IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF GEORGIA

Kevin Brnich Electric LLC, Performance Electric, Inc., Artistic Electric Inc., Bolt Electric LLC, and Charles Vodicka, *individually and on behalf of all others similarly situated*, Plaintiffs, v. Siemens Industry, Inc. Defendant.	**Case No.** **COMPLAINT** **JURY TRIAL DEMANDED**

Plaintiffs Kevin Brnich Electric LLC, Performance Electric, Inc., Artistic Electric Inc., Bolt Electric LLC, and Charles Vodicka (collectively, "Plaintiffs"), by their undersigned counsel, file this Class Action Complaint on behalf of themselves and a class of all similarly situated electrician businesses and individual consumers against Siemens Industry, Inc. ("Siemens" or "Defendant"). Plaintiffs base the following allegations upon personal information and belief, and the investigation of counsel:

INTRODUCTION

1. Arc Fault Circuit Interrupters ("AFCI") are a type of circuit breaker with electronic components designed to protect homes and businesses from an electrical arc fault—a potential dangerous electrical condition where the electrical current travels through an unintended medium, usually the air, instead of through the circuit as intended. Unintended and dangerous electrical arcs pose a serious risk of an electrical fire and of injury.

2. AFCI breakers are complex devices. Manufacturers must design and use sophisticated circuitry to identify dangerous electrical arcing and trip the breaker in response. Using advanced circuitry, AFCI breakers monitor aspects of the circuit and current in that circuit to identify potential signatures of electrical arcs. When the AFCI breaker identifies a dangerous electrical arc, the breaker trips to stop the current and prevent the electrical arc from causing a fire or other harm.

3. AFCI manufactures, however, have an additional hurdle—harmless electrical arcing frequently occurs in homes. For instance, many common household appliances create arcing signatures either during their normal operation or when the appliance is turned on or stopped. Despite the presence of electrical arcing signatures, those arcs are harmless and do not pose a threat of a fire or other injury. As such, AFCI breakers should not trip in their presence.

4. Properly designed and functioning AFCI breakers, therefore, must be capable of distinguishing harmless, expected arcs in a circuit, when the breaker should not trip, from dangerous arcs in the circuit, when the breaker should trip. AFCI breakers that fail to distinguish between dangerous and harmless arcs and trip in the presence of both, exhibit "nuisances tripping", or frequent and unnecessary tripping that renders the AFCI breaker unusable. AFCIs experiencing nuisance tripping must be replaced because the nuisance tripping renders the circuit unusable and prevents users or electricians from determining whether a breaker tripped due to a defect in the breaker or because of a dangerous arc.

5. Siemens is one of several companies that has designed and manufactured AFCI breakers. It offers standalone AFCI breakers and combo breakers that perform multiple functions. Siemens' AFCIs, however, fail to adequately distinguish between harmless and dangerous electrical arcs. As a result, Siemens' defective AFCI breakers suffer from nuisance tripping, where the breakers frequently and unnecessarily trip even where no dangerous electrical arc is present and there is no risk of electrical harm. Specifically, Siemens has failed to update its AFCIs to identify and ignore harmless arcing signatures caused by common appliances, especially as new appliances have been developed and electrical codes have expanded the locations where homeowners are required to use AFCIs. Rather,

Siemens AFCIs trip in the presence of common appliances, even though they do not pose a risk due to electrical arcing, leading to excessive and frequent nuisance tripping.

6. Siemens recognizes that nuisance tripping imposes significant costs on homeowners and electricians. In advertising its electrical services, Siemens recognizes that "[t]he costs of downtime are great, in terms of both lost productivity and equipment replacement, as are the costs of operating inefficient or unsafe systems."

7. Consumers of Siemens' AFCI breakers and electricians have suffered those types of damages. Siemens' defective AFCI breakers are effectively unusable and need to be replaced because their frequent nuisance tripping prevents circuits controlled by the breaker from operating at all, meaning appliances and outlets within the circuit are frequently receiving no current. Consumers and electricians have purchased defective Siemens' AFCI breakers that needed to be replaced, losing the purchase value of the breakers.

8. Additionally, electricians who purchased and used defective Siemens' AFCI breakers—often, electricians must use Siemens' breakers when their customer uses a Siemens electrical panel to house their home's circuit breakers—lost the value of the breaker, had to purchase additional Siemens or another manufacturer's AFCI

breakers, and spent uncompensated time investigating the cause of nuisance tripping only to find the cause was the defective Siemens' AFCI breaker.

9. Plaintiffs have similarly suffered damages. Kevin Brnich Electric, LLC ("KB Electric"), Performance Electric, Inc. ("Performance Electric"), Artistic Electric Inc. ("Artistic Electric"), and Bolt Electric LLC ("Bolt Electric") are electrical companies that provide electrical related services to their customers. As part of their services, they install AFCI breakers in their customers' homes and businesses. KB Electric, Performance Electric, Artistic Electric and Bolt Electric have suffered substantial harm from Siemens' defective AFCI breakers. Specifically, these entities have installed Siemens' AFCI breakers that experienced nuisance tripping and needed to be replaced. Moreover, each entity has expended uncompensated time and effort seeking to identify the cause of the nuisance tripping, finding later that the issue was Siemens' defective AFCI itself. Had Siemens disclosed that its AFCIs suffered from frequent and unnecessary nuisance tripping, these Plaintiffs would not have purchased Siemens' AFCIs or installed them in their customers' homes or would not have had to exhaust time and effort searching for the cause of the nuisance tripping occurring due to Siemens' defective AFCIs.

10. Plaintiff Vodicka is a consumer who paid electricians to install a Siemens' panel box and AFCI breakers in his home. His Siemens' AFCIs suffered frequent and unexplained nuisance tripping, causing Plaintiff to lose money paying companies to investigate and determine the cause of the nuisance tripping and replace the malfunctioning AFCIs. However, there was no evidence of any dangerous arcing at his home. Rather, the nuisance tripping was caused by Siemens' defective AFCIs. Indeed, the solution for resolving the nuisance tripping was to replace Siemens' AFCIs with a competitors' AFCIs, whereupon the nuisance tripping stopped. Had Siemens disclosed that its AFCIs experience frequent and unnecessary nuisance tripping, Vodicka would not have used a Siemens' panel box or breakers in his home and would not have suffered damages associated with attempting to identify and resolve the nuisance tripping.

11. Due to the damages each Plaintiff suffered due to Siemens' defective AFCIs and Siemens' misrepresentations and omissions with respect to those AFCIs, Plaintiffs brings this action against Siemens on behalf of a proposed Consumer Class and Electrician Subclass, and in the alternative, subclasses of consumers in Pennsylvania, Washington, Maine, and North Carolina.

JURISDICTION AND VENUE

12. This Court has subject matter jurisdiction over this case pursuant to 28 U.S.C. § 1332(d), the Class Action Fairness Act, which affords federal courts with original jurisdiction over cases where any member of the plaintiff class is a citizen of a state different from any defendant, and where the amount in controversy exceeds $5,000,000, exclusive of interest and costs. Here, each Plaintiff is diverse from Defendants because Plaintiffs reside in Pennsylvania, Maine, North Carolina and Washington and Siemens Industry, Inc. resides in Alpharetta, Georgia, where it is headquartered and Delaware, where it is incorporated. Plaintiffs allege that, in the aggregate, the claims of all Class members exceed $5,000,000, exclusive of interest and costs.

13. This Court has personal jurisdiction over Siemens Industry Inc. because Siemens operates its principal place of business in this District and, additionally, because a substantial part of the events and conduct giving rise to the Plaintiffs' claims occurred in this State, specifically, Siemens' development, manufacturing, advertising, and sale of its AFCI breakers.

14. Venue is proper in this District because Siemens Industry Inc. is located and operates its principal place of business here, because Siemens conducts substantial business in this District and has intestinally availed itself of the laws and

markets of this District, and because a substantial part of the events and conduct giving rise to the Plaintiffs' claims occurred in this District.

PARTIES

15. **Plaintiff** Kevin Brnich Electric, LLC is a limited liability company owned by Kevin Brnich and located in Pennsylvania. It provides electrical services to its customers. As part of its services, it installs AFCIs and performs troubleshooting for AFCIs experiencing nuisance tripping. It has installed Siemens' AFCIs that experienced unexplained nuisance tripping that required time and money to investigate and needed to be replaced. Consequently, it suffered damages due to Siemens' defective AFCIs and Siemens' misrepresentations and omissions concerning its AFCIs and their ability to perform the essential functions of an AFCI breaker.

16. **Plaintiff** Bolt Electric LLC is a limited liability company owned by Jeff Meade and located in Maine. It provides electrical services to its customers. As part of its services, it installs AFCIs and performs troubleshooting for AFCIs experiencing nuisance tripping. It has installed Siemens' AFCIs that experienced unexplained nuisance tripping that required time and money to investigate and needed to be replaced. Consequently, it suffered damages due to Siemens' defective

AFCIs and Siemens' misrepresentations and omissions concerning its AFCIs and their ability to perform the essential functions of an AFCI breaker.

17. **Plaintiff** Performance Electric, Inc. is a company located in Washington state that provides electrical services to its customers. As part of its services, it installs AFCIs and performs troubleshooting for AFCIs experiencing nuisance tripping. It has installed Siemens' AFCIs that experienced unexplained nuisance tripping that required time and money to investigate and needed to be replaced. Consequently, it suffered damages due to Siemens' defective AFCIs and Siemens' misrepresentations and omissions concerning its AFCIs and their ability to perform the essential functions of an AFCI breaker.

18. **Plaintiff** Artistic Electric is a corporation located in Pennsylvania that provides electrical services to its customers. As part of its services, it installs AFCIs and performs troubleshooting for AFCIs experiencing nuisance tripping. It has installed Siemens' AFCIs that experienced unexplained nuisance tripping that required time and money to investigate and needed to be replaced. Consequently, it suffered damages due to Siemens' defective AFCIs and Siemens' misrepresentations and omissions concerning its AFCIs and their ability to perform the essential functions of an AFCI breaker.

19. **Plaintiff** Charles Vodicka is a consumer residing in North Carolina who paid to have a Siemens panel box and breakers, including Siemens' AFCIs, installed in his home. The Siemens' AFCIs in his home suffered from nuisance tripping, causing Vodicka to pay professionals to investigate and attempt to resolve the nuisance tripping, which were ultimately determined to be caused by Siemens' defective AFCI breakers. Consequently, Mr. Vodicka suffered damages due to Siemens' defective AFCIs and Siemens' misrepresentations and omissions concerning its AFCIs and their ability to perform the essential functions of an AFCI breaker.

20. **Defendant** Siemens Industry Inc. is listed as being headquartered at 100 Technology Dr., Alpharetta, GA, 30005 and manufactures, sells, and provides a warranty for Siemens AFCI breakers to United States customers.

