applied, to avoid market price fluctuation of raw materials. Details of derivative assets and liabilities are as follows:

(in millions of Korean won)

	June 30, 2018		December 31, 2017	
	Assets	Liabilities	Assets	Liabilities
Product swap ¹	169	-	-	-
Total	169	-	-	-

¹ Gain (loss) resulting from the contracts to avoid cash flow fluctuation risk of expected future transaction is accounted for as accumulated other comprehensive income (Note 5).

3.2 Capital Risk Management

The Group's objectives for managing capital are to safeguard the Group's ability to continue as a going concern, so the Group can continue to provide returns for shareholders and benefits for other stakeholders, and to maintain an optimal capital structure to reduce the cost of capital.

Consistent with others in the industry, the Group monitors capital on the basis of the gearing ratio.

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This ratio is calculated as net debt divided by total capital. Net debt is calculated as total borrowings less cash and cash equivalents. Total capital is calculated as 'equity' as shown in the consolidated statement of financial position plus net debt.

The gearing ratio and debt-to-equity ratio as at June 30, 2018 and December 31, 2017, were as follows:

<i>(in millions of Korean won, except for ratios)</i>	June 30, 2018	December 31, 2017
Total borrowings (Note 14) (A)	5,114,001	3,044,949
Less: cash and cash equivalents (B)	(2,351,721)	(2,249,341)
Net debt (C=A+B)	2,762,280	795,608
Total liabilities (D)	10,390,608	8,702,644
		16,338,577
Total equity (E)	17,008,674	
Total capital (F=C+E)	19,770,954	17,134,185
Gearing ratio (C/F)	14.0%	4.6%
Debt-to-equity ratio (D/E)	61.1%	53.3%

3.3 Fair Value

(1) Carrying amount and fair value of financial instruments by category as at June 30, 2018 and December 31, 2017, are as follows:

<i>(in millions of Korean won)</i>	June 30, 2018		December 31, 2017	
	Carrying amount	Fair value	Carrying amount	Fair value
Financial assets (current)				
Cash and cash equivalents	2,351,721	1	2,249,341	1
Deposits held by financial institutions	478,209	1	529,701	1
Trade receivables	5,145,795	1	4,448,669	1
Other receivables (excluding deposits held by financial institutions)	165,972	1	241,075	1
Other current financial assets (derivative instruments)	169	169	-	-
Financial assets (non-current)				
Deposits held by financial institutions	63,973	1	64,308	1
Other receivables (excluding deposits held by financial institutions)	57,206	1	62,121	1
Other non-current financial assets (carried at cost)	-	-	17,718	2
Other non-current financial assets (carried at fair value)				
Marketable financial assets	3	3	6,064	6,064
Non-marketable financial assets	35,128	1	-	-
Financial liabilities (current)				
Trade and other payables	3,604,163	1	3,862,001	1
Current borrowings (excluding finance lease liabilities)	1,898,072	1	1,446,187	1
Current finance lease liabilities	5,030	1	5,137	1

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Financial liabilities (non-current)

Non-current borrowings				
(excluding finance lease liabilities)	3,185,563	3,204,511	1,566,258	1,560,147
Non-current finance lease liabilities	25,336	26,265	27,367	28,776
Other non-current payables	10,265	¹	8,646	¹
Other non-current financial liabilities				
(Conversion rights)	534	534	-	-

¹ These financial assets and liabilities are not included in the disclosure above as their carrying amount is a reasonable approximation of the fair value.

² As at December 31, 2017, all other non-current financial assets of the Group consist of available-for-sale equity securities. These equity securities are measured at cost as the range of reasonable fair value estimates is significant and the probabilities of the various estimates cannot be reasonably assessed.

(2) Fair value for measurement and disclosure are determined based on the following method:

Fair values of financial liabilities(non-current) are based on cash outflows discounted by using Korean won currency note yield in the same credit grade with the Parent Company (AA+), and the applied discount rates as at June 30, 2018 and December 31, 2017, are as follows:

<i>(in percentage)</i>	June 30, 2018	December 31, 2017
Discount rate	1.93%~3.13%	1.95%~2.90%

(3) Fair value hierarchy

Items that are measured at fair value or for which the fair value is disclosed are categorized by the fair value hierarchy levels, and the levels are defined as follows:

- Quoted prices (unadjusted) in active markets for identical assets or liabilities (Level 1).
- Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (that is, prices) or indirectly (that is, derived from prices) (Level 2).
- Inputs for the asset or liability that are not based on observable market data (that is, unobservable inputs) (Level 3).

Fair value hierarchy classifications of the financial instruments that are measured at fair value or their fair value are disclosed as at June 30, 2018 and December 31, 2017, are as follows:

<i>(in millions of Korean won)</i>	June 30, 2018			
	Level 1	Level 2	Level 3	Total
Financial assets/liabilities measured at fair value				
Other current financial assets (derivative instruments)	-	169	-	169
Other non-current financial assets (marketable financial assets)	3	-	-	3
Other non-current financial liabilities (Conversion rights)	-	534	-	534

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Financial assets/liabilities not measured at fair value				
Non-current borrowings				
(excluding finance lease liabilities)	-	3,204,511	-	3,204,511
Non-current finance lease liabilities	-	26,265	-	26,265
<i>(in millions of Korean won)</i>				
	December 31, 2017			
	Level 1	Level 2	Level 3	Total
Financial assets/liabilities measured at fair value				
Other non-current financial assets				
(carried at fair value)	6,064	-	-	6,064
Financial assets/liabilities not measured at fair value				
Non-current borrowings				
(excluding finance lease liabilities)	-	1,560,147	-	1,560,147
Non-current finance lease liabilities	-	28,776	-	28,776

4. Critical Accounting Estimates and Assumptions

The preparation of financial statements requires the Group to make estimates and assumptions concerning the future. Estimates and assumptions are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. The accounting estimates will, by definition, seldom equal the related actual results.

Significant accounting estimates and assumptions applied in the preparation of these consolidated interim financial statements are the same as those applied to the consolidated financial statements for the year ended December 31, 2017, except for the estimates used to determine income tax expense and the accounting estimates and assumptions for implementation of Korean IFRS 1109 explained as below.

(1) Impairment of financial assets

The allowance for impairment for financial assets under Korean IFRS 1109 is based on assumptions about risk of default and expected loss rates. The Group uses judgement in making these assumptions and selecting the inputs to the impairment calculation based on the Group's past history, existing market conditions as well as forward looking estimates at the end of each reporting period.

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5. Financial Instruments by Category

Categorizations of financial instruments as at June 30, 2018 and December 31, 2017, are as follows:

(in millions of Korean won)

Financial assets	June 30, 2018			Total
	Financial assets at amortized cost	Financial assets at fair value through profit or loss	Financial assets at fair value through other comprehensive income	
Cash and cash equivalents	2,351,721	-	-	2,351,721
Trade receivables	4,959,706	-	186,089	5,145,795
Other receivables	644,181	-	-	644,181
Other non-current receivables	121,179	-	-	121,179
Other current financial assets	-	-	169	169
Other non-current financial assets	-	16,082	19,049	35,131
Total	8,076,787	16,082	205,307	8,298,176

(in millions of Korean won)

Financial liabilities	June 30, 2018			Total
	Financial liabilities at fair value through profit or loss	Financial liabilities at amortized cost	Other financial liabilities ¹	
Trade payables	-	2,155,719	-	2,155,719
Other payables	-	1,448,444	-	1,448,444
Borrowings (current)	-	1,893,329	9,773	1,903,102
Other non-current financial liabilities	534	-	-	534
Other non-current payables	-	10,265	-	10,265
Borrowings (non-current)	-	3,185,563	25,336	3,210,899
Total	534	8,693,320	35,109	8,728,963

(in millions of Korean won)

Financial assets	December 31, 2017			Total
	Loans and receivables	Financial assets at fair value through profit or loss	Available-for-sale financial assets	
Cash and cash equivalents	2,249,341	-	-	2,249,341
Trade receivables	4,448,669	-	-	4,448,669
Other receivables	770,776	-	-	770,776
Other non-current receivables	126,429	-	-	126,429
Other non-current financial assets	-	-	23,782	23,782
Total	7,595,215	-	23,782	7,618,997

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Financial liabilities	December 31, 2017			
	Financial liabilities at fair value through profit or loss	Financial liabilities at amortized cost	Other financial liabilities ¹	Total
Trade payables	-	2,014,779	-	2,014,779
Other payables	-	1,847,222	-	1,847,222
Borrowings (current)	-	1,443,683	7,641	1,451,324
Other non-current payables	-	8,646	-	8,646
Borrowings (non-current)	-	1,566,258	27,367	1,593,625
Total	-	6,880,588	35,008	6,915,596

¹ Other financial liabilities include (a) financial lease liabilities that are not subject to the categorizations of financial liabilities and (b) financial liabilities that are related to transfer transactions not qualified for derecognition.

Net gains or losses on each category of financial instruments for the three-month and six-month periods ended June 30, 2018 and 2017, are as follows:

(in millions of Korean won)

	2018		2017	
	Three months	Six months	Three months	Six months
Dividend income				
Financial assets at fair value through other comprehensive income	8	8	-	-
Available-for-sale financial assets	-	-	8	204
Interest income				
Financial assets at fair value through other comprehensive income	-	-	-	5
Financial assets at amortized cost	12,233	23,497	6,340	13,801
Interest expense				
Hedging derivatives	-	-	-	-
Financial liabilities at amortized cost	(35,742)	(63,752)	(26,140)	(50,863)
Other financial liabilities	(263)	(523)	(1,870)	(5,347)
Gain (loss) on valuation				
Financial assets at fair value through profit or loss	-	-	-	-
Hedging derivatives	-	-	-	-
Financial assets at fair value through other comprehensive income	2,510	6,167	-	-
Derivative instruments	2,188	2,188	-	-
Gain (loss) on disposal				
Financial assets at fair value through profit or loss	-	-	-	-
Hedging derivatives	-	-	-	170
Financial assets at fair value through other comprehensive income	(205)	(1,542)	-	-

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	2018		2017	
	Three months	Six months	Three months	Six months
Gain (loss) on foreign currency translation				
Financial assets at amortized cost	106,184	90,902	97,154	25,173
Financial liabilities at amortized cost	(151,188)	(109,034)	(7,850)	24,915
Other financial liabilities	349	349	(26,710)	(2,173)
Gain (loss) on foreign currency transaction				
Financial assets at amortized cost	36,112	37,508	(24,229)	(148,037)
Financial liabilities at amortized cost	(16,941)	(7,524)	10,037	52,042
Other financial liabilities	(114)	(207)	15,152	67,836

6. Cash and Cash Equivalents

Details of cash and cash equivalents as at June 30, 2018 and December 31, 2017, are as follows:

(in millions of Korean won)

	June 30, 2018	December 31, 2017
Bank deposits and cash on hand	568,978	598,712
Deposits held by financial institutions and others	1,782,743	1,650,629
Total	2,351,721	2,249,341

As at June 30, 2018, cash and cash equivalents include ₩7,563 million which is subject to a restriction on the use in association with the national R&D projects.

7. Trade and Other Receivables

Trade and other receivables and its provisions for impairment, as at June 30, 2018 and December 31, 2017, are as follows:

(in millions of Korean won)

	June 30, 2018		
	Gross amount	Impairment allowance	Carrying amount
Trade receivables ¹	5,156,100	(10,305)	5,145,795
Other current receivables	645,140	(959)	644,181
Other non-current receivables ²	121,179	-	121,179
Total	5,922,419	(11,264)	5,911,155

(in millions of Korean won)

	December 31, 2017		
	Gross amount	Impairment allowance	Carrying amount
Trade receivables ¹	4,456,221	(7,552)	4,448,669
Other current receivables	771,735	(959)	770,776
Other non-current receivables ²	126,429	-	126,429
Total	5,354,385	(8,511)	5,345,874

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¹ As at June 30, 2018 and December 31, 2017, trade receivables transferred to financial institutions have been collateralized for borrowings (current) and the amount of trade receivables not fully derecognized is as follows (Note 14):

<i>(in millions of Korean won)</i>	Trade receivables collateralized for borrowings	
	June 30, 2018	December 31, 2017
Carrying amount of transferred assets	4,743	2,504
Carrying amount of related liabilities	(4,743)	(2,504)

² As at June 30, 2018, ₩575 million of other non-current receivables represents deposits which are restricted from withdrawal in connection with maintaining checking accounts (2017: ₩550 million).

Details of other receivables as at June 30, 2018 and December 31, 2017, are as follows:

<i>(in millions of Korean won)</i>	June 30, 2018	December 31, 2017
Current		
Non-trade receivables	122,391	187,314
Deposits held by financial institutions ¹	478,209	529,701
Accrued income	6,445	5,126
Guarantee deposits provided	37,136	48,635
	<u>644,181</u>	<u>770,776</u>
Non-current		
Non-trade receivables	4,677	4,246
Deposits held by financial institutions ²	63,973	64,308
Loans	335	291
Guarantee deposits provided	52,194	57,584
	<u>121,179</u>	<u>126,429</u>
Total	<u>765,360</u>	<u>897,205</u>

¹ As at June 30, 2018, ₩1,338 million (2017: ₩1,338 million) is pledged as a collateral for borrowings and others.

² As at June 30, 2018, ₩63,400 million (2017: ₩63,400 million) is restricted from being withdrawn in relation to large, small and medium-sized companies cooperation agreement and others.

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The aging analysis of trade and other receivables as at June 30, 2018 and December 31, 2017, is as follows:

(in millions of Korean won)

	June 30, 2018		December 31, 2017	
	Trade receivables	Other receivables	Trade receivables	Other receivables
Receivables not past due	5,020,720	741,100	4,302,204	834,882
Past due but not impaired	129,742	24,260	148,908	62,323
Up to 3 months	118,724	16,217	148,043	59,070
Between 3-6 months	9,344	4,695	311	2,078
Over 6 months	1,674	3,348	554	1,175
Impaired receivables	5,638	959	5,109	959
	<u>5,156,100</u>	<u>766,319</u>	<u>4,456,221</u>	<u>898,164</u>

Movements on the provision for impairment of trade and other receivables for the six-month period ended June 30, 2018 and for the year ended December 31, 2017, are as follows:

(in millions of Korean won)

	June 30, 2018			
	Trade receivables		Other receivables	
	Current	Non-current	Current	Non-current
Beginning balance	7,552	-	959	-
Business combination (Note 34)	-	-	-	-
Additions	2,874	-	-	-
Write-off	(112)	-	-	-
Reversals	-	-	-	-
Exchange differences	(9)	-	-	-
Ending balance	<u>10,305</u>	<u>-</u>	<u>959</u>	<u>-</u>

(in millions of Korean won)

	December 31, 2017			
	Trade receivables		Other receivables	
	Current	Non-current	Current	Non-current
Beginning balance	12,219	-	385	990
Business combination (Note 34)	2,018	-	-	-
Additions	-	-	796	-
Write-off	(644)	-	(221)	(990)
Reversals	(4,464)	-	(1)	-
Exchange differences	(1,577)	-	-	-
Ending balance	<u>7,552</u>	<u>-</u>	<u>959</u>	<u>-</u>

As at June 30, 2018 and December 31, 2017, the carrying amounts of trade and other receivables are approximation of their fair values.

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8. Other Financial Assets

Details of other financial assets as at June 30, 2018 and December 31, 2017, are as follows:

<i>(in millions of Korean won)</i>	June 30, 2018	December 31, 2017
Other financial assets		
Financial assets at fair value through other comprehensive income (current)	169	-
Financial assets at fair value through other comprehensive income (non-current)	19,049	-
Financial assets at fair value through profit or loss (current)	-	-
Financial assets at fair value through profit or loss (non-current)	16,082	-
Available-for-sale financial assets	-	23,782
Less: current portion	(169)	-
	<u>35,131</u>	<u>23,782</u>
Other financial liabilities (non-current)		
Derivative instruments	534	-
	<u>534</u>	<u>-</u>

Changes in other financial assets for the six-month periods ended June 30, 2018 and for the year ended December 31, 2017, are as follows:

<i>(in millions of Korean won)</i>	June 30, 2018	December 31, 2017
Beginning balance	23,782	23,448
Business combination (Note 34)	-	2,652
Acquisitions / Transfer	15,187	3,001
Disposals	(10,005)	(195)
Impairment	-	(209)
Gain (loss) on valuation (before income tax effects)	6,336	(5,550)
Less: current portion	(169)	-
Exchange differences	-	635
Ending balance	<u>35,131</u>	<u>23,782</u>

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9. Inventories

Details of inventories as at June 30, 2018 and December 31, 2017, are as follows:

(in millions of Korean won)

	June 30, 2018		
	Gross Amount	Valuation allowance	Carrying amount
Merchandise	142,416	(1,317)	141,099
Finished / Semi-finished products	2,211,174	(80,487)	2,130,687
Work-in-process	13,748	-	13,748
Raw materials	1,028,494	(16,023)	1,012,471
Supplies	148,608	-	148,608
Materials-in-transit	503,096	-	503,096
Total	4,047,536	(97,827)	3,949,709

(in millions of Korean won)

	December 31, 2017		
	Gross Amount	Valuation allowance	Carrying amount
Merchandise	141,567	(3,320)	138,247
Finished / Semi-finished products	1,956,436	(95,369)	1,861,067
Work-in-process	9,852	-	9,852
Raw materials	897,227	(14,459)	882,768
Supplies	136,251	-	136,251
Materials-in-transit	324,269	-	324,269
Total	3,465,602	(113,148)	3,352,454

During the six-month period ended June 30, 2018, the cost of inventories recognized as 'cost of sales' is amounted to ₩8,304,042 million (2017: ₩7,870,664 million).

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10. Investments in Associates and Joint Ventures

Changes in investments in associates and joint ventures for the six-month period ended June 30, 2018 and for the year ended December 31, 2017, are as follows:

(in millions of Korean won)

	June 30, 2018						
	Beginning balance	Acquisitions / transfer	Dividends	Share of profit (loss) of associates and joint ventures	Share of other comprehensive income of associates and joint ventures	Others	Ending balance
LG VINA Chemical Co., Ltd.	3,327	-	(810)	169	(723)	-	1,963
HL Greenpower Co., Ltd.	20,240	-	-	(1,382)	-	(209)	18,649
LG Holdings (HK) Ltd.	51,029	-	-	2,731	1,766	-	55,526
TECWIN Co., Ltd.	8,008	-	-	1,818	-	-	9,826
SEETEC Co., Ltd.	146,741	-	(10,000)	3,590	-	91	140,422
LG Chem BRASIL INTERMEDIACAO DE NEGOCIOS DO SETOR QUIMICO LTDA.	579	-	-	-	-	-	579
LG Chem Malaysia SDN.BHD	150	-	-	-	-	-	150
LG Fuel Cell Systems Inc.	30,334	-	-	(7,124)	693	59	23,962
FJ Composite Materials Co., Ltd.	2,669	-	-	(119)	97	-	2,647
WUXI CL New Energy Technology Ltd.	1,002	559	-	(71)	8	(1)	1,497
LG Life Sciences Poland Ltd.	17	-	-	-	-	-	17
Combustion Synthesis Co., Ltd. ¹	-	1,503	-	(69)	(5)	19	1,448
	<u>264,096</u>	<u>2,062</u>	<u>(10,810)</u>	<u>(457)</u>	<u>1,836</u>	<u>(41)</u>	<u>256,686</u>

(in millions of Korean won)

	December 31, 2017							
	Beginning balance	Business combination	Acquisitions / transfer	Dividends	Share of profit (loss) of associates and joint ventures	Share of other comprehensive income of associates and joint ventures	Changes in ownership of associates	Ending balance
LG VINA Chemical Co., Ltd.	3,874	-	-	(846)	753	(454)	-	3,327
HL Greenpower Co., Ltd.	16,927	-	-	-	3,010	-	-	20,240
LG Holdings (HK) Ltd.	74,843	-	-	-	4,281	(8,596)	(19,499)	51,029
TECWIN Co., Ltd.	7,214	-	-	-	794	-	-	8,008
SEETEC Co., Ltd.	148,333	-	-	(10,000)	8,408	-	-	146,741
LG Chem BRASIL INTERMEDIACAO DE NEGOCIOS DO SETOR QUIMICO LTDA.	579	-	-	-	-	-	-	579
LG Chem Malaysia SDN.BHD	150	-	-	-	-	-	-	150
LG Fuel Cell Systems Inc.	8,908	-	24,527	-	(10,191)	(587)	7,680	30,334
FJ Composite Materials Co., Ltd.	-	-	3,015	-	(259)	(87)	-	2,669
WUXI CL New Energy Technology Ltd.	-	-	1,178	-	(176)	-	-	1,002
LG Life Sciences Poland Ltd.	-	17	-	-	-	-	-	17
	<u>260,828</u>	<u>17</u>	<u>28,720</u>	<u>(10,846)</u>	<u>6,620</u>	<u>(9,724)</u>	<u>7,680</u>	<u>264,096</u>

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¹ During the six-month period ended June 30, 2018, the Group newly acquired 29.54% shares of Combustion Synthesis Co., Ltd. for ₩1,503 million.

11. Property, Plant and Equipment

Changes in property, plant and equipment for the six-month period ended June 30, 2018 and for the year ended December 31, 2017, are as follows:

(in millions of
Korean won)

Korean won)	June 30, 2018										
	Land	Buildings	Structures	Machinery	Vehicles	Tools	Equipment	Others	Construction -in-progress	Machinery -in-transit	Total
Beginning balance	1,568,295	2,762,588	654,629	4,169,473	13,654	403,522	105,759	73,399	1,317,877	142,286	11,211,482
Cost	1,605,247	3,438,000	1,190,383	13,157,481	39,945	1,085,752	352,106	211,585	1,361,431	142,286	22,584,216
Accumulated depreciation	-	(637,025)	(521,806)	(8,840,809)	(26,143)	(669,189)	(243,973)	(136,034)	-	-	(11,074,979)
Accumulated impairment	(36,952)	(38,387)	(13,948)	(147,199)	(148)	(13,041)	(2,374)	(2,152)	(43,554)	-	(297,755)
Acquisitions/ Transfer	42,096	306,362	18,360	711,840	1,289	100,146	40,881	7,186	1,645,718	104,392	2,978,270
Disposals/ Transfer	-	(142)	(73)	(215,783)	(24)	(6,126)	(1,460)	(1,051)	(1,231,548)	(34,614)	(1,490,821)
Exchange differences	9	15,043	3,077	29,577	179	2,496	811	-	9,856	-	61,048
Depreciation	-	(44,116)	(22,668)	(477,097)	(1,533)	(68,198)	(19,322)	(33,206)	-	-	(666,140)
Impairment	-	(1,248)	(221)	(14,789)	-	(125)	(1)	-	-	-	(16,384)
Reversal of impairment	-	16	28	252	3	1	11	-	-	-	311
Ending balance	1,610,400	3,038,503	653,132	4,203,473	13,568	431,716	126,679	46,328	1,741,903	212,064	12,077,766
Cost	1,647,352	3,763,830	1,214,038	13,659,231	41,239	1,163,388	390,878	212,453	1,785,715	212,064	24,090,188
Accumulated depreciation	-	(686,401)	(546,479)	(9,299,058)	(27,525)	(720,212)	(261,779)	(163,973)	-	-	(11,705,427)
Accumulated impairment	(36,952)	(38,926)	(14,427)	(156,700)	(146)	(11,460)	(2,420)	(2,152)	(43,812)	-	(306,995)

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	December 31, 2017										
	Land	Buildings	Structures	Machinery	Vehicles	Tools	Equipment	Others	Construction -in-progress	Machinery -in-transit	Total
Beginning balance	1,470,226	2,181,396	651,061	4,288,509	8,594	384,777	95,905	100,360	473,111	26,194	9,680,133
Cost	1,507,154	2,796,650	1,145,962	12,656,297	41,183	1,005,567	323,646	238,906	484,950	26,194	20,226,509
Accumulated depreciation	-	(575,932)	(479,210)	(8,305,213)	(32,439)	(611,202)	(225,767)	(138,098)	-	-	(10,367,861)
Accumulated impairment	(36,928)	(39,322)	(15,691)	(62,575)	(150)	(9,588)	(1,974)	(448)	(11,839)	-	(178,515)
Business combination (Note 34)	62,738	81,497	6,590	109,011	197	8,256	2,918	-	164,722	57,392	493,321
Acquisitions/ Transfer	38,594	607,656	51,272	955,563	9,761	180,809	45,578	41,658	2,535,725	133,175	4,599,791
Disposals/ Transfer	(2,972)	(9,888)	(787)	(53,527)	(49)	(31,254)	(1,242)	-	(1,820,436)	(74,475)	(1,994,630)
Exchange differences	(291)	(28,426)	(5,133)	(77,319)	(121)	(6,971)	(1,821)	-	(2,854)	-	(122,936)
Depreciation	-	(75,093)	(46,529)	(955,324)	(4,691)	(125,354)	(35,001)	(66,915)	-	-	(1,308,907)
Impairment	-	(1,390)	(3,039)	(98,125)	(39)	(6,142)	(652)	(1,704)	(32,391)	-	(143,482)
Reversal of impairment	-	6,836	1,194	3,721	2	797	91	-	-	-	12,641
Transfer to assets held for sale (Note 35)											
Ending balance	<u>1,568,295</u>	<u>2,762,588</u>	<u>654,629</u>	<u>4,169,473</u>	<u>13,654</u>	<u>403,522</u>	<u>105,759</u>	<u>73,399</u>	<u>1,317,877</u>	<u>142,286</u>	<u>11,211,482</u>
Cost	1,605,247	3,438,000	1,190,383	13,157,481	39,945	1,085,752	352,106	211,585	1,361,431	142,286	22,584,216
Accumulated depreciation	-	(637,025)	(521,806)	(8,840,809)	(26,143)	(669,189)	(243,973)	(136,034)	-	-	(11,074,979)
Accumulated impairment	(36,952)	(38,387)	(13,948)	(147,199)	(148)	(13,041)	(2,374)	(2,152)	(43,554)	-	(297,755)

During the six-month period ended June 30, 2018, the Group capitalized ₩9,101 million of borrowing costs (2017: ₩2,270 million), which was recognized from borrowings in relation to acquisition of property, plant and equipment. The capitalization rate of borrowings used to determine the amount of borrowing costs eligible for capitalization is 2.32% (2017: 2.12%).

