

# **IN THE UNITED STATES DISTRICT COURT**

## **FOR THE MIDDLE DISTRICT OF PENNSYLVANIA**

RONALD A. BLOUCH JR., Plaintiff,

v.

Civil Action No. \_\_\_\_\_

NSF INTERNATIONAL

SGS North America

UL SOLUTIONS INC.

SMART EPD LLC

ANNA LASSO, individually, Defendants.

## **COMPLAINT**

### **I. PRELIMINARY STATEMENTS**

#### **A. THE TEST**

1. Several of the claims made in this case can be verified effortlessly by anyone in a few minutes. They can be experienced directly, without scientific equipment, without expert testimony, without specialized knowledge, ending in a definitive result. Visit any public restroom equipped with an electric hand dryer certified by one of the defendants. Wash your hands. Place them in the dryer for 15 seconds – longer than any claimed or certified drying time for the dryers. Observe three things: (1) Watch where the water goes as it leaves your hands. (2) Remove your

hands at 15 seconds. They will be visibly and obviously wet. (3) Look at the walls and floor near the dryer's air outlet. Note the growing mold, dirt and water staining originating from that point.

## **B. THE HYPOTHETICAL**

2. Key aspects of hand dryer performance can be understood by imagining removing the dryer from the room. Is the room more or less sanitary with it gone? Is a user cleaner or more contaminated if it is not there?

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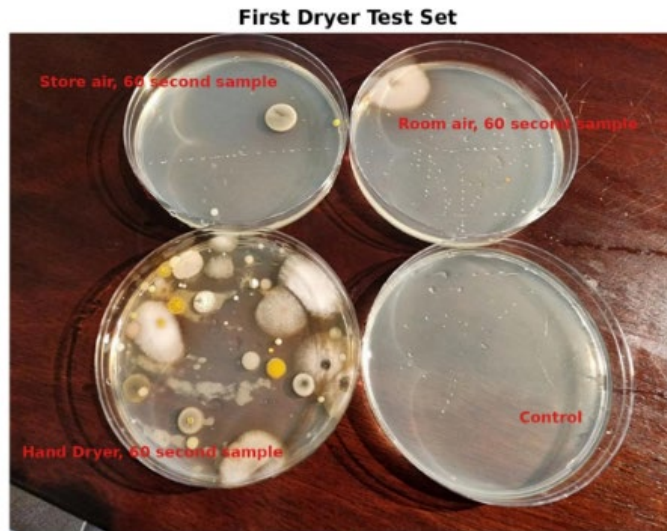
## **C. SCOPE**

3. This complaint addresses five defendants, seven certification standards, and eleven science journal preprints reflective of 50,000 hand-counted bacterial and

fungal colonies in addition to 460 drying time trials. Plaintiff has edited relentlessly for brevity. The length reflects the scope of the case.

#### **D. ORIGIN**

4. Since at least 2007 the several agencies involved in certifying the performance of hand dryers in public restrooms have made ongoing false claims about these products, facilitating the creation of a \$1.5B industry that would not exist had they reported the truth. [Exhibit MM] Users and purchasers have been led to believe they are sanitary and energy efficient. They are neither.
5. Plaintiff, having trusted the Defendants' certifications and relying on their public seals and stamps validating the manufacturers' claims for decades, began to notice black mold directly under the hand dryer output nozzle in multiple restrooms. Plaintiff decided to do a science experiment with his then 12 year old daughter to sample the air in the store, the restroom, and the dryers. The first test set:



6. That first test set evolved into two years and nine months of work across four states and the District of Columbia, all carefully preserved for analysis, review, confirmation and replication. Plaintiff asks the court to act on the following:

## **E. DECLARATIONS**

### **1. Drying Time**

7. Plaintiff declares that if the physics in public restrooms is the same as the physics in the testing laboratories of the Defendants the number of currently manufactured and installed downdraft dispersal-type production hand dryers that have dried hands in 15 seconds or less to any claimed or certified rapid drying residual moisture threshold is precisely zero.
8. A hand drying time of less than 15 seconds is the central claim made by Defendants regarding their certifications. It is physically impossible, as anyone who tried the test above has already determined. That claim impacts

downstream calculations of energy usage, environmental damage, and impact on the user and the room the dryer is in. Defendants' false certifications of the time required to dry hands have been responsible for building a \$1.5 billion industry that provides users and purchasers the literal opposite of every manufacturer's promise, creating historical, persistent, and ongoing harm for everyone exposed to them.

## **2. Microbial Amplification**

9. Plaintiff declares that commercial hand dryers amplify the low number of bacteria and fungi in undisturbed ambient restroom air by median factors of ~50 to ~110 and frequently by extreme factors from ~300 to ~5000, turning the output airstream of hand dryers into a wildly microbially diverse, fecund stream of bacteria, fungi and, potentially, viruses, directed on the freshly washed hands of unsuspecting and trusting users. The devices are bacterial and fungal injectors, throwing microorganisms onto wet hands recently washed. That is the opposite of their purpose.