FACTUAL BACKGROUND

21. Siemens Industry, Inc. is a subsidiary of Siemens AG, a multinational conglomerate company that operates in 190 countries, and maintains approximately 285 production and manufacturing facilities globally, including the United States. Its USA operations include manufacturing plants and subsidiaries located throughout the country. Siemens AG purports to have invested approximately $40

billion in the U.S., including more than $1 billion a year in research and development and over $50 million annual to train its existing workforce in the U.S.[1]

22. Each year, Siemens AG earns in tens of billions of dollars of worldwide revenue. Over the past decade, Siemens AG has averaged nearly $90 billion annually in gross revenue. It nets tens of billions of dollars in revenue from sales in the U.S. alone, which it describes as its largest market. In fiscal year 2019, for instance, Siemens AG reported $26.5 billion in U.S. revenue.[2]

23. In both the U.S. and abroad, Siemens and Siemens AG provide a massive range of products and services, including in industries like infrastructure and buildings, automation, energy, lighting, electrical, medical, and transportation and logistics. Siemens and Siemens AG provide these products and services for residential homes and businesses alike.

24. For homeowners, Siemens may be best known for their residential and household electrical products. Siemens designs and manufactures electrical panel boxes (load centers) and circuit breakers for residential use. Electrical panel boxes (load centers) and circuit breakers in homes help distribute power throughout the

[1] *Siemens in the USA. For the USA.*, Siemens.com (last visited Nov. 20, 2020), https://new.siemens.com/us/en/company/siemens-in-the-usa.html.

[2] *About Us*, Siemens.com (last visited Nov. 20, 2020), https://new.siemens.com/us/en/company/about.html

house and provide safety measures that protect against electrical fires and injuries caused by electrical surges, electrical arcs, ground faults, short circuits, and other unintended electrical issues.

A. Residential Arc Fault Circuit Interrupters

25. Circuit breakers are an essential device in modern homes and provide important safety controls that protect against electrically caused injuries and fires. Circuit breakers are placed in an electrical panel box (load centers) and redirect electricity through individual closed circuits to different rooms and appliances throughout the home.

26. Standard circuit breakers have been used for decades, previously being equipped with a fuse that "blows" in the presence of too much current. When the current exceeds a threshold level, the wires in the fuse would overheat and melt, breaking the circuit.

27. Modern circuit breakers perform the same function—they "trip" to break the circuit and cut off electricity when the current exceeds safe levels. Unlike traditional breakers, however, modern standard breakers are multi-use. Rather than relying on melted fuses to break the circuit, modern breakers use a contact controlled by thermomagnetic parts that activate when dangerous levels of current occur, tripping the circuit breaker. When a standard circuit breaker trips due to excess

current, the circuit can be reengaged by switching the circuit breaker back to the "on" position after the cause of the excessive current is removed.

28. In addition to circuit breakers that protect against electrical excessive current (overcurrent), advanced modern breakers protect against two additional electrical dangers: ground faults and electrical arcing.

29. Ground faults occur when the return flow of electricity is through the ground, rather than through the intended circuit. Ground faults are sometimes described as electrical leakage because the electricity is "leaking" out of the circuit to the ground.

30. Modern Ground Fault Circuit Interrupters ("GFCI") identify and trip in the presence of a ground fault. GFCIs are designed either as a circuit breaker to be installed in an electrical panel box (load centers) or as an outlet installed directly in a wall (usually, GFCI outlets will have buttons stating "test" and "reset"). GFCIs work by comparing outgoing and incoming current. If the currents do not match (4-6mA), some of the current is "leaking" out of the circuit, indicating there is a ground fault and causing the GFCI breaker or outlet to trip to break the circuit.

31. The National Electric Code ("NEC") —a set of residential, housing and other occupancies electrical standards adopted in many cities and states—first required the use of GFCIs in the 1970s.

32. Arc Fault Circuit Interrupters ("AFCI") are the newest residential breaker type and are designed to trip in the presence of unintended and dangerous electrical arc faults. Like properly functioning GFCI breakers, AFCI breakers are designed to identify and distinguish between harmless and dangerous electrical arcs so that the circuit breaker trips only upon identifying a dangerous electrical arc.

33. An arc fault is a prolonged electrical circuit created when current flows through an unintended medium, usually directly through the air or loose connections, instead of through the wires in a circuit.

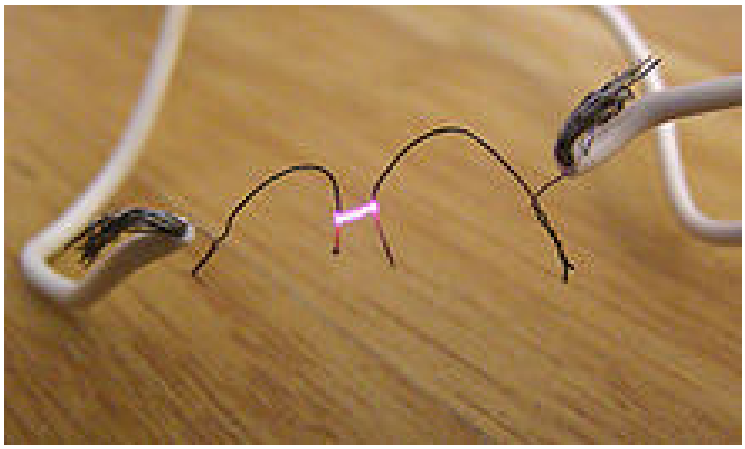

Image 1. An example of electrical arcing. The current is flowing through the air between two nodes, completing a circuit. The arc typically emits light and heat.

34. Unintentional, dangerous electrical arcing in a home may be caused by various issues, including loose electrical connections, frayed or broken wires, or the operation of old or broken household appliances. Unintended electrical arcs can

occur in almost any part of a circuit, including wire splices, circuit breaker connections, wall switches, receptacles, or within appliances.

35. While some harmless electrical arcing is common in homes and appliance (like when an appliance starts up) and poses no danger, unintended electrical arcing can create high intensity heating at the point of the arc and sometimes result in a flash of light, called an arc flash. Unintended and uncontrolled electrical arcs can reach temperatures of 10,000 degrees Fahrenheit, enough to create sparks and ignite wood, fabric, and debris. For that reason, prolonged dangerous and unintended electrical arcs pose a significant fire risk in homes. Indeed, approximately half of the 48,000 annual residential fires in the U.S. are attributed to arc faults.

36. AFCIs are designed to identify and protect against dangerous electrical arcs. To do so, each manufacturer has developed its own, unique advanced electronic circuitry that measures fluctuations in the frequency, variations, and amplitude of a current's waveform. The advanced circuitry used in AFCIs is intended to detect prolonged, dangerous arcs by identifying non-periodic or sporadic current waveforms. When the AFCI detects a waveform indicative of a dangerous arc, the AFCI breaker trips to prevent the possibility of a fire.

37. The NEC first recommended the installation of AFCIs in 1999 for use in dwelling unit bedroom circuits.

38. At the time, the NEC described AFCIs as "new devices" and as "circuit breakers with electronic circuitry capable of recognizing the chaotic waveforms characteristic of electrical arcing. The devices are calibrated internally to trip, based on the likely ignition energy being released in the arc." The NEC described the "fault current levels" at which AFCIs should trip as those capable of "produc[ing] secondary ignition of adjacent combustible materials[.]" The NEC adopted the standards set forth by the Underwriters Laboratories, an organization that provides standards for electrical products.

39. By 2017, the NEC required that AFCIs be installed in all new residential construction and in practically every room of a home, including: areas when receptacle boxes (load centers) are replaced, and in all 120 volt, single phase, 15 and 20 ampere branch circuits supplying lighting and power outlets or devices installed in essentially all dwelling unit rooms like kitchens, family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways, laundry areas, or similar rooms or areas. As a result of these rules, AFCIs have become a commonly required and frequently used breaker in modern homes.

40. AFCI breaker manufacturers face unique challenges associated with AFCIs: not all arcing signatures and waveform fluctuations indicate a dangerous arc. Waveform fluctuations occur all the time when appliances are used and currents flow, and not all indicators of an arc represent a potentially dangerous or fire-causing electrical arc.

41. Devices with electric motors like vacuums, treadmills and power tools produce normal electrical arcs during normal operation that pose no danger of a fire. Arcing also frequently occurs when power outlets or appliances initially pull electricity from the outlet upon being turned on. As new appliances have been developed and other common appliances improved and advanced over time, the types of harmless arcs and arcing signatures that appliances create have also changed.

42. The National Electric Manufacturers Association ("NEMA") is an American National Standards Institute- accredited Standards Development Organization made up of business leaders, electrical experts, engineers, scientists, and technicians. NEMA has indicated that many home electrical products (which it calls "HEPs") may generate waveforms that appear to be electrical arcs: "When many electrical products are initially energized, it is common for them to draw a high amount of current for a few cycles as the product reaches its normal operating

performance level. This start-up or inrush current is typically several times the operating current of the product. If the maximum current during start-up (or for any short period of time during the operation of the HEP is kept below 100 amperes RMS, unwanted tripping of AFCIs, and standard breakers, should not occur."[3]

43. As the NEC has expanded the areas in a household where AFCIs are required—from, initially, only bedrooms to now including kitchens, family rooms, dining rooms and more—the number and variety of appliances on outlets containing AFCIs have expanded. Thus, the potential for normal, electrical arcing or arcing signatures to occur on circuits with AFCIs has also increased.

44. Those temporary, harmless arcs or arcing signatures that appear in a circuit, however, do not pose a risk of a fire. AFCI breakers, therefore, must be capable of identifying those harmless arcs and distinguishing them from dangerous, unintended, and prolonged arcs that may pose a risk of a fire. Properly functioning AFCIs should only trip in the presence of dangerous arcs. Thus, AFCI manufacturers have had to update their AFCI breakers to recognize harmless arcs and harmless arcing signatures associated with a broader variety of electrical devices used in different rooms in the house. Additionally, as the number and type of

[3] *Recommendations on AFCI Home Electrical Product Compatibility*, NEMA, at 5 (2011), https://structuretech1.com/wp-content/uploads/2016/02/AFCI-Tripping-NEMA-Compatibility.pdf.

appliances used on AFCI-containing circuits has increased and advanced, AFCI manufacturers have had to ensure their AFCI devices remain capable of distinguishing harmless arcs and arcing signatures from dangerous arcs.

45. AFCI breakers that cannot adequately distinguish between harmless and dangerous arcs and, therefore, trip even in the presence of harmless arcs are said to be experiencing "nuisance tripping."

46. Nuisance tripping has long been recognized as an issue for AFCI breakers. When AFCIs were introduced in the NEC, AFCI breaker manufacturers acknowledged "[o]ne of the most difficult aspects of the new technology is coming up with a device that knows the difference between an arc from normal operations, such as unplugging a cord or opening a switch, and a destructive arc. In short, the devices cannot nuisance trip."[4]

47. Indeed, "[w]hen AFCIs were first introduced there were some initial tripping issues" but experts in the field claimed that most "AFCI manufacturers have . . . continued to improve AFCIs" and "virtually eliminat[ed] past [tripping] issues."[5]

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[4] Frederic P. Hartwell, *Illustrated Changes in the 1999 NEC – Part 1 of 4*, EC&M (Sep. 1, 1998), https://www.ecmweb.com/content/article/20893354/illustrated-changes-in-the-1999-nec-part-1-of-4.