Line items including depreciation in the consolidated statements of profit or loss for the three-month and six-month periods ended June 30, 2018 and 2017, are as follows:

(in millions of Korean won)

	2018		2017	
	Three months	Six months	Three months	Six months
Cost of sales	306,967	608,894	306,000	611,575
Selling and administrative expenses	28,540	55,751	23,607	47,413
Others	660	1,495	828	1,744
Total	<u>336,167</u>	<u>666,140</u>	<u>330,435</u>	<u>660,732</u>

Details of machinery classified as a finance lease as at June 30, 2018 and December 31, 2017, are as follows:

(in millions of Korean won)

	June 30, 2018	December 31, 2017	Construction-in-progress
	Machinery	Machinery	
Cost- capitalized finance leases	45,025	43,274	1,275
Accumulated depreciation	(15,306)	(12,952)	-
Net book amount	<u>29,719</u>	<u>30,322</u>	<u>1,275</u>

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The Group leases machinery under non-cancellable finance lease agreements. The lease terms are 3~10 years and the contracts include an agreement that the ownership of the assets is transferred by the end of the lease term.

The Group reviews annually whether there is any indication that an asset may be impaired. During 2017, Glass Substrate business, a CGU in IT & Electronic materials and Advanced materials segment, was tested for impairment as its economic performance was lower than expected.

During 2017, certain equipment in LED Encap business, a CGU in IT & Electronic materials and Advanced materials segment, was tested for reversal of impairment as the future economic performance of OLED material division was estimated to exceed the previous expectation due to a transfer of LED Encap business to OLED material compound process.

The amount of impairment loss recognized as other non-operating (income) expense and key assumptions used for calculation of value in use for the year ended December 31, 2017, are as follows:

	2017	
	Glass Substrate ¹	LED Encap
<i>(in millions of Korean won)</i>		
Impaired amount		
Property, plant and equipment	124,138	(11,320)
Intangible assets	2,345	(6)
Key assumptions		
Pre-tax discount rate	N/A	12.3%
Growth rate for subsequent years exceeding five years	N/A	-

¹ The recoverable amount is calculated based on fair value less costs to sell and it is a non-recurring fair value measured by an observable transaction price. It is categorized as level 2 of the fair value hierarchy.

During 2017, the Group decided to dispose of certain of non-current assets and recognized the difference between the fair value and the carrying amount as impairment losses (Note 35).

12. Intangible Assets

Changes in intangible assets for the six-month period ended June 30, 2018 and for the year ended December 31, 2017, are as follows:

	June 30, 2018					
	Development costs	Industrial property rights	Goodwill	Memberships	Others	Total
Beginning balance	192,046	371,381	925,593	50,806	283,329	1,823,155
Separate acquisitions/ Transfer	36,831	25,986	-	65	19,988	82,870
Additions – internal development	6,123	-	-	-	-	6,123
Disposals/Transfer	(6,223)	(20)	-	(623)	-	(6,866)
Exchange differences	437	1,974	4,729	20	156	7,316
Amortization	(20,992)	(14,793)	-	-	(17,155)	(52,940)
Impairment	(1,704)	-	-	-	-	(1,704)
Ending balance	<u>206,518</u>	<u>384,528</u>	<u>930,322</u>	<u>50,268</u>	<u>286,318</u>	<u>1,857,954</u>

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	December 31, 2017					
	Development costs	Industrial property rights	Goodwill	Memberships	Others	Total
Beginning balance	102,853	344,882	252,253	52,793	79,363	832,144
Business combination (Note 34)	53,913	12,770	686,229	3,723	203,144	959,779
Separate acquisitions/ Transfer	66,432	47,005	-	1,538	34,921	149,896
Additions – internal development	20,843	-	-	-	-	20,843
Disposals/ Transfer	(8,066)	(55)	-	(6,080)	(308)	(14,509)
Exchange differences	(1,107)	(1,985)	(12,889)	(35)	(349)	(16,365)
Amortization	(33,764)	(30,010)	-	-	(32,944)	(96,718)
Impairment	(9,064)	(868)	-	(1,133)	(498)	(11,563)
Reversal of impairment	6	-	-	-	-	6
Transfer to assets held for sale (Note 35)	-	(358)	-	-	-	(358)
Ending balance	<u>192,046</u>	<u>371,381</u>	<u>925,593</u>	<u>50,806</u>	<u>283,329</u>	<u>1,823,155</u>

Line items including amortization of intangible assets for the three-month and six-month periods ended June 30, 2018 and 2017, as follows:

(in millions of Korean won)

	2018		2017	
	Three months	Six months	Three months	Six months
Cost of sales	6,023	11,870	5,155	9,557
Selling and administrative expenses	20,820	41,070	17,620	34,429
Total	<u>26,843</u>	<u>52,940</u>	<u>22,775</u>	<u>43,986</u>

The Group recognized total research and development costs of ₩ 475,941 million (2017: ₩ 427,580 million) as expenses.

Changes in greenhouse gas emission permits for the six-month period ended June 30, 2018 and for the year ended December 31, 2017, are as follows:

(in thousands of tons
and millions of
Korean won)

	June 30, 2018					
	2017		2018		Total	
	Quantity	Amount	Quantity	Amount	Quantity	Amount
Beginning balance	7,520	18,635	6,648	-	14,168	18,635
Allocation with nil consideration	171	-	11	-	182	-
Purchase	370	9,556	-	-	370	9,556
Business combination	-	-	-	-	-	-
Borrowings	(28)	-	28	-	-	-
Surrendered to the government	-	-	-	-	-	-
Ending balance	<u>8,033</u>	<u>28,191</u>	<u>6,687</u>	<u>-</u>	<u>14,720</u>	<u>28,191</u>

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(in thousands of tons and millions of Korean won)	December 31, 2017					
	2016		2017		Total	
	Quantity	Amount	Quantity	Amount	Quantity	Amount
Beginning balance	6,191	-	6,475	-	12,666	-
Allocation with nil consideration	350	-	799	-	1,149	-
Purchase	250	5,133	873	18,635	1,123	23,768
Business combination	62	-	58	-	120	-
Borrowings	685	-	(685)	-	-	-
Surrendered to the government	(7,538)	(5,133)	-	-	(7,538)	(5,133)
Ending balance	-	-	7,520	18,635	7,520	18,635

13. Other Current and Non-Current Assets

Details of other current and non-current assets as at June 30, 2018 and December 31, 2017, are as follows:

(in millions of Korean won)	June 30, 2018	December 31, 2017
Current		
Prepayments and prepaid expenses	135,288	129,387
Prepaid value added tax	365,625	225,790
Others	29,992	21,637
Total	<u>530,905</u>	<u>376,814</u>
Non-current		
Long-term prepayments and long-term prepaid expenses	103,550	104,072
Others	93	91
Total	<u>103,643</u>	<u>104,163</u>

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14. Borrowings

Borrowings as at June 30, 2018 and December 31, 2017, consist of:

<i>(in millions of Korean won)</i>	June 30, 2018	December 31, 2017
Current		
Short-term borrowings	1,338,789	957,868
Current-portion of long-term borrowings	409,354	318,441
Current-portion of debentures	149,929	169,878
Finance lease liabilities	5,030	5,137
	<u>1,903,102</u>	<u>1,451,324</u>
Non-current		
Long-term borrowings	455,052	518,955
Debentures	2,730,511	1,047,303
Finance lease liabilities	25,336	27,367
	<u>3,210,899</u>	<u>1,593,625</u>
Total	<u>5,114,001</u>	<u>3,044,949</u>

Details of short-term borrowings as at June 30, 2018 and December 31, 2017, are as follows:

<i>(in millions of Korean won)</i>	Bank	Latest maturity date	Interest rate(%) as at June 30, 2018	June 30, 2018	December 31, 2017
Notes discounted ¹ (Negotiable notes)	Woori Bank, others	Nov. 29, 2018	Libor + 0.52 and others	4,743	2,504
Bank loans	Nonghyup Bank, others	Apr. 20, 2019	2.17 and others	<u>1,334,046</u>	<u>955,364</u>
Total				<u>1,338,789</u>	<u>957,868</u>

¹ As at June 30, 2018, trade receivables transferred to financial institutions have been collateralized for borrowings (current) (Note 7).

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Details of long-term borrowings as at June 30, 2018 and December 31, 2017, are as follows:

(in millions of Korean won)	June 30, 2018				
	Bank	Annual interest rate (%)	Amount in Korean won	Current	Non-current
Borrowings in Korean won	KEB Hana Bank ¹	1.75	529	353	176
Borrowings in foreign currencies	HSBC	3LIBOR+1.00	244,362	244,362	-
	Agricultural Bank of China	PBOC ×0.90, 3LIBOR ×0.80	48,794	9,932	38,862
	Construction Bank of China	PBOC ×90%	26,817	3,903	22,914
	Communications Bank of China	PBOC	12,401	2,380	10,021
	CITI	3LIBOR+0.64 EURIBOR+0.90	38,904	-	38,904
	Bank of America	3LIBOR+1.11, PBOC ×92.9	44,844	44,844	-
	ING BANK	3LIBOR+0.83	64,839	-	64,839
	UOB	6LIBOR+1.25	30,723	614	30,109
	Standard Chartered Bank	3LIBOR+1.15, 1LIBOR+0.75	26,306	17,537	8,769
	Sumitomo Mitsui Banking Corporation	3LIBOR+0.93	87,483	11,209	76,274
	Mizuho Banking Corporation	3LIBOR+0.96, PBOC ×102.0	78,424	44,837	33,587
	BNP PARIBAS	1LIBOR+0.70, 3EURIBOR+0.99	19,451	-	19,451
	CNOOC Finance	PBOC ×90	74,032	16,941	57,091
	Hangseng	3LIBOR+1.00	33,626	3,363	30,263
	Bank of China	3LIBOR+0.95	32,871	9,079	23,792
Total			<u>864,406</u>	<u>409,354</u>	<u>455,052</u>

¹ Other receivables are pledged as collateral for the above long-term borrowings (Note 18).

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(in millions of Korean won)	December 31, 2017				
	Bank	Annual interest rate (%)	Amount in Korean won	Current	Non-current
Borrowings in Korean won	KEB Hana Bank ¹	1.75	706	353	353
Borrowings in foreign currencies	Sumitomo Mitsui Banking Corporation	Libor + 1.05	53,463	5,346	48,117
	Standard Chartered Bank	Libor + 1.60	25,095	-	25,095
	Construction Bank of China	PBOC × 0.90	27,791	3,770	24,021
	Communications Bank of China	PBOC	12,896	1,841	11,055
	Agricultural Bank of China	USD: Libor + 0.80 CNY: PBOC × 0.90	51,637	9,496	42,141
	Bank of America	Libor + 0.90~1.50	69,579	32,080	37,499
	Bank of China	Libor + 0.95	34,246	5,775	28,471
	BNP PARIBAS	EUR:EURIBOR + 0.99 PLN: WIBOR + 0.55	19,151	-	19,151
	CNOOC Finance	PBOC × 0.90	71,515	16,365	55,150
	HSBC	Libor + 1.00~1.05	236,320	198,894	37,426
	JP Morgan	Libor + 0.85~1.05	42,765	42,765	-
	Mizuho Banking Corporation	Libor + 1.02	42,773	-	42,773
	CITI	EURIBOR + 0.90	38,298	-	38,298
	United Overseas Bank	Libor + 1.55	15,255	152	15,103
	Hangseng	Libor + 1.00	32,077	1,604	30,473
	ING	EURIBOR + 0.83	63,829	-	63,829
Total			<u>837,396</u>	<u>318,441</u>	<u>518,955</u>

¹ Other receivables are pledged as collateral for the above long-term borrowings (Note 18).

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Details of debentures as at June 30, 2018 and December 31, 2017, are as follows:

		June 30, 2018				
		Annual interest rate (%)	Latest maturity date	Amount in Korean won	Current	Non-current
48th Debenture (non-guaranteed/public)	NH Investment & Securities Co., Ltd. and others	3.77	2019.02.21	50,000	50,000	-
49th Debenture (non-guaranteed/private)	KB Asset Management Co., Ltd and others	2.82	2018.12.12	100,000	100,000	-
50-1st Debenture (non-guaranteed/public)	NH Investment & Securities Co., Ltd. and others	1.95	2020.05.19	120,000	-	120,000
50-2nd Debenture (non-guaranteed/public)	NH Investment & Securities Co., Ltd. and others	2.28	2022.05.19	400,000	-	400,000
50-3rd Debenture (non-guaranteed/public)	NH Investment & Securities Co., Ltd. and others	2.53	2024.05.19	280,000	-	280,000
51-1st Debenture (non-guaranteed/public)	NH Investment & Securities Co., Ltd. and others	2.56	2021.02.20	190,000	-	190,000
51-2nd Debenture (non-guaranteed/public)	NH Investment & Securities Co., Ltd. and others	2.88	2023.02.20	240,000	-	240,000
51-3rd Debenture (non-guaranteed/public)	NH Investment & Securities Co., Ltd. and others	3.07	2025.02.20	270,000	-	270,000
51-4th Debenture (non-guaranteed/public)	NH Investment & Securities Co., Ltd. and others	3.29	2028.02.20	300,000	-	300,000
1-1st USD Overseas Convertible bonds¹	Credit Suisse	0.00	2021.04.16	246,775	-	246,775
1-2nd EUR Overseas Convertible bonds²	Credit Suisse	0.00	2021.04.16	408,820	-	408,820
Debentures in Korean won (non-guaranteed)	NH Investment & Securities Co., Ltd. and others	1.93	2020.02.16	100,000	-	100,000
	NH Investment & Securities Co., Ltd. and others	2.26	2022.02.16	100,000	-	100,000
	NH Investment & Securities Co., Ltd. and others	2.71	2021.03.02	50,000	-	50,000
	NH Investment & Securities Co., Ltd. and others	3.00	2023.03.02	40,000	-	40,000
Less: discount on debentures				(15,155)	(71)	(15,084)
Total				2,880,440	149,929	2,730,511

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¹ Details of 1-1st USD overseas convertible bonds are as follows:

	Details
Aggregate principal amount	USD 220,000,000
Issue price	USD 220,000,000
Coupon rate (%)	0.00
Issue date	April 16, 2018
Maturity date	April 16, 2021
Redemption	- Redemption at maturity: Outstanding bond principal, which is not repaid early or which call option is not exercised on, is repaid at maturity as a lump sum. - Prepayment: The issuer has a call option.
Underlying shares	509,606 registered ordinary shares (treasury shares)
Conversion price (Korean won/shares)	460,000
Conversion period	From May 27, 2018 to April 06, 2021
Call option by the issuer	- Share price (based on closing price) is higher than 130% of conversion price for more than 20 trading days during 30 consecutive trading days in a row, after 1 year from the closing date. - The amount of outstanding bonds is less than 10% in aggregate principal amount of the bonds originally issued (clean up call). - As a result of changes relating to tax laws in Korea, the issuer becomes obliged to pay any additional amounts.
Call option by bondholders	- The shares cease to be listed or admitted to trading or are suspended for a period equal to or exceeding 30 consecutive trading days. - The occurrence of a change of control

² Details of 1-2nd EUR overseas convertible bonds are as follows:

	Details
Aggregate principal amount	EUR 315,200,000
Issue price	EUR 315,200,000
Coupon rate (%)	0.00
Issue date	April 16, 2018
Maturity date	April 16, 2021
Redemption	- Redemption at maturity: Outstanding bond principal, which is not repaid early or which call option is not exercised on, is repaid at maturity as a lump sum. - Prepayment: The issuer has a call option.
Underlying shares	775,128 registered ordinary shares (treasury shares)
Conversion price (Korean won/shares)	533,600
Conversion period	From May 27, 2018 to April 06, 2021
Call option by the issuer	- Share price (based on closing price) is higher than 130% of conversion price for more than 20 trading days during 30 consecutive trading days in a row, after 1 year from the closing date. - The amount of outstanding bonds is less than 10% in aggregate principal amount of the bonds originally issued (clean up call). - As a result of changes relating to tax laws in Korea, the issuer becomes obliged to pay any additional amounts.
Call option by bondholders	- The shares cease to be listed or admitted to trading or are suspended for a period equal to or exceeding 30 consecutive trading days. - The occurrence of a change of control

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(in millions of Korean won)

		December 31, 2017				
	Financial institution	Annual interest rate (%)	Latest maturity date	Amount in Korean won	Current	Non-current
47th Debenture (non-guaranteed/private)	Government Employees Pension Service and others	3.20	2018.04.30	30,000	30,000	-
48th Debenture (non-guaranteed/public)	NH Investment & Securities Co., Ltd. and others	3.77	2019.02.21	50,000	-	50,000
49th Debenture (non-guaranteed/private)	KB Asset Management Co., Ltd. and others	2.82	2018.12.12	100,000	100,000	-
50-1st Debenture (non-guaranteed/public)	NH Investment & Securities Co., Ltd. and others	1.95	2020.05.19	120,000	-	120,000
50-2nd Debenture (non-guaranteed/public)	NH Investment & Securities Co., Ltd. and others	2.28	2022.05.19	400,000	-	400,000
50-3rd Debenture (non-guaranteed/public)	NH Investment & Securities Co., Ltd. and others	2.53	2024.05.19	280,000	-	280,000
Debentures in Korean won (collateralized)¹	IBK Securities Co., Ltd. and others	4.70	2018.03.05	40,000	40,000	-
Debentures in Korean won (non-guaranteed)	NH Investment & Securities Co., Ltd. and others	1.93	2020.02.16	100,000	-	100,000
	NH Investment & Securities Co., Ltd. and others	2.26	2022.02.16	100,000	-	100,000
Less: discount on debentures				(2,819)	(122)	(2,697)
Total				1,217,181	169,878	1,047,303

¹ Certain property, plant and equipment are pledged as collateral for the above debentures (Note 18).

Details of finance lease liabilities as at June 30, 2018 and December 31, 2017, are as follows:

(in millions of Korean won)

		June 30, 2018			
Leaser		Annual interest rate (%)	Latest maturity date	Total amount	Current Non-current
Hyundai Oil Bank	3.12	2024.12.31	29,209	4,885	24,324
Others	3.7 ~ 4.13	2023.12.31	1,157	145	1,012
Total			30,366	5,030	25,336

(in millions of Korean won)

		December 31, 2017			
Leaser		Annual interest rate (%)	Latest maturity date	Total amount	Current Non-current
Hyundai Oil Bank	3.12	2024.12.31	31,226	4,886	26,340
Others	3.7 ~ 4.13	2023.12.31	1,278	251	1,027
Total			32,504	5,137	27,367

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The present value of finance lease liabilities as at June 30, 2018 and December 31, 2017, is as follows:

	June 30, 2018			December 31, 2017		
	Minimum lease payments	Future finance costs	Present value	Minimum lease payments	Future finance costs	Present value
Within 1 year	5,192	162	5,030	5,253	116	5,137
Between 1-5 years	20,710	1,958	18,752	20,710	2,006	18,704
Over 5 years	7,944	1,360	6,584	10,532	1,869	8,663

15. Provisions

Changes in provisions for other liabilities and charges for the six-month period ended June 30, 2018 and for the year ended December 31, 2017, as follows:

	June 30, 2018				
	Warranty ¹	Greenhouse gas emission ²	Legal Claims ³	Restoration ⁴	Total
Beginning balance	92,662	23,069	20,629	90,056	226,416
Additions	75,580	14,620	7,714	1,146	99,060
Used	(44,307)	-	(9,763)	(6,185)	(60,255)
Ending balance	123,935	37,689	18,580	85,017	265,221
Less : current portion	(37,385)	(37,689)	-	(20,548)	(95,622)
Total	86,550	-	18,580	64,469	169,599

	December 31, 2017				
	Warranty ¹	Greenhouse gas emission ²	Legal Claims ³	Restoration ⁴	Total
Beginning balance	51,838	27,801	10,102	95,774	185,515
Business combination	5,994	59	-	-	6,053
Additions	94,603	342	72,787	1,641	169,373
Used	(59,773)	(5,133)	(62,260)	(7,359)	(134,525)
Ending balance	92,662	23,069	20,629	90,056	226,416
Less : current portion	(19,521)	(23,069)	-	(20,350)	(62,940)
Total	73,141	-	20,629	69,706	163,476

¹ Warranty provisions have been accrued for the estimated warranty costs to be incurred due to quality control, exchange, refunds with regard to products based on historical experience.

² Greenhouse gas emission provisions have been accrued for estimated expenditures to be obligated for any excess emission. The estimated emission for the six-month period ended June 30, 2018 amounts to 3,953 thousand tons (2017: 3,857 thousand tons).

³ Lawsuit provisions have been accrued for certain pending cases.

⁴ As at June 30, 2018, restoration provisions have been accrued for the estimated expenses to

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restore land pollutions and others.

16. Net Defined Benefit Liabilities

Details of net defined benefit liabilities recognized in the consolidated interim statements of financial position as at June 30, 2018 and December 31, 2017, are as follows:

<i>(in millions of Korean won)</i>	June 30, 2018	December 31, 2017
Present value of defined benefit obligations ¹	1,075,732	1,049,511
Fair value of plan assets	(824,495)	(868,830)
Liabilities in the consolidated interim statement of financial position	251,237	180,681

¹ The present value of retirement benefit obligations is net of existing contributions to the National Pension Plan of ₩843 million as at June 30, 2018 (2017: ₩862 million).

The amounts recognized in the consolidated interim statements of profit or loss for the three-month and six-month periods ended June 30, 2018 and 2017, are as follows:

<i>(in millions of Korean won)</i>	2018		2017	
	Three months	Six months	Three months	Six months
Current service cost ¹	36,078	71,986	33,160	68,069
Interest cost	1,447	2,884	726	1,452
Total, included in employee benefit expenses	37,525	74,870	33,886	69,521

¹ The above amounts excluded ₩490 million (2017: ₩403 million) of expenses capitalized to construction in progress and development costs.

Post-employment benefits recognized for defined contribution plan for the six-month period ended June 30, 2018, amounted to ₩3,321 million (2017: ₩310 million).