## **3. Universal Room Contamination**

10. Plaintiff declares that with every complete drying cycle done in a Dispersal-Type hand dryer 7.3 grams of indeterminately clean/dirty wash water is sprayed into the air and all over the walls, floor and user of the restroom, totaling approximately 1.7 billion cups of contaminated water on the walls, floors and users of public restrooms every year in the US alone. Every day 150,000,000

people step into dirty water put there by all the people who used the dryer before them.

#### **4. Persistent Mold Originating at the Dryer**

11. Plaintiff declares that commercial hand dryers become a source of persistent mold on the walls and floors near the output air jets in 100% of installations, varying only in degree per the cleaning efforts of each facility.

#### **5. False Green Energy and Environmental Claims**

12. Plaintiff declares that hand dryers consume 7-10× more energy and produce 6-25× more CO<sub>2</sub> per use than Defendants' claims when hands are dried to manufacturers' self-determined dryness standards. The claimed 85-90% environmental advantage over paper towels does not exist. At actual drying times, hand dryers either have the same energy and CO<sub>2</sub> impact as paper towels or they are 2-3× more damaging, depending on the methodology used to calculate it. The industry's foundational environmental claims are false.

#### **6. Novel Paper Towel Finding**

13. Plaintiff declares that prior paper towel testing for microbial contamination failed to sort for type. All tested brown paper towels contain bacteria and fungus from the factory in concentrations less than but approaching hand dryer air. White paper towels usually contain less contamination than the room air they are used in, almost none, and provide an instant and effortless solution to every one of the problems described in this complaint. [Exhibits M-P]

## **7. The Science**

14. Plaintiff declares that the scientific results documented in this Complaint -- 460 drying trials across three manufacturers with 0% compliance at claimed times, 136 microbial amplification tests resulting in a 100% hand dryer failure rate ( $p < 10^{-41}$ ) with cross-manufacturer performance correlations exceeding  $r = 0.99$ , complete distributional separation between microorganism infestation of paper towels by type ( $p < .003$ ), and a 100% visible mold colonization rate for all tested hand dryer installations -- places the burden on Defendants to publicly demonstrate that their certified products achieve certified specifications.

## **8. Irreconcilable Conflict**

15. Plaintiff declares that Plaintiff's results and Defendants' claims cannot both be true.

## **F. CLAIMS WITH COUNTERS**

16. The claims in this section are summaries synthesized directly from Defendants' own documents. Citations from each defendant for each claim are detailed in Factual Allegations, Section V, [available here](#).

### **1. Purpose**

17. All Defendants agree: the purpose of a hand dryer is to dry hands. Anna Lasso, UL Solutions and NSF International state it directly in their standards documents. SGS tested for it in its commissioned dryer tests. Drying hands is the product's sole function, the basis for every certification issued, and the

standard against which every claim in this complaint is measured. [Exhibits W, X, Y, AA]

18. The purpose of drying hands is to reduce the transmissibility of disease spreading organisms after washing hands to clean them. Hand washing and drying are supported by 150 years of unequivocal science proving that both together reduce disease individually and in populations. [Exhibits S, T]

## **2. Drying Time**

19. Defendants created the industry standards for hand dryer drying performance, or tested them, and then certified dryers that claim to meet those standards of 8-15 seconds to residual moisture thresholds of 0.1g or 0.25g. Compliance is claimed across all standards in their certification, testing or standards documents. [Exhibits W, X, Y, AA]
20. Based on the science from which this complaint arises the number of production downdraft dispersal hand dryers that have dried hands in less than 15 seconds to 0.25g or less of residual moisture is zero. *It has never occurred.*
21. The time-to-dry of a hand dryer determines several important downstream factors for product performance. Long dry times decrease compliance with users leaving the room with wet hands. Long dry times increase unit energy use per dry. Long dry times increase the carbon footprint of the product. Long dry times expose the user to increased bacterial and fungal loads.

22. Every commercial pressure for hand drying in a forced air hand dryer is to claim fast drying times, not slow ones.

### **3. Hygiene**

23. Products marketed as hygienic are certified by the Defendants under standards they wrote that describe the dryers as hygienic then explicitly exclude it from consideration, or acknowledge the risks and certify anyway. Anna Lasso claims hygiene matters in a single line in both of her certifying documents with UL and then later Smart EPD, and then specifically excludes it from analysis. In a phone call on April 27, 2026 at 5:00pm she explicitly denied that she is responsible for the hygienic performance of the dryers she has certified twice at different companies, as well as not being responsible for verifying dryer time claims as part of her evaluation and certification of the machines [Exhibit KKK]. UL mentions hygiene once in its PCR and provides no testing requirements, fully denying responsibility for hygiene and safety issues of the product in an email from their Associate General Counsel for Litigation Lisa Sullivan dated May 22, 2026 at 5:55pm [Exhibit GGG] . Further, ISO 14025, binding on UL's certification and standards documents, explicitly requires the reporting of environmental toxicity and human health impacts of all tested products. NSF documents the public health risks of inadequate drying and bacterial dispersal but provides no standards or testing methods. SGS fails to mention hygiene at all. [Exhibits W, X, BB, AA, EE]