[5] *Fast Facts*, afcisafety.org (last visited Nov. 23, 2020), https://www.afcisafety.org/afci-nec-considerations/fast-facts/#1477663207955-7e3d73a0-2845

48. Siemens, however, was not one of those manufacturers who capably resolved nuisance tripping in its AFCIs. Rather than "virtually eliminating" their nuisance tripping issues, Siemens' AFCI breakers continue to excessively nuisance trip, costing electricians and consumers time and money to address those issues and rendering the AFCI breaker ineffective and unusable.

B. Siemens Omitted and Concealed its AFCI Breakers' High Nuisance Trip Rate

49. Siemens sells a variety of circuit breakers for residential homes, including several types of standard breakers, GFCIs, AFCIs, CAFCIs (a type of AFCI that identifies different types of arcs) and combination breakers designed to be installed in Siemens electrical panels. Siemens' breakers are available for purchase from Siemens' Sales and Distributor locations,[6] including general hardware stores, like Home Depot, Lowes, and Ace Hardware, and are available through online sellers and wholesalers, like Amazon.

50. Additionally, Siemens purports to "offer a complete portfolio of electrical services, including preventive maintenance, emergency services, technical support, equipment reconditioning, retrofits and upgrades: that "[l]imit risk of

[6] *See Sales & Distributor Locator*, Siemens.com (last visited Nov. 23, 2020), https://new.siemens.com/us/en/company/distributorlocator.html

downtime", "[i]ncrease safety", "[e]xtend equipment lifecycle", "[r]educe operating costs", and "[m]eet regulatory compliance[.]"[7]

51. Siemens acknowledges that "Arc Flash Mitigation Solutions" must be capable of "ensur[ing] the reliability, uptime, performance, safety, and lifecycle management of your electrical systems infrastructure[,]" including "[a]void[ing] system downtime."[8] Siemens advises that "[p]oorly maintained electrical systems can result in costly downtime" but claims "Siemens can address potential problems before they shut you down with reliable electrical service."[9]

52. Siemens also recognizes the costs imposed by improperly functioning arc flash protection devices like AFCIs. On its website, Siemens notes that "[t]he costs of downtime are great, in terms of both lost productivity and equipment replacement, as are the costs of operating inefficient or unsafe systems"[10] caused by improper arc fault management.

53. Siemens residential arc fault products include its AFCI Circuit Breakers, Combination AFCI ("CAFCI") breakers, and its AFCI/GFCI dual

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[7] *Electrical Services*, Siemens.com (last visited Nov. 23, 2020), https://new.siemens.com/us/en/products/buildingtechnologies/services/electrical.html

[8] *Id.*

[9] *Id.*

[10] *Id.*

functioning breakers for both 1 and 2 poles. Siemens states that its AFCI breakers "mitigate the effects of arcing faults by functioning to de-energize the circuit when an arc-fault it detected."[11]

54. Siemens advertises its "1-pole Combination Type AFCI Breakers" and recommends they "be installed in dwelling unit kitchens, family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways, laundry areas, or similar rooms or areas." It claims these breakers can "provide a valuable analysis tool to help electricians pinpoint [arc fault] . . . trip[s]."[12]

55. Siemens describes its "2-pole Combination Type AFCI Breakers" as an "[i]ndustry exclusive multi-wiring/shared neutral solution."[13]

56. According to Siemens, both its 1-pole and 2-pole AFCI breaker types indicate whether a trip was due to an arc fault or to an electrical surge. Siemens claims its AFCI breakers "[p]rovide electricians valuable time savings in installation."[14]

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[11] *Residential AFCI Circuit Breakers*, Siemens.com (last visited, Nov. 23, 2020), https://new.siemens.com/us/en/products/energy/low-voltage/residential-circuit-breakers/residential-afci-circuit-breakers.html
[12] *Id.*
[13] *Id.*
[14] *Id.*

57. Rather than saving electricians and customers time, however, Siemens' AFCI breakers are defective and frequently and unnecessarily trip in the presence of common and harmless arcs. The algorithms Siemens' breakers use to identify dangerous arcs fail to distinguish between dangerous arcs and harmless arcs (for example, from commonly used appliances), which causes the breakers to trip where no, or otherwise harmless, electrical arcing is occurring. Siemens has been unable, or unwilling, to update its AFCIs to recognize harmless arcing signatures created by the normal use and operation of everyday appliances. Thus, when used on a circuit that may power common appliances, the Siemens' AFCI breaker repeatedly nuisance trips.

58. Unlike standard breakers or GFCIs, AFCI breakers vary significantly between manufacturers. For both standard breakers and GFCIs, the mechanism causing the trip is straightforward and universal. All standard breakers rely on the same mechanism to guard against the same harm: an increase in voltage to an unsafe level energizes magnets within the breaker that pull the circuit shut. GFCIs also rely on similar mechanical devices to guard against ground faults: a sensor that identifies and causes the breaker to trip upon a discrepancy in incoming and outgoing current, which indicates electricity is "escaping" the circuit through a ground fault.

59. AFCIs, however, do not operate using a simple, universal mechanism. Rather, each manufacturer must design and develop circuitry and algorithms capable of identifying and evaluating the waveforms of the electrical current. Each manufacturer has adjusted the circumstances, like the amount or length of prolonged unexpected waveforms, under which an AFCI breaker will trip to adjust to electronic noise or arcing signatures from common appliances that should not cause the breaker to trip.

60. AFCI breakers, therefore, vary in design, circuitry, function, and sensitivity between manufactures. As NEMA indicated, upon introducing AFCIs, manufacturers have had to adjust and update the design of their AFCIs to prevent nuisance tripping, especially as appliances have continued to change over time and as the NEC has expanded the number of rooms requiring use of AFCIs. Where an AFCI breaker's algorithm fails to distinguish harmless arcs or arcing signatures created by common appliances from dangerous ones, the breaker may improperly trip.

61. An AFCI breaker that nuisance trips in the presence of harmless arcs defies the basic and fundamental purpose of an AFCI, which is to identify and warn homeowners of a dangerous arc, and trip to prevent a possible fire. When an AFCI breaker exhibits nuisance tripping, it has failed to correctly identify a dangerous arc

and prevents the normal use of the circuit even though no dangerous arc or arcing risk exists. Breakers experiencing nuisances tripping must be replaced with a properly functioning AFCI breaker. Otherwise, the circuit with the defective AFCI breaker is rendered unusable.

62. Electricians and consumers who installed Siemens' AFCI breakers have found that, upon installation of Siemens' AFCI breakers, they experience frequent, unexplainable tripping even where no identifiable arcing is occurring. These include brand-new, newly installed AFCI breakers that, were they functioning properly, should not be tripping unless an actual, dangerous arc existed in the circuit. Those breakers trip, however, even where there is no such dangerous arcs in the circuit.

63. Siemens knew that its AFCI breakers experienced abnormally high rates of nuisance tripping and omitted and concealed that fact from electricians and consumers. Rather, it represented that its AFCI breakers operate normally. Nuisance tripping, however, is not part of the normal operation of a correctly functioning AFCI.

64. Siemens has received numerous complaints directly and online describing its AFCIs high rate of nuisance tripping. In one electrician forum, a frustrated electrician wrote a post in 2019 titled "Siemens AFCI nuisance tripping … help!":

> I ran 4 new circuits, in an old house, all new wires, new Siemens AFCI breakers. All 4 have been tripping. One Samsung refrig., two countertop outlets, one microwave. In KY, all new circuits must be AFCI. Replaced all 4 new AFCI breakers with new ones. Microwave and ref are working with second new breakers. Now the two kit. Countertop ones are tripping AGAIN.[15]

65. In a post from 2017, a member wrote:

> I have installed some new Siemens afci/gfci breakers and am having some AFCI trips that I [need to] find a solution for. The customer was using a Griddle and when they turned the Kitchen-aid mixer on and the breaker tripped as soon as the Mixer was turned on. The mixer alone does not trip the breaker but the mixer with the griddle or toaster will trip the breaker with and AFCI fault. I was able to recreate the fault on the second kitchen circuit. I also tried the mixer with the coffee maker and the breaker didn't trip. I am wondering if someone has had any problems similar to mine.[16]

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[15] *Siemens AFCI Nuisance Tripping…Help!*, Mike Holt's Forum (last visited, Nov. 24, 2020), https://forums.mikeholt.com/threads/siemens-afci-nuisance-tripping-help.147943/

[16] *Siemens AFCI/GFCI Help Needed*, Mike Holt's Forum (last visited, Nov. 24, 2020), https://forums.mikeholt.com/threads/siemens-afci-gfci-help-needed.132773/

66. That same year, another member wrote:

> We also had about a year long stretch where we were having lots of issues with Siemens AFCI breakers. Lots of nuisance tripping, especially with the two pole. That seems to have calmed down now in the last 6 months. The Siemens rep claims there wasn't anything wrong.[17]

67. In another forum, an electrician posted "Siemens AFCI/GFCI Breaker Woes":

> So.....customer calls last week and says lighting circuit keeps tripping. I go over and find that the fixture seems to have had a short in it from the factory. Installed a pigtail as a temporary light and all fixed. Got a call today saying all the kitchen circuits are tripping. So I went over to confirm. Sure enough they are tripping microwave, toaster, mixer. I brought my 1 7/8" hammer drill in and only managed to trip one. I checked all the connections and am out of ideas.[18]

68. Additionally, one reviewer on Amazon's website wrote:

> Junk, 2 out of the 4 I purchased constantly trip. What a waste of money. Replaced with standard 15 amp breaker and no problems. Tried trouble shooting by ensuring all power sources and switches were unplugged/off and yet it still tripped. Do not recommend this product[19]

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[17] *Filters for AFCI Nuisance Tripping*, Mike Holt's Forum (last visited, Nov. 24, 2020), https://forums.mikeholt.com/threads/filters-for-afci-nuisance-tripping.132330/

[18] *Siemens AFCI/GFCI Breaker Woes*, Electrician Talk (last visited, Nov. 24, 2020), https://www.electriciantalk.com/threads/siemens-afci-gfci-breaker-woes.205809/

[19] *Community Activity – N8Dogg*, Amazon.com (last visited, Nov. 24, 2020) https://www.amazon.com/gp/profile/amzn1.account.AESSXN3AC4LAGWFDMKXKKX3OEEGA/ref=cm_cr_srp_d_gw_btm?ie=UTF8

69. A reviewer on Home Depot's website wrote:

Siemen's AFCI breaker is ridiculously sensitive to nuisance trips. The breaker tripped when the toaster popped, the microwave was started and at all times of the day or night when the refrigerator cycled.[20]

70. On an electricians' forum on the website, reddit.com, one user wrote:

Just had a kitchen remodel and electrical panel replacement (needed more dedicated circuit breakers for the kitchen). Everything through licensed contractors with full permits.