Post-employment benefits recognized in the consolidated interim statements of profit or loss for the three-month and six-month periods ended June 30, 2018 and 2017, are as follows:

<i>(in millions of Korean won)</i>	2018		2017	
	Three months	Six months	Three months	Six months
Cost of sales	26,452	52,626	23,620	47,612
Selling and administrative expenses	12,764	25,565	10,434	22,219
Total	39,216	78,191	34,054	69,831

Movements in the present value of defined benefit obligations for the six-month period ended June 30, 2018 and for the year ended December 31, 2017, are as follows:

<i>(in millions of Korean won)</i>	June 30, 2018	December 31, 2017
Beginning balance	1,049,511	885,259
Business combination (Note 34)	-	69,693

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Transfer in	2,558	7,452
Transfer out	(2,054)	(2,278)
Current service cost	72,476	137,355
Past service cost	-	656
Interest expense	16,235	26,572
Remeasurements:		
Actuarial loss from change in demographic assumptions	-	4,100
Actuarial gain from change in financial assumptions	-	(41,917)
Actuarial loss from experience adjustments	-	30,059
Others	-	1,060
Exchange differences	(396)	(437)
Payments from plans	(62,598)	(68,018)
Changes in consolidation scope	-	(45)
Ending balance	1,075,732	1,049,511

Movements in the fair value of plan assets for the six-month period ended June 30, 2018 and for the year ended December 31, 2017, are as follows:

<i>(in millions of Korean won)</i>	June 30, 2018	December 31, 2017
Beginning balance	868,830	793,087
Business combination (Note 34)	-	57,771
Transfer in	(538)	(504)
Interest income	13,351	23,604
Remeasurements:		
Return on plan assets (excluding amounts included in interest income)	(4,673)	(7,398)
Contributions:		
Employers	7	59,288
Payments from plans	(51,808)	(56,106)
Administrative costs	(674)	(912)
Ending balance	824,495	868,830

The actual return on plan assets for the six-month period ended June 30, 2018, was ₩8,678 million (December 31, 2017: ₩16,206 million).

The significant actuarial assumptions as at June 30, 2018 and December 31, 2017, are as follows:

	June 30, 2018	December 31, 2017
Discount rate	3.2% ~ 3.5%	3.1% ~ 3.5%
Salary growth rate	2.2% ~ 5.0%	2.2% ~ 5.0%

The sensitivity analysis for changes in key actuarial assumptions as at June 30, 2018, is as follows:

<i>(in millions of Korean won)</i>	Increase by 1%	Decrease by 1%
Discount rate:		
Increase (decrease) in defined benefit obligations	(108,455)	129,876
Salary growth rate:		
Increase (decrease) in defined benefit obligations	126,386	(107,892)

A decrease in corporate bond yields may lead most significantly to an increase in defined benefit

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liabilities.

The above sensitivity analyses are based on a change in an assumption while holding all other assumptions constant. In practice, this is unlikely to occur, and changes in some of the assumptions may be correlated. The sensitivity of the defined benefit obligation to changes in principal actuarial assumptions is calculated using the projected unit credit method, the same method applied when calculating the defined benefit obligations recognized on the statement of financial position.

The methods and types of assumptions used in preparing the sensitivity analysis did not change compared to the prior period.

Plan assets as at June 30, 2018 and December 31, 2017, consist of:

(in millions of Korean won)

	June 30, 2018			
	Quoted price	Unquoted price	Total	Composition (%)
Insurance contracts with guaranteed yield	810,192	-	810,192	98
Equity linked bonds	11,265	-	11,265	1
Time deposits	3,038	-	3,038	1
	<u>824,495</u>	<u>-</u>	<u>824,495</u>	<u>100</u>

(in millions of Korean won)

	December 31, 2017			
	Quoted price	Unquoted price	Total	Composition (%)
Insurance contracts with guaranteed yield	854,368	-	854,368	98
Equity linked bonds	11,286	-	11,286	1
Time deposits	3,176	-	3,176	1
	<u>868,830</u>	<u>-</u>	<u>868,830</u>	<u>100</u>

17. Other Current and Non-Current Liabilities

Details of other current and non-current liabilities as at June 30, 2018 and December 31, 2017, are as follows:

(in millions of Korean won)

	June 30, 2018	December 31, 2017
Current		
Advances from customers	497,706	493,595
Withholdings	66,538	91,589
Unearned revenues	16,437	9,842
Accrued expenses	190,087	259,257
Total	<u>770,768</u>	<u>854,283</u>
Non-current		
Long-term accrued expenses	46,674	44,663
Long-term unearned revenues	39,772	24,237
	<u>86,446</u>	<u>68,900</u>

18. Commitments and Contingencies

(1) As at June 30, 2018, the Parent Company and certain subsidiaries have been guaranteed from the Seoul Guarantee Insurance Company for the execution of contracts and others.

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(2) As at June 30, 2018, the Parent Company has provided one blank promissory note to the Korea National Oil Corporation as a collateral in relation to petroleum import surcharges.

(3) As at June 30, 2018, the Parent Company and certain subsidiaries have various specific line of credit agreements with several financial institutions, as follows:

(unit: Korean won in millions, foreign currencies in millions)

Classification	The Parent Company		Certain Subsidiaries					
	KRW	USD	KRW	USD	CNY	EUR	INR	THB
Limit of bank overdraft	59,100	50	-	140	1,200	29	-	9
Limit of the letter of credit	32,000	398	-	320	200	2	-	-
Limit of discount of notes from export	-	1,343	-	-	-	-	-	-
Limit of payment guarantees in other foreign currency	-	60	-	-	-	-	-	-
Limit of loan arrangements	-	-	87,529	2,052	7,586	115	3,200	-

The Group also entered into credit line agreements with other financial institutions relating to trade finance and import/export amounting to ₩20,000 million and USD 55 million.

(4) As at June 30, 2018, the Parent Company and certain subsidiaries have B2B purchase arrangements with several financial institutions with limit of ₩310,000 million and ₩101,000 million, respectively.

(5) As at June 30, 2018, in relation to price fixing of mobile batteries, the consumers in U.S., Canada and Israel have filed three class actions against the Parent Company and certain overseas subsidiaries. However, the ultimate outcome of these cases cannot be determined at the reporting date.

(6) In addition, as at June 30, 2018, the Parent Company and certain subsidiaries have been named as a plaintiff in 13 and 24 legal actions, respectively, involving ₩16,721 million and ₩4,314 million in claims, respectively. They have been named as a defendant in 38 and 23 legal actions, respectively, with ₩59,173 million and ₩17,628 million in claims, respectively. The ultimate outcome of these cases cannot be determined at the reporting date.

(7) As at June 30, 2018, the Parent Company has technology license agreements with STYRON EUROPE GmbH and other companies for the production of Polycarbonate products. Further, the Parent Company has entered into manufacture and production technical contracts with Exxon Mobile and others.

(8) The Parent Company has entered into a license agreement with LG Corp. to use trademarks on the products that the Group manufactures and sells, and on the services the Group provides in relation to its business.

(9) As at June 30, 2018, the Parent Company has entered into payment guarantee contract of USD 1 million and EUR 5 million with financial institutions to guarantee the warrant of certain installed products. Also, certain subsidiaries have entered into payment guarantee contract of CNY 365 million with financial institutions in relation to custom of imported raw materials.

(10) As at June 30, 2018 and December 31, 2017, assets pledged as collateral for the borrowings are as follows:

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<i>(in millions of Korean won)</i>	June 30, 2018			
	Secured amount	Borrowings / Loan	Limit	Secured party
Other receivables	300	Non-current borrowings (Won currency)	529	KEB Hana Bank
	<u>300</u>		<u>529</u>	
December 31, 2017				
<i>(in millions of Korean won)</i>	Secured amount	Borrowings / Loan	Limit	Secured party
Other receivables	300	Non-current borrowings (Won currency)	705	KEB Hana Bank
Gumi facility, Anseong facility, Genetics institute	52,000	Collateralized debentures (Won currency)	40,000	Creditors
	<u>52,300</u>		<u>40,705</u>	

(11) Capital expenditure arrangement that has not incur at the end of the reporting period is as follows:

<i>(in millions of Korean won)</i>	June 30, 2018	December 31, 2017
Property, plant and equipment	4,134,055	1,734,663

(12) The Group has entered into operating lease agreements for offices, equipment, ports and others. Most of the agreements will be terminated within a year after the end of the reporting period.

19. Share Capital

Changes in share capital and share premium for the six-month period ended June 30, 2018 and for the year ended December 31, 2017, are as follows:

<i>(in millions of Korean won and in shares)</i>	Ordinary shares		Preferred shares		Share premium
	Number of shares	Share capital	Number of shares	Share capital	
January 1, 2017	66,271,100	331,356	7,628,921	38,144	897,424
Share issuance due to business combination	4,321,243	21,606	59,879	300	1,116,614
December 31, 2017	<u>70,592,343</u>	<u>352,962</u>	<u>7,688,800</u>	<u>38,444</u>	<u>2,014,038</u>
June 30, 2018	<u>70,592,343</u>	<u>352,962</u>	<u>7,688,800</u>	<u>38,444</u>	<u>2,014,038</u>

Changes in treasury shares for the six-month period ended June 30, 2018 and for the year ended December 31, 2017, are as follows:

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(in millions of Korean won and in shares)	Number of shares		Carrying amount	Gain on disposal of treasury shares
	Ordinary shares	Preferred shares		
January 1, 2017	359,795	5,519	15,484	13,855
Purchase of treasury shares due to business combination	1,284,891	10,328	337,211	-
Acquisition of fractional shares due to business combination	7,730	520	2,250	-
December 31, 2017	1,652,416	16,367	354,945	13,855
June 30, 2018	1,652,416	16,367	354,945	13,855

20. Retained Earnings

Retained earnings as at June 30, 2018 and December 31, 2017, consist of:

(in millions of Korean won)	June 30, 2018	December 31, 2017
Legal reserve ¹	324,135	312,894
Discretionary reserve ²	12,541,819	11,410,610
Retained earnings before appropriation	1,718,900	2,315,746
Total	14,584,854	14,039,250

¹ The Commercial Code of the Republic of Korea requires the Parent Company to appropriate for each financial period, as a legal reserve, an amount equal to a minimum of 10% of cash dividends paid until such reserve equals 50% of its issued share capital. The reserve is not available for cash dividends payment, but may be transferred to share capital or used to reduce accumulated deficit. When the accumulated legal reserves (the sum of capital reserves and earned profit reserves) are greater than 1.5 times the paid-in capital amount, the excess legal reserves may be distributed in accordance with a resolution of the shareholders' meeting.

² The Group separately accumulates a discretionary reserve for research and human resource development through appropriation of retained earnings, which has been included as deductible expense for the corporate income tax return according to the Special Tax Treatment Law. The reserve could be reversed in accordance with the terms of related tax laws.

21. Other Components of Equity

Details of other components of equity as at June 30, 2018 and December 31, 2017, are as follows:

(in millions of Korean won)	June 30, 2018	December 31, 2017
Treasury shares (Note 19)	(354,945)	(354,945)
Capital transactions within the Group ¹	(7,731)	(7,731)
Total	(362,676)	(362,676)

¹ Includes gain or loss on disposal of investments and investment differences due to changes in equity, net of deferred tax.

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22. Selling and Administrative Expenses

Selling and administrative expenses for the three-month and six-month periods ended June 30, 2018 and 2017, are as follows:

(in millions of Korean won)

	2018		2017	
	Three months	Six months	Three months	Six months
Wages and salaries	209,171	401,204	179,235	364,231
Post-employment benefits (Note 16)	12,764	25,565	10,434	22,219
Employee benefits	38,219	72,324	36,904	68,861
Travel expense	14,888	28,158	13,233	24,694
Water & utilities	8,875	22,569	8,631	19,027
Packaging expense	2,039	4,033	2,009	3,432
Rental expenses	24,471	44,784	22,103	41,995
Commission expenses	104,440	198,804	83,545	163,011
Depreciation (Note 11)	28,543	55,757	23,614	47,428
Advertising expense	10,596	16,103	7,472	12,657
Freight expenses	140,005	272,891	135,108	263,341
Training expense	5,967	9,944	4,681	7,809
Amortization (Note 12)	20,820	41,070	17,620	34,429
Sample expense	5,045	9,126	5,230	9,306
Development costs	50,244	89,610	33,337	61,050
Others	92,202	167,067	60,825	117,199
Total	768,289	1,459,009	643,981	1,260,689

23. Breakdown of Expenses by Nature

Cost of sales, and selling and administrative expenses by nature for the three-month and six-month periods ended June 30, 2018 and 2017, consist of:

(in millions of Korean won)

	2018		2017	
	Three months	Six months	Three months	Six months
Changes in inventories of merchandise, finished goods, semi-finished goods and work in process	(21,878)	(276,369)	90,338	(5,457)
Raw materials and consumables used	4,025,658	7,943,159	3,384,270	7,209,585
Purchase of merchandise	341,923	637,252	344,856	666,536
Employee benefit expenses (Note 24)	619,935	1,180,724	541,919	1,084,800
Advertising expenses	10,975	16,685	7,822	13,167
Freight expenses	149,384	292,254	144,236	281,736
Commission expenses	168,325	324,583	140,577	269,981
Depreciation and amortization	362,353	717,591	352,389	702,989
Operating lease payments	22,646	46,094	22,049	43,851
Other expenses	669,241	1,369,338	626,736	1,077,764
Total	6,348,562	12,251,311	5,655,192	11,344,952

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24. Employee Benefit Expenses

Details of employee benefit expenses for the three-month and six-month periods ended June 30, 2018 and 2017, are as follows:

(in millions of Korean won)

	2018		2017	
	Three months	Six months	Three months	Six months
Salaries	523,448	994,721	454,258	912,710
Post-employment benefits – Defined benefit plan (Note 16)	37,525	74,870	33,886	69,521
Post-employment benefits – Defined contribution plan (Note 16)	1,691	3,321	168	310
Others	57,271	107,812	53,607	102,259
Total	619,935	1,180,724	541,919	1,084,800

25. Finance Income and Costs

Details of finance income and costs for the three-month and six-month periods ended June 30, 2018 and 2017, are as follows:

(in millions of Korean won)

	2018		2017	
	Three months	Six months	Three months	Six months
Finance income				
Interest income ¹	12,233	23,497	6,340	13,806
Dividend income	8	8	8	204
Gain on foreign exchange	43,396	79,046	34,019	77,612
Gain on foreign currency translation	12,376	13,289	23,247	28,765
Gain on valuation of derivative instruments	2,019	2,019	-	-
Gain on disposal of hedging derivatives	-	-	-	170
Total	70,032	117,859	63,614	120,557
Finance costs				
Interest expense ²	29,595	55,174	26,851	53,940
Loss on foreign exchange	32,296	68,131	22,811	96,159
Loss on foreign exchange translations	84,422	56,905	6,970	7,720
Loss on redemption of debentures	-	13	-	-
Total	146,313	180,223	56,632	157,819

¹ Details of interest income for the three-month and six-month periods ended June 30, 2018 and 2017, are as follows:

(in millions of Korean won)

	2018		2017	
	Three months	Six months	Three months	Six months
Deposits held by financial institutions	11,349	21,192	5,208	11,709
Non-current financial assets	-	-	-	5
Other loans and receivables	884	2,305	1,132	2,092
Total	12,233	23,497	6,340	13,806

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² Details of interest expense for the three-month and six-month periods ended June 30, 2018 and 2017, are as follows:

(in millions of Korean won)

	2018		2017	
	Three months	Six months	Three months	Six months
Interest on bank overdraft and borrowings	23,447	33,317	20,270	41,186
Interest on finance lease liabilities	260	513	293	1,030
Interest on debentures	10,691	27,438	5,643	10,676
Other interest expenses	1,607	3,007	1,804	3,318
Capitalized interest for qualifying assets	(6,410)	(9,101)	(1,159)	(2,270)
Total	29,595	55,174	26,851	53,940

26. Other Non-Operating Income

Details of other non-operating income for the three-month and six-month periods ended June 30, 2018 and 2017, are as follows:

(in millions of Korean won)

	2018		2017	
	Three months	Six months	Three months	Six months
Gain on foreign exchange	68,105	122,413	58,532	179,621
Gain on foreign currency translation	100,755	104,192	104,815	43,493
Gain on disposal of property, plant and equipment	2,884	3,019	875	1,632
Gain on disposal of intangible assets	2	2	-	4,867
Reversal of impairment loss on property, plant and equipment (Note 11)	311	311	-	-
Gain on disposal of investments in associates	-	-	1,952	1,952
Others	7,795	13,867	11,809	39,494
Total	179,852	243,804	177,983	271,059

27. Other Non-Operating Expenses

Details of other non-operating expenses for the three-month and six-month periods ended June 30, 2018 and 2017, are as follows:

(in millions of Korean won)

	2018		2017	
	Three months	Six months	Three months	Six months
Loss on foreign exchange	60,149	103,552	68,780	189,233
Loss on foreign currency translation	73,363	78,359	58,498	16,623
Loss on disposal of property, plant and equipment	3,851	17,061	4,972	26,107
Loss on disposal of intangible assets	28	77	1,020	1,807
Impairment loss on property, plant and equipment (Note 11)	15,110	16,385	107	12,869
Impairment loss on intangible assets (Note 12)	1,704	1,704	1,123	4,272
Donations	2,172	5,668	13,379	17,120

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Others	5,033	14,861	34,788	65,306
Total	161,410	237,667	182,667	333,337

28. Tax Expense and Deferred Tax

Income tax expense is recognized based on the best estimate of weighted average annual income tax rate expected for the full financial year. The estimated average annual income tax rate used for the year ending December 31, 2018, is 23.9% (the estimated tax rate for the year ended December 31, 2017: 21.2%).

29. Earnings per Share

Basic earnings per share is calculated by dividing the profit attributable to owners of the Parent Company by the weighted average number of shares in issue excluding shares purchased by the Parent Company and held as treasury shares. As at the reporting date, the Parent Company has no potential ordinary shares. Preferred shares have a right to participate in the profits of the Parent Company. These participation rights have been considered in presenting the EPS for ordinary shares and preferred shares.

Basic earnings per share attributable to the owners of the Parent Company for the three-month and six-month periods ended June 30, 2018 and 2017, is computed as follows:

Basic earnings per ordinary share

*(in millions of Korean won and
in number of shares)*

	2018		2017	
	Three months	Six months	Three months	Six months
Profit attributable to ordinary shares ¹	429,796	907,846	519,199	997,376
Weighted average number of ordinary shares outstanding ²	68,939,927	68,939,927	68,940,610	68,940,610
Basic earnings per share attributable to the ordinary shares (in won)	6,234	13,169	7,531	14,467

Basic earnings per preferred share

*(in millions of Korean won and
in number of shares)*

	2018		2017	
	Three months	Six months	Three months	Six months
Profit attributable to preferred shares ¹	47,928	101,227	57,878	111,191
Weighted average number of preferred shares outstanding ²	7,672,433	7,672,433	7,672,479	7,672,479
Basic earnings per share attributable to the preferred shares (in won)	6,247	13,194	7,544	14,492

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¹ Profit attributable to ordinary and preferred shares are as follows:

(in millions of Korean won and
in number of shares)

	2018		2017	
	Three months	Six months	Three months	Six months
Profit attributable to the equity holders of the Parent Company				
Dividends to the ordinary shares (A)	477,724	1,009,073	577,077	1,108,567
Dividends to the preferred shares (B)	103,410	206,820	86,175	172,351
Dividends to the preferred shares (B)	11,604	23,209	9,687	19,373
Undistributed earnings for the year	362,710	779,044	481,215	916,843
Undistributed earnings available for the ordinary shares (C)	326,386	701,026	433,024	825,025
Undistributed earnings available for the preferred shares (D)	36,324	78,018	48,191	91,818
Profit for the period attributable to the ordinary shares (A+C)	429,796	907,846	519,199	997,376
Profit for the period attributable to the preferred shares (B+D)	47,928	101,227	57,878	111,191

² Weighted average numbers of shares are calculated as follows:

Ordinary shares outstanding	2018			
	Period	Number of shares	Number of days	Number of shares x days
Beginning balance	2018. 1. 1 - 2018. 6. 30	68,939,927	181	12,478,126,787
Total				12,478,126,787

Weighted average number of ordinary shares outstanding: $12,478,126,787 / 181 = 68,939,927$ shares

Preferred shares outstanding	2018			
	Period	Number of shares	Number of days	Number of shares x days
Beginning balance	2018. 1. 1 - 2018. 6. 30	7,672,433	181	1,388,710,373
Total				1,388,710,373

Weighted average number of preferred shares outstanding: $1,388,710,373 / 181 = 7,672,433$ shares

Ordinary shares outstanding	2017			
	Period	Number of shares	Number of days	Number of shares x days
Beginning balance	2017. 1. 1 - 2017. 6. 30	65,911,305	181	11,929,946,205
Share issuance due to business combination	2017. 1. 1 - 2017. 6. 30	4,321,243	181	782,144,983
Purchase of treasury shares	2017. 1. 1 - 2017. 6. 30	(1,284,891)	181	(232,565,271)
Purchase of treasury shares	2017. 1. 17 - 2017. 6. 30	(7,730)	165	(1,275,450)
Total				12,478,250,467

Weighted average number of ordinary shares outstanding: $12,478,250,467 / 181 = 68,940,610$ shares

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Preferred shares outstanding	Period	2017		
		Number of shares	Number of days	Number of shares x days
Beginning balance	2017. 1. 1 - 2017. 6. 30	7,623,402	181	1,379,835,762
Share issuance due to business combination	2017. 1. 1 - 2017. 6. 30	59,879	181	10,838,099
Purchase of treasury shares	2017. 1. 1 - 2017. 6. 30	(10,328)	181	(1,869,368)
Purchase of treasury shares	2017. 1. 17 - 2017. 6. 30	(520)	165	(85,800)
Total				1,388,718,693

Weighted average number of preferred shares outstanding: $1,388,718,693 / 181 = 7,672,479$ shares

Diluted earnings per share is calculated based on the weighted average number of ordinary shares outstanding, adjusted for the assumption that all of dilutive potential ordinary shares to be converted. The Group has one category of dilutive potential ordinary shares: convertible bonds, which were issued during this period. Convertible bonds are considered to be converted into potential ordinary shares and the amount, subtracting income tax effect from related gain and loss such as interest expense on convertible bonds, is added to profit for the period attributable to ordinary shares and preferred shares.

(in millions of Korean won and in number of shares)

	2018	
	Three months	Six months
Diluted earnings per ordinary shares		
Profit for the period attributable to the ordinary shares	429,796	907,846
Gain and loss on convertible bonds	(619)	(247)
Profit used in calculating diluted earnings per share	429,177	907,599
Weighted average number of ordinary shares outstanding	68,939,927	68,939,927
Adjustments for calculation of diluted earnings per share	539,446	539,446
Weighted average number of ordinary shares and potential ordinary shares used as the denominator in calculating diluted earnings per share	69,479,373	69,479,373
Diluted earnings per share attributable to the ordinary shares (in won)	6,177	13,063

(in millions of Korean won and in number of shares)

	2018	
	Three months	Six months
Diluted earnings per preferred shares		
Profit for the period attributable to preferred shares	47,928	101,227
Gain and loss on convertible bonds	(439)	(811)
Profit used in calculating diluted earnings per share	47,489	100,416
Weighted average number of preferred shares outstanding	7,672,433	7,672,433
Adjustments for calculation of diluted earnings per share	-	-
Weighted average number of preferred shares and potential preferred shares used as the denominator in calculating diluted earnings per share	7,672,433	7,672,433
Diluted earnings per share attributable to the preferred shares (in won)	6,190	13,088

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30. Dividends

The ₩ 460,058 million (2017: ₩ 368,055 million) of dividends for the year ended December 31, 2017, was paid to the shareholders of the Parent Company in April 2018.

31. Related Party Transactions

As at June 30, 2018 and December 31, 2017, LG Corp. is an entity exercising a significant influence over the Group, which owns 33.34% of the Parent Company's ordinary shares.