24. Hand dryers are the direct result of a lineage of continuous science since Semmelweis and extending for 150 years [Exhibit S] that, without exception, proves that washed and dried hands decrease death and disease. A hand dryer's sole purpose for existence is, uncontroversially, to increase sanitation for the user of a restroom. Drying hands after having washed them is the method. The Defendants, rather than building their standards around testing for functional sanitary performance, barely mention it or deny it is material to their certifications. At any moment during business hours 125,000 Americans are simultaneously being exposed to these amplified bacterial, fungal, and potentially viral, loads via the mechanism of Defendant's products.

#### **4. Water Dispersal**

25. None of the defendants address where the water on wet hands goes after the dryer air jets hit it. Anna Lasso, UL, and SGS never mention it. NSF created containment specifications for capture-type dryers but ignores dispersal-type dryers entirely, noting only that "liquid containment should be monitored during testing" for products that by design do nothing to contain liquid. The final stage of the product cycle - water dispersal into the shared restroom environment - has been completely ignored by every entity responsible for certifying these products. [Exhibits W, X, AA]
26. In a product whose single purpose, its literal reason for existing, is to remove water from wet hands the several certifying bodies writing the design, build, and testing standards for the products – and the manufacturers who make and sell

them - completely fail to mention the destination and management of the water on hands after the dryer air strikes it.

27. Further, ISO 14025 [Exhibits Y, A, Z, Za, Zb], binding upon UL's standards products, mandates reporting on environmental toxicity and human health impacts during the product cycle. EN 15804, not binding but cited by UL, requires the same.

28. That is surreal.

## **5. Plume of Filth**

29. No defendant addresses the persistent mold that forms on walls and dryer surfaces in 100% of dryer installations in any of their certifying, standards, or testing documents, once again triggering ISO 14025 and EN 15804 violations for mandatory reporting of environmental toxins. [Exhibits W, X, AA]

30. Plaintiff documented visible mold colonization on and under hand dryers in 100% of ~200 tested installations. No defendant mentions the problem, much less providing any standard for preventing, measuring, or remediating it. [Exhibit J]

## **6. Energy and Environmental Claims**

31. Defendants set the standards and offer certifications for energy use and carbon use for hand dryers, the central feature of all marketing claims made by every dryer manufacturer and a, possibly the, basis for over a billion dollars in purchases made every year. Anna Lasso claims in the TrueNorth LCA that Excel

dryers have "between 80% to 97% fewer impacts than the paper towel baseline" and "83% less" global warming potential. UL provides the methodology "to support comparable, informed, and objective sustainable purchasing" and in a prior, expired UL Excel Dryer EPD claimed 3.68 Wh per use and 3.05g of CO2 per use. NSF makes no direct environmental claims. SGS makes no energy claims, but its test results form the basis for all subsequent life cycle assessments.

[Exhibits W, X, AA, CC, DD, EE]

32. The energy savings and environmental claims made by hand dryer manufacturers are a primary reason they are purchased and the most heavily marketed aspect of their performance. Energy savings are based on false dry times certified by the Defendants. They are false by a factor of 10, making dryers approximately equivalent to paper towels.

## **G. HARM**

33. If someone wanted to create a worldwide system to capture microorganisms from each individual person and spread them as rapidly as possible to every other person, they would be hard-pressed to design a more efficient network than the forced-air hand dryers currently in place. Plaintiff has been caught in that network for decades - and he personally paid for the privilege.
34. Plaintiff paid for hand-drying certified as hygienic and as drying hands in seconds. He received the opposite: dryers that take sixty to ninety seconds and amplify contamination 49.6 to 110 times while spraying the water all over him as

it is sheared off. The certification was the basis of the bargain, and the bargain was false. That economic loss is Plaintiff's own, documented in his patronage of specific facilities on specific dates.

35. The certified eight-second dry time is false by an actual order of magnitude. Every use cost Plaintiff sixty to ninety seconds to dry his hands, impossible to accomplish at the certifiers dry times and using ten times more energy than promised.
36. Plaintiff did not seek a lawsuit. He found mold under a hand dryer, was horrified, and investigated because the thing he had seen demanded it. For eighteen months he tried to hand the problem to others who had created the problem. Only when that failed did he sue. Plaintiff's tens of thousands of dollars and thousands of hours were the price of a condition the Defendants created — not a litigation budget.
37. Plaintiff was exposed to the amplified microbial output of these dryers for decades by trust, believing that manufacturers, certifiers and purchasers would never expose him to a toxic, wasteful product. He simply never thought about it, living fully in the United States of America, in which we tell truth and stop those who do not.
38. The false certifications remain active. The products remain installed. Plaintiff still patronizes the stores that house them, and still faces the same forced choice: stand in the contaminated output long enough to dry, or leave with wet,

freshly contaminated hands. Each use, or refusal to use, is a new injury. It does not stop until the certifications are corrected or withdrawn.