A dedicated line was run to the microwave (combination microwave/hood over our range). It is a very nice, higher end 8-year old GE microwave.

The breaker for this dedicated circuit is a Dual Function AFCI/GFCI Circuit Breaker (Siemens, 15 amp). The microwave manual recommends a dedicated 15 amp circuit.
The microwave works fine for a few days, then suddenly it starts tripping the breaker within 5 seconds of starting it, no matter what is in it. I've tried popcorn, cup of water, full microwave dinner. Doesn't seem to matter what else is going on in the house (e.g. A/C, oven on) or even if the hood fan is being used. Then it will be Ok for a while, and then the same problem again.[21]

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[20] *Type QAF 20 Amp Double-Pole Combination AFCI Circuit Breaker by Siemens*, HomeDepot.com (last visited, Nov. 24, 2020), https://www.homedepot.com/p/Siemens-Type-QAF-20-Amp-Double-Pole-Combination-AFCI-Circuit-Breaker-Q220AFCP/202253104

[21] *Microwave Tripping New Combination AFCI/GFCI Breaker – Seeking Advice Please*, Reddit.com (last visited, Nov. 24, 2020), https://www.reddit.com/r/electricians/comments/954fvv/microwave_tripping_new_combination_afci_gfci/

71. The many public complaints and others made directly to Siemens describing Siemens' AFCI breakers as exhibiting nuisance tripping, put Siemens on notice that it had made available for sale defective Siemens' AFCI breakers that do not function properly or as advertised.

72. Additionally, one electrical distributor reported that Siemens' tested supposedly defective breakers and confirmed that they trip in inappropriate circumstances, leading to nuisance tripping.[22] Siemens tested hundreds of breakers returned as defective and found they trip in at least three scenarios: (1) an actual arc, (2) where an appliance is drawing high amps, or (3) electronic noise caused by the loads on the circuits.[23] Siemens deemed these breakers non-defective[24] even though its AFCI breakers should ***only*** be tripping in ***one*** of those circumstances—where there is a dangerous arc. Thus, Siemens knew from its own testing that its breakers were not adequately distinguishing between dangerous arcs and the arcing signatures caused by common household appliances or electronic noise, and that those defects led to unnecessary nuisance tripping.

[22] *Nuisance Tripping Arc Fault Breaker Findings*, EB Horsman & Son (last visited, Oct. 11, 2021), https://ebhorsman.com/blog/nuisance-tripping-arc-fault-breaker-findings
[23] *Id.*
[24] *Id.*

73. Despite knowing its AFCIs were defective, Siemens never disclosed and actively concealed that its AFCIs nuisance tripped, including in the presence of harmless arcs and due to the use of common appliances. Siemens never warned the public that its AFCI breakers were subject to high rates of nuisance tripping even where no dangerous arc existed in the circuit or that tripping may be due to defects in its breakers rather than an actually dangerous arc. Siemens AFCI breaker labels and brochures omit any information describing that Siemens AFCI breakers trip when using common household appliances or in the presence of electronic noise, even when no dangerous arcing is occurring in the circuit. Siemens knew or should have known the types of appliances that were incompatible with its breakers and the sources of "electronic noise" that affected its breakers' performance, but never disclosed that fact to potential purchasers.

74. Instead, Siemens tried to deflect blame for any nuisance tripping of its AFCI. Siemens publicly claimed that nuisance tripping is a "myth" or, alternatively, that it is a good thing – a safety feature. For instance, in 2017, one Siemens employee gave an interview to Electrical Contractor magazine, stating that:

> People believe that certain arc fault breakers are defective because they frequently trip. People need to think of these not as 'nuisance tripping' but rather as 'safety alerts.' The majority of the time, these breakers trip because they are supposed to. They are tripping due to some type of arcing event on the circuit.[25]

75. Those claims misrepresented the fundamental purpose of AFCIs and the reason Siemens' AFCI were tripping. Tripping in the presence of a harmless arc or arcing signature is not a safety feature—it is a defect. AFCIs are not supposed to trip and break the circuit where no dangerous arcs occur, or where the only arcing signatures are harmless or caused by common appliances. Indeed, when AFCIs were first introduced, the NEC made clear that AFCIs need to be designed to, "know[] the difference between an arc from normal operations, such as unplugging a cord or opening a switch, and a destructive arc."[26] The NEC emphasized that "[i]n short, the devices cannot nuisance trip."[27] When Siemens AFCIs trip where no dangerous arcing is occurring, that is not the intended purpose nor the normal operation of an AFCI.

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[25] William Atkinson, *Debunking Six AFCI Myths*, Electrical Contractor (May 1, 2017), https://www.ecmag.com/section/systems/debunking-six-afci-myths.
[26] P. Hartwell, *supra* note 4.
[27] *Id.*

76. Siemens also put the blame on homeowners and electricians, claiming that any AFCI nuisance tripping was due to "'stab' receptacles, where wires are spring-loaded into the backs of the receptacles, instead of wiring around screws" or caused by "homeowners [who] jam plugs into spring-loaded receptacles or pull them out roughly[.]"[28] Siemens reiterated that "this is not 'nuisance tripping'" but "is a 'safety alert.'"[29]

77. Similarly, in a presentation titled, "Debunking the Myths of AFCI" a Siemens employee claimed that nuisance tripping was the result of "creative wiring practices."[30] Siemens further asserted that Siemens had created "Solutions" to nuisance tripping, including providing "excellent arc discrimination and enhanced electronics"[31] when its own testing of its breakers proved that it did not adequately distinguish between dangerous arcs and household appliances.

78. In 2018, Siemens released a troubleshooting guide to provide "tips" on how to prevent tripping in its AFCI breakers. The troubleshooting guide acknowledges that "[d]etermining the cause of an AFCI trip can be confusing and

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[28] *Id.*
[29] *Id.*
[30] Ashley Bryant, *Debunking the Myths of AFCI*, Indep. Electrical Contractors (2018), https://slidetodoc.com/debunking-the-myths-of-afci-presented-by-ashley/
[31] *Id.*

time-consuming" but claims its troubleshooting guide will provide a "few tricks [that] can save the homeowner, time, money, and the stress of an AFCI trip."[32]

79. The guide claims that Siemens AFCI breakers "have been thoroughly tested to dramatically decrease the amount of nuisance tripping."[33] The guide suggests that any nuisance tripping is due to the fault of the homeowner or the electrician. For instance, the guide provides steps homeowners and electricians must take to decrease unwanted tripping:

> **Homeowners**
> There are six preventative factors homeowners can take in order to decrease the chance that a breaker will trip.
> • First, all connections between the light socket and the light bulb base should be tight. An arc can occur in a loose connection, which will cause the AFCI breaker to trip.
> • Beware that the circuit is not overloaded with an excessive amount of electronics. The breaker is only able to support a specified amount of wattage, and if exceeded, the breaker will trip.
> • Protect electronics on surge protectors. They will protect the electronics from times of high electrical surges, like thunderstorms.
> • All electronics purchased should be Underwriters Laboratories (UL) listed, or equivalent, and comply with part 15 of the FCC rules, or they may cause unnecessary tripping.
> • Make sure furniture is not on or pushing against electrical wires.
> • If any blackened plugs, very damaged wires, or noisy circuit breakers are discovered, an electrical problem has occurred and the homeowner should call an electrician.

[32] *Troubleshooting Guide, supra*, note 15.
[33] *Id.*

> **Electrical Contractors**
> Electrical contractors can also take some preventative steps during the installation process.
> • Ensure properly maintained tools are used, i.e. sharp blades.
> • Route wires in strategic areas so homeowners and other trades are less likely to pierce through a wire.
> • If possible, perform work after the other trades, i.e. HVAC and plumbing, have completed.
> •Wire receptacles around the screw instead of backstabbing; it creates great wear and tear on the wiring over time.[34]

80. The guide, thus, implies that if an AFCI breaker is tripping, it is either because it has detected a dangerous arc or because of errors by the homeowner or electrician. Like its brochures and labels, Siemens' troubleshooting guide never advises its customers that the problem might be with its AFCI breakers because, due to a defect, Siemens' AFCI breakers are prone to nuisance tripping in the presence of harmless arcs or due to the foreseeable use of basic household appliances.

81. Siemens also created and advertised "innovated trip indicators" and "Siemens exclusive Intell-Arc Diagnostic Tool" that supposedly "offer help to the troubleshooting process."[35] Like the troubleshooting guide, Siemens' bills these tools as means to help save time and money and identify the cause of a tripped breaker. Siemens states that the "[i]ndustry exclusive LED indicators provide a

[34] *Id.*
[35] *Id.*

valuable analysis tool to help electricians pinpoint the type of trip."[36] These tools, however, fail to notify homeowners, electricians, or other readers that the breaker may be tripping due to harmless arcs or that the cause of the nuisance tripping is a defect in the breaker itself. Thus, these tools help conceal the underlying issue with Siemens' breakers and perpetuate Siemens' misrepresentation that nuisance tripping is the fault of the homeowner or electrician.

82. Siemens knew or should have known that its AFCI breakers contain defects that cause them to experience high rates of nuisance tripping, and those defects are due to Siemens, not to the actions of homeowners or electricians. Despite its claims to the contrary, an AFCI breaker is not functioning properly when it trips during the foreseeable, routine use of an appliance or due to electronic noise. Indeed, Siemens' advertisements claim that its AFCI breaker are designed only to trip in the presence of arc faults: "The device is intended to mitigate the effects of arcing faults by functioning to de-energize the circuit when an arc fault is detected."[37]

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[36] *Residential AFCI Breakers*, Siemens.com (last visited Apr. 7, 2021), https://new.siemens.com/us/en/products/energy/low-voltage/residential-circuit-breakers/residential-afci-circuit-breakers.html

[37] *Arc Fault Circuit Breakers or AFCIs*, Siemens.com (last visited, Mar. 17, 2022), https://new.siemens.com/us/en/products/energy/low-voltage/residential-circuit-breakers/residential-afci-circuit-breakers.html#:~:text=Combination%20Type%20Arc%20Fault%20Circuit,an%20arc%2Dfault%20is%20detected.

83. Siemens' own findings and the many complaints by electricians and homeowners demonstrated its AFCI breakers nuisance trip in many other circumstances. Despite that fact, Siemens does not and has never warned users that its AFCI breakers nuisance trip due to defects in the breakers' ability to identify an actual arc or distinguish an actual arc from a normal appliance or electronic noise. Rather, Siemens falsely claims nuisance tripping is a "myth" or, alternatively, that it is a safety feature. That is not the case. Siemens' AFCIs are defective and trip in inappropriate circumstances, causing homeowners and electricians harm.

C. Plaintiffs Suffered Injuries Due to Defective Siemens' AFCI Breakers

84. Siemens recognized the significant time and effort that electricians and consumers might exhaust investigating an improperly tripping breaker.[38] Rather than saving electricians time, as Siemens promised, its breakers result in wasted time and effort investigating the cause of the nuisance tripping when the fault is in the breaker itself. Experienced electricians and consumers have spent an extraordinary amount of time investigating the possible causes of Siemens' AFCI breakers that frequently and unnecessarily trip only to find that harmless electrical arcs are improperly causing the Siemens' AFCI breaker to trip.