Details of associates and other related parties that have sales and other transactions with the Group or have receivables and payables balances as at June 30, 2018 and December 31, 2017, are as follows, and the details of investments in subsidiaries, associates and joint ventures are described in Note 1.3:

Related party	Related party's subsidiary (Domestic)	Related party's subsidiary (overseas)	Details
SERVEONE	-		Subsidiary of LG Corp.
LG CNS Co., Ltd.	LG N-Sys Inc. and others	LG CNS America Inc. and others	Subsidiary of LG Corp.
LG Siltron Incorporated	-	-	Subsidiary of LG Corp.
LG Management Development Institute	-	-	Subsidiary of LG Corp.
LG Sports Ltd.	-	-	Subsidiary of LG Corp.
LG Holdings Japan	-	-	Subsidiary of LG Corp.
LG MMA Corporation	-	-	Joint venture of LG Corp.
LG Display Co., Ltd.	-	LG Display (China) Co., Ltd. and others	LG Enterprise group ¹
LG Electronics, Inc.	LG Innotek Co., Ltd. and others	Inspur LG Digital Mobile Communications Co., Ltd. and others	LG Enterprise group ¹
LG International Corp.	Pantos Logistics Co., Ltd. and others	LG International (Japan) Ltd. and others	LG Enterprise group ¹
LG Hausys, Ltd.	-	LG Hausys Tianjin Co., Ltd. and others	LG Enterprise group ¹
LG Household & Health Care Ltd.	Coca-Cola Beverage Co.	-	LG Enterprise group ¹
LG Uplus Corp.	-	-	LG Enterprise group ¹
G II R Inc.	HS AD Inc.	-	LG Enterprise group ¹
Silicon Works Co., Ltd.	-	-	LG Enterprise group ¹

¹ Although the entity is not the related party of the Group in accordance with Korean IFRS 1024, the entity belongs to a large enterprise group in accordance with the Monopoly Regulation and Fair Trade Act.

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Sales and purchases with related parties for the six-month periods ended June 30, 2018 and 2017, are as follows:

(in millions of Korean won)

	2018			
	Sales and others	Purchase and others		
		Purchase of raw materials /merchandises	Acquisition of property, plant and equipment and intangible assets	Others
Entity with a significant influence over the Group				
LG Corp.	-	-	-	33,144
Associates and joint ventures				
SEETEC Co., Ltd.	11,466	57,504	124	40,520
TECWIN Co., Ltd.	-	131	2,055	160
HL Greenpower Co., Ltd.	164,654	-	-	364
Others	26	-	-	1,310
Other related parties				
LG MMA Corporation	60,519	132,692	-	3,635
SERVEONE and its subsidiaries	6,891	273,594	297,062	83,402
LG CNS Co., Ltd. and its subsidiaries	36,747	1,105	87,738	47,758
Others	-	-	-	7,746
Others				
LG Display Co., Ltd. and its subsidiaries	576,206	-	1,564	-
LG Electronics Inc. and its subsidiaries	495,524	199,196	395,763	66,755
LG International Corp. and its subsidiaries	140,827	263,955	576	186,883
LG Hausys, Ltd. and its subsidiaries	105,503	1,582	942	3,661
Others	9,124	14,148	2,216	5,495
Total	1,607,487	943,907	788,040	480,833

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	2017			
	Sales and others	Purchase of raw materials /merchandises	Purchase and others	
			Acquisition of property, plant and equipment and intangible assets	Others
Entity with a significant influence over the Group				
LG Corp.	-	-	-	31,044
Associates and joint ventures				
SEETEC Co., Ltd.	9,147	58,921	17	45,204
TECWIN Co., Ltd.	-	138	1,730	44
HL Greenpower Co., Ltd.	116,217	324	-	-
Others	4	-	-	1,350
Other related parties				
LG MMA Corporation	41,128	107,017	-	3,094
SERVEONE and its subsidiaries	7,206	241,546	98,634	141,859
LG CNS Co., Ltd. and its subsidiaries	8,961	292	46,780	33,283
Others	6	-	-	6,219
Others				
LG Display Co., Ltd. and its subsidiaries	649,891	-	-	12
LG Electronics Inc. and its subsidiaries	477,203	122,640	63,704	9,085
LG International Corp. and its subsidiaries	157,935	242,645	167	175,120
LG Hausys, Ltd. and its subsidiaries	107,551	4,700	-	3,849
Others	13,610	14,417	362	3,888
Total	1,588,859	792,640	211,394	454,051

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Balances of receivables and payables arising from sales and purchases of goods and services with related parties as at June 30, 2018 and December 31, 2017, are as follows:

(in millions of Korean won)

	June 30, 2018			
	Receivables			Total
	Trade receivables and others	Loan receivables	Other receivables	
Entity with a significant influence over the Group				
LG Corp.	-	-	11,279	11,279
Associates and joint ventures				
SEETEC Co., Ltd.	1,564	-	260	1,824
TECWIN Co., Ltd.	-	-	-	-
HL Greenpower Co., Ltd.	87,235	-	-	87,235
Others	-	-	832	832
Other related parties				
LG MMA Corporation	10,295	-	374	10,669
SERVEONE and its subsidiaries	1,575	-	27,948	29,523
LG CNS Co., Ltd. and its subsidiaries	17,095	-	-	17,095
Others	-	-	4,900	4,900
Others				
LG Display Co., Ltd. and its subsidiaries	198,785	-	1,753	200,538
LG Electronics Inc. and its subsidiaries	191,303	-	24,446	215,749
LG International Corp. and its subsidiaries	38,915	-	711	39,626
LG Hausys, Ltd. and its subsidiaries	41,691	-	175	41,866
Others	1,913	-	1,279	3,192
Total	590,371	-	73,957	664,328

(in millions of Korean won)

	June 30, 2018			
	Payables			Total
	Trade payables	Borrowings	Other payables	
Entity with a significant influence over the Group				
LG Corp.	-	-	7,468	7,468
Associates and joint ventures				
SEETEC Co., Ltd.	11,782	-	10,555	22,337
TECWIN Co., Ltd.	-	-	798	798
HL Greenpower Co., Ltd.	-	-	-	-
Others	-	-	126	126
Other related parties				
LG MMA Corporation	19,901	-	-	19,901
SERVEONE and its subsidiaries	102,477	-	229,107	331,584
LG CNS Co., Ltd. and its subsidiaries	2,679	-	106,596	109,275
Others	-	-	576	576
Others				
LG Display Co., Ltd. and its subsidiaries	152	-	-	152
LG Electronics Inc. and its subsidiaries	173,792	-	106,558	280,350
LG International Corp. and its subsidiaries	18,394	-	54,652	73,046
LG Hausys, Ltd. and its subsidiaries	1,654	-	1,295	2,949
Others	1,987	-	6,334	8,321
Total	332,818	-	524,065	856,883

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	December 31, 2017			
	Receivables			Total
	Trade receivables and others	Loan receivables	Other receivables	
Entity with a significant influence over the Group				
LG Corp.	-	-	9,183	9,183
Associates and joint ventures				
SEETEC Co., Ltd.	1,752	-	279	2,031
TECWIN Co., Ltd.	-	-	-	-
HL Greenpower Co., Ltd.	60,726	-	-	60,726
Others	16	-	-	16
Other related parties				
LG MMA Corporation	8,663	-	482	9,145
SERVEONE and its subsidiaries	2,893	-	27,948	30,841
LG CNS Co., Ltd. and its subsidiaries	20,209	-	-	20,209
Others	-	-	4,873	4,873
Others				
LG Display Co., Ltd. and its subsidiaries	240,427	-	6,057	246,484
LG Electronics Inc. and its subsidiaries	287,566	-	46,116	333,682
LG International Corp. and its subsidiaries	48,332	-	891	49,223
LG Hausys, Ltd. and its subsidiaries	40,089	-	92	40,181
Others	318	-	398	716
Total	710,991	-	96,319	807,310

(in millions of Korean won)

	December 31, 2017			
	Payables			Total
	Trade payables	Borrowings	Other payables	
Entity with a significant influence over the Group				
LG Corp.	-	-	7,897	7,897
Associates and joint ventures				
SEETEC Co., Ltd.	10,698	-	10,759	21,457
TECWIN Co., Ltd.	-	-	2,195	2,195
HL Greenpower Co., Ltd.	-	-	-	-
Others	-	-	-	-
Other related parties				
LG MMA Corporation	19,140	-	-	19,140
SERVEONE and its subsidiaries	12,630	-	442,860	455,490
LG CNS Co., Ltd. and its subsidiaries	994	-	116,422	117,416
Others	-	-	557	557
Others				
LG Display Co., Ltd. and its subsidiaries	-	-	8,660	8,660
LG Electronics Inc. and its subsidiaries	114,892	-	127,946	242,838
LG International Corp. and its subsidiaries	35,962	-	40,581	76,543
LG Hausys, Ltd. and its subsidiaries	3,409	-	1,811	5,220
Others	2,151	-	5,779	7,930
Total	199,876	-	765,467	965,343

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Fund transactions with related parties for the six-month periods ended June 30, 2018 and 2017, are as follows:

(in millions of Korean won)

	2018		2017	
	Equity contributions in cash (capital reduction)	Loan (Repayment)	Equity contributions in cash (capital reduction)	Loan (Repayment)
Associates and joint ventures				
FJ Composite Materials Co., Ltd.	-	-	3,015	-
WUXI CL New Energy Technology Ltd.	559	-	1,178	-
LG Fuel Cell Systems Inc.	-	-	24,527	(9,584)
Combustion Synthesis Co., Ltd.	1,503	-	-	-
Total	<u>2,062</u>	<u>-</u>	<u>28,720</u>	<u>(9,584)</u>

Dividends received from related parties for the six-month periods ended June 30, 2018 and 2017, are as follows:

(in millions of Korean won)

	2018	2017
Associates and joint ventures		
SEETEC Co., Ltd.	10,000	10,000
LG VINA Chemical Co., Ltd.	810	846
Total	<u>10,810</u>	<u>10,846</u>

Dividends paid to related parties for the six-month periods ended June 30, 2018 and 2017, are as follows:

(in millions of Korean won)

	2018	2017
Entity with a significant influence over the Group		
LG Corp.	141,205	111,097
Total	<u>141,205</u>	<u>111,097</u>

Compensation for key management of the Group for the six-month periods ended June 30, 2018 and 2017, consists of:

(in millions of Korean won)

	2018	2017
Short-term employee benefits	37,580	39,375
Post-employment benefits	2,954	1,737
Total	<u>40,534</u>	<u>41,112</u>

Key management includes directors and audit committee members having duties and responsibilities over planning, operations and controlling of the Group's business activities.

There are no provisions recognized against receivables from related parties as at June 30, 2018.

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As at June 30, 2018, there is no payment guarantees provided by the Group for related parties.

32. Cash Generated from Operations

Reconciliation between profit before income tax and cash generated from operations for the six-month periods ended June 30, 2018 and 2017, is as follows:

<i>(in millions of Korean won)</i>	2018	2017
Profit before income tax	1,297,448	1,427,895
Adjustments for:		
Depreciation	666,140	659,003
Amortization	52,940	43,986
Post-employment benefits	74,870	69,521
Finance income	(146,568)	(85,793)
Finance costs	185,071	78,853
Foreign exchange differences	(256)	(71,632)
Loss on valuation of inventories	(2,701)	(10,494)
Gain on disposal of property, plant and equipment	(3,019)	(1,632)
Gain on disposal of intangible assets	(2)	(4,867)
Loss on disposal of property, plant and equipment	17,061	26,107
Loss on disposal of intangible assets	77	1,807
Impairment loss on property, plant and equipment	16,385	12,869
Reversal of impairment loss on property, plant and equipment	(310)	-
Impairment loss on intangible assets	1,704	4,272
Gain on disposal of investments in associates	-	(1,952)
Additions to provisions	99,060	93,255
Other expense	9,602	265
Increase in inventories	(558,770)	(11,860)
Increase in trade receivables	(548,007)	(553,662)
Decrease (increase) in other receivables	47,265	(1,647)
Decrease (increase) in other current assets	4,366	(53,172)
Increase in settlement of derivatives	-	(2,114)
Increase (decrease) in trade payables	30,518	(141,797)
Decrease in other payables	(373,341)	(41,059)
Increase (decrease) in other current liabilities	(204,929)	43,672
Decrease in net defined benefit liabilities	(9,374)	(6,421)
Decrease in provisions	(60,255)	(32,100)
Other cash flows from operations	(2,909)	1,573
Cash generated from operations	592,066	1,442,876

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Changes in liabilities arising from financial activities for the six-month period ended June 30, 2018, are as follows:

(in millions of Korean won)

	2018						
	At January 1, 2018	Cash flows from financing activities	Exchange differences	Amortization (transfer)	Reclassification of current portion	Effect of change in exchange rate	At June 30, 2018
Short-term borrowings	1,451,324	266,318	10,497	-	130,796	40,167	1,903,102
Long-term borrowings	546,322	72,908	15,153	-	(130,796)	(19,199)	480,388
Debentures	1,047,303	1,657,645	4,253	1,186	-	20,124	2,730,511
Conversion rights	-	2,532	(1,998)	-	-	-	534
Total	3,044,949	1,999,403	27,905	1,186	-	41,092	5,114,535

The significant non-cash transactions for the six-month periods ended June 30, 2018 and 2017, are as follows:

(in millions of Korean won)

	2018	2017
Transfer of construction-in-progress	1,231,548	529,146
Transfer of machinery-in-transit	34,614	38,006
Reclassification of long-term borrowings into current portion	187,400	372,111
Reclassification of asset held for sale	-	3,405
Acquisition of an entity by means of the issuance of equity instruments	-	1,138,593

33. Segment Information

General information about the Group's reportable segments is as follows:

Segment	Products or services	Major customers
Basic materials & Chemicals	ABS, PC, EP, PE, PP, Acrylic, Alcohol, SAP, PVC, Synthetic rubber, Special resin, BPA, Ethylene, Propylene and others	LG Electronics Inc., OCI Company Co. Ltd., Mitsubishi Corp. and others
Energy solutions	Mobile batteries, Automotive batteries, Electricity storage batteries and others	Hewlett-Packard Co., General Motors Corp., and others
IT & Electronic materials and Advanced materials ¹	Polarizers, 3D FPR, LCD Photoresist, OLED materials, Battery materials and others	LG Display Co., Ltd., Samsung Display Co., Ltd., BOE, AUO and others
Life sciences ²	Growth hormone, Vaccine, Antidiabetic, agricultural chemicals and others	HUADONG NINGBO, UNICEF, Intervet and others
Common and others	Crop protection products, Seeds, Fertilizers, General management, sales and R&D and others	National Agriculture Cooperative Federation and others

¹ The Group presents IT & Electronic materials and Advanced materials as Advanced materials business has been included in IT & Electronic materials since 2017. The comparative

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information was restated to reflect such changes.

² Life Sciences segment was disclosed separately as LG Life Sciences, Ltd. was merged into the Parent Company on January 1, 2017.

The segment information on revenue, profit and loss for the six-month periods ended June 30, 2018 and 2017, is as follows:

(in millions of Korean won)	2018					
	Basic materials & Chemicals	Energy solutions	IT & Electronic materials and Advanced materials	Life sciences	Common and others ³	Total
Total segment revenue	9,030,264	2,738,466	1,523,876	282,066	408,610	13,983,282
Inter-segment revenue	133,978	1	241,630	1,713	517	377,839
Revenue from external customers ¹	8,896,286	2,738,465	1,282,246	280,353	408,093	13,605,443
Operating profit (loss) ²	1,341,403	29,047	(31,597)	22,819	(7,540)	1,354,132

(in millions of Korean won)	2017					
	Basic materials & Chemicals	Energy solutions	IT & Electronic materials and Advanced materials	Life sciences	Common and others ³	Total
Total segment revenue	8,813,848	2,119,164	1,475,236	264,660	440,024	13,112,932
Inter-segment revenue	88,996	-	148,901	1,050	5,255	244,202
Revenue from external customers ¹	8,724,852	2,119,164	1,326,335	263,610	434,769	12,868,730
Operating profit (loss) ²	1,419,233	(2,894)	52,763	39,469	15,207	1,523,778

¹ Revenue from external customers consists of sales of goods. Interest income and dividend income are included in finance income.

² Management assesses the performance of the operating segments based on a measurement of operating profit of segment.

³ Common and other segments include operating segments not qualifying as a reportable segment, supporting divisions as well as R&D divisions.

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The segment information on assets and liabilities as at June 30, 2018 and December 31, 2017, is as follows:

(in millions of Korean won)	June 30, 2018					
	Basic materials & Chemicals	Energy solutions	IT & Electronic materials and Advanced materials	Life sciences	Common and others	Total
Reportable segment asset ¹	9,941,806	6,626,978	3,591,821	1,833,169	5,405,508	27,399,282
Investments in associates and joint ventures	2,693	20,144	-	17	233,832	256,686
Reportable segment liability ¹	2,859,358	3,193,659	792,643	171,813	3,373,135	10,390,608

(in millions of Korean won)	December 31, 2017					
	Basic materials & Chemicals	Energy solutions	IT & Electronic materials and Advanced materials	Life sciences	Common and others	Total
Reportable segment asset ¹	9,307,132	5,460,448	3,503,330	1,809,248	4,961,063	25,041,221
Investments in associates and joint ventures	4,057	21,242	-	17	238,780	264,096
Reportable segment liability ¹	3,317,393	2,176,990	731,585	427,667	2,049,009	8,702,644

¹ Assets and liabilities are measured in a manner consistent with those in the financial statements, and allocated on the basis of segment operation.

The external sales and non-current assets by geographical segments from continuing operations for the six-month periods ended June 30, 2018 and 2017, and as at June 30, 2018 and December 31, 2017, are as follows:

(in millions of Korean won)	Sales		Non-current assets ¹	
	2018	2017	June 30, 2018	December 31, 2017
Korea ²	4,429,468	4,275,362	11,019,415	10,618,989
China	4,464,091	4,257,396	2,227,858	1,887,324
Asia	2,394,528	2,412,192	38,264	31,671
America	784,228	717,567	321,390	235,481
Europe	1,355,101	1,031,754	329,815	262,199
Others	178,027	174,459	-	-
Total	13,605,443	12,868,730	13,936,742	13,035,664

¹ Represents aggregate amount of property, plant and equipment, intangible assets and investment properties.

² Domestic sales include the exports made through local letters of credit.

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There is no single external customer that contributes over 10% of the Group's revenue for the six-month periods ended June 30, 2018 and 2017.

34. Business Combination

In order to enhance future-oriented business portfolio and leap into a global player of red bio industry by enlarging investment in long-term and stable new drugs development, the Parent Company merged LG Life Sciences, Ltd. on January 1, 2017.

Goodwill of ₩ 686,229 million arising from the acquisition is attributable to sales increase expected from combining the operations of the Group and Life Sciences business. Goodwill recognized through the business combination is not deductible for income tax purpose.

The following table summarizes the consideration paid for business combination, the fair value of assets acquired and liabilities assumed at the acquisition date:

(in millions of Korean won)

	Amount
Consideration	
Equity securities	
(Ordinary 4,321,243 shares, Preferred 59,879 shares) ¹	1,138,593
Total consideration	<u>1,138,593</u>
Recognized amounts of identifiable assets acquired and liabilities assumed	
Cash and cash equivalents	43,832
Trade and other (non-current) receivables	112,703
Inventories	123,083
Property, plant and equipment	493,321
Intangible assets	273,550
Other assets	8,315
Trade payables	(38,736)
Borrowings	(729,745)
Provisions	(6,053)
Net defined benefit liabilities	(11,922)
Other liabilities	(153,195)
Treasury shares	
(Ordinary 1,284,891 shares, Preferred 10,328 shares) ¹	337,211
Fair value of identifiable net assets	<u>452,364</u>
Goodwill	686,229
Total	<u>1,138,593</u>

¹ The fair value of ordinary shares, preferred shares and treasury shares acquired were based on the market price at the acquisition date.

With regard to the above business combination, share issuance cost of ₩ 73 million was deducted from equity.

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35. Assets Held for sale

The Group decided to dispose of Electrolyte business, 2CCL business and others upon the approval of management in February 2016 and January 2017, respectively. The related assets were reclassified as assets held for sale, and the disposal is expected to be completed in 2018. Assets and liabilities of Research Institute and FarmHwaong Co., Ltd., which were acquired during the course of the business combination of FarmHannong Co., Ltd., are also included. The assets and liabilities of Electrolyte business was completely disposed during this period, and the assets and liabilities of 2CCL business and others are expected to be disposed in 2018.

Details of assets and liabilities of disposal group classified as held for sale as at June 30, 2018 and December 31, 2017, are as follows:

<i>(in millions of Korean won)</i>	June 30, 2018	December 31, 2017
Assets of disposal group		
Property, plant and equipment	3,178	5,486
Intangible assets	358	358
Other receivables and others	732	751
Total	<u>4,268</u>	<u>6,595</u>
Liabilities of disposal group		
Other payables and others	30	31
Total	<u>30</u>	<u>31</u>

Assets of the disposal group were measured at fair value immediately before the initial classification of the assets as held for sale and the related other non-operating expenses (income) for the six-month periods ended June 30, 2018 and 2017, is as follows:

<i>(in millions of Korean won)</i>	2018	2017
Impairment loss on property, plant and equipment	-	10,382
Impairment loss on intangible assets	-	4
Total	<u>-</u>	<u>10,386</u>

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2015 WL 2412467

Only the Westlaw citation is currently available.
United States District Court, W.D. North Carolina,
Charlotte Division.

CELGARD, LLC, Plaintiff,
v.
LG CHEM, LTD., and LG Chem
America, Inc., Defendants.

No. 3:14-cv-00043-MOC-DCK.

Signed May 21, 2015.

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ORDER

MAX O. COGBURN, JR., District Judge.

***1 THIS MATTER** is before the court on Plaintiff's "Objections to Magistrate Judge's Order Granting Defendants' Alternative Motion to Transfer Venue" (Document No. 266), the associated response (Document No. 269), and the supplemental briefs allowed by the court (Document Nos. 275-1; 278). The court heard oral argument on the objections on April 8, 2015. Also before the court are Defendants' "Motion To Dismiss Counts III, IV, V, VI of Celgard's First Amended Complaint ..." (Document No. 222), Defendants' "Motion To Dismiss Plaintiff's First Amended Complaint For Lack Of Personal Jurisdiction" (Document No. 226), and the

associated briefs. Having considered the briefs, the oral arguments of counsel as to the objections, the Magistrate Judge's Order, and the record in this matter, the court enters the following Order.

I. INTRODUCTION

Celgard, LLC ("Plaintiff" or "Celgard") initiated this patent infringement action on January 30, 2014, asserting claims against LG Chem, Ltd. ("LGC") and LG Chem America, Inc. ("LGCAI") (together "LG Chem" or "Defendants") for:

- (1) direct infringement of  U.S. Patent No. 6,432,586; and
- (2) induced infringement of  U.S. Patent No. 6,432,586.

(Document No. 1, pp. 10-12). The underlying patent,  U.S. Patent No. 6,432,586 (the "'586 patent'"), is titled "Separator for a High Energy Rechargeable Lithium Battery," and relates to "separators" used in the construction of high energy rechargeable lithium-ion batteries. *See* (Document No. 1, ¶ 7); (Document No. 1-A, p. 1). Put simply, this technology reduces the likelihood that a battery will fail, catch fire, or experience a short. *See* (Document Nos. 16, p. 4; 1-A, p. 1).

Plaintiff's Amended Complaint generally alleges that LG Chem obtains uncoated polymeric base films from third parties, to which it applies a ceramic coating layer to create battery separators that fall within the scope of the  '586 Patent. (Document No. 217, ¶ 51). The separators are then sold by LGC and/or LGCAI to third parties, or used in Defendants' own production of lithium-ion batteries, all allegedly in violation of the  '586 Patent. *Id.* at ¶¶ 106-09. Plaintiff alleges that batteries containing infringing separators manufactured by Defendants are used in various consumer electronic devices and electric vehicles that are sold throughout the United States, including North Carolina. *Id.* at ¶¶ 16, 52-53, 106.

A. Factual Background and Relationship Of The Parties

As previously discussed by this court, *see* (Document No. 128), the factual setting of this patent dispute is somewhat unique and, as it relates to the contested issue of personal jurisdiction, bears repeating here. In contrast to the typical patent litigation in which the parties produce the same or similar product, compete for the same customers, and have

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little or no prior relationship with the opposition, the parties in this case have been involved with each other in the production of lithium ion batteries since 2005. Beginning in 2006 and continuing through 2008, Celgard supplied LGC, on an as-needed purchase order basis, with uncoated base films to be used in the production of lithium-ion batteries for consumer-electronic (“CE”) products. (Document No. 18, Declaration of Mitchell Pulwer (“Pulwer Decl.”), ¶¶ 4–5; Document No. 217, ¶ 67). In 2008, at LGC’s request, the relationship significantly expanded as the parties entered into discussions regarding the prospect of Celgard becoming LGC’s exclusive supplier of base film for lithium-ion batteries to be used in electric vehicles (“EVs”). (Pulwer Decl., ¶ 6; Document No. 217, ¶ 17).