#### **H. A BRIEF CASE SUMMARY**

39. How do products that fail every test they claim to pass carry certifications from multiple world class certifiers that say they are energy efficient and hygienic?
40. The preceding sections set out Plaintiff's specific claims and the Defendants' own representations. This summary draws them into a larger narrative context. Comprehensive, cited, evidentiary support for every assertion — here and in the sections above — follows in the Factual Allegations. There are no unsupported statements.
41. The science set out above is not seriously contestable: downdraft hand dryers do not dry hands in the time claimed, and during operation they amplify and disperse the very contamination a hand wash was meant to remove — spraying it all over the walls and floor around them, resulting in mold in every tested installation, varying only by degree. The question is how these products came to bear the marks of NSF, UL, SGS, and SmartEPD at all. This case is the answer to that question. The Defendants' own test data, protocols, and results, currently hidden as proprietary processes, private communications, and unpublished testing, certifications, and interagency discussion, will confirm what the science above already establishes when revealed.

42. This case does not ask the Court to hold a certifier liable for a defective product.

That law is settled, and Plaintiff does not disturb it. It asks the Court to recognize a different and primary liability: that a certifier is answerable for its own certifications - for the standards it writes, the tests it conducts, and the marks it places on products to induce public trust. Those are the certifier's products. They must be subject to evaluation and judgement by those who rely on them. The distinction is between a defective product and a defective standard. A product fails in the field; a standard fails on paper, certifying as safe and effective a product that is neither. The certification mark is not a private note to the manufacturer. It is a representation made to the public, relied upon at the point of use, and paid for through the price of every certified product. When that representation is false, the certifier that made it - not merely the manufacturer that displayed it - is accountable for the consequences.

## II. PARTIES

### A. Plaintiff

43. Plaintiff Ronald A. Blouch Jr. is an individual residing at 107 E. Locust Street, Mechanicsburg, Cumberland County, Pennsylvania 17055.
44. Plaintiff conducted what is believed to be the most comprehensive independent research program on commercial hand dryer performance ever undertaken.  
[Exhibits A-R] Over approximately two and a half years Plaintiff performed 460 drying trials across multiple manufacturers and models; 221 contamination tests measuring bacterial amplification; examination of 127 restroom installations for environmental contamination; hand counted ~50,000 bacterial and fungal colonies in ~1000 petri dishes; and compiled 1.5 terabytes of documentation, photographs, and video evidence. Ten journal-preprint studies are published with Digital Object Identifiers on Zenodo, a repository operated by CERN, and the Harvard Dataverse. [Exhibit K]
45. From 2014 through 2024, Plaintiff used NSF P335 certified hand dryers and products tested to UL PCR standards in public facilities throughout Pennsylvania and other states, and paid — through the price of the goods and services he purchased at those facilities — for the certified performance the products did not deliver. Plaintiff relied on Defendants' certifications in using these products, believing them to be hygienic and to perform as represented. Exhibit V documents this pattern of patronage through Plaintiff's Starbucks Rewards history and bank statements showing regular patronage at facilities equipped

with hand dryers bearing the challenged certifications. This is not hypothetical future harm; it is documented, repeated reliance on, and payment for, products certified to specifications that achieve zero percent empirical compliance.

## **B. Defendant NSF International**

46. Defendant NSF International is a Michigan nonprofit corporation with principal place of business at 789 North Dixboro Road, Ann Arbor, Michigan 48105.
47. NSF created NSF Protocol P335, titled “Hygienic Commercial Hand Dryers,” in April 2007 [Exhibit X]. The standard establishes requirements for hand dryer performance and hygiene. Section 6.3 requires certified products to achieve 0.1 grams residual moisture or less within one operating cycle or 15 seconds, whichever is shorter, with 95% effectiveness across 20 trials.
48. NSF certifies Dyson Ltd. hand dryer products under NSF P335. [Exhibit GG] The NSF P335 certification mark appears on Dyson products. Dyson markets itself as “The only hand dryer certified by NSF International Protocol P335.” NSF has maintained this certification for approximately nineteen years despite downdraft dispersal type products achieving zero percent compliance with the certified specification.
49. NSF’s President and CEO is Pedro Sancha. [Exhibit BBBB] NSF maintains a Type III environmental declaration program under ISO 14025. [Exhibit XXX]

### **C. Defendant SGS North America**

50. Defendant SGS North America, Inc. is a Delaware corporation (File No. 888911) with principal place of business at 400 Broadacres Drive, Suite 200, Bloomfield, New Jersey 07003, and testing laboratory operations at 620 Old Peachtree Road NW, Suite 100, Suwanee, Georgia 30024.
51. SGS tested hand dryer products to UL PCR standards. SGS test reports were filed in federal court proceedings and are relied upon by manufacturers to substantiate performance claims. [Exhibit BB] SGS testing was commissioned by Denis Gagnon, Excel's President and a UL PCR committee member. SGS tested at 12 to 15 seconds, not the 8 seconds manufacturers claim in marketing.
52. SGS North America, Inc. operates as an accredited testing laboratory under ISO/IEC 17025.