[38] *Troubleshooting Guide*, *supra*, note 15 ("Determining the cause of an AFCI trip can be confusing and time-consuming . . . .")

85. Electricians and consumers, such as Plaintiffs, who purchased defective Siemen' AFCI breakers have lost the value of the breaker because, after performing extensive rework to identify the problem, the electrician or customer incurred costs replacing the defective Siemens' AFCI breaker which resolved the nuisance tripping.

Kevin Brnich Electric LLC

86. Kevin Brnich Electric LLC is a Pennsylvania limited liability company owned by Kevin Brnich. Brnich has been an electrician for 25 years and has used Siemens' products, including Siemens' panel boxes and breakers. Where he has used Siemens, he has done so because his customers have a Siemens' panel, which requires a Siemens' breaker be used and, additionally, because his supplier carriers Siemens electrical products.

87. As part of its services, KB Electric purchases and installs AFCI breakers, including Siemens' AFCI breakers. It has purchased and installed Siemens' AFCI breakers within the last year, including breakers that experienced nuisance tripping.

88. The State of Pennsylvania, where KB Electric principally operates, has adopted the International Residential Code, which includes requirements that AFCIs be used in family rooms, dining rooms, living rooms, parlors, libraries, dens,

sunrooms, recreations rooms, closets, hallways, kitchen, and laundry areas, and other similar areas.

89. When installing Siemens' AFCI breakers, however, KB Electric has found many of the breakers trip for no reason. Even after investigating potential causes of the nuisance tripping, KB Electric could not identify the cause of the nuisance tripping, including potential issues like spliced wires, appliances, incorrect installation, or other potential causes.

90. Replacing the malfunctioning Siemens AFCI breaker with a new Siemens breaker has not resolved the issue. KB Electrical found that, by swapping Siemens' AFCI with another brands' AFCI breaker often resolved the nuisance tripping.

91. KB Electrical's supplier informed it that Siemens' AFCIs required a technology update to resolve the nuisance tripping, which may be occurring due to incompatibilities between Siemens' AFCIs and appliances and other common household electronics. Based on these representations, KB Electrical expected the nuisance tripping issue with Siemens' AFCIs would be resolved and continued to purchase Siemens' AFCIs, including for its customers with Siemens' panels where Siemens' AFCIs must be installed by code. However, the nuisance tripping issue has continued.

92. Had KB Electrical known, and Siemens not omitted, that Siemens' AFCIs contained an algorithm incapable of distinguishing dangerous and harmless arcs, which trip in the presence of harmless arcs, including the use of common appliances, KB Electrical would not have purchased or used Siemens' AFCIs and would have advised its customers not to use Siemens' AFCIs.

93. Siemens' defective AFCI breakers have cost KB Electrical significant time and money. KB Electrical has purchased hundreds of Siemens breakers and has had to replace many brand new Siemens' breakers because of nuisance tripping that occurred right out of the box. KB Electric lost the money it paid for the defective Siemens' AFCI breakers that it could not use because they were defective. These costs were not passed on to KB Electric's customers.

94. In addition to the costs of the breakers, KB Electric lost substantial, uncompensated time investigating and attempting to resolve the cause of the tripping. Siemens troubleshooting guide indicates a trip may have several causes attributable to the wiring or appliances in the circuit. Siemens' guide, however, does not state that the tripping may be due to a defective breaker. KB Electric, therefore, spent time needlessly investigating the potential cause of the tripping when the true cause was Siemens' defective breakers. KB Electric was not compensated for this time by its customers.

95. Electricians and consumers, such as Plaintiffs, who purchased defective Siemens AFCI breakers have lost the value of the breaker because, after performing extensive rework to identify the problem, the electrician or customer incurred costs replacing the defective Siemens' AFCI breaker, which resolved the nuisance tripping.

Performance Electric

96. Performance Electric is a Washington electrical company with significant experience installing AFCI breakers and resolving nuisance tripping, in addition to providing other electrical-related services.

97. The State of Washington, where Performance Electric principally operates, has adopted the 2020 NEC with some modifications. The 2020 NEC requires AFCIs be installed on branch circuits supplying outlets or devices installed in dwelling unit kitchens, family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreation rooms, closets, hallways, laundry areas, or similar rooms or areas.

98. Since 2009, Performance Electric exclusively used Siemens AFCI breakers because its supplier exclusively sold Siemens' products. Since switching to Siemens' AFCIs, Performance Electric has noticed a spike in nuisance tripping and related issues. Over the past two years, Performance Electric has noticed the

frequency of nuisance tripping of Siemens' AFCIs has worsened. Specifically, when installing Siemens' AFCI breakers, Performance Electric has found many of the breakers trip for no reason. Even after investigating potential causes of the nuisance tripping, Performance Electric could not identify the cause of the nuisance tripping, including potential issues like spliced wires, appliances, incorrect installation, or other potential causes.

99. Performance Electric contacted Siemens about the issue. Siemens' representatives have suggested that the issue is the fault of the electricians or that Siemens would be releasing an update to resolve the nuisance tripping issues. Specifically, in one conversation with a Siemens' representative, Siemens admitted to some issues with prior versions of its AFCIs but maintained that its breakers made after 2015 should have no problems. That, however, was not Performance Electric's experience—Siemens' AFCIs have continually experienced frequent and unexplained nuisance tripping, even after 2015. Performance Electric, thus, continued to use Siemens' products expecting the nuisance tripping issue would be fixed.

100. However, Siemens has not fixed the problem, and the cause of the nuisance tripping continues to be Siemens' defective AFCI breakers, which failed to perform their basic function and repeatedly and unnecessarily tripped where no dangerous electrical arcing was occurring.

101. Performance Electric also purchased Siemens' Intelli-Arc tool to help diagnose the cause of the tripping. That tool, however, often failed to provide Performance Electric with any indication of the actual cause of the trip, which was not due to an issue with the wiring or circuitry but, rather, an issue with Siemens' AFCI breaker.

102. Recently, due to the frequency of nuisance tripping and difficulties resolving the issue, which stem from the AFCI breaker design, Performance Electric decided to stop using Siemens' products. Had Performance Electric known, and Siemens not omitted, that Siemens' AFCIs contained an algorithm incapable of distinguishing dangerous and harmless arcs and which trip in the presence of harmless arcs, including the use of common appliances, Performance Electric would not have purchased or used Siemens' AFCIs and would have advised its customers not to use Siemens' AFCIs.

103. Siemens' defective AFCI breakers have cost Performance Electric significant time and money. Performance Electric has purchased hundreds of Siemens breakers and has had to replace many brand new Siemens' breakers because of nuisance tripping that occurred right out of the box. Performance Electric lost the money it paid for the defective Siemens' AFCI breakers that it could not use because they were defective. These costs were not passed on to Performance Electric's customers.

104. In addition to the costs of the breakers, Performance Electric lost substantial, uncompensated time investigating and attempting to resolve the cause of the tripping. Siemens troubleshooting guide indicates a trip may have several causes attributable to the wiring or appliances in the circuit. Siemens' guide, however, does not state that the tripping may be due to a defective breaker. Performance Electric, therefore, spent time needlessly investigating the potential cause of the tripping when the true cause was Siemens' defective breakers. Performance Electric was not compensated for this time by its customers.

105. Electricians and consumers, such as Plaintiffs, who purchased defective Siemens AFCI breakers have lost the value of the breaker because after performing extensive rework to identify the problem, the electrician or customer incurred costs

replacing the defective Siemens' AFCI breaker which resolved the nuisance tripping.

Bolt Electric LLC

106. Bolt Electric LLC is a limited liability company in Maine that provides electrical services to its customers.

107. As part of its services, Bolt Electric purchases and installs AFCI breakers, including Siemens AFCI breakers. It has purchased and installed Siemens AFCI breakers within the last year, including breakers that experiences nuisance tripping.

108. The State of Maine, where Bolt Electric principally operates, has adopted the NEC with some modifications. Maine requires AFCI protection (whether breakers or AFCI outlets) to be installed in practically all dwelling unit rooms, including kitchens, family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreational rooms, closets, hallways, laundry rooms, or similar areas or rooms.

109. Bolt Electric has significant experience installing AFCI breakers and resolving nuisance tripping.

110. When installing Siemens AFCI breakers, however, Bolt Electric found many of the breakers trip for no reason. Even after investigating potential causes of the nuisance tripping, Bolt Electric could not identify the cause of the nuisance tripping, including potential issues like spliced wires, appliances, incorrect installation, or other potential causes.

111. Rather, the cause of the nuisance tripping was defective Siemens' AFCI breakers, which failed to perform their basic function and repeatedly and unnecessarily tripped where no dangerous electrical arcing was occurring. Had Bolt Electric known, and Siemens not omitted, that Siemens' AFCIs contained an algorithm incapable of distinguishing dangerous and harmless arcs, which trip in the presence of harmless arcs, including the use of common appliances, Bolt Electric would not have purchased or used Siemens' AFCIs and would have advised its customers not to use Siemens' AFCIs.

112. Siemens' defective AFCI breakers have cost Bolt Electric significant time and money. Bolt Electric has purchased hundreds of Siemens breakers and has had to replace many, brand new Siemens breakers because of nuisance tripping that occurred right out of the box. Bolt Electric lost the money it paid for the defective Siemens AFCI breakers that it could not use because they were defective. These costs were not passed on to Bolt Electric customers.

113. In addition to the costs of the breakers, Bolt Electric lost substantial, uncompensated time investigating and attempting to resolve the cause of the tripping. Siemens troubleshooting guide indicates a trip may have several causes attributable to the wiring or appliances in the circuit. Siemens' guide, however, does not state that the tripping may be due to a defective breaker. Bolt Electric, therefore, spent time needlessly investigating the potential cause of the tripping when the true cause was Siemens' defective breakers. Bolt Electric was not compensated for this time by its customers.

Artistic Electric Incorporated

114. Artistic Electric Incorporated is a Pennsylvania corporation, owned by Mike Glancey, that provides electrical services to its customers.

115. As part of its services, Artistic Electric Incorporated purchases and installs AFCI breakers, including Siemens AFCI breakers. It has purchased and installed Siemens AFCI breakers within the last year, including breakers that experience nuisance tripping.

116. The State of Pennsylvania, where Artistic Electric Incorporated principally operates, has adopted the International Residential Code, which includes requirements that AFCIs be used in family rooms, dining rooms, living rooms,

parlors, libraries, dens, sunrooms, recreations rooms, closets, hallways, kitchens, and laundry areas.

117. Artistic Electric Incorporated has significant experience installing AFCI breakers and resolving nuisance tripping.

118. When installing Siemens AFCI breakers, however, Artistic Electric Incorporated found many of the breakers trip for no reason. Even after investigating potential causes of the nuisance tripping, Artistic Electric Incorporated could not identify the cause of the nuisance tripping, including potential issues like spliced wires, appliances, incorrect installation, or other potential causes.