*2 As the parties began negotiating the terms of a Long Term Supply Agreement (“LTA”) that would solidify their new relationship, LGC notified Celgard that it would need to increase its production capacity to satisfy LGC’s supply demands. (Pulwer Decl. ¶ 8). Negotiating the terms of the LTA for Celgard was its Vice President and General Manager Mitch Pulwer. *Id.* at ¶ 1. During these negotiations, Jai Ham, a Vice President of LGC, explained to Pulwer that if Celgard “demonstrated its commitment” to LGC and their new relationship by expanding its production capacity, LGC would enter into the LTA, with Celgard becoming the exclusive supplier of base film for LGC’s EV program. *Id.* at ¶ 8. Plaintiff states that in reliance on this representation and in order to meet LGC’s supply demands, Celgard began a five-phase expansion project including an expansion to its Charlotte, North Carolina facility and the construction of a new facility in Concord, North Carolina, costing in excess of \$300,000,000. *Id.* at ¶ 9; (Document No. 217, ¶¶ 68–70). LGC stopped purchasing base film for use in CE devices in 2008 in order for Plaintiff to be able to focus exclusively on producing base film for EVs. (Pulwer Decl. ¶ 6).

Despite Celgard’s expansion, the parties were unable to reach an agreement on the LTA. According to Celgard, LGC continuously rejected terms to which the parties had previously agreed, made counterproposals that included only minor changes, and requested changes that included terms that it had rejected during previous rounds of negotiations. *Id.* at ¶ 11. The parties were able to agree to a Memorandum of Understanding (“MOU”) as a precursor to an LTA. *Id.* at ¶ 13; MOU (Document No. 18–1), p. 2 (“LGC and Celgard understand that this is a non-binding MOU and is made in

anticipation of the parties entering into a long-term supply agreement”).

Under the MOU, the parties agreed to “work together in a collaborative effort” during the “Collaboration Period,” which ran from March 11, 2011, to December 31, 2015. *Id.* at p. 2–3. However, the agreement was non-binding and stated that neither party was bound to enter into a subsequent supply agreement. *Id.* Generally speaking, the MOU includes the following principal terms: (1) that LGC will purchase separators ¹ “primarily” from Celgard as long as Celgard is able to supply separators to LGC meeting certain qualifications and “overall program objectives which includes price competitiveness, in the quantity needed”; (2) that “LGC intends to purchase the majority of separator required for each application in which Celgard is qualified as long as the Celgard separator” meets the above conditions; and (3) that LGC will give “priority” to Celgard separators in any new application for the electric drive vehicle (“EDV”) and energy storage system (“ESS”) markets. *Id.*

Following the execution of the MOU in 2011, the parties’ relationship began to sour over price and quantity disputes. According to Celgard, between 2009 and July 2013, LGC purchased substantially all of its base film requirements for the EV industry from Celgard. (Pulwer Decl., ¶ 19). In November of 2012, LGC demanded that Celgard significantly reduce its prices and threatened to use other base film suppliers should Celgard refuse. *Id.* at ¶ 21. Believing that LGC’s price demands were contrary to past negotiations and course of dealings, Celgard refused to lower its prices. *Id.* at ¶ 23. After that, the parties’ relationship spiraled downward. In June 2013, LGC gave notice that Celgard was being phased out of the EV program beginning in September 2013, with Celgard being completely out by April 2014. *Id.* at ¶ 25. Celgard filled all outstanding orders but stopped taking additional purchase orders from LGC. *Id.* at ¶ 26. Its final shipment of base film material to LGC was in July 2013. (Document No. 80 (“Paulus Decl.”), ¶ 7). Celgard filed this suit in January 2014, bringing the above-mentioned claims for patent infringement.

B. Procedural History

*3 Approximately one month after filing the original complaint in this matter, on March 5, 2014, Plaintiff filed a “Motion For Preliminary Injunction.” (Document No.

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15). On March 19, 2014, Defendants filed a “Motion To Dismiss Plaintiff’s Complaint For Lack Of Personal Jurisdiction” (Document No. 30). On April 7, 2014, Plaintiff filed an “Alternative Motion For Jurisdictional Discovery.” (Document No. 58). On April 23, 2014, Defendants filed an “Alternative Motion To Transfer Venue To The Eastern District Of Michigan.” (Document No. 71). On May 14, 2014, the undersigned held a hearing on the aforementioned motions, during which the court primarily considered arguments on the issues of personal jurisdiction and a preliminary injunction.

The undersigned issued an “Order” (Document No. 128) on July 18, 2014, granting Plaintiff’s “Motion For Preliminary Injunction” (Document No. 15) and Plaintiff’s “Alternative Motion For Jurisdictional Discovery” (Document No. 58), and directing that “The LG Chem Defendants’ Motion To Dismiss Plaintiff’s Complaint For Lack Of Personal Jurisdiction” (Document No. 30) and “The LG Chem Defendants’ Alternative Motion To Transfer Venue To The Eastern District Of Michigan” (Document No. 71) be referred to Magistrate Judge Keesler for consideration after jurisdictional discovery. The Order also discussed the factual setting, the history of the parties’ business transactions, the relationship of the parties to North Carolina, and the appropriateness of jurisdictional discovery. (Document No. 128, at p. 2–6). Judge Keesler issued an “Order” (Document No. 139) on July 21, 2014, setting limits and deadlines for jurisdictional discovery. Also on July 21, 2014, Defendants filed a “Notice of Appeal” as to the Order granting the Preliminary Injunction. (Document No. 150). On July 22, 2014, the undersigned issued an Order, (Document No. 160), granting Defendants’ “Motion to Stay Preliminary Injunction Pending Appeal.” On August 13, 2014, the undersigned entered an Order, (Document No. 188), denying Plaintiff’s Motion for Reconsideration of the Order Granting LG Chem’s Motion to Stay. (Document No. 165). On August 15, 2014, Plaintiff filed a “Notice of Appeal” (Document No. 191) as to the Order granting Defendants’ Motion to Stay, and from the Order denying Plaintiff’s Motion for Reconsideration. Both appeals are currently before the Court of Appeals for the Federal Circuit. *See Celgard, LLC v. LG Chem, Ltd.*, No. 14–01675, (Fed.Cir.2014).

On August 26, 2014, Judge Keesler issued an “Order And Memorandum And Recommendation” (Document No. 204) allowing Plaintiff to file an Amended Complaint

incorporating the results of jurisdictional discovery, and recommending that the pending motions to dismiss and transfer (Document Nos. 30 and 71) be denied as moot.

Plaintiff filed its “First Amended Complaint” (Document No. 217) on September 5, 2014. The Amended Complaint re-asserts claims for direct infringement and induced infringement of the  '586 Patent by both Defendants. Plaintiff alleges that after the parties’ business relationship went sour, “Defendants walked away from their prior commitments and chose to purchase, coat and sell infringing ceramic coated separator with base film from other suppliers, despite their knowledge that these actions infringed on Celgard’s exclusive patent rights.” (Document No. 217, ¶ 1). The Amended Complaint also adds claims against LGC (only) for: unfair and deceptive trade practices; breach of contract; breach of the implied covenant of good faith and fair dealing; and, in the alternative, unjust enrichment. *Id.* at ¶¶ 115–143. The new claims against LGC relate to Plaintiff’s role as a supplier of separator base film for lithium-ion batteries manufactured by LGC for EVs. *Id.* at ¶ 1. Plaintiff’s additional counts contend that LGC is liable for its “repeated false promises to use Celgard as its exclusive and/or primary long-term supplier of base film for the electric vehicle industry.” *Id.* ¶ 116.

*4 On September 29, 2014, Defendants filed: (1) “Motion To Dismiss Counts III, IV, V, VI, Celgard’s First Amended Complaint ...” (Document No. 222); (2) “Motion To Dismiss Plaintiff’s First Amended Complaint For Lack Of Personal Jurisdiction” (Document No. 226); and (3) “Alternative Motion To Transfer Venue To The Eastern District Of Michigan In Whole Or In Part.” (Document No. 230). On February 18, 2015, Judge Keesler issued an Order (Document No. 262) granting Defendants’ “Alternative Motion to Transfer.” In this Order, Judge Keesler declined to address the merits of, or make any recommendations regarding, the two Motions to Dismiss. In doing so, Judge Keesler cited, among other authority, *BSN Medical, Inc. v. American Medical Products, LLC*, 3:11cv092–GCM–DSC, 2012 WL 171269, at *2 (W.D.N.C. Jan.20, 2012), wherein another magistrate judge in this district granted an alternative motion to transfer without reaching the merits of the motion to dismiss. Plaintiff has timely objected to Judge Keesler’s Order pursuant to  28 U.S.C. § 636(b) and Fed.R.Civ.P. 72(a). Defendants

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have responded to such objections and the matter is now ripe for review.

II. ALTERNATIVE MOTION TO TRANSFER

A. Standard of Review

When a magistrate judge issues an order on a non-dispositive matter, “[t]he district judge in the case must consider timely objections and modify or set aside any part of the order that is clearly erroneous or is contrary to law.” [Fed.R.Civ.P. 72\(a\)](#).

See also  [28 U.S.C. § 636\(B\)\(1\)\(A\)](#) (“A judge of the court may reconsider any pretrial matter under this subparagraph (A) where it has been shown that the magistrate judge's order is clearly erroneous or contrary to law.”). In engaging in such review, a finding is “‘clearly erroneous’ when, although there is evidence to support it, the reviewing court ... is left with the definite and firm conviction that a mistake has been committed.”  [High Voltage Beverages, L.L.C. v. Coca-Cola Co.](#), No. 3:08–CV–367, 2010 WL 2342458, at *1 (W.D.N.C. June 8, 2010) (citing [Walton v. Johnson](#), 440 F.3d 160, 173–74 (4th Cir.2006)). A magistrate judge's order is “contrary to law” where he “failed to apply or misapplied statutes, case law, or procedural rules.” *Id.* (citing [Miceli v. KBRG of Statesville, L.L.C.](#), No. 5:05–CV–265–V, 2008 WL 2945451, at *1 (W.D.N.C. July 24, 2008)).

B. Discussion of Plaintiff's Objections

1. Standing Order Regarding Magistrate Judge Referrals

This court's “Standing Order” regarding referrals to Magistrate Judges in this District, No. 3:11–mc–25–MOC (W.D.N.C., Mar. 16, 2011) provides, in relevant part:

pursuant to  [28, United States Code, Section 636\(b\)](#) and Local Civil Rule 72.1, in civil and miscellaneous cases, magistrate judges shall be specifically referred the following duties:

...

to dispose of non-dispositive civil motions, including but not limited to motions for ... transfer to another division or district ... Where a non-dispositive motion is pled in

the alternative to a dispositive motion, a Memorandum and Recommendation will be entered as to both motions.

*5 *Id.* Plaintiff's first objection centers on the argument that because Judge Keesler issued an order on a non-dispositive motion (to transfer) without addressing the merits of the two dispositive motions (to dismiss) through a Memorandum and Recommendation, Judge Keesler violated this Court's Standing Order and thus is contrary to law. Plaintiff argues that the proper remedy for this error is to require Judge Keesler to issue a Memorandum and Recommendation for each of the dispositive motions, as well as the non-dispositive alternative motion.

As discussed at the hearing, the undersigned regards the Standing Order as an in-house policy for chambers to follow in an attempt to efficiently resolve the merits of motions and move the docket along. While the court always finds it helpful to have recommendations on legal issues from the magistrate judges of this district, a magistrate judge's failure to comply with the procedures of the Standing Order does not constitute grounds for overturning his decision. The court will therefore overrule Plaintiff's objection as to Judge Keesler's non-compliance with the Standing Order.

The court finds in this situation, however, that the merits of the dispositive motions have a significant bearing on the resolution of the alternative motion to transfer. In light of the fact that the uncertainty of the jurisdictional issue was a significant reason for Judge Keesler's Order transferring venue, *see* (Document No. 262, pp. 7–9), the court finds that the proper course of action here would have been to address the issue of personal jurisdiction (raised in the dispositive Motion to Dismiss for Lack of Jurisdiction) simultaneously with the issue of transfer. The court will therefore address both of the dispositive motions along with the objections to the Order transferring venue.

2. Transfer of Venue

i. Legal Standards

[28 U.S.C. § 1404\(a\)](#) provides: “For the convenience of parties and witnesses, in the interest of justice, a district court may transfer any civil action to any other district or division where it might have been brought or to any district or division to which all parties have consented.” *Id.* 28 U.S.C. §

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1400(b), which specifically governs venue in patent actions, provides, “[a]ny civil action for patent infringement may be brought in the judicial district where the defendant resides, or where the defendant has committed acts of infringement and has a regular and established place of business.” *Id.* A motion to transfer pursuant to § 1404(a) in a patent case requires application of the law of the regional circuit.  *In re Link A Media Devices Corp.*, 662 F.3d 1221, 1222–23 (Fed.Cir.2011).

Upon a motion to transfer, the moving party carries a heavy burden. *Duke Energy Florida, Inc. v. Westinghouse Elec. Co.*, No. 3:14-CV-00141-MOC, 2014 WL 2572960, at *5 (W.D.N.C. June 9, 2014) (citing *Datasouth Computer Corp. v. Three Dimensional Technologies, Inc.*, 719 F.Supp. 446, 451 (W.D.N.C.1989)). A court's decision to grant a motion to transfer venue under 28 U.S.C. § 1404(a) is largely discretionary. *3A Composites USA, Inc. v. United Indus., Inc.*, No. 5:13CV83-RLV, 2014 WL 1471075, at *1 (W.D.N.C. Apr.15, 2014) (citing *Landers v. Dawson Const. Plant Ltd.*, 201 F.3d 436, 1999 WL 991419, *2 (4th Cir.1999)). In exercising such discretion, the court applies a balancing test and considers various factors in deciding whether transfer is appropriate. *Jim Crockett Promotions, Inc. v. Action Media Grp., Inc.*, 751 F.Supp. 93 (W.D.N.C.1990). The factors to be considered include:

- *6 1. The plaintiff's initial choice of forum;
2. The residence of the parties;
3. The relative ease of access of proof;
4. The availability of compulsory process for attendance of witnesses and the costs of obtaining attendance of willing witnesses;
5. The possibility of a view by the jury;
6. The enforceability of a judgment, if obtained;
7. The relative advantages and obstacles to a fair trial;
8. Other practical problems that make a trial easy, expeditious, and inexpensive;
9. The administrative difficulties of court congestion;

10. The interest in having localized controversies settled at home and the appropriateness in having the trial of a diversity case in a forum that is at home with state law that must govern the action; and

11. The avoidance of unnecessary problems with conflict of laws.

Id. “The above factors fall into three categories: (1) factors that favor neither party, (2) factors that favor Defendant, and (3) factors that favor Plaintiff.” *Cohen v. ZL Technologies, Inc.*, No. 3:14-CV-00377-FDW, 2015 WL 93732, at *2 (W.D.N.C. Jan.7, 2015) (citing *Crockett*, 751 F.Supp. at 98). The court must analyze the eleven factors based on quality, not just quantity. *Id.* (citing *Crockett*, 751 F.Supp. at 96). In most cases, the plaintiff's choice of forum should be given significant weight, and should not be disturbed unless the balance is strongly in favor of transfer.  *Collins v. Straight, Inc.*, 748 F.2d 916, 921 (4th Cir .1984) (citing  *Gulf Oil Corp. v. Gilbert*, 330 U.S. 501, 508, 67 S.Ct. 839, 91 L.Ed. 1055 (1947)). A motion should not be granted if transfer “would merely shift the inconvenience from the defendant to the plaintiff, or if the equities lean but slightly in favor of the movant after all factors are considered.” *Jim Crockett Promotions, Inc. v. Action Media Grp., Inc.*, 751 F.Supp. 93, 95 (W.D.N.C.1990).

On a motion to transfer, the facts as alleged in the complaint are accepted as true and all reasonable inferences are drawn in the plaintiff's favor. *Century Furniture, LLC v. C & C Imps., Inc.*, No. 1:07cv179, 2007 WL 2712955, at *2 (W.D.N.C. Sept.14, 2007).

As noted by Judge Keesler, “While a court typically decides the question of personal jurisdiction over a defendant before considering venue, the Supreme Court has held that ‘when there is a sound prudential justification for doing so, ... a court may reverse the normal order of considering personal jurisdiction and venue.’ “ *BSN Medical, Inc. v. American Medical Products, LLC*, 3:11cv092-GCM-DSC, 2012 WL 171269, at *2 (W.D.N.C. Jan.20, 2012) (citing  *Leroy v. Great W. United Corp.*, 443 U.S. 173, 180, 99 S.Ct. 2710, 61 L.Ed.2d 464 (1979)). “A court need not have personal jurisdiction over a defendant to transfer a case pursuant to 28 U.S.C. §§ 1404(a) or 1406(a).” *Id.*

ii. *The Magistrate Judge's Order*

Judge Keesler found good cause to allow Defendants' motion to transfer to the Eastern District of Michigan and, citing *BSN Medical*, declined to make any recommendation as to the pending dispositive motions, including the motion pertaining to personal jurisdiction. Judge Keesler found that the question of personal jurisdiction over Defendants in North Carolina presented a “close call upon which reasonable minds could differ,” and that the issue remained uncertain even after a round of briefing, oral arguments, and a jurisdictional discovery period prior to the filing of an Amended Complaint and renewed motions. (Document No. 262, p. 7). Judge Keesler also noted that this court recently rejected many of the same jurisdictional arguments that Plaintiff made in this case in a different patent infringement lawsuit filed by Plaintiff against a different defendant. *See* (Document No. 262, p. 7) (citing *Celgard, LLC v. SK Innovation, Co., Ltd.*, 3:13cv254–MOC–DSC,  2014 WL 5430993 (W.D.N.C. Aug.29, 2014)). He noted that he found it doubtful that this court has personal jurisdiction over both Defendants with regard to all the claims asserted against them, but that Defendants admit to jurisdiction in Michigan.² *Id.*

*7 In making the decision to grant transfer in light of what he found to be “doubtful” jurisdiction over both Defendants in North Carolina and Defendants' concessions that they are subject to jurisdiction in Michigan, Judge Keesler cited several decisions from district courts in this circuit doing the same. *See* (Document No. 262, pp. 8–9 (citing  *La Casa Real Estate & Inv., LLC v. KB Home of S.C., Inc.*, No. 1:09CV895, 2010 WL 2649867, at *2 (M.D.N.C. June 30, 2010) (“in the interests of convenience, fairness and judicial economy, the Court elects to consider Defendant's Motion to Transfer pursuant to 28 U.S.C. § 1404(a) before reaching any issues related to the Court's jurisdiction.”); *Nacco Materials Handling Grp., Inc. v. Lilly Co.*, 2011 WL 2119097, at *4 (E.D.N.C. May 25, 2011) (granting motion to transfer when personal jurisdiction over defendant remained “in serious doubt”);  *Waldron v. Atradius Collections, Inc.*, 2010 WL 2367392, at *3 (D.Md. June 9, 2010) (“[T]he constitutional question of personal jurisdiction is a close one upon which reasonable minds could differ. There is no reason to inject such a question into the case unnecessarily.”); *Jenkins v.*

Albuquerque Lonestar Freightliner, LLC, 464 F.Supp.2d 491, 494 (E.D.N.C.2006) (granting motion to transfer in part because “the absence of personal jurisdiction over the defendant” in the original forum but not the transferee forum is an “impediment to a decision on the merits”); *Tyler v. Gaines Motor Lines, Inc.*, 245 F.Supp.2d 730, 734 (D.Md.2003) (transferring case in interest of justice because the question of personal jurisdiction was a “close one” and “would inject into the case an unnecessary legal issue that would render the entire litigation null and void, if, on appeal, jurisdiction were found to be lacking”). While the court agrees that the issue of personal jurisdiction presents a “close call” in this case, it also believes that the parties deserve a thorough analysis of the dispositive question of personal jurisdiction before this matter is transferred to another district.

iii. *Review of Crockett Analysis*

Plaintiff argues that Judge Keesler's Order should be set aside as clearly erroneous and contrary to law based on his analysis of the *Crockett* factors. Judge Keesler found that five factors—residence of the parties, access to proof, attendance of witnesses, fair trial, and practical problems affecting trial expediency and efficiency—weighed in favor of transfer, while the remaining factors were neutral. (Document No. 262, pp. 9–14). Plaintiff argues that each of these factors, as well as its choice of forum and local resolution factors, weigh against transfer or, at a minimum, are neutral, and that none of the *Crockett* factors weigh in favor of transfer. Judge Keesler found the following factors to be neutral: the possibility of a view by the jury; the enforceability of a judgment; the relative court congestion between the districts; and the avoidance of conflict of laws. Plaintiff does not challenge the venue order based on these factors and the court will therefore not disturb Judge Keesler's determinations on those factors.

*8 The court is mindful of the discretion to the magistrate judge in analyzing a motion to transfer, *3A Composites USA, Inc. v. United Indus., Inc.*, No. 5:13CV83–RLV, 2014 WL 1471075, at *1 (W.D.N.C. Apr.15, 2014), and will only disturb his decision where clearly erroneous or contrary to law. Fed.R.Civ.P. 72(a);  28 U.S.C. § 636(B)(1)(A). The court will address the objections in turn.

a. *Plaintiff's choice of forum*

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Judge Keesler found this factor to be neutral; Plaintiff objects to such a finding, arguing that its choice of forum should have weighed more strongly in its favor. Judge Keesler properly noted that although the choice of forum by the Plaintiff is ordinarily given considerable weight, “that weight is diminished when the conduct giving rise to the complaint did not occur in the forum.” See (Document No. 262, p. 9); *Hames v. Morton Salt, Inc.*, 3:11cv570–MOC–DSC, 2012 WL 1247201, at *2 (W.D.N.C. Apr.13, 2012)

(citing  *Parham v. Weave Corp.*, 323 F.Supp.2d 670, 674 (M.D.N.C.2004); *Telepharmacy Solutions, Inc. v. Pickpoint Corp.*, 238 F.Supp.2d 741, 743 (E.D.Va.2003); *Lynch v. Vanderhoef Builders*, 237 F.Supp.2d 615, 617 (D.Md.2002)). Plaintiff argues that the “diminished weight” rule only applies where none or essentially none of the conduct giving rise to the action occurred in the plaintiff’s chosen forum. See  *Parham*, 323 F.Supp.2d at 674 (“While the plaintiff’s choice of forum is accorded substantial weight, the deference given to the plaintiff’s choice is proportionate to the relation between the forum and the cause of action.” (citations and internal quotations omitted));  *Speed Trac Technologies, Inc. v. Estes Express Lines, Inc.*, 567 F.Supp.2d 799, 803 (M.D.N.C.2008) (noting that choice of forum “receives less weight ... when (1) the plaintiff chooses a foreign forum, or (2) the cause of action bears little or no relation to the chosen forum.”).

Judge Keesler found that while Plaintiff had noted some contacts with North Carolina by Defendant LGC, most of the conduct giving rise to the crux of the amended complaint (the patent infringement claims) as to both Defendants occurred in Korea or Michigan. (Document No. 262, p. 10). Judge Keesler thus applied the “diminished weight” rule upon finding that most of the conduct giving rise to the complaint did not occur in North Carolina. However, as explained above, Plaintiff has alleged, and this court can reasonably infer, that much of the conduct giving rise to Defendants’ claims *did* occur in North Carolina. Plaintiff’s Amended Complaint alleges that at least some conduct giving rise to the alleged patent infringement occurred in North Carolina, (Document No. 217, ¶¶ 10–17), and that all of the conduct forming the basis of its state law claims occurred in North Carolina. See, e.g. *id.* at ¶¶ 17–32, 80–82, 101. As alleged in the Amended Complaint, Plaintiff argues that the alleged infringement in this case occurred as a result of the longstanding business relationship of the

parties concerning sales of Celgard base film and the ultimate breakdown of such relationship. See (Document No. 217, ¶¶ 18; 26–28; 49–51). The crux of Plaintiff’s argument is that it provided base film to LGC specifically for its use and that when the business relationship went sour, LGC sourced base film from third parties but continued to use Celgard’s patented technology without Celgard’s permission, which constitutes infringement of the  ‘586 patent. *Id.* See also Pl. Opp. Mot. Transfer (Document No. 243, p. 7) (“Celgard provided LG Chem separator material that Celgard permitted to be ceramic coated pursuant to the patent-in-suit, and the breakdown of this relationship—caused by LG Chem’s misconduct—led LG Chem to manufacture and distribute products containing unauthorized separator material, thereby infringing the patent-in-suit.”).