### **D. Defendant UL Solutions Inc.**

53. Defendant UL Solutions Inc. is a Delaware corporation with principal place of business at 333 Pfingsten Road, Northbrook, Illinois 60062.
54. UL created the Product Category Rules for Hand Dryers on July 13, 2016. [Exhibit W] The PCR establishes a 0.25 gram residual moisture threshold—2.5 times weaker than NSF P335. No scientific justification for this threshold appears anywhere in the 35-page document.
55. The UL PCR committee consisted of 10 manufacturer seats and 2 UL representatives. Excel Dryer held 4 of 10 manufacturer seats. William Gagnon,

Excel's VP and COO, chaired the committee. World Dryer held 3 seats.

Hokwang/FASTDRY held 3 seats. Zero public health officials, zero consumer representatives, and zero independent researchers participated in creating standards that affect public health.

56. UL's CEO is Jennifer Scanlon. [Exhibit AAAA]
57. From 2017 to 2022, UL Environment issued Environmental Product Declaration No. 4787137936.102.1 certifying Excel's XLERATOR Hand Dryer. [Exhibit CC]  
Wade Stout served as external verifier. The certificate specified 8-second drying times and 3.68 Wh energy consumption—specifications that UL's own PCR Figure 2 data showed were physically impossible. UL directly certified the false claims at issue in this complaint.

#### **E. Defendant Smart EPD LLC**

58. Defendant Smart EPD LLC is a Virginia limited liability company, entity ID 11379451, with registered office at 25320 Ripleys Field Dr, Chantilly, VA 20152.
59. Smart EPD LLC was formed on April 26, 2022, under the name "EPD USA LLC." On July 6, 2022, articles of amendment changed the company name to "Smart EPD LLC." Anna Lasso is listed as registered agent, with qualification stated as "Member or Manager of the Limited Liability Company."
60. Smart EPD's registered office address is a single-family residence. The mailing address listed on Smart EPD certificates and the company website — 585 Grove

St., Ste. 145, PMB 966, Herndon, VA 20170 — is a commercial mail receiving facility operated by UPS Store. [Exhibit KK]

61. Smart EPD certifies Environmental Product Declarations for hand dryer manufacturers, including Excel Dryer. Certificate numbers include SmartEPD-2023-002-0006-01, SmartEPD-2023-002-0007-01, and SmartEPD-2023-002-0008-01. [Exhibit AA] Smart EPD uses UL PCR methodology — the same methodology that Anna Lasso helped develop while employed at UL Environment.

62. Smart EPD issued its first Excel Dryer EPD on June 23, 2023 — eleven months after UL Environment’s EPD for the same product expired without renewal. The SmartEPD certificate specifies identical performance claims to the expired UL certificate: 8-second drying time and 3.68 Wh energy consumption. Thomas P. Gloria of Industrial Ecology Consultants verified the lifecycle assessment for both the 2017 UL certificate and the 2023 SmartEPD certificate.

#### **F. Defendant Anna Lasso**

63. Defendant Anna Lasso is an individual. Virginia State Corporation Commission records list her address as 25320 Ripleys Field Dr, Chantilly, VA 20152 — the same address as Smart EPD LLC’s registered office.

64. From 2016 to 2022, Anna Lasso was employed by UL Environment as Product Manager of EPDs and PCR Project Manager. In this role, she worked directly with William Gagnon as he chaired the UL PCR committee that created the Product

Category Rules for Hand Dryers. Her published article on Excel UK's website documents her role: "The PCR development process was initiated by William Gagnon, Excel Dryer's vice president of marketing and sales." She continues: "William was asked to serve as chairman of the PCR committee, working closely with me and other leading manufacturers." She concludes: "I'm proud to have played a part in producing the first ever published global PCR." [Exhibit KK]

65. On April 26, 2022, while employed at UL Environment, Anna Lasso filed articles of organization with Virginia for "EPD USA LLC," listing herself as registered agent and member or manager.
66. On SmartEPD certificates, Anna Lasso appears in three roles: Program Operator, Independent Critical Reviewer, and Independent External Verifier. ISO 14025 [Exhibit Y], which governs Environmental Product Declarations, requires these functions to be independent of one another. Section 6.2 states that verification "shall be conducted by an independent verifier." Section 8.1.3 requires that the program operator "shall not be the declaration holder." Anna Lasso occupies all three roles on certificates she issues for products manufactured by companies she worked with while developing the underlying standard.
67. Anna Lasso is named individually because Smart EPD LLC, as a single-member LLC operating from a residential address, cannot meaningfully contribute to any judgment; because she personally participated in creating the UL PCR standards while employed at UL and personally certifies products under those standards through SmartEPD; because Smart EPD LLC is her alter ego with no meaningful

separation between the entity and its sole operator; and because individual liability is appropriate given her direct role in both creating the certification standard and issuing certifications under it.