119. Rather, the cause of the nuisance tripping was defective Siemens' AFCI breakers, which failed to perform their basic function and repeatedly and unnecessarily tripped where no dangerous electrical arcing was occurring. Had Artistic Electric known, and Siemens not omitted, that Siemens' AFCIs contained an algorithm incapable of distinguishing dangerous and harmless arcs and which trip in the presence of harmless arcs, including the use of common appliances, Artistic Electric would not have purchased or used Siemens' AFCIs and would have advised its customers not to use Siemens' AFCIs.

120. Siemens' defective AFCI breakers have cost Artistic Electric Incorporated significant time and money. Artistic Electric Incorporated has purchased hundreds of Siemens breakers and has had to replace many, brand new Siemens breakers because of nuisance tripping that occurred right out of the box. Artistic Electric Incorporated lost the money it paid for the defective Siemens AFCI breakers that it could not use because they were defective. These costs were not passed on to Artistic Electric Incorporated customers.

121. In addition to the costs of the breakers, Artistic Electric Incorporated lost substantial, uncompensated time investigating and attempting to resolve the cause of the tripping. Siemens troubleshooting guide indicates a trip may have several causes attributable to the wiring or appliances in the circuit. Siemens' guide, however, does not state that the tripping may be due to a defective breaker. Artistic Electric Incorporated, therefore, spent time needlessly investigating the potential cause of the tripping when the true cause was Siemens' defective breakers. Artistic Electric Incorporated was not compensated for this time by its customers.

Charles Vodicka

122. Charles Vodicka is a resident of Asheville, North Carolina, and is a consumer of Siemens' electrical products, including its AFCIs.

123. The State of North Carolina, where Vodicka resides, has adopted the NEC with some modifications. North Carolina requires AFCI protection (whether breakers or AFCI outlets) to be installed in practically all dwelling unit rooms and accessible locations. That includes kitchens, family rooms, dining rooms, living rooms, parlors, libraries, dens, bedrooms, sunrooms, recreational rooms, closets, hallways, laundry rooms, or similar areas or rooms.

124. Vodicka hired a builder and electrician, among others, to build his home in 2014. He had two 200 amp Siemens' panels installed in his home. To meet North Carolina's electrical code requirements, Siemens' breakers were used in his Siemens' panel box, including Siemens' AFCI breakers.

125. From 2014 onward, Vodicka has experienced frequent nuisance tripping in his home with no identifiable cause. Over time, he has had to replace nearly all of his 15 amp Siemens' AFCIs with a competitor breaker. Since replacing his Siemens' AFCIs with competitors' breakers, he has not experienced any nuisance tripping with the competitor breakers.

126. Due to the issues with Siemens' AFCIs, Vodicka, at great expense, replaced his Siemens' panel boxes with another manufacturers' panel box to ensure he complied with local electrical codes, which require home owners to use the same manufacturer's panel box and breakers. Since switching to competitor AFCI

breakers and a competitor panel box, Vodicka has not had issues with nuisance tripping.

127. He has already spent thousands of dollars paying electricians to install the Siemens panel boxes and AFCIs, investigate the cause of nuisance tripping, attempt to resolve the nuisance tripping, replace the malfunctioning AFCIs with new ones and, subsequently, replace his Siemens' panel boxes.

128. Vodicka suffered injuries as a result of Siemens' defective AFCI breakers. Specifically, he lost the value he paid for the defective Siemens' AFCI breakers t. He also incurred expenses hiring electricians to investigate and resolve nuisance tripping in Siemens AFCIs. Had he known that Siemens' AFCIs were subject to frequent nuisance tripping, especially on circuits using common household appliances, he would not have installed a Siemens' panel box or Siemens' AFCI breakers.

CLASS ALLEGATIONS

129. Plaintiffs brings this action on behalf of themselves and all other similarly situated Class members pursuant to Rule 23(a) and (b)(3) of the Federal Rules of Civil Procedure and seek certification of the following Classes:

> **Consumer Class.** Any person in the United States who purchased a Siemens' AFCI breaker, except for resale.

Electrician Class. Any electrician or electrical business in the United States that installed and investigated, resolved, or attempted to resolve tripping presented by a Siemens' AFCI breaker.

130. The Class Period for both the Consumer Class and the Electrician Class being starting from the length of the greatest applicable statute of limitations to the present.

131. In the alternative, Plaintiffs propose the following subclasses:

Pennsylvania Subclass. Any person or business entity located in Nebraska who purchased a Siemens AFCI breaker.

Washington Subclass. Any person or business entity located in Nebraska who purchased a Siemens AFCI breaker.

Maine Subclass. Any person or business entity located in Nebraska who purchased a Siemens AFCI breaker.

North Carolina Subclass. Any person or business entity located in Nebraska who purchased a Siemens AFCI breaker.

132. Plaintiffs reserve the right to modify the class definition or to add additional sub-classes.

133. **Numerosity.** Consistent with Rule 23(a)(1), both Classes are so numerous and geographically dispersed that joinder of all Class members is impracticable. Plaintiffs believe that there are tens of thousands, if not more, members of both the Consumer Class and Electrician Class. Class members may be notified of the pendency of this action by recognized, Court-approved notice

dissemination methods, which may include U.S. mail, electronic mail, internet postings, and/or published notice.

134. **Commonality and Predominance.** Consistent with Fed. R. Civ. P. 23(a)(2) and with 23(b)(3)'s predominance requirement, this action involves common question of law and fact that predominate over any questions affecting individual Class members. These common questions include, but are not limited to:

a. Whether Siemens' AFCI breakers contain an inherent or manufactured defect that causes them to unnecessarily trip in the presence of harmless electrical arcs;

b. Whether Siemens misled consumers and electricians or omitted information about the ability of its AFCI breakers to function properly and trip only in the presence of dangerous arcs;

c. Whether consumers were harmed when they purchased defective Siemens' AFCI breakers that frequently and unnecessarily tripped;

d. Whether electricians were harmed when they incurred costs and lost time investigating the cause of and attempting to resolve nuisance tripping of Siemens' defective AFCI breakers;

e. Whether Siemens defective AFCI breakers violated its warranty of merchantability;

f. Whether Siemens was unjustly enriched by selling defective AFCI breakers that did not function as represented; and,

g. Whether the Consumer Class and Electrician Class are entitled to damages or other relief.

135. **Typicality**. Consistent with Fed. R. Civ. P. 23(a)(3), KB Electric, Bolt Electric, Artistic Electric, and Performance Electric are typical of members of the Electrician Class and Vodicka is typical of members of the Consumer Class. KB Electric, Bolt Electric, Artistic Electric, and Performance Electric are electrical services companies that purchased and installed Siemens' AFCI breakers and lost time and money, including the cost of defective Siemens' breakers, and uncompensated time investigating nuisance tripping of Siemens' breakers that it ultimately had to replace. Plaintiff Vodicka purchased Siemens' AFCI breakers and installed them in a Siemens electrical panel at his residence but, because of frequent and unexplained tripping, Plaintiff Vodicka replaced several Siemens' AFCI breakers Plaintiffs KB Electric, Bolt Electric, Artistic Electric, and Performance Electric suffered injuries similar to those suffered by other members of the

Electrician Class and Vodicka's injuries are akin to those of the Consumer Class. Plaintiffs seeks relief consistent with the relief owing to both Classes.

136. **Adequacy**. Consistent with Fed. R. Civ. P. 23(a)(4), Plaintiffs are adequate representatives of the Class because Plaintiffs KB Electric, Bolt Electric, Artistic Electric, and Performance Electric are members of the Electrician Class and Plaintiff Vodicka is a member of the Consumer Class and all are committed to pursuing this matter to obtain relief for themselves and for both proposed Classes. Plaintiffs have no conflict of interest with the Class. Plaintiffs also retained counsel competent and experienced in complex class action litigation. Plaintiffs intend to vigorously prosecute this case and will fairly and adequately protect the Class's interests.

137. **Superiority**. Consistent with Fed. R. Civ. P 23(b)(3), class action litigation is superior to any other available means for the fair and efficient adjudication of this controversy, and no unusual difficulties are likely to be encountered in the management of this class action. The quintessential purpose of the class action mechanism is to permit litigation against wrongdoers even when damages to individual plaintiff may not be sufficient to justify individual litigation. Here, the damages suffered by Plaintiffs and the Class may be relatively small compared to the burden and expense required to individually litigate their claims

against Defendant, and thus, individual litigation to redress Defendant's wrongful conduct would be impracticable. Individual litigation by each Class member would also strain the court system, create the potential for inconsistent or contradictory judgments, and increase the delay and expense to all parties and the court system. By contrast, the class action device presents far fewer management difficulties and provides the benefits of a single adjudication, economies of scale, and comprehensive supervision by a single court.

CLAIMS

COUNT I

Violation of the Georgia Fair Business Practices Act, O.C.G.A. § 10-1-390, *et seq.*

(On behalf of the Consumer Class and the Electrician Class)

138. Plaintiffs reallege the foregoing paragraphs as if fully set forth herein.

139. Under the Georgia Fair Business Practices Act ("GFBPA"), "[u]nfair or deceptive acts or practices in the conduct of consumer transactions and consumer acts or practices in trade or commerce are declared unlawful." O.C.G.A. § 10-1-393(a).

140. The GFBPA considers the following acts to be unfair or deceptive:

a. "Representing that goods or services have sponsorship, approval, characteristics, ingredients, uses, benefits, or quantities that they do not have[.]" *Id.* at § 10-1-393(b)(5).

b. "Representing that goods or services are of a particular standard, quality, or grade or that goods are of a particular style or model, if they are of another[.]" *Id.* at § 10-1-393(b)(6).

c. "Advertising goods or services with intent not to sell them as advertised[.]" *Id.* at § 10-1-393(b)(9).

141. KB Electric, Bolt Electric, Artistic Electric, and Performance Electric are members of the Electrician Class are "persons" under the GFBPA who purchased Siemens' AFCI breakers to be used in their customers' homes.

142. Plaintiff Vodicka is a member of the Consumer Class and is a "person" under the GFBPA because he purchased Siemens' AFCI breakers to be used in his home.

143. Siemens acted unfairly and deceptively by making available for sale AFCI breakers that could not perform the basic and required function of AFCI breakers. While properly functioning AFCI breakers should only trip in the presence of potentially dangerous electrical arcs, defective Siemens' breakers trip in the

presence of routine, expected, and harmless arcs, during the foreseeable use of common household appliances, and in the presence of electronic noise. As a result, Siemens' AFCI breakers do not perform the function for which Siemens advertises and promotes its AFCI breakers. Siemens, furthermore, omitted and concealed from Plaintiffs and the Class that nuisance tripping may be due to defects in the breakers.

144. At best, defective Siemens' AFCI breakers are only capable of adequately performing the functions of standard circuit breakers—acting as a switch and tripping in the presence of an electrical surge, a function that basic circuit breakers have performed for decades. While Siemens' AFCIs can perform that basic function, they cannot perform the basic function of an AFCI—distinguishing expected, harmless arcs and dangerous arcs, and trip only where dangerous arcing is occurring.