*9 Here, while not *all* of the conduct giving rise to the claims asserted against Defendants occurred in North Carolina, much of it did. See Section IV, C. Accordingly, the court finds that it was error for the magistrate judge to apply the “diminished weight” rule and that the general rule that the plaintiff’s choice of forum should be accorded substantial weight is applicable.

 *Collins v. Straight, Inc.*, 748 F.2d 916, 921 (4th Cir.1984). As such, the court finds that the Plaintiff’s choice of forum weighs in favor of keeping this action in this district.

b. Residence of the parties

Judge Keesler found that this factor slightly favors transfer; Plaintiff objects, arguing that because neither party is a resident of Michigan, this factor should have weighed against transfer or been neutral. Plaintiff is a resident of North Carolina. LGC is a corporation with its principal place of business in Seoul, Korea. LGCAI’s principal place of business is in New Jersey. Judge Keesler found that because all LGC subsidiaries have outposts in the Eastern District of Michigan, and Defendants contend they are “at home” in Michigan, this factor weighs in favor of transfer.

For purposes of venue, “a corporate defendant resides in any judicial district in which it is subject to personal jurisdiction at the time the action commences.”  28 U.S.C. § 1391(c). See also  *VE Holding Corp. v. Johnson Gas Appliance Co.*, 917 F.2d 1574, 1584 (Fed.Cir.1990) (holding that the language of  § 1391(c) applies to § 1400(b));  *Trintec Indus.*,

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Inc. v. Pedre Promotional Products, Inc., 395 F.3d 1275, 1280 (Fed.Cir.2005) (“Venue in a patent action against a corporate defendant exists wherever there is personal jurisdiction.”).

Even assuming jurisdiction is proper over both Defendants in Michigan and that they are “residents” within the meaning of the applicable statutes, the disparity in the residencies between Plaintiff and Defendants would make this factor neutral. See *Simpson v. Snyder's of Hanover, Inc.*, No. 1:05–CV–354, 2006 WL 1642227, at *5 (W.D.N.C. June 12, 2006) (affirming magistrate judge's determination that the residence factor was neutral because one party was a resident of the forum and one party was a resident of the proposed venue); *Tracy v. Loram Maint. of Way, Inc.*, No. 5:10–CV–102–RLV, 2011 WL 2791257, at *6 (W.D.N.C. July 14, 2011) (“the Court finds that the residency of the parties is a neutral factor. Plaintiff resides in Catawba County, North Carolina, while Defendant's main place of business is in Minnesota. Regardless of the place of adjudication, one party will benefit to the other's detriment.”).

The court finds it was error for the Magistrate Judge to find that residence of the parties favored transfer and finds this factor is, in fact, neutral.

c. Access to evidence

Judge Keesler found that this factor favors transfer; Plaintiff objects and argues that it should have been, at a minimum, neutral. “In patent infringement cases, the bulk of the relevant evidence usually comes from the accused infringer. Consequently, the place where the defendant's documents are kept weighs in favor of transfer to that location.” *In re Genentech, Inc.*, 566 F.3d 1338, 1345 (Fed.Cir.2009) (citation omitted). Here, Plaintiffs allege that much of the proof in this case is in North Carolina, including “relevant documents, contracts, and e-mails.” (Document No. 243, p. 5). Defendants allege that the bulk of the evidence is likely to come from LGC and its U.S. subsidiaries involved in the lithium battery business and located in Michigan. (Document No. 248, p. 2). Even accepting such argument as true for the patent infringement claims (despite the fact that neither Defendant is headquartered in Michigan), the same cannot be said for all of the state law claims. As such, the court cannot find that the “bulk” of the evidence would be in Michigan, when the documents related to the conduct

giving rise to Plaintiff's claims are likely at each party's headquarters—in Korea, New Jersey, and North Carolina. See

MGT Gaming, Inc. v. WMS Gaming, Inc., 978 F.Supp.2d 647, 669 (S.D.Miss.2013) (“Presumably, the bulk of the discovery material relating to a corporate party is located at

the corporate headquarters.”)(citing *In re Acer Am. Corp.*, 626 F.3d 1252, 1256 (Fed.Cir.2010)). The court finds that the magistrate judge erred in finding that this factor favored transfer and finds that given the nature of the claims and the relevant evidence, this factor is neutral.

d. Availability of compulsory process for witnesses and the costs of transporting and obtaining those witnesses

*10 Judge Keesler found that this factor favors transfer; Plaintiff objects. As the parties note, “[t]he convenience of witnesses, particularly nonparty witnesses important to the resolution of the case, is often cited as the most significant factor in ruling on a motion to transfer ... One strong argument against transfer is that the original forum will be the most convenient for the witnesses. And when transfer will better serve the convenience of the witnesses, the motion under Section 1404(a) is more likely to be granted.” 15 Charles Alan Wright & Arthur R. Miller, *Federal Practice & Procedure* § 3851 (4th ed.) (collecting cases).

Here, Plaintiff has identified two witnesses in North Carolina (Document No. 243, pp. 5–6); Defendants have not identified any witnesses. See Def. Reply (Document No. 248, p. 3) (stating that “LG Chem's potential witnesses are likely numerous ... and none of these potential witnesses are located in North Carolina. In part because of LGCAI's presence in Michigan, witness attendance of both Defendants is far easier in Michigan.”) (emphasis added). Judge Keesler found that the facts on this factor are not as developed as he would have hoped, but that to the extent that non-party witnesses existed in this matter (i.e. customers or manufacturers of products that include the allegedly infringing separators), they were more likely to be made available in Michigan. (Document No. 262, p. 11–12). While the court understands the magistrate judge's logic, it simply cannot agree that this factor favors transfer where Defendant has not identified a single witness, let alone

one in Michigan. See *Capital One Fin. Corp. v. Drive Fin. Servs., L.P.*, 434 F.Supp.2d 367, 375–76 (E.D.Va.2006) (“The party asserting witness inconvenience has the burden to proffer, by affidavit or otherwise, sufficient details respecting

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the witnesses and their potential testimony to enable the court to assess the materiality of evidence and the degree of inconvenience.”); 15 Fed. Prac. & Proc. Juris. § 3851 (“The party seeking the transfer must identify, typically by affidavit, the key witnesses to be called, state their residence, and provide at least a general summary of what their testimony will cover.”). The court therefore finds that Judge Keesler’s decision on this factor was in error. The court will therefore construe this factor as neutral.

e. Relative advantages and obstacles to a fair trial

Judge Keesler found that this factor slighted favored transfer; Plaintiff objects. In explaining his determination on this factor, Judge Keesler again discussed availability of witnesses as a consideration. (Document No. 262, pp. 12–13). Plaintiff argues that Judge Keesler erroneously “double counted” the witness availability and that he should have considered the “home field advantage” or bias of a trial in Michigan, where Defendants allegedly have the support of large auto-makers. While this court finds no basis for disturbing Judge Keesler’s on the issue of “double counting,” and agrees with his determination that there is no basis for any clear advantages or obstacles to fair trial in either district, it does find that his reliance on the presence and availability of unidentified witnesses in Michigan was in error. As explained above, the court finds that as Defendants have not identified any witnesses in the state of Michigan, there is no basis for assuming that the presence of such witnesses will offer any advantages to a fair trial. Regarding Plaintiff’s arguments as to Defendants’ “home field” advantage in Michigan, the

argument as to such advantages goes both ways. See  *Rice v. Bellsouth Adver. & Pub. Corp.*, 240 F.Supp.2d 526, 530 (W.D.N.C.2002). The court therefore finds that this factor is neutral.

f. Practical issues affecting trial expediency and efficiency

*11 Judge Keesler found that this factor slightly favored transfer; Plaintiff objects. Judge Keesler noted that no trial is ever easy, expeditious or inexpensive, and that all trials involve air travel and inconvenience. (Document No. 262, p. 13) (citing *Century Furniture, LLC v. C & C Imps., Inc.*, No. 1:07cv179, 2007 WL 2712955, at *5 (W.D.N.C. Sept.14, 2007)). He further stated that after balancing all evidence to date, this factor slightly favored transfer. The court finds

that without more evidence to the contrary, this factor clearly does not favor transfer. In *Century*, wherein the plaintiff brought suit in the Asheville division of this district, the court noted that, “the practical problem is access to the situs of the litigation via air transportation, and the mountains of North Carolina simply are not *easily* accessible when engaged in transcontinental litigation.” *Id.* Here, litigation in this district will occur in Charlotte, North Carolina, a city with an international airport that is easily accessible by all parties. Indeed, the court notes that three representatives from Defendants’ office in Korea were present in Charlotte for the hour-long oral arguments on the objections at issue, and presumably reached the city via airplane. See Hearing Transcript (Document No. 274) at 14:24–15:8. Judge Keesler noted in his order that “travel from Korea or New Jersey to North Carolina or Michigan are roughly equivalent.” (Document No. 262, p. 12). In light of the fact that motions to transfer are not to be granted merely to shift the inconvenience from one party to another, *Jim Crockett Promotions, Inc. v. Action Media Grp., Inc.*, 751 F.Supp. 93, 95 (W.D.N.C.1990), and that Judge Keesler appears to have based his determination solely on the inconvenience caused by air travel, the court finds that his determination that this factor weighed in favor of transfer was clearly erroneous. See  *Rice v. Bellsouth Adver. & Pub. Corp.*, 240 F.Supp.2d 526, 530 (W.D.N.C.2002) (“In either forum, there will be practical problems such as travel and accommodations for the parties and their counsel. This factor is neutral.”). The court therefore finds this factor to be neutral.

g. Interest of resolving localized controversies at home and the appropriateness of having the trial of a diversity case in a forum that is at home with the state law that must govern the action

Judge Keesler found this factor to be neutral; Plaintiff objects. On this factor, Judge Keesler found that, particularly with the aid of very able counsel, any district court would be able to apply the laws of North Carolina to the extent necessary, in addition to patent laws. He noted that this case involves claims of national, if not international patent violations. The court finds no error in this determination and overrules Plaintiff’s objection that the focus should have been on the “strong interest in resolving issues locally.”

C. Conclusion

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*12 In light of the above analysis, the court finds that Judge Keesler clearly erred in weighing several *Crockett* factors, and that the balance of the factors favors maintaining this action in this district. Put another way, the court finds that transfer of this matter “would merely shift the inconvenience from the defendant to the plaintiff,” *Jim Crockett Promotions, Inc. v. Action Media Grp., Inc.*, 751 F.Supp. 93, 95 (W.D.N.C.1990), which makes transfer inappropriate. Because the court finds that personal jurisdiction over both Defendants is appropriate in this district, *see* Section IV, and that the balance of factors does not favor transfer, the court will set aside those determinations of the magistrate judge discussed above, and deny Defendants' Alternative Motion to Transfer.

III. DEFENDANTS' MOTION TO DISMISS COUNTS III–VI OF AMENDED COMPLAINT

The court now addresses Defendants' Motion to Dismiss Counts III, IV, V, and VI of Plaintiff's Amended Complaint. (Document No. 222). Defendants claim that Plaintiff has failed to properly plead facts sufficient to claim (1) unfair and deceptive trade practices; (2) breach of contract; (3) breach of the duty of good faith and fair dealing; and (4) unjust enrichment, as required by Fed.R.Civ.P. 12(b)(6).

A. Legal Standards

To survive a Rule 12(b)(6) motion to dismiss, a claimant must allege facts in his complaint that “raise a right to relief above the speculative level.” *Bell Atlantic Corp. v. Twombly*, 550 U.S. 544, 555, 127 S.Ct. 1955, 167 L.Ed.2d 929 (2007). “[A] plaintiff's obligation to provide the ‘grounds’ of his ‘entitle[ment] to relief’ requires more than labels and conclusions, and a formulaic recitation of the elements of a cause of action will not do ...” *Id.* (second alteration in original; citation omitted). A claimant must plead sufficient facts to state a claim for relief that is “plausible on its face.”

Id. at 570. As the Supreme Court elaborated in *Ashcroft v. Iqbal*, 556 U.S. 662, 129 S.Ct. 1937, 173 L.Ed.2d 868 (2009), “[a] claim has facial plausibility when the plaintiff pleads sufficient factual content that allows the court to draw the reasonable inference that the defendant is liable for the misconduct alleged.” *Id.* at 678. This “plausibility standard” requires “more than a sheer possibility that a defendant has acted unlawfully.” *Id.* Thus, a complaint falls short of

the plausibility standard where a plaintiff pleads “facts that are ‘merely consistent with’ a defendant's liability....” *Id.* While the court accepts *plausible* factual allegations made in a claim as true and considers those facts in the light most favorable to plaintiff in ruling on a motion to dismiss, a court “need not accept as true unwarranted inferences, unreasonable conclusions, or arguments.” *Eastern Shore Mkt.'s Inc. v. J.D. Assoc.'s, LLP*, 213 F.3d 175, 180 (4th Cir.2000).

B. Discussion

1. Unfair and Deceptive Trade Practices

Defendants argue that Plaintiff has failed to plead a proper claim for unfair and deceptive trade practices under N.C. Gen.Stat. § 75–1.1 because the facts alleged do not amount to the aggravating circumstances required for such a claim. The elements of a claim for unfair and deceptive trade practices in violation of N.C. Gen.Stat. § 75–1.1 are: (1) an unfair or deceptive act or practice, or an unfair method of competition, (2) in or affecting commerce, (3) which proximately caused actual injury to the plaintiff or to his business. *Id.*; *Gray v. N. Carolina Ins. Underwriting Ass'n*, 352 N.C. 61, 529 S.E.2d 676, 681 (N.C.2000). Recovery under such a claim “is limited to those situations when a plaintiff can show that plaintiff detrimentally relied upon a statement or misrepresentation and he or she suffered actual injury as a proximate result of defendant's deceptive statement or misrepresentation.” *McLamb v. T.P. Inc.*, 173 N.C.App. 586, 619 S.E.2d 577, 582–83 (N.C.App.2005) (internal quotation and citation omitted). A practice is unfair if it “is immoral, unethical, oppressive, unscrupulous, or substantially injurious to customers.” *Deerborne Cottages, LLC v. First Bank*, No. 1:11CV178, 2012 WL 1835240, at *5 (W.D.N.C. Apr.9, 2012) *report and recommendation adopted*, No. 1:11CV178, 2012 WL 1836093 (W.D.N.C. May 21, 2012) (citation and internal quotation omitted). A practice is deceptive where it “has the tendency or capacity to deceive.” *Id.* A claim for unfair and deceptive trade practices turns on the facts of each case and therefore involves a “highly fact-specific inquiry.” *S. Atl.Ltd. P'ship of Tennessee, L.P. v. Riese*, 284 F.3d 518, 535 (4th Cir.2002).

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*13 Here, Plaintiff alleges that LGC: (1) repeatedly promised Celgard that it would make Celgard its exclusive base film supplier for EVs, (2) in order to induce Celgard to increase its production capacity to meet LGC's requirements and provide it with favorable pricing, (3) while at the same time secretly making arrangements to replace Celgard. (Document No. 217 ¶¶ 68–69, 75, 77, 9092, 116.) The Amended Complaint further alleges that despite repeated promises to the contrary, LGC had no intention of entering into an LTA with Celgard, but strung Celgard along in order to ensure that LGC had sufficient supply of base film at discounted prices until LGC was ready to replace Celgard. *Id.* at ¶ 92. Then, LGC allegedly misrepresented to Celgard that the market price for comparable separator material had decreased by over 50% in an attempt to avoid its obligation in the MOU to purchase the majority of separator material from Celgard. *Id.* at ¶¶ 9396, 116. The court finds that such allegations of misrepresentation and false promises fit squarely within the type of conduct that North Carolina courts have found to be in unfair and deceptive. *See, e.g. Deerborne Cottages*, 2012 WL 1835240, at *6. (“Put simply, Plaintiffs allege that Defendants ... made affirmative misrepresentations during Plaintiffs' dealings with The Bank of Asheville, and that Plaintiffs relied upon these misrepresentations in going forward with the project. As various courts have held, affirmative misrepresentations such as these can form the basis of an unfair trade practices claim in certain circumstances.”). Although whether Plaintiff will prevail on its claim will ultimately depend on the specific facts in this case, the court finds that the allegations of deception and misrepresentation alleged in the Amended Complaint are sufficient to survive dismissal at this stage of the proceedings. The court will therefore deny Defendants' motion as to the unfair and deceptive trade practices claim.

2. Breach of Contract

Defendants argue that Plaintiff's breach of contract claim cannot succeed because Plaintiff has failed to show that the parties entered an enforceable contract. As Defendants correctly note, “[t]he elements of a claim for breach of contract are (1) existence of a valid contract and (2) breach of the terms of that contract.”  *Poor v. Hill*, 138 N.C.App. 19, 530 S.E.2d 838, 843 (N.C.App.2000). Defendants first argue that the MOU is not a contract because it explicitly states in the second paragraph, “LGC and CELGARD understand

that this is a non-binding MOU.” *See* MOU (Document No. 18–1 at 1). Here, Plaintiff claims that LGC breached the “Supplier Selection Agreement” contained in the MOU when it failed to purchase separator material primarily from Celgard during the Collaboration period. (Document No. 217, ¶ 127). The MOU states, “[b]oth parties agree that except as is explicitly set forth in this MOU, neither party shall be bound by any discussions or written proposals, letters, memos or charts used or exchanged unless and until a definitive and binding agreement is signed.” (MOU at 1). Plaintiff argues that the non-binding language applies only to the parties' intent to enter into a long-term supply agreement, not to their interim obligations during the Collaboration Period. Specifically, Plaintiff notes that the MOU expressly provides that “[n]otwithstanding the foregoing”:

- *14 • “LGC will purchase separator primarily from CELGARD during the Collaboration Period....;”
- “Initial products to be supplied by Celgard and purchased by LGC are Celgard® trilayer products manufactured to specifications mutually agreeable to both parties;” and
- “LGC also agrees to give priority to qualifying CELGARD separator in any/all new cell applications for the EDV and ESS markets....”

(MOU at 1, ¶¶ 1–3 (emphasis added)). The court finds that Plaintiff has put forth sufficiently plausible allegations of the ambiguity of the document's intentions as to the supply of goods during the collaboration period to render dismissal at the 12(b)(6) stage inappropriate. *See*  *Quorum Health Res., LLC v. Hugh Chatham Mem'l Hosp., Inc.*, 552 F.Supp.2d 527, 530 (M.D.N.C.2007) (“If the agreement is ambiguous ... interpretation of the contract is a matter for the jury. Ambiguity exists where the contract's language is reasonably susceptible to either of the interpretations asserted by the parties.”) (internal citations and quotations omitted).

Defendants also argue that Plaintiff has failed to show the existence of a valid contract because the language of the MOU does not present definite and certain terms. *See Miller v. Rose*, 138 N.C.App. 582, 532 S.E.2d 228, 232 (N.C.App.2000) (“To be enforceable, the terms of a contract must be sufficiently definite and certain, and a contract that leaves material portions open for future agreement is nugatory and void for indefiniteness.”) (internal citations and quotations omitted).

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The court finds that Defendants' arguments do not merit dismissal of this claim at this stage in the proceedings. While there are certainly questions as to the validity of the parties' agreement as a contract, the court finds that the language of the MOU states general terms for the parties' agreement, including the applicable time period, a quantity of separator material, price, and quality of goods for sale, that could be interpreted as a valid contract. See N.C. Gen.Stat. § 25–2204 (providing: “(1) A contract for sale of goods may be made in any manner sufficient to show agreement, including conduct by both parties which recognizes the existence of such a contract ... [and] (3) Even though one or more terms are left open a contract for sale does not fail for indefiniteness if the parties have intended to make a contract and there is a reasonably certain basis for giving an appropriate remedy .”).

The court will therefore deny Defendants' motion as to the breach of contract claim.

3. Breach of the Duty of Good Faith and Fair Dealing

Defendants' sole challenge to Plaintiff's claim for breach of the covenant of good faith and fair dealing is premised on a finding that the MOU is not a valid and enforceable contract. Because the court will not dismiss Plaintiff's breach of contract claim at this time for the reasons explained above, it similarly declines to dismiss this claim. See *Recycling Equip., Inc. v. E Recycling Sys., LLC*, No. 5:14–CV–00056, 2014 WL 6977766, at *5 (W.D.N.C. Dec.9, 2014) (“The implied covenant of good faith and fair dealing is a part of every contract and is breached where one party to a contract does something that injures the right of the other to receive the benefits of the agreement....Where the claim for breach of good faith is part and parcel of a similar claim for breach of an express term of the contract claim, that claim will rise and fall with the other breach of contract claim.”) (internal citations and quotations omitted).

4. Unjust Enrichment

*15 Finally, Defendants argue that Plaintiff's alternative claim for unjust enrichment should be dismissed because the facts alleged are insufficient to state a plausible claim, the claim was not properly pleaded, and the claim is barred by the statute of limitations.

In order to establish a claim for unjust enrichment, a plaintiff must allege: (1) it conferred a measurable benefit on the other party; (2) that party consciously accepted the benefit, and (3) the benefit was not conferred officiously or gratuitously. *Booe v. Shadrick*, 322 N.C. 567, 369 S.E.2d 554, 556 (N.C.1988); *Primerica Life Ins. Co. v. James Massengill & Sons Const. Co.*, 211 N.C.App. 252, 712 S.E.2d 670, 677 (N.C.App.2011). Both parties acknowledge that under North Carolina law, “a claim for unjust enrichment may not be brought in the face of an express contractual relationship between the parties.” *Madison River Mgmt. Co. v. Bus. Mgmt. Software Corp.*, 351 F.Supp.2d 436, 446 (M.D.N.C.2005) (citing *Se. Shelter Corp. v. BTU, Inc.*, 154 N.C.App. 321, 572 S.E.2d 200, 206 (N.C.App.2002)). However, in the absence of an express contractual agreement, “A claim of unjust enrichment is an alternative to a claim based on breach of contract...” *Volumetrics Med. Imaging, Inc. v. ATL Ultrasound, Inc.*, 243 F.Supp.2d 386, 411 (M.D.N.C.2003).

The court first addresses the wording of Plaintiff's alternative pleading. Defendants argue that Plaintiff's alternative claim for unjust enrichment was pleaded improperly because it incorporated all previous allegations in the Amended Complaint by reference. See (Document No. 217, ¶ 137); *Howard v. Carroll Companies, Inc.*, No. 1:12CV146, 2013 WL 3791619, at *12 (M.D.N.C. July 19, 2013) (dismissing claim for unjust enrichment where Plaintiff's claim did “not indicate that this claim was made in the alternative” and incorporated by reference all preceeding allegations, including those alleging the existence of the two contracts); *Deltacom, Inc. v. Budget Telecom, Inc.*, No. 5:10–cv–38, 2011 WL 2036676, at *5–6 (E.D.N.C. May 22, 2011) (declining to construe an unjust enrichment claim as an alternative claim when the complaint alleged the existence of a contractual relationship, defendant admitted to contractual relationship, plaintiff expressly incorporated by reference allegations of a contractual relationship in unjust enrichment claim, and failed to make the claim in the alternative). Here, the court finds no basis to dismiss the claim, phrased as “In the Alternative, Unjust Enrichment Against LG Chem,” on the basis of Plaintiff's incorporation by reference of previous allegations because the claim was clearly made in the alternative. See (Document No. 217 at ¶¶ 137–38). Where, as here, Defendants deny the existence of a valid contract and Plaintiff

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has clearly stated that it makes its claim in the alternative to the contract claims, the court will allow the claim to proceed at this stage.

Defendant also argues that the facts Plaintiff alleges simply show that it voluntarily took steps to improve production capabilities in the hopes of gaining additional LGC business. The court disagrees with such a characterization of the facts alleged. Here, Plaintiff has alleged that it increased its production capabilities and provided LGC with discounted pricing for base film based on promises by LGC that if Plaintiff did so, Plaintiff would become LGC's long-term, exclusive supplier of separator material for the EV industry. (Document No. 217 at ¶¶ 68, 69, 140). Plaintiff states, quite plausibly, that these benefits were not conferred gratuitously, but instead in direct response to, and in reliance on, LGC's promises. The court therefore finds no reason to dismiss Plaintiff's claim based on Defendants' argument that Plaintiff's actions were gratuitous.