### III. JURISDICTION AND VENUE

68. This Court has subject matter jurisdiction under 28 U.S.C. § 1332. Plaintiff is a citizen of Pennsylvania. Defendant NSF International is a Michigan nonprofit corporation. Defendant UL Solutions Inc. is a Delaware corporation with principal place of business in Illinois. Defendant SGS North America, Inc. is a Delaware corporation with principal place of business in New Jersey. Defendant Smart EPD LLC is a Virginia limited liability company. Defendant Anna Lasso is a citizen of Virginia. Complete diversity exists. The amount in controversy exceeds \$75,000.
69. This Court alternatively has subject matter jurisdiction under 28 U.S.C. § 1331. This action arises under federal law governing interstate commerce in products bearing certification marks and standards development organizations operating under federal agency recognition.
70. This Court has supplemental jurisdiction over state law claims under 28 U.S.C. § 1367.
71. Venue is proper under 28 U.S.C. § 1391(b)(2). A substantial part of the events giving rise to this action occurred in this District, including Plaintiff's use of certified hand dryers in Pennsylvania facilities and Plaintiff's research activities documenting Defendants' certification failures.

#### **IV. UNTANGLING CERTIFIER LIABILITY**

72. This case rests on a single proposition the law already recognizes but rarely names: a certifier is answerable for its own certifications.
73. Explicitly, for our purposes here, that every standards choice the Defendants made, every claim in every governing document and certification certificate they created, was made for a single stated purpose: protecting the user of the hand dryer, and those they interact with, from environmental toxicity and disease in the restrooms they are used in. That chain is unbreakable and begins at the name of the product: hand dryer. A hand dryer dries hands. We dry hands to prevent disease. The Defendants built their standards on that science, certified products against it, and then ignored or violated those standards for decades. Energy usage and other issues exist in support of that outcome, are not contrary to it, and violations in testing and reporting any element of the chain increase harm to the user and the user's community. Plaintiff is here to describe the chain-in-fact and ask the Court for redress.
74. The sections that follow establish why the product exists for one purpose, why on the Defendants' own terms liability follows from every available reading of the facts, why the standard cannot be divided from the purpose it serves, and why the certification mark creates a duty to those who rely on it. The facts that prove each step appear in the Factual Allegations that follow; what follows here is why those facts matter.

## **A. Unbinding Mixed Law**

75. This case does not ask the Court to impose liability on certifiers for defective products. That question is settled. Certifiers do not manufacture products. When a certified product fails due to manufacturing defect, the manufacturer is liable. That is not being contested.
76. Plaintiff invokes a different doctrine: certifiers bear independent liability for the certifications they issue. This is not derivative of manufacturer conduct. It is primary liability for the certifier's own representations. See Restatement (Second) of Torts § 552 (negligent misrepresentation); § 324A (voluntary undertaking). The certifier's representations create obligations that run along a single spectrum, from the duty of reasonable care owed to those who foreseeably rely, through, at their furthest reach, the binding promise of a contract. This memorandum follows that spectrum to its end.
77. Defendants authored the standards. Defendants designed the test methods. Defendants controlled the protocols. Defendants issued the certifications. Every element was within Defendants' exclusive control. There is no intervening party to whom fault can be allocated. Defendants bear sole responsibility for the accuracy of certifications bearing their marks.
78. Defendants certified specifications. Plaintiff tested those specifications. 451 residual moisture trials, alone. [Exhibits A-R] Zero compliance at certified times. Residual moisture of 2.5 to 3.0 grams when defendants certified 0.1 to 0.25 grams. Bacterial amplification of 50-110× when defendants certified products as

“hygienic.” Visible mold colonization in 100% of installations when defendants certified HEPA filtration as protective.

79. Every certified specification is proven false. Plaintiff's data is fully public.

Plaintiff's methodology is fully documented. Defendants' underlying test data is not.

80. Plaintiff's testing is public, documented, and reproducible by any qualified party using the stated methodology and materials; the underlying test data on which Defendants' certifications rest is not public. On this record, Plaintiff's evidence that the certified specifications are false stands un rebutted by any comparable public data.