145. At worst, defective Siemens' AFCI breakers have no value because they cannot be used without frequent and unnecessary nuisance tripping.

146. Siemens, however, advertises and sells its AFCI breakers as if they are properly functioning and charges consumers a premium to purchase its AFCI breakers. Even though Siemens is aware that its AFCI breakers are defective, it does not disclose this fact to purchasers of its products.

147. Had Plaintiffs known that Siemens' AFCI breakers were defective and could not function as promised, Plaintiffs would not have purchased them. Siemens' misrepresentations and omissions were therefore material to Plaintiffs' decision to purchase Siemens' AFCI breakers. Plaintiffs were injured when they purchased Siemens' AFCI breakers because they paid a premium for Siemens' AFCI breaker because Siemens represented the AFCI breaker could perform functions that the breaker did not perform, and because Plaintiffs lost the value of the AFCI breaker when they suffered from frequent, and unnecessary nuisance tripping.

148. Additionally, Siemens' misconduct had an impact on the consumer marketplace. Siemens' misrepresentations were not made only to Plaintiffs, but rather, to the public at large. Specifically, Siemens represented that its AFCIs could perform the basic functions of an AFCI breaker, specifically, tripping in the presence of a dangerous arc and allowing electricity to flow where no dangerous arcing is occurring. Siemens further represented that it had tested its breakers and ensured they did not nuisance trip. However, Siemens knew that its AFCIs were prone to nuisance tripping where no dangerous arcing was occurring, especially on circuits using common, household appliances. Siemens' representations promoted customers, including Plaintiffs, to purchase Siemens AFCIs only to experience frequent nuisance tripping, causing customers to replace Siemens' AFCIs.

149. Plaintiffs sent a demand letter to Siemens on December 4, 2020, and on May 4, 2021, more than 30 days before filing this lawsuit and, additionally, stated their intent to Siemens to file claims in the Northern District of Georgia. These actions are sufficient to meet Plaintiffs' obligations under O.C.G.A. § 10-1-399(b).

150. Plaintiffs, therefore, seek all remedies available to him for Siemens' violation of the GFBPA.

COUNT II

Fraudulent Concealment

(On behalf of the Consumer Class and the Electrician Class)

151. Plaintiffs reallege the foregoing paragraphs as if fully set forth herein.

152. Siemens fraudulently concealed the defects in its AFCI breakers.

153. Siemens knew its AFCI breakers were defective because of, among other things, the numerous public complaints it received claiming that its AFCI breakers were suffering from repeated and unexplained nuisance tripping and its own research and testing of AFCI breakers returned as defective. NEMA identified nuisance tripping as a potential problem for AFCI breakers. Subsequently, electricians and consumers, both publicly and to Siemens directly, notified Siemens that its AFCI breakers were suffering from nuisance tripping.

154. Siemens had a duty to disclose any defect in its AFCI breakers. Siemens knew of the harm created by defective breakers that suffered repeated nuisance tripping. Indeed, in its troubleshooting guide, Siemens writes that "[d]etermining the cause of an AFCI trip can be confusing and time-consuming." Thus, Siemens knew that, should it make available for purchase defective AFCI breakers that frequently and unnecessarily trip, Plaintiffs would suffer harm.

155. Siemens, however, concealed defects in its AFCI breakers that caused the breakers to trip in the presence of harmless arcs and suffer from nuisance tripping. Siemens represented that its products "have been thoroughly tested to dramatically decrease the amount of nuisance tripping." It, furthermore, represents that its AFCI breakers will function properly to "mitigate the effects of arcing faults by functioning to de-energize a circuit when an arc-fault is detected."

156. When Siemens' AFCI breakers trip unexpectedly and unnecessarily, Siemens puts the blame on homeowners and electricians. Siemens issued a "troubleshooting" guide for homeowners and electricians that supposedly explained the causes of a tripped breaker. However, the guide only lists potential causes of nuisance tripping that blame the homeowner or electrician. Siemens never states that the problem may be a defect in the AFCI breaker that causes it to unnecessarily trip in the presence of harmless arcs.

157. Similarly, Siemens placed an "indicator" on its AFCI breakers and provides an Intelli-Arc Diagnostic tool, both of which conceal the fact that the nuisance tripping is due to defects in the breaker itself.

158. The troubleshooting guide, the LED indicator, and the Intelli-Arc Diagnostic Tool therefore seek to deflect blame for the nuisance tripping and create the impression that any such tripping is caused by the actions taken by homeowners and electricians. Through these tools and its representations that its AFCI breakers are "thoroughly tested" and "dramatically decrease the amount of nuisance tripping", the public, including homeowners and electricians alike, are led to believe that any nuisance tripping is due to some other cause, not due to Siemens' breakers.

159. The defects Siemens concealed were material. Plaintiffs would not have purchased AFCI breakers that, like Siemens' AFCIs, failed to perform their essential purpose and caused them to repeatedly and unnecessary trip even when no dangerous arcing was occurring in the circuit.

160. Plaintiffs were not on actual or constructive notice of the defect, in part, because of Siemens' representations that any nuisance tripping is not due to its breakers, but incorrectly due to the fault of the homeowner or electrician.

161. Siemens' fraudulent concealment of defects in its AFCI breakers caused Plaintiffs' injuries. Plaintiffs purchased Siemens' AFCI breakers and paid a premium for Siemens' AFCI breaker because Siemens represented the AFCI breaker could perform functions that the breaker did not perform and that, any nuisance tripping of the breaker was not due to any defect. Plaintiffs lost the value of the AFCI breaker when they suffered from frequent, and unnecessary nuisance tripping. Plaintiffs KB Electric, Bolt Electric, Artistic Electric, and Performance Electric also suffered harm investigating the potential causes of nuisance tripping when, in reality, the issue was Siemens' defective AFCI breaker.

162. Plaintiff, therefore, seeks all remedies available to him for Siemens' fraudulent concealment.

COUNT III

Negligent Misrepresentation

(On behalf of the Consumer Class and the Electrician Class)

163. Plaintiffs reallege the foregoing paragraphs as if fully set forth herein.

164. Siemens negligently misrepresented that its breakers performed the functions of an AFCI.

165. Siemens knew or should have known its AFCI breakers were defective from, among other things, the numerous public complaints it received attesting that

its AFCI breakers were suffering repeated nuisance tripping, the supposedly thorough testing of its AFCI breakers, and its analysis of malfunctioning AFCIs returned to it that Siemens recognized were tripping inappropriately. NEMA identified nuisance tripping as a potential problem for AFCI breakers. Subsequently, electricians and consumers, both publicly and to Siemens directly, notified Siemens that its AFCI breakers were suffering from nuisance tripping.

166. Siemens had a duty not to misrepresent as the quality and functionality of its AFCI breakers when they could not perform an AFCIs essential function. Siemens knew of the harm created by defective breakers that suffered repeated nuisance tripping. Indeed, in its troubleshooting guide, Siemens writes that "[d]etermining the cause of an AFCI trip can be confusing and time-consuming." Thus, Siemens knew that, should it make available for purchase defective AFCI breakers that frequently and unnecessarily trip, Plaintiffs would suffer harm.

167. Siemens, however, represented that its breakers functioned normally, had been thoroughly tested, and could perform the basic functions of an AFCI. Specifically, Siemens represented that its products "have been thoroughly tested to dramatically decrease the amount of nuisance tripping." It, furthermore, represents

that AFCI breakers will function properly to "mitigate the effects of arcing faults by functioning to de-energize a circuit when an arc-fault is detected."[39]

168. When Siemens' AFCI breakers trip unexpectedly and unnecessarily where no dangerous arcing is occurring—contrary to the basic functions of an AFCI—Siemens puts the blame on homeowners and electricians. Siemens issued a "troubleshooting" guide for homeowners and electricians that supposedly explained the causes of a tripped breaker. However, the guide only lists potential causes of nuisance tripping that blame the homeowner or electrician. Siemens never states that the problem may be a defect in the AFCI breaker that causes it to unnecessarily trip in the presence of harmless arcs.

169. Similarly, Siemens placed an "indicator" on its AFCI breakers and provides an Intelli-Arc Diagnostic tool, both of which conceal the fact that the nuisance tripping may be caused by a defective breaker.

170. The troubleshooting guide, the LED indicator, and the Intelli-Arc Diagnostic Tool therefore seek to deflect blame for the nuisance tripping and create the impression that any such tripping is caused by the actions taken by homeowners and electricians. Through these tools and its representations that its AFCI breakers

[39] Siemens, *supra* note 11.

are "thoroughly tested" and "dramatically decrease the amount of nuisance tripping", the public, including homeowners and electricians alike, are led to believe that any nuisance tripping is due to some other cause, not due to Siemens' breakers.

171. Siemens' negligent misrepresentations regarding its AFCI breakers caused Plaintiffs' injuries. Plaintiffs purchased Siemens' AFCI breakers and paid a premium for Siemens' AFCI breaker because Siemens represented the AFCI breaker could perform functions that the breaker did not perform and that, any nuisance tripping of the breaker was not due to any defect. Plaintiffs lost the value of the AFCI breaker when they suffered from frequent, and unnecessary nuisance tripping. Plaintiffs KB Electric, Bolt Electric, Artistic Electric, and Performance Electric also suffered harm investigating the potential causes of nuisance tripping when, in reality, the issue was Siemens' defective AFCI breaker.

172. Plaintiff, therefore, seeks all remedies available to him for Siemens' negligent omission.

COUNT IV

Breach of the Implied Warranty of Merchantability

(On behalf of the Consumer Class and the Electrician Class)

173. Plaintiffs reallege the foregoing paragraphs as if fully set forth herein.

174. Siemens' AFCI breakers are subject to an implied warranty of merchantability, as defined in U.C.C. § 2-314. Georgia, where Siemens is headquartered, and Pennsylvania, Maine, North Carolina, and Washington where the Plaintiffs reside, have each adopted the UCC.

175. "[A] warranty that the goods shall be merchantable is implied in a contract for their sale if the seller is a merchant with respect to goods of that kind." *Id.* at § 2-314(1).

176. To be "merchantable," goods must be "in the case of fungible goods, are of fair average quality within the description[,]" "fit for their ordinary purposes for which such goods are used[,]" "run, within the variations permitted by the agreement, of any kind, quality, and quantity within each unit and among all units involved[,]" and "conform to the promises or affirmations of fact made on the container or label if any" *Id.* at § 2-314(2)(a), (b), (d), (f).

177. As described herein, the Siemens' AFCI breakers sold to Plaintiffs and members of the Class were not of average quality, were not fit for their ordinary purpose, were not within the variations of quality permitted, and did not conform to Siemens' representations.

178. Siemens represented that its AFCI breakers were fit for use in residential homes. To be fit for residential use, AFCI breakers must be capable of distinguishing between harmless electrical arcs, which commonly occur in residential areas, and dangerous electrical arcs which pose a risk of an electrical fire or injury. Properly functioning AFCI breakers should identify and trip only upon detecting a dangerous electrical arc.