***16** The court has also carefully considered the statute of limitations issue raised by Defendants. A claim for unjust enrichment is subject to a three year statute of limitations period that runs from the date the claim accrues. *Mountain Land Properties, Inc. v. Lovell*, No. 2:12-CV-84-MR-DLH, 2014 WL 4542413, at *13 (W.D.N.C. Sept. 11, 2014) (citing *Stratton v. Royal Bank of Canada*, 211 N.C.App. 78, 712 S.E.2d 221, 229 (N.C.App.2011); *Housecalls Home Health Care, Inc. v. State, Dept. of Health & Human Servs.*, 200 N.C.App. 66, 682 S.E.2d 741, 744 (N.C.App.2009); *Miller v. Randolph*, 124 N.C.App. 779, 478 S.E.2d 668, 670 (N.C.App.1996)). Generally, a cause of action "accrues when the wrong is complete and, thus, a plaintiff is entitled to assert the claim in court." *Id.* Here, the Amended Complaint alleges that LGC strung Plaintiff along for years, but that the wrong to Plaintiff was not complete until June 20, 2013, when LGC refused to enter into the LTA and instead switched suppliers. (Document No. 217 at ¶¶ 100–01). The court there finds that Plaintiff's claim for unjust enrichment is not barred by the statute of limitations.

C. Conclusion

The court finds that Plaintiff has stated plausible claims for relief based on factual allegations sufficient "to raise a right to relief above the speculative level," *Bell Atlantic Corp. v.*

Twombly, 550 U.S. 544, 555, 127 S.Ct. 1955, 167 L.Ed.2d 929 (2007). It will therefore deny Defendants' 12(b)(6) motion.

IV. DEFENDANTS' MOTION TO DISMISS FOR LACK OF PERSONAL JURISDICTION

Finally, the court considers Defendants' Motion to Dismiss Plaintiff's Amended Complaint for Lack of Personal Jurisdiction pursuant to  Rule 12(b)(2). (Document No. 226). Defendants argue that they are not subject to personal jurisdiction in the Western District of North Carolina under any legal theory and that they lack the requisite minimum contacts with this state to make an assertion of jurisdiction over them reasonable or fair. Plaintiff claims that both Defendants are subject to personal jurisdiction here under various theories. Specifically, Plaintiff contends that LGC is subject to specific jurisdiction through its prior business dealings here and that its placement of allegedly infringing products into the stream of commerce also satisfies personal jurisdiction. Plaintiff also argues that LGC is subject to general jurisdiction or, alternatively, nationwide jurisdiction. Plaintiff claims that LGCAI is subject to jurisdiction under the theories of general jurisdiction and its use of the stream of commerce.

A. Standard of Review

The plaintiff bears the burden of establishing personal jurisdiction over the defendant by a preponderance of the evidence. *IMO Indus., Inc. v. SEIM S.R.L.*, No. 305–CV–420–MU, 2007 WL 1651838, at *1 (W.D.N.C. June 4, 2007). When evaluating a motion to dismiss pursuant to Federal  Rule 12(b)(2), if no evidentiary hearing is held and the court determines the question of personal jurisdiction based on affidavits and other written materials, the plaintiff need only establish a prima facie case of personal jurisdiction.  *Electronics For Imaging, Inc. v. Coyle*, 340 F.3d 1344, 1349 (Fed.Cir.2003). See also *IMO Indus.*, 2007 WL 1651838, at *1. Here, while jurisdictional discovery has been permitted, no formal evidentiary hearing has been conducted to resolve disputed issues of jurisdictional fact. As such, Plaintiff must only make a prima facie case that the court has personal jurisdiction over Defendants, which "is established if the plaintiff presents sufficient evidence to defeat a motion for directed verdict."  *ATI Indus.*

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Automation, Inc. v. Applied Robotics, Inc., No. 1:09CV471, 2013 WL 1149174, at *2 (M.D.N.C. Mar.19, 2013) (quoting 2 James W. Moore, Moore's Federal Practice § 12.31[5]). In determining whether Plaintiff has made the requisite showing upon a motion to dismiss, a district court must accept the uncontroverted allegations in the plaintiff's complaint as true and resolve any factual conflicts in the affidavits in the plaintiff's favor.  *Electronics For Imaging*, 340 F.3d at 1349.

B. Legal Standards

*17 Federal Circuit case law applies in determining whether this court has personal jurisdiction over an out-of-state accused infringer.  *Beverly Hills Fan Co. v. Royal Sovereign Corp.*, 21 F.3d 1558, 1564–65 (Fed.Cir.1994).³ Federal courts apply the relevant state statute when determining personal jurisdiction over a defendant, even when the cause of action is purely federal. *Id.* at 1569. Because North Carolina's long-arm statute is co-extensive with federal due process requirements, the jurisdictional inquiry here collapses into a single determination of whether this court's exercise of jurisdiction over Defendants comports with due process. *Dillon v. Numismatic Funding Corp.*, 291 N.C. 674, 676, 231 S.E.2d 629 (1977). “The constitutional touchstone for determining whether an exercise of personal jurisdiction comports with due process ‘remains whether the defendant purposefully established minimum contacts in the forum State.’”  *Nuance Commc'ns, Inc. v. Abbyy Software House*, 626 F.3d 1222, 1230–31 (Fed.Cir.2010) (quoting  *Burger King Corp. v. Rudzewicz*, 471 U.S. 462, 474, 105 S.Ct. 2174, 85 L.Ed.2d 528, (1985)).

To be consistent with the limitations of due process, a defendant must have “minimum contacts” with the forum state “such that the maintenance of the suit does not offend traditional notions of fair play and substantial justice.”

 *International Shoe Co. v. Washington*, 326 U.S. 310, 316, 66 S.Ct. 154, 90 L.Ed. 95 (1945). Minimum contacts may be established by showing “general” or “specific” jurisdiction.

 *Helicopteros Nacionales de Columbia, S.A. v. Hall*, 466 U.S. 408, 414, 104 S.Ct. 1868, 80 L.Ed.2d 404 (1984).

1. General Jurisdiction

A court may exercise general jurisdiction over a non-resident defendant if the defendant has contacts with the state that are so “continuous and systematic” as to render himself “essentially at home in the forum State.”  *Goodyear Dunlop Tires Operations, S.A. v. Brown*, — U.S. —, —, 131 S.Ct. 2846, 2851, 180 L.Ed.2d 796 (2011). When a defendant maintains such systematic and continuous contacts with the forum state, even when the cause of action has no relation to those contacts, assertion of general jurisdiction is proper.  *Grober v. Mako Products, Inc.*, 686 F.3d 1335, 1346 (Fed.Cir.2012) (citing  *LSI Indus. Inc. v. Hubbell Lighting, Inc.*, 232 F.3d 1369, 1375 (Fed.Cir.2000); *Helicopteros*, 466 U.S. at 414–16)). Plaintiffs bear a “higher burden” when establishing general jurisdiction than they do when establishing specific jurisdiction.  *Avocent Huntsville Corp. v. Aten Int'l Co., Ltd.*, 552 F.3d 1324, 1330 (Fed.Cir.2008). “Sporadic and insubstantial contacts with the forum state ... are not sufficient to establish general jurisdiction.”  *Campbell Pet Co. v. Miale*, 542 F.3d 879, 884 (Fed.Cir.2008). Further, “continuous activity of some sorts within a state is not enough ... the continuous corporate operations within a state must be so substantial and of such a nature as to justify suit against it on causes of action arising from dealings entirely distinct from those activities.”  *International Shoe*, 326 U.S. at 318. A court must look at the facts of each case to determine whether a defendant's activities within a state are “continuous and systematic.”  *LSI Indus. Inc. v. Hubbell Lighting, Inc.*, 232 F.3d 1369, 1375 (Fed.Cir.2000).

2. Specific Jurisdiction

*18 A court has specific jurisdiction over a defendant in a cause of action that arises out of the defendant's activities in the forum state, and “can exist even if the defendant's contacts are not continuous and systematic.”  *Grober v. Mako Products, Inc.*, 686 F.3d 1335, 1346 (Fed.Cir.2012) (citation omitted). When exercising specific jurisdiction, a court must have jurisdiction over each party as to each claim alleged.   *Pan-Am. Products & Holdings, LLC v. R.T.G.*

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Furniture Corp., 825 F.Supp.2d 664, 678 (M.D.N.C.2011) (citations omitted).

In analyzing specific jurisdiction over a defendant, the Federal Circuit considers whether: “(1) the defendant purposefully directed its activities at residents of the forum state, (2) the claim arises out of or relates to the defendant's activities with the forum state, and (3) assertion of personal jurisdiction is reasonable and fair.”  *Grober*, 686 F.3d at 1346 (citing  *Elecs. For Imaging, Inc. v. Coyle*, 340 F.3d 1344, 1349 (Fed.Cir.2003)). Plaintiff has the burden of making a prima facie showing of specific jurisdiction by satisfying the first two elements; the burden then shifts to defendant to show that such assertion of personal jurisdiction is not reasonable and fair. *Id.*

3. Stream of Commerce

Where a defendant's contacts with the forum state are indirect and only the result of an intermediary distributorship arrangement, the Federal Circuit has explained that a “stream of commerce” theory is to be applied in lieu of the typical concepts of specific and general jurisdiction.  *Viam Corp. v. Iowa Exp.-Imp. Trading Co.*, 84 F.3d 424, 427 (Fed.Cir.1996); see also  *Beverly Hills Fan Co. v. Royal Sovereign Corp.*, 21 F.3d 1558, 1566 (Fed.Cir.1994). The law governing this theory has been concisely summarized by the Federal Circuit:

In  *World-Wide Volkswagen Corp. v. Woodson*, 444 U.S. 286, 298 (1980), the Supreme Court stated that a defendant could purposefully avail itself of a forum by “deliver[ing] its products into the stream of commerce with the expectation that they will be purchased by consumers in the forum [s]tate.”  In *Asahi Metal Industry Co. v. Superior Court of California*, 480 U.S. 102, 107 S.Ct. 1026, 94 L.Ed.2d 92 (1987), a plurality of four justices concluded that something more was required—“an action of the defendant purposefully directed toward the forum state.”  *Id.* at 112 (emphasis in original). The cited examples of purposeful direction included “marketing through a distributor ... in the forum [s]tate” and “providing regular advice to customers.” *Id.* Four other justices considered the showing of additional conduct unnecessary. *Id.* at 117.

 *Nuance Commc'ns, Inc. v. Abbyy Software House*, 626 F.3d 1222, 1233 (Fed.Cir.2010). Like the Supreme Court, the Federal Circuit has not yet decided whether “something more than the mere act of placing a product in the stream of commerce with the expectation that it would be purchased in the forum state” is required to establish jurisdiction.  *Id.* at 1234 (citing *Beverly Hills Fan*, 21 F.3d at 1566). See also  *Avocent Huntsville Corp. v. Aten Int'l Co.*, 552 F.3d 1324, 1332 (Fed.Cir.2008) (“We have also applied the stream of commerce theory, although we have not resolved the split in authority reflected in the competing plurality opinions in *Asahi*);  *AFTG-TG, LLC v. Nuvoton Tech. Corp.*, 689 F.3d 1358, 1365 (Fed.Cir.2012). However, under either version of the stream of commerce theory, where an alien Defendant: 1) places the accused product into the stream of commerce, 2) knows or should know the likely destination of the product, and 3) its conduct and connections with the forum state are such that it may reasonably foresee being haled into court within that forum, exercise of jurisdiction under the stream of commerce theory is appropriate.  *Beverly Hills Fan*, 21 F.3d at 1566. Thus, if the manufacturer purposefully ships the accused products into the forum state through an established distribution channel, with the expectation that those products will be sold in the forum, such action is sufficient to give rise to a proper assertion of jurisdiction.  *Nuance Commc'ns*, 626 F.3d at 1233–34.

4. Nationwide Jurisdiction

*19 If neither specific nor general jurisdiction applies, a court may exercise nationwide jurisdiction under Fed.R.Civ.P. 4(k)(2). See *id.* (providing that “For a claim that arises under federal law, serving a summons or filing a waiver of service establishes personal jurisdiction over a defendant if: (A) the defendant is not subject to jurisdiction in any state's courts of general jurisdiction”). Nationwide jurisdiction is appropriate where “the defendant contends that he cannot be sued in the forum state and refuses to identify any other where suit is possible.”  *Touchcom, Inc. v. Bereskin & Parr*, 574 F.3d 1403, 1415 (Fed.Cir.2009).

5. Reasonability of Jurisdiction

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Even where a defendant's contacts with the forum state are sufficient to satisfy personal jurisdiction, a defendant can still defeat jurisdiction "by marshaling a compelling case against jurisdiction on the grounds that its exercise would be unreasonable, [and] contrary to concepts of fair play and substantial justice."  *Viam Corp.*, 84 F.3d at 429. This "unreasonableness" test weighs the burden the litigation places on the defendant against the plaintiff's interest in a convenient forum and the forum's interest in resolving the controversy. *Id.*; see also  *Burger King Corp. v. Rudzewicz*, 471 U.S. 462, 477, 105 S.Ct. 2174, 85 L.Ed.2d 528 (1985). It is a difficult test for a defendant to pass: "these cases are limited to the rare situation in which the plaintiff's interest and the state's interest in adjudicating the dispute in the forum are so attenuated that they are clearly outweighed by the burden of subjecting the defendant to litigation within the forum."

 *Beverly Hills Fan*, 21 F.3d at 1568. The inquiry under this test includes a balancing of (1) the burden on the defendant; (2) the interests of the forum state; (3) the plaintiff's interest in obtaining relief; (4) the interstate judicial system's interest in obtaining the most efficient resolution of controversies; and (5) the interest of the states in furthering their social policies.

 *Viam Corp. v. Iowa Exp.-Imp. Trading Co.*, 84 F.3d 424, 429 (Fed.Cir.1996) (citing  *World Wide Volkswagen Corp. v. Woodson*, 444 U.S. 286, 100 S.Ct. 559, 62 L.Ed.2d 490 (1980)).

6. Supplemental Jurisdiction

 28 U.S.C. § 1367(a)) provides that "in any civil action of which the district courts have original jurisdiction, the district courts shall have supplemental jurisdiction over all other claims that are so related to claims in the action within such original jurisdiction that they form part of the same case or controversy under Article III of the United States Constitution." Such claims must arise out of "a common nucleus of operative fact."  *United Mine Workers of Am. v. Gibbs*, 383 U.S. 715, 725, 86 S.Ct. 1130, 16 L.Ed.2d 218 (1966); accord  *Silent Drive, Inc. v. Strong Indus., Inc.*, 326 F.3d 1194, 1206 (Fed.Cir.2003).

C. Personal Jurisdiction over LGC

1. State Law Claims (Counts III–VI)

i. Specific Jurisdiction

As noted above, assertion of specific jurisdiction is proper when the plaintiff's cause of action arises from a defendant's contacts with the forum state. The court finds that assertion of specific jurisdiction is appropriate for all of Plaintiff's claims arising under state law—unfair and deceptive trade practices, breach of contract, breach of the implied covenant of good faith and fair dealing, and alternatively, unjust enrichment—because LGC's contacts with North Carolina throughout the course of its business relationship with Plaintiff gave rise to those claims.

*20 The court first finds that LGC purposefully directed its activities at the forum state. Here, LGC conducted business with Plaintiff, a North Carolina resident, for seven years. In that time, LGC purchased \$95 million worth of separator material made in, and shipped from, North Carolina. (Document Nos. 56 ¶ 23; 242–15). The parties entered into a written MOU and extensively negotiated a written LTA for LGC's EV programs. (Document No. 18 ¶ 7, 13). Accepting Plaintiff's allegations as true, Plaintiff spent over \$300,000,000 to expand its manufacturing capacity in order to meet LGC's long-term supply requirements based on LGC's representations that it would make Plaintiff its exclusive supplier of separator material for EV batteries if Plaintiff increased production capacity. *Id.* ¶¶ 8–10, 20. Additionally, Plaintiff states that until the expanded capacity became operational, it stopped taking orders from certain CE customers to redirect resources to meet LGC's volume requirements. *Id.* ¶ 18; (Document No. 172 ¶¶ 8, 11).

Throughout the course of these business dealings, LG Chem representatives extensively communicated by e-mail with Plaintiff. See e.g., Documents No. 242–1–12. See also  *Electronics For Imaging, Inc. v. Coyle*, 340 F.3d 1344, 1351 (Fed.Cir.2003) (discussing Defendant's contacts with Plaintiff in the forum state by phone and noting "[Defendant's] communications are significant in the personal jurisdiction calculus even though [Defendant] was not physically present in [forum state] when he made these communications."). More significantly, LGC representatives had numerous in-person meetings in North Carolina, occurring "on about at least a quarterly basis." (Document Nos. 37 ¶ 4; 17 ¶ 11; 32 ¶ 9; 52 ¶ 8). Plaintiff has provided

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the following evidence that high-level LGC executives and other employees traveled to North Carolina for numerous meetings to inspect Celgard's facilities, negotiate agreements, and discuss Celgard's intellectual property rights:

- LGC officers and engineers visited and inspected Celgard facilities in Charlotte and Concord, North Carolina to certify that they met LGC specifications. (Document Nos. 18 ¶ 17; 242–18).
- In October and November 2010, LGC executives traveled to Charlotte to meet with Celgard. (Documents No. 242–7; 242–8).
- In July 2011, LGC personnel attended Celgard's Grand Opening event for the Concord, North Carolina facility. (Document No. 242–11).
- In September 2011, LGC personnel traveled to North Carolina to tour the Concord and Charlotte facilities and to discuss the expansion plan. (Documents No. 242–9; 242–10).
- In November 2012, an LGC executive traveled to Charlotte to discuss LGC's business forecast for 2013, Celgard's pricing proposals, and collaborating to develop new separator products. (Document Nos. 242–6; 56 ¶ 22).
- In February 2013, an LGC executive met in Charlotte to negotiate various options for parties' ongoing relationship, including an LTA. (Document Nos. 242–4; 242–2).
- *21 • In August 2013, representatives from LGC met with Celgard in Charlotte for a top management meeting. (Document Nos. 242–1; 242–39; 242–12; 242–29). Among other things, the parties discussed the LTA. (Document No. 242–33).
- In October 2013, LGC executive traveled to Charlotte to discuss the LTA and LGC's "use of Celgard's ceramic coating patents in LGC's current and future CE and EV batteries." (Document Nos. 242–35; 242–36; 242–20; 242–21).
- On December 9, 2013, LGC met with Celgard in North Carolina to discuss pricing and supply. (Document Nos. 37 ¶ 4; 52 ¶ 13).

The court finds that LGC's contacts with the forum state that occurred because of the parties' established commercial relationship were purposefully directed at North Carolina. *See*

 *Electronics For Imaging, Inc. v. Coyle*, 340 F.3d 1344, 1351 (Fed.Cir.2003) (finding purposeful availment where, *inter alia*, defendant repeatedly called plaintiff in forum state and sent representatives to form state for purpose of demonstrating patented technology);  *Burger King Corp. v. Rudzewicz*, 471 U.S. 462, 479, 105 S.Ct. 2174, 85 L.Ed.2d 528 (1985) (finding purposeful contacts even despite lack of physical ties to forum state where party "reached out" to negotiate with resident of forum state for long-term franchise agreement).

Second, the court finds that Plaintiff's state law claims arise out of LGC's contacts directed at the forum state. Plaintiff's deceptive trade practices claim is grounded in LGC's alleged misconduct regarding a product made in North Carolina, including alleged misrepresentations during meetings in North Carolina and significant capital expenses incurred in North Carolina in reliance on such alleged misrepresentations. (Document No. 217, ¶¶ 116–119). Similarly, Celgard's breach of contract, breach of implied covenant of good faith and fair dealing, and unjust enrichment claims are based on the MOU, which governed the North Carolina manufacture and supply of separator material. *Id.* ¶¶ 120–136.

Third, the court has considered whether asserting personal jurisdiction over LGC is reasonable and fair. Here, the court has considered (1) the burden on the defendant, (2) the interests of the forum state, (3) the plaintiff's interest in obtaining relief, (4) the interstate judicial system's interest in obtaining the most efficient resolution of controversies, and (5) the shared interest of the several states in furthering fundamental substantive social policies,  *Electronics For Imaging, Inc. v. Coyle*, 340 F.3d 1344, 1352 (Fed.Cir.2003), and finds that LGC is unable to demonstrate that it would be unreasonable for this court to exercise jurisdiction over it.

First, litigating in North Carolina will not unreasonably inconvenience LGC. Although LGC is based in South Korea, "progress in communications and transportation has made the defense of a lawsuit in foreign tribunal less burdensome."

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 *Synthes (U.S.A.) v. G.M. Dos Reis Jr. Ind. Com. De Equip. Medico*, 563 F.3d 1285, 1299 (Fed.Cir.2009). Indeed, LGC employees traveled to North Carolina numerous times between 2008 and 2013. Additionally, LGC is apparently willing to litigate this dispute in the Eastern District of Michigan, which is not substantially closer to Korea than North Carolina, which indicates that LGC is prepared to accept the burden of travel. (Document No. 231). Second, North Carolina has an interest in adjudicating claims arising out of North Carolina law and relating to wrongs against a North Carolina citizen, as well as claims relating to infringement of a citizen's patent. See  *Beverly Hills Fan*, 21 F.3d at 1568 (“Virginia has an interest in discouraging injuries that occur within the state that interest extends to design patent infringement actions such as the one here.”) (internal citation omitted). Third, Plaintiff has a significant interest in maintaining this action in North Carolina, as much of its evidence and witnesses knowledgeable about the patented invention are located here. As to the fourth and fifth factors, the court does not find that Defendant has offered any compelling reason why the interstate judicial system's interest in obtaining efficient resolution of controversies or the states' interest in furthering substantive social policies necessitates a finding that exercising jurisdiction over LGC is unreasonable or unfair. Accordingly, the court concludes that this case is not one of the “rare situation[s] in which the plaintiff's interest and the state's interest in adjudicating the dispute in the forum are so attenuated that they are clearly outweighed by the burden of subjecting the defendant to litigation within the forum.” *Id.* In light of the above analysis, the court finds that specific jurisdiction over LGC is appropriate for each of Plaintiff's state law claims.

2. Patent Claims (Counts I And II)

i. Supplemental Jurisdiction

*22 The court next considers whether it is appropriate to exercise supplemental jurisdiction over Plaintiff's patent infringement claims given its finding that it has specific jurisdiction over Plaintiff's state law claims. Plaintiff argues that a common nucleus of operative facts exists here because the facts giving rise to its state law claims are substantially the same as those giving rise to its patent infringement claims. Specifically, Plaintiff contends that Celgard and LGC's seven-year relationship and LGC's decision to terminate the

relationship with Celgard and source base film from an alternative source, while continuing to use or cause others to use Celgard's patented technology without permission, form a common nucleus of operative fact. Defendants argue that the facts related to the patent claims (the distribution, importation, and/or sale of the allegedly infringing product) are distinct from the facts related to the state law claims (LGC's activities in North Carolina related to its alleged obligations under the MOU), and that they are not sufficiently common to render supplemental jurisdiction appropriate. LGC points out that Plaintiff's state law claims concern the now-severed business relationship that centered on sale and purchase of Plaintiff's *uncoated polymeric base film*, whereas its patent infringement claims concern LGC's manufacture of *ceramic coated separator product*. LGC thus argues that the facts giving rise to the alleged injuries are wholly distinct and that supplemental jurisdiction is inappropriate.⁴

As LGC correctly notes, the base film made by Plaintiff, itself, is not the accused infringing product. However, as explained by one of LGC's own employees, base film is a component of the allegedly infringing ceramic-coated separators. Jina Lee, Manager in a Cell Procurement Team at LGC, stated in her affidavit that a separator is a component of a lithium-ion battery that is placed between the anode and the cathode to prevent electrical shorting (i.e. fire). See (Document No. 52, ¶ 4, Declaration of Jina Lee “Lee Decl.”). Additionally, Ms. Lee explained:

There are two types of separators: “wet-type” and “dry-type”. A separator consists of a “base film” and a coating on top of the base film. “Dry-type” separators are more susceptible to heat than “wet-type.” The base film by itself (i.e., without coating)—especially the base film for “dry-type” separators—cannot be used as a separator and cannot even be considered a finished component for use in a battery because of heat safety issues. LGC does not manufacture uncoated base films for “dry-type” separators. Instead, LGC purchases base films and then

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performs additional manufacturing, using its own coating technology, in order to arrive at the final, finished separator ... Celgard provided to LGC uncoated base films for “dry-type” separators.