## **B. The Science Is The Product**

81. 150 years of universal scientific consensus that wet hands spread disease is the reason hand dryers exist [Exhibits S, T]. Washing hands exists to reduce microorganism count. Drying hands exists to reduce microorganism transfer.

82. This is foundational to the products. Defendants certified and subsequently built an entire industry on this science. Every marketing claim assumes it. Every certification standard incorporates it. Every sale depends on it.

83. Semmelweis established the importance of hand hygiene in 1847. Patrick et al. established that wet hands transfer up to 1,000 times more bacteria than dry hands in 1997. Defendants cite this research in their own marketing. They use the science to sell the products. They are bound by the science when the

products fail. They cannot claim ignorance of the science. That is the reason these products exist.

### **C. The Liability Position**

84. Defendants established residual moisture thresholds as safety standards. NSF set 0.1 grams. UL set 0.25 grams. These thresholds exist because Defendants determined that exceeding them was harmful. Leaving water on hands after drying was not permitted by their own self-selected standards.
85. If exceeding those thresholds causes harm, then Defendants certified products that exceed the thresholds by 1,000 to 2,770 percent [Exhibits B, E, H], and every use of every certified product exposes users to conditions Defendants themselves defined as harmful.
86. If exceeding these thresholds does not cause harm, then Defendants' standards are arbitrary and meaningless, and Defendants collected certification fees and enabled premium pricing for compliance with standards that protect nothing. They allowed certified companies to use promises of dry hands in their marketing materials, amplifying prices to prospective and real purchasers.
87. Both positions establish liability.
88. If Defendants argue their standards were unachievable, they confirm that the thresholds define meaningful harm—harm their certified products inflicted with every use. If Defendants argue their standards were meaningless, they expose

the certifications as fraud. Either position renders the certification fees unjustified and the resulting exposures compensable.

89. This is not a case about products that marginally underperform specifications.

This is a case about a certification ecosystem in which the governing committee held 10 manufacturer seats and 2 UL representatives — with zero public health officials, zero consumer representatives, and zero independent researchers; in which the residual moisture threshold was set at 0.25 grams, 2.5 times weaker than the existing NSF P335 standard, with no scientific justification appearing anywhere in the 35-page document; and in which the standards addressed only part of the product's use cycle while ignoring the rest. The physics never changed. The standards did. [Exhibits FF, JJ] And then the certifiers did. [Exhibit KK]

#### **D. The Standard Is Indivisible**

90. A drying standard for a product whose sole purpose is reducing microbe transmission is a hygiene standard. These two things cannot be separated.

Hands must leave the device as clean or cleaner than when they entered. This is not controversial.

91. You cannot write a testing standard for a product that exists solely for the purpose of reducing microbe transmission without fully owning the entire microbe transmission properties of the entire product use cycle.

92. Defendants certified drying time. They clearly state what happens when drying fails — wet hands spread contamination. [Exhibits S, T]
93. Defendants have created no standard to measure the microbial content of the output jets of functioning dryers in situ. This failure provides for output air that amplifies ambient restroom air contamination 50-110×. [Exhibits A, I]
94. Defendants certified “hygienic” hand dryers. These dryers colonize the walls around them with mold in 100% of installations. [Exhibits J, Q, R]
95. Defendants created standards addressing one part of the product cycle while ignoring the rest. NSF P335 Section 6.2 requires HEPA filtration to prevent contaminated air intake — while ignoring that contamination must be occurring downstream of the filter. NSF P335 Section 6.5 requires 99.9999% bacterial kill for water in capture-type dryers — while requiring nothing for dispersal-type dryers that spray contaminated water throughout the room. The UL PCR mentions hygiene once in 35 pages. Water dispersal — the primary mechanism by which these products affect public health — is not mentioned at all. [Exhibit W]
96. It is not reasonable to believe these omissions are oversights. They fit the model of liability engineering. Defendants wrote standards that address what manufacturers wanted addressed and ignore what manufacturers wanted ignored rather than testing the claims manufacturers make for the entire device use cycle.

97. That is not safety certification. Defendants wrote the standards. Defendants certified the products. Defendants own the outcomes.
98. The standard creates the duty in the abstract. The mark delivers it to the consumer. What the certifier writes obligates the certifier; what the certifier stamps on the product reaches the person who relies on it.