179. Siemens' AFCI breakers, however, tripped in the presence of harmless arcs that commonly occur in residences and do not present a danger of a fire. As a result, Siemens' AFCI breakers are effectively unusable in residential panel boxes because they will frequently and needless trip, rending the outlets and appliances connected in the breaker's circuit unable to be used.

180. Plaintiffs have found the only solution to the needless tripping is to replace the defective Siemens' AFCI breakers.

181. Siemens' AFCI breakers, therefore, do not perform the function Siemens represented and that an AFCI breaker is intended and required to perform.

182. Siemens' breach of its implied warranties of merchantability injured Plaintiffs and members of the Electricians Class and Consumers Class.

COUNT V

Breach of Warranty Pursuant to the Magnuson-Moss Warranty Act, 15 U.S.C. §§ 2301, *et seq.*

(On behalf of the Consumer Class)

183. Plaintiffs reallege the foregoing paragraphs as if fully set forth herein.

184. Plaintiff Vodicka and members of the Consumer class are "consumers" as identified in 15 U.S.C. § 2301(3).

185. Defendant is a "supplier" and "warrantor" as defined in 15 U.S.C. §§ 2301(4) and (5).

186. Siemens' AFCI breakers are a "consumer product" as defined in 15 U.S.C. § 2301(6). 15 U.S.C. § 2310(d)(1) provides a cause of action for any consumer who is damaged by the failure of a warrantor to comply with a written or implied warranty.

187. 15 U.S.C. § 2304(a)(1) requires Defendant, as warrantor, to remedy any defect, malfunction or nonconformance of its AFCI breakers within a reasonable time and without charge to the Plaintiff and class members.

188. As described herein, Siemens' AFCI breakers violated the warranty of merchantability because they were not fit to be used as AFCI breakers due to their frequent and unnecessary tripping, and inability to distinguish between harmless and dangerous arcs. That function is required for any AFCI breaker.

189. As a result of Defendant's breaches of its warranties, and Defendant's failure to remedy the same within a reasonable time and without charge to Plaintiff and class members, Plaintiff and class members have suffered damages.

COUNT VI

Unjust Enrichment

(On behalf of the Consumer Class and Electrician Class)

190. Plaintiffs reallege the foregoing paragraphs as if fully set forth herein.

191. As described herein, Defendant created and sold AFCI breakers that were not capable of performing the basic, required function of an AFCI breaker—to identify and distinguish between harmless arcs, where the breaker should not trip, and dangerous arcs, when the breaker should trip.

192. Defendant generated profits by selling defective AFCI breakers to Plaintiffs and members of the Class. Siemens fully knew that its AFCI breakers were prone to nuisance tripping. Indeed, Siemens provided a "troubleshooting" guide for electricians and homeowners to use to resolve any issues with nuisance

tripping. However, Siemens never disclosed that the nuisance tripping may be caused by its defective AFCI breaker.

193. Defendant, therefore, has been knowingly and unjustly enriched at the expense of and to the detriment of Plaintiffs and the members of the Class by collecting excess profits to which Defendant is not entitled.

194. Defendant has unjustly retained those ill-gotten gains and should be required to disgorge this unjust enrichment.

COUNT VI

Violation of the Washington Unfair Business Practices Act, RCW § 19.86.010, *et seq.*

(Plaintiff Performance Electric on behalf of the alternative Washington Subclass)

195. Plaintiffs reallege the foregoing paragraphs as if fully set forth herein.

196. Under Washington's Unfair Business Practices Act ("WBPA"), [u]nfair methods of competition and unfair or deceptive acts or practices in the conduct of any trade or commerce" are "declared unlawful." RCW § 19.86.020.

197. Under the WBPA, a business may bring a private action against a defendant that committed unfair or deceptive acts or practices where those unfair acts or practices were injurious to the public interest. *Id.* at § 19.86.093. An unfair

act or practice is injurious to the public interest where, among other things, the act "[i]injured other persons[,]" "had the capacity to injure other persons[,]" or "has the capacity to injure other persons." *Id.* at § 19.86.093(3)(a)–(c).

198. A "Person" under the act is defined to include "natural persons, corporations, trusts, unincorporated associations and partnerships." *Id.* at § 19.86.010(1).

199. Under the WBPA, "[t]rade and commerce" is defined to include "the sale of assets or services, and any commerce directly or indirectly affecting the people of the state of Washington. *Id.* at § 19.86.010(2).

200. Under the WBPA, "Assets" include "tangible or intangible" and "personal" property and "any other thing of value." *Id.* at § 19.86.010(3).

201. Siemens' conduct constituted an "unfair or deceptive act[] or practice[] unfair method of competition and unfair or deceptive act or practice" because Siemens made available for sale defective AFCI breakers that it knew, or should have known, failed to perform as promised. Specifically, Siemens represented that its breakers performed the basic and necessary function of an AFCI breaker. However, Siemens AFCIs failed to perform the essential and promised purpose of an AFCI breaker because they tripped even where no dangerous electrical arcing was present. Siemens should have known it had made available for sale defective

AFCI breakers because of the numerous complaints stating Siemens AFCI breakers suffered from nuisance tripping that was not caused by dangerous electrical arcing. Despite knowing it had made defective AFCI breakers available for sale, Siemens did not inform Plaintiffs, the public, or other vendors of the issues with its breakers.

202. Siemens actions constituted "trade and commerce" under the WBPA because Siemens sold Siemens AFCI breakers to vendors, who in turn sold the AFCI breakers to Plaintiffs and the Class. Therefore, Siemens was involved directly and indirectly in the sale of assets, including tangible goods and things of value.

203. Siemens' unfair and deceptive acts and practices were injurious to the public interest because they injured other persons, had the capacity to injure other persons, and still have the capacity to injure others. Siemens' AFCI breakers affected businesses and homeowners who installed Siemens' AFCIs expecting them, as Siemens represented, to perform the basic function of an AFCI. Siemens' AFCIs, however, failed to do so, causing businesses and homeowners to suffer from frequent nuisance tripping. Further, businesses and homeowners were required to either invest time and effort themselves or pay an electrician to investigate the nuisance tripping and try to resolve it. In some cases, the only viable solution was to replace the Siemens' AFCI with a competitor AFCI, which may have put the business or homeowner out of state or local electrical codes.

204. Additionally, Siemens' unfair and deceptive acts or practices were injurious to other electrical companies like Washington resident Performance Electric. Electrical companies that installed Siemens AFCIs in their customers' homes that experienced unexplained nuisance tripping have had to spend significant time and effort investigating and attempting to resolve the nuisance tripping, often without compensation. Thus, Siemens' acts caused further injury to the public interest.

205. Plaintiff Performance Electric suffered harm due to Siemens' unfair and deceptive acts. Performance Electric purchased defective Siemens' AFCI breakers that failed to perform their essential purpose and needed to be replaced. Even though Siemens was aware that its AFCI breakers were defective, it did not disclose this fact to Performance Electric. Had it known Siemens made available for sale defective AFCI breakers, it would not have purchased them or would have paid less than it did, or would have stopped using Siemens' products sooner, resulting in less harm suffered as a result of the nuisance tripping of Siemens' AFCIs.

206. Plaintiff, therefore, seeks all remedies available to it for Siemens' breach of the WBPA, including attorneys' fees and an increased damages award up to triple Plaintiffs' and the Class's damages, up to $25,000.

COUNT VII

Violation of the North Carolina Unfair and Deceptive Trade Practices Act ("NUDTPA"), N.C. Gen. Stat. Ann. § 75-1.1, *et seq.*

(Plaintiff Charles Vodicka on behalf of the North Carolina Subclass)

207. Plaintiffs reallege all foregoing paragraphs as though fully set forth herein.

208. Under North Carolina's Unfair and Deceptive Trade Practices Act ("NC UDTPA"), "[u]nfair methods of competition in or affecting commerce, and unfair or deceptive acts or practices in or affecting commerce, are declared unlawful." N.C. G. S. § 75-1.1(a).

209. The NC UDTPA, "commerce" is defined as "all business activities, however denominated, but does not include professional services rendered by a member of a learned profession." *Id.* at § 75-1.1(b).

210. Under the NC UDTPA, any person or business injured "by reason of any act or thing done by any other person, firm, or corporation in violation of the provisions of this Chapter" shall "have a right of action on account of such injury done[.]" *Id.* at § 75-16.

211. Siemens' conduct constituted an "unfair or deceptive act[] or practice[]" because Siemens made available for sale defective AFCI breakers that it knew, or should have known, failed to perform as promised. Specifically, Siemens represented that its breakers performed the basic and necessary function of an AFCI breaker. However, Siemens' AFCIs failed to perform the essential and promised purpose of an AFCI breaker because they tripped even where no dangerous electrical arcing was present. Siemens should have known it had made available for sale defective AFCI breakers because of the numerous complaints stating Siemens AFCI breakers suffered from nuisance tripping that was not caused by dangerous electrical arcing. Despite knowing it had made defective AFCI breakers available for sale, Siemens did not inform Plaintiffs, the public, or other vendors of the issues with its breakers.

212. Siemens actions constitute "commerce" under the NC UDTPA because Siemens sold Siemens AFCI breakers to vendors, who in turn sold the AFCI breakers to Plaintiffs and the Class. Therefore, Siemens was involved directly and indirectly in the sale of assets, including tangible goods and things of value.

213. Plaintiff Vodicka suffered harm due to Siemens' unfair and deceptive acts. Plaintiff Vodicka paid electricians to install Siemens' AFCI breakers in his home that failed to perform their essential purpose, suffered nuisance tripping, and

needed to be replaced. Plaintiff suffered because he paid significant amounts to electricians to investigate the reason for Siemens' AFCIs experiencing nuisance tripping. The issue, however, was due to a defect in the breakers themselves that caused them to fail to perform their essential purpose and to trip at inappropriate times. The nuisance tripping was resolved by replacing Siemens' AFCIs with a competitor's AFCIs, which do not suffer from the same issues.

214. Even though Siemens was aware that its AFCI breakers were defective, it did not disclose this fact to Plaintiff. Had he known Siemens made available for sale defective AFCI breakers, he would not have purchased them.

215. Plaintiff, therefore, seeks all remedies available to him for Siemens' breach of the NC UDTPA.

PRAYER FOR RELIEF

WHEREFORE, Plaintiffs, individually and on behalf of the Class, prays for the following relief:

a. For an Order certifying the Class as defined above, appointing Plaintiffs as Class representative, and appointing Plaintiffs' counsel as Class counsel;

b. For an award of all recoverable compensatory, statutory, and other damages sustained by Plaintiffs and Class Members,

c. For equitable relief including disgorgement, unjust enrichment, and all other available relief under applicable law;

d. For reasonable attorneys' fees and expenses as permitted by applicable law;

e. For pre- and post-judgment interest as allowed by law; and,

f. Such further relief at law or in equity that this Court deems just and proper.

Dated: March 29, 2022

/s/ Charles H. Van Horn

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