Document No. 52, ¶ 5 (emphasis added). Accordingly, while the two products are distinct, they are very closely related. Indeed, by Defendants' own description, base film is an essential component of a separator.

*23 LGC also argues that the facts relevant to the state law claims are “[LGC's] termination of Celgard as a supplier of uncoated base film for lithium-ion batteries” and the facts related to the patent claims are “[LGC's] manufacture, distribution, importation, and sale of lithium-ion batteries with SRS-coated separators.” (Document No. 275–1, p. 2). While the court agrees, it also believes that LGC's termination of Celgard as a supplier of uncoated base film is factually intertwined with, if not the exact cause of, LGC's manufacture, distribution, importation, and sale of lithium-ion batteries with SRS-coated separators. As noted above, the

‘586 patent claims ceramic-coated separators and batteries or systems including such separators. (Document Nos. 17 ¶ 8; 16, p. 4). Here, Plaintiff initially provided base film to LGC for use in manufacturing lithium-ion batteries for CE devices. (Document Nos. 18 ¶ 4–5; 217 ¶ 67). In 2008, Plaintiff and LGC began discussions regarding Plaintiff becoming LGC's exclusive supplier of base film for lithium-ion batteries used in EVs. (Document No. 18 ¶ 6; 217 ¶ 68). Pursuant to LGC specifications, Plaintiff designed separator material to which LGC could apply a ceramic coating. (Document Nos. 17 ¶¶ 13, 15; 80 ¶ 3; 19). Plaintiff states that once ceramic coated, this separator embodied the ‘586 patent, but that because LGC's use of the patent was authorized by Plaintiff at that time, the separator did not constitute infringement.

See 35 U.S.C. § 271 (infringement requires use “without authority”); Pl. Resp. Def. Mot. Dismiss (Document No. 241, p. 2). Upon the beginnings of the breakdown of the LTA negotiations, Plaintiff discussed its patented technology with LGC, informing LGC that if it was going to cease purchasing its base film, it needed a license to ceramic-coat any non-Celgard separator. See (Document Nos. 242–

34; 24218; 242–19; 242–21; 242–32; 242–38). The parties also discussed these patent issues during at least one of LGC's visits to Plaintiff in North Carolina. (Document No. 242–30). Plaintiff claims that infringement is occurring because LGC is purchasing base film from third parties and applying a ceramic coating layer to such base film in order to create coated battery separators, which fall within the scope of the patent. (Document No. 217, ¶ 51). The infringement that Plaintiff claims thus arises from LGC's choice to stop using Plaintiff's base film in its separators and to source it from a third party without a license. (Document No. 17, ¶¶ 49–52; 278, p. 4).

In light of the fact that Plaintiff's claims of patent infringement arise from LGC's choice to stop using Celgard base film in its separators, which is very closely related to, if not essentially the same as, the conduct that gave rise to Plaintiff's state law claims, the court finds that a common nucleus of operative facts exists to warrant the exercise of supplemental jurisdiction. In sum, Plaintiff provided base film to Defendants for use in their separators. When the business relationship went sour, LGC sourced base film from a third party. Plaintiff alleges that the use of this third-party base film, in combination with LGC's application of ceramic coating, constitutes a battery separator that infringes upon the ‘586 patent. The nature of the parties' business dealings and LGC's decision to stop purchasing base film from Plaintiff after their significant history form a “common nucleus” that renders the patent claims part of the same “case or controversy” as the state law claims.

ii. Other Jurisdictional Theories

*24 The court has also considered whether it may exercise personal jurisdiction over LGC on independent grounds under the stream of commerce theory, particularly in light of the extensive briefing on the question and this court's recent decision in *Celgard, LLC v. SK Innovation, Co., Ltd.*, 3:13cv254–MOC–DSC, 2014 WL 5430993 (W.D.N.C. Aug.29, 2014), which found no personal jurisdiction over a foreign defendant under the stream of commerce theory. The question for the court is whether LGC has purposefully shipped its allegedly infringing products through an established distribution channel with the expectation that those products would be sold in the forum. *Nuance Commc'ns, Inc. v. Abbyy Software House*, 626 F.3d 1222,

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1234 (Fed.Cir.2010);  *Beverly Hills Fan Co. v. Royal Sovereign Corp.*, 21 F.3d 1558, 1566 (Fed.Cir.1994).

Here, Plaintiff has offered the following evidence in support of its argument that LGC meets this requirement:

- LGC supplies batteries containing separators for EVs sold at North Carolina dealerships, including the Cadillac ELR, Hyundai Sonata Hybrid, Kia Optima Hybrid, and Chevrolet Volt (for which LG Chem is the exclusive supplier). (Document Nos. 17 ¶¶ 16–17; 37 ¶ 5; 242–25; 242–26; 56 ¶¶ 14–18; 56–5; 80 ¶ 12; 80–2).
- Between 2011 and 2013, over 1,000 new Chevrolet Volts—each with an LGC battery—were registered in North Carolina; as were over 500 new Kia Optima Hybrids. (Document Nos. 57–4–57–6).
- In 2013, LGC supplied lithium-ion batteries for almost 26% of all plug-in EVs sold in the U.S., 56% of which contained ceramic-coated separators. (Document No. 17 ¶¶ 18–19, 23).
- LGC also sells batteries with separators for use in popular CE devices manufactured by Apple, Hewlett Packard, Nokia, Dell, and LG Electronics, among others. (Document Nos. 17–5, p. 3; 17–10, p. 5; 136, p. 6). These CE devices are widely sold and distributed in North Carolina, including by retailers like Best Buy, Target, and Walmart.⁵ (Document Nos. 56 ¶ 25; 136, p. 6).
- LGCAI markets and distributes LGC's products in the U.S. (Document No. 33 ¶ 2).

The court also notes that in defending its motion to stay the preliminary injunction against it in this case, LGC went to great lengths to describe the expanse of its participation in the U.S. economic markets:

Defendants sell in the order of \$ 0.76 million every day attributable to the accused batteries sold or imported into the United States.... Worldwide, that number jumps to \$6 million in daily sales. Defendants have yearly revenue of \$278 million attributable to

the accused batteries sold or imported into the United States (and \$2.4 billion worldwide).... Beyond that, Defendants do business *every day* with companies at the center of the U.S. economy.

(Document No. 136, p. 4) (emphasis in original). Defendants further described the alleged consequences of such injunction and its use of nationwide distribution channels to distribute infringing goods:

***25** In light of the broad scope of the Order, Defendants will be barred from making sales in the United States to downstream customers in consumer electronics (*e.g.*, Apple, Hewlett–Packard, and Dell) and the automotive industry (*e.g.*, General Motors and Ford Motor Company), and the impact of the Order will clearly be detrimental to these customers. Taken to its logical conclusion, not only will the Order take Defendants' batteries “off the shelves” but it also strips Best Buy and Wal–Mart (with respect to consumer electronics products) and car dealerships and distributors of their ability to provide products containing these batteries to consumers. Ultimately, the effect of this Order to a John Doe member of the public is not that he may have to buy a higher priced good, but that there will be no goods for him to buy.

Id. at 6 (footnote omitted).

The court has very carefully considered the evidence put forth by Plaintiff and agrees that LGC has knowingly and intentionally used nationwide distribution channels for its products, with the expectation that its products will be sold throughout the country, including in the state of North

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Carolina. However, the court finds that Plaintiff has not made the requisite showing that LGC ever placed *the allegedly infringing product* into the stream of commerce or that such product was offered for sale here. *See Nuance Commc'ns*, 626 F.3d at 1234;  *Beverly Hills Fan*, 21 F.3d at 1566 (both requiring that for exercise of jurisdiction under the stream of commerce theory to be proper, Defendants must have placed the “accused product” in the stream of commerce). *See also*  *Celgard, LLC v. SK Innovation Co.*, No. 3:13-CV-00254-MOC, 2014 WL 5430993, at *4 (W.D.N.C. Aug.29, 2014) (finding that stream of commerce theory did not succeed where “plaintiff has provided this court with no indication that [defendant] has ever made a sale or even an offer of sale in North Carolina and none of SKI's products have been found in this forum.”). Plaintiff's patent infringement claims are premised upon LGC using non-Celgard base film in its separators. Plaintiff admits that when LGC used Celgard base film in its separators, the manufacture of such separators did not constitute infringement because LGC's use of the patent was authorized by Plaintiff at that time. Pl. Resp. Def. Mot. Dismiss (Document No. 241, p. 2). It is difficult for this court to find that the allegedly infringing product has been placed in the stream of commerce when Plaintiff has failed to submit any evidence that LGC has placed a separator *with non-Celgard base film* in the stream of commerce, let alone shown that one was offered for sale in this state. As Defendants note,

By Celgard's own timeline, it takes four to six months to incorporate a base film into an LGC lithium-ion battery. (Paulus Decl. ¶ 8, Dkt. 80.) Celgard also maintains that LGC “consumed or otherwise used” Celgard base film at least until January 2014. (*Id.* at ¶ 7.) Celgard, however, does not estimate how long it takes for an LGC lithium-ion battery to be incorporated into an EV or CE downstream product, nor does Celgard estimate how long it takes before an assembled EV will ship out to a dealer in North Carolina or a CE downstream product will reach big box stores, like Wal-Mart or Best Buy.

*26 (Def. Reply, Document No. 247, n. 3). Plaintiff has simply offered no evidence that an LGC product with an allegedly infringing separator has been found in this forum. The court will not assume that the LGC separators found in this state within the EV and CE devices sold here are those accused of infringement, particularly when Plaintiff admits that until fairly recently, LGC separators shipped from South Korea to the U.S. were not infringing. Plaintiff's evidence that LGC sells products with separators in this state, alone, is not sufficient to support a finding of jurisdiction under a stream of commerce theory.

Because the court has found that LGC is subject to jurisdiction here through supplemental jurisdiction, it will not address Plaintiff's alternative argument that LGC is subject to nationwide jurisdiction under Rule 4(k)(2). Similarly, because the court believes that the exercise of jurisdiction over LGC under the theory of supplemental jurisdiction is appropriate, it will not undergo further analysis of whether LGC's contacts with North Carolina are so systematic and continuous as to render it subject to general personal jurisdiction here.

D. Personal Jurisdiction over LGCAI

The court next considers whether Plaintiff has established a prima facie case of personal jurisdiction over LGCAI. As noted above, LGCAI, a wholly-owned subsidiary of LGC, is a Delaware company headquartered in Englewood Cliffs, New Jersey. *See* Declaration of Juan (S.H.) Oh (“Juan Decl.”), (Document No. 33), ¶ 2; Def. Mem. Mot. Dismiss (Document No. 227), p. 4). LGCAI is responsible for marketing LGC petrochemicals, information and electronic materials, and batteries to customers in the United States. (Juan Decl, ¶ 2). LGCAI also acts as a product distributor for LGC's customers in the U.S. and is responsible for sales and program management to U.S. customers, but has no direct involvement with the manufacture of LGC products and does not share any officers with LGC. *Id.*

Relevant to LGCAI's contacts with the state of North Carolina, LGCAI has no offices, employees, telephone listing, post office box, mailing address, bank account, or advertising in North Carolina. *Id.* at ¶ 3. LGCAI does not own or rent any real property in North Carolina. *Id.* However, LGCAI is registered with the Secretary of State of North Carolina to do business here and has a registered agent

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for service of process here. *Id.* In the past, LGCAI stored inventory in one of its customer's consignment warehouses here, though it has not stored any inventory there since 2013. *Id.* LGCAI also paid taxes to the state of North Carolina in 2012 related to storing such inventory. (Document No. 217 at ¶ 43; Def.'s Mem. Sup. Mot. Dismiss (Document No. 227, p. 16)). Additionally, between 2009 and 2013, LGCAI had seven customers in North Carolina (unrelated to the products accused of infringement). (Juan Decl. at ¶ 4). LGCAI sold over \$14 million worth of products to these customers during that time, which Defendant states accounted for, on average, approximately 0.9% of LGCAI's total revenues in the United States during that period. *Id.* at ¶ 4. LGCAI admits that it "conducts business from time to time in North Carolina for the purpose of selling products for its petrochemical and toner businesses." *Id.*

*27 Plaintiff argues that LGCAI is subject to general jurisdiction because even though LGCAI is a non-resident and its contacts are unrelated to Plaintiff's causes of action for patent infringement, its contacts with North Carolina are "continuous and systematic." As noted above, sporadic, insubstantial contacts with the forum state are insufficient to establish general jurisdiction. While there is no precise test for determining general jurisdiction,  *LSI Indus. Inc. v. Hubbell Lighting, Inc.*, 232 F.3d 1369, 1375 (Fed.Cir.2000), courts have generally focused on two areas of inquiry. *Ashbury Int'l Grp., Inc. v. Cadex Defence, Inc.*, No. 3:11CV00079, 2012 WL 4325183, at *4 (W.D.Va. Sept.20, 2012). First, they look for physical presence in the forum state, such as corporate facilities, bank accounts, agents, registration, or incorporation. *Id.* (citing  *Perkins v. Benguet Consol. Mining Co.*, 342 U.S. 437, 72 S.Ct. 413, 96 L.Ed. 485 (1952)). Second, "courts have also considered whether the defendant has actively solicited business in the forum state and the extent to which the defendant has participated in the state's economic markets....In other words, courts have examined the "economic reality" of the defendant's activities in the forum state." *Id.* (internal citation omitted). See also  *Trierweiler v. Croxton & Trench Holding Corp.*, 90 F.3d 1523, 1533 (10th Cir.1996) (noting that courts consider "(1) whether the corporation solicits business in the state through a local office or agents; (2) whether the corporation sends agents into the state on a regular basis to solicit business; (3) the extent to which the corporation holds itself out as doing business in the

forum state through advertisements, listings or bank accounts; and (4) the volume of business conducted in the state by the corporation.") (cited with approval as a non-exhaustive set of appropriate factors in  *Delta Sys., Inc. v. Indak Mfg. Corp.*, 4 F. App'x 857 (Fed.Cir.2001) (unpublished)).

Here, LGCAI has physical presence in the state of North Carolina in the form of being registered to do business here, having a registered process agent here, using property in this state for storage, and paying state taxes at least once. Additionally, LGCAI has participated in the economic markets of this state through its sales to North Carolina customers. As noted above, Plaintiffs have submitted evidence that LGCAI sold over \$14 million worth of products to seven customers in the state between 2009 and 2013. (Juan Decl., ¶ 4; Lee Decl. (Document No. 242), ¶ 47-53). These sales accounted for, on average, approximately 0.9% of LGCAI's total revenues in the United States during that time (0.9 % in 2010, 1% in 2011%, 1% in 2012, and 0.8% in 2013). *Id.* Though the parties dispute the significance of these sales and revenue percentages, the court notes that "just as it would be inappropriate to permit an exercise of personal jurisdiction solely on the presence of sales into the forum ... it would likewise be inappropriate to entirely disregard a defendant's sales into the forum simply because they only generated a small percentage of the defendant's total revenue."  *ATI Indus. Automation, Inc. v. Applied Robotics, Inc.*, No. 1:09CV471, 2013 WL 1149174, at *4 (M.D.N.C. Mar.19, 2013) (internal citation and quotation omitted). Here, though LGCAI earned only a small percentage of its revenue from customers in North Carolina, the dollar figure is by no means insignificant. Additionally, LGCAI earned revenue from such sales for each of the four years before the complaint was filed in this action. The court therefore finds such sales an appropriate factor for consideration. See *id.* at *5 (finding that defendant's sales to North Carolina were appropriate for consideration where they constituted 1.2% of annual sales, and distinguishing  *Campbell Pet Co. v. Miale*, 542 F.3d 879, 884 (Fed.Cir.2008), wherein Federal Circuit affirmed district court's finding of no general jurisdiction over defendants who made only 12 sales to Washington residents in eight years, for a total of less than \$14,000 in gross revenue (approximately 2% of total sales), and in four of those years made no sales in Washington at all).

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*28 While this case presents a close call, the court finds that the evidence of LGCAI's physical presence in North Carolina, as well as its participation in the state's economic markets through its sales to companies here, is sufficient to support a prima facie case of general jurisdiction. See  *LSI Indus.Inc. v. Hubbell Lighting, Inc.*, 232 F.3d 1369, 1375 (Fed.Cir.2000) (finding that non-resident defendant had continuous and systematic contacts with forum state partially based on millions of dollars of sales in the state, despite lack of sale of the allegedly infringing product in forum state); *Ashbury Int'l Grp., Inc. v. Cadex Defence, Inc.*, No. 3:11CV00079, 2012 U.S. Dist. LEXIS 134878, at *6, 2012 WL 4325183 (W.D.Va. Sept. 20, 2012) (finding sales of millions of dollars of products to repeat customers sufficient for general jurisdiction, even absent traditional factors indicating physical presence in forum state).

The court also finds that the exercise of general jurisdiction over LGCAI at this point is reasonable and that LGCAI has failed to meet its burden of showing otherwise. First, litigating in North Carolina will not unreasonably inconvenience LGCAI. LGCAI has its principal place of business in New Jersey and its marketing and sales office for the accused lithium-ion batteries is in California. As noted above, "progress in communications and transportation has made the defense of a lawsuit in foreign tribunal less burdensome."

 *Synthes (U.S.A.) v. G.M. Dos Reis Jr. Ind. Com. De Equip. Medico*, 563 F.3d 1285, 1299 (Fed.Cir.2009). The court, having already found that LGC, a company headquartered in Korea, will not be unreasonably inconvenienced by litigating here, declines to find that a company headquartered in this country would be so inconvenienced. Additionally, LGCAI is apparently willing to litigate this dispute in the Eastern District of Michigan, which is not substantially closer to California or New Jersey than North Carolina, which indicates that LGCAI is prepared to accept the burden of travel. The court finds that the same analysis applies to LGCAI as to LGC for the remaining four factors for consideration. As noted above, North Carolina has an interest in adjudicating claims relating to infringement of a citizen's patent. Plaintiff has a significant interest in maintaining this action in North Carolina, as much of its evidence and witnesses knowledgeable about the patented invention are located here. Defendant has not offered any compelling reason why the interstate judicial system's interest in obtaining efficient resolution of controversies or

the states' interest in furthering substantive social policies necessitates a finding that exercising jurisdiction over LGCAI is unreasonable or unfair. As with LGC, the court finds that LGCAI has not met its burden of showing that being subject to personal jurisdiction here would be unreasonable. In light of the above analysis, the court finds that the exercise of general jurisdiction over LGCAI is appropriate for Plaintiff's patent law claims.

*29 Plaintiff also argues that LGCAI is subject to personal jurisdiction under the stream of commerce theory because it participates in the same distribution chain for LGC's batteries as LGC. The court finds such argument futile in light of the above finding that Plaintiff has failed to show LGC is subject to jurisdiction under such theory, let alone offered any argument as to how any action of LGC can be imputed to LGCAI.

V. CONCLUSION

For the reasons stated herein, the court finds that this maintenance of this action is appropriate in this district at this time.

ORDER

IT IS, THEREFORE, ORDERED that:

- 1) Defendants' "Objections to Magistrate Judge's Order Granting Defendants' Alternative Motion to Transfer Venue" (Document No. 266) are **SUSTAINED in part and OVERRULED in part**, as described herein;
- 2) The Order of the Magistrate Judge transferring venue (Document No. 262) is **REVERSED** and Defendants' Alternative Motion to Transfer Venue to the Eastern District of Michigan (Document No. 230) is **DENIED**;
- 3) Defendants' Motion to Dismiss Counts III–VI of Plaintiff's First Amended Complaint for Failure to State a Claim (Document No. 222) is **DENIED**; and
- 4) Defendants' Motion to Dismiss Plaintiff's First Amended Complaint for Lack of Personal Jurisdiction (Document No. 226) is **DENIED**.

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Footnotes

- 1 The MOU refers to LGC's purchase of "separators" from Celgard, but affidavits filed by both parties makes clear that the "separators" referred to in the MOU are equivalent to "base film," as the term is used in this Order. See *generally* Pulwer Decl.; Declaration of Jina Lee (Document No. 52).
- 2 More specifically, LG Chem states that it is subject to specific jurisdiction in the Eastern District of Michigan because it sells the accused lithium-ion batteries to electric vehicle manufacturers residing in the district, including General Motors, Ford Motor Company, and Chrysler. (Def. Mem. Sup. Mot. Transfer (Document No. 231, p. 5); ("Declaration of Jun Hong Min ..." ("Min Decl.") ¶ 3, Dkt. 73.) Additionally, all three of LG Chem's U.S. subsidiaries, including LGCAI, have outposts and/or offices in Michigan. (Min Decl. ¶ 2, Dkt. 73).
- 3 The court has considered whether the law of the Federal Circuit applies to both the state law claims and the claims for patent infringement in this case and notes that both parties have argued their positions on personal jurisdiction solely under the law of the Federal Circuit. See Def. Mem. Mot. Dismiss (Doc. No. 227, p. 5, n. 24); Pl. Mem. Opp. (Document No. 241, p. 14–15). The court finds that application of Federal Circuit law is appropriate here as to all of Plaintiff's claims. In [3D Systems, Inc. v. Aarotech Lab., Inc.](#), 160 F.3d 1373, 1377–78, 48 USPQ2d 1773, 1776 (Fed.Cir.1998), the Federal Circuit held that the law of that circuit, as opposed to the regional circuit, applied in determining that the district court had personal jurisdiction over an out-of-state corporation defending claims for patent infringement and state law claims of trade libel and unfair competition where the exercise of supplemental jurisdiction was proper. See [id. at 1377–78](#) ("Because of supplemental jurisdiction under [28 U.S.C. § 1367](#) ... the propriety of jurisdiction in light of federal due process for both the state law claims and the federal patent law claims is to be analyzed using Federal Circuit law."). The Federal Circuit found that because the patentee's trade libel and unfair competition claims went "hand-in-hand with its patent infringement claims," and because the claims arose out of the same facts, application of Federal Circuit law was appropriate in resolving the personal jurisdiction issue, even though state law claims were involved. *Id.* at 1377.
- 4 The court has also carefully considered Plaintiff's statements at the hearing in response to questioning by the court as to why its patent law and state law claims are related. See Hearing Transcript (Document No. 274) at 25:1026:25; 13:1–25. To the extent Defendants construe Plaintiff's statements as allegations of theft of intellectual property in their supplemental brief (# 275–1), the court is not persuaded that Plaintiff was attempting to assert a new claim against Defendants at the hearing. See *id.* at 26:23–5 ("They completely said, Sorry, you know, Go pound sand. We're going to go run off with your technology and work with someone else."); *id.* at 13:19–23 ("[LG Chem] went and learned about our technology and then they went and took it to someone else and are now infringing our patents with technology that we provided to them and that we taught them."). The court finds that Plaintiff's arguments about the relationship between its patent claims and state law claims at the hearing are consistent with the allegations and arguments it made in its Amended Complaint (Document No. 217) and its Response in Opposition to Defendants' Motion to Dismiss (Document No. 241).
- 5 Simple internet searches indicate that in the Charlotte, North Carolina area alone, Best Buy has at least nine retail stores, see [http:// www.bestbuy.c om/site/olspage.jsp?id+cat12092 & type+page & _ requestid +100835](http://www.bestbuy.com/site/olspage.jsp?id+cat12092&type+page&_requestid+100835), Wal-Mart has at least nine retail stores, see [http:// www.walmart .com/storefinder?location](http://www.walmart.com/storefinder?location)

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+charlotte, north carolina & distance+10, and Target has four retail stores, see [http://www . target.com/store-locator/search-results?address= charlotte#+ north+carolina & fromPage=findStore](http://www.target.com/store-locator/search-results?address=charlotte#+north+carolina&fromPage=findStore). Apple has two retail stores in Charlotte and five retail stores in the state of North Carolina, see <https://www.apple.com/retail/storelist/>.

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