#### **E. ISO 14025 and EN 15804, the International Governing Standards**

99. ISO 14025, the international standard governing Type III Environmental Product Declarations, binds UL's PCR and EPD via UL's own declaration of compliance. This was a late discovery, entering the complaint after the settlement demand period began. Plaintiff was aware of ISO 14025 but not its binding nature on UL and SmartEPD's products, nor the extreme level of detail required for proper PCR, EPD and LCA formation if compliance with the standards is the goal.
100. The direct application of ISO 14025 and EN 15804 standards to UL and SmartEPD's products are briefed in the Factual Allegations and detailed in a Memorandum in Support of the Complaint, ISO 14025, ISO 14020, AND EN 15804 COMPLIANCE ANALYSIS: The Governing Standard Requires What the Defendants Excluded, incorporated by reference. [Exhibit MMM]
101. 14025 establishes a clear, linear frame for the creation of the full Type III declaration:
102. The program operator writes a set of Product Category Rules (PCR) under the mandatory and optional reporting requirements of 14025,

103. A Life Cycle Analysis (LCA) is written via the corollary standard ISO 14040,
104. The output of those two documents occurs within an Environmental Product Declaration (EPD), which combines all required and optional reporting mandated by the PCR with a summary of the LCA.
105. It is worth noting that the ISO 14025 is a remarkably well written and well organized standard, sequentially laying out the entire process in clear, well organized hierarchy which, while complicated, is not ambiguous.
106. UL's PCR states it "complies with ISO 14025," making UL's entire PCR, LCA and EPD library bound to all provisions, not only the provisions it likes. ISO 14025 mandates, among other requirements, that every PCR include environmental hazard and risk assessment methodology (§6.7.1(f)), identify materials and substances that can adversely affect human health in all stages of the life cycle (§6.7.1(g) and §7.2.1(i)), and address toxicity related to human health (§7.2.3(a)(2)) and hazard assessment on human health and the environment (§7.2.3(h)). UL's PCR and EPD contain none of these. The standard UL cited as governing requires the assessments UL and SmartEPD omit.
107. SmartEPD's LCA and EPD independently declare compliance with ISO 14025, ISO 14040, and ISO 14044 in its Reference Standards field. [Exhibit AA] The standard's independence requirements bind both program operators by their own declaration.

108. EN 15804, the European standard UL voluntarily adopted as its reference framework and tracked closely enough to footnote its specific deviations, independently confirms each of these requirements. EN 15804 defines itself as a PCR under ISO 14025 and lists ISO 14025 among the documents “indispensable for the application of this document.” EN 15804 §5.3 creates two categories of mandatory EPD information explicitly labeled “not derived from LCA”: physical data characterizing the product’s functional performance during the use stage, and information on emissions to indoor air during the use stage. Both describe what UL omitted. Both are explicitly outside the LCA framework. UL documented deviations from EN 15804 in two PCR footnotes. UL documented no deviation from these provisions. Plaintiff does not claim EN 15804 directly binds UL’s hand dryer certification because UL claims it does not, unlike the ISO 14025. Conceded. Yet UL cites parts of it enthusiastically in the dryer PCR, showing they were aware of guidance it gives and choosing to ignore it once again.
109. The detailed provision-by-provision analysis of ISO 14025, ISO 14020, and EN 15804 is set forth in the accompanying Unified ISO 14025 Memorandum. [Exhibits MMM, LLL] This section states the conclusion that memorandum establishes: two independent standards - one binding by UL’s own declaration, one voluntarily adopted – require reporting of the local environmental health, toxicity, and emissions assessment UL’s PCR and EPD do not contain. The omission is not a professional judgment call within the standards. It is a departure from mandatory provisions the standards state in terms.

110. Every issue independently raised by the Plaintiff regarding the performance of hand dryers beginning after the first air sample in August of 2023 is explicitly required to be addressed in the governing documents UL and SmartEPD voluntarily bound themselves to. Plaintiff wrote the entire complaint and offered the defendants settlement before discovering his claims were not only valid beyond simple reason, they were mandatory. The ISO along with the EN documents described below contain requirements that correlate nearly perfectly with every argument in this complaint - external standards from the most rigorous standards organizations in the world, completely unknown to Plaintiff as the work was completed.

#### **F. Certifier's Duty of Care – Negligent Misrepresentation**

111. The preceding sections establish that the certifier, not the manufacturer, is answerable for the standard it writes, the test it specifies, and the certification it issues. To whom does that duty run? The answer is well established. A certifier that supplies false certification information owes a duty of reasonable care to those it can foresee will rely on that information. The tort of negligent misrepresentation applies. It is there that the duty the preceding sections establish first comes to rest.

112. Pennsylvania has adopted Section 552 of the Restatement (Second) of Torts. One who, in the course of its business or profession, supplies false information for the guidance of others in their business transactions is liable for the pecuniary loss they suffer through justifiable reliance on that information, if the

supplier fails to exercise reasonable care in obtaining or communicating it. (Bilt-Rite Contractors, Inc. v. The Architectural Studio, 866 A.2d 270 (Pa. 2005)). Each element is established by the facts already set forth. Defendants' liability under Section 552 arises from the information they supplied.

113. The certifier supplies the information. The certifier's document represents its standard. The test methods and testing criteria are certifier's design. The test is the certifier's functional execution of its standard expressed through the standards and certifications it issues. Certification is the certifier's act, generated in the course of the business from which the certifier earns its revenue. This is the paradigmatic Section 552 posture: a business that supplies evaluative information offers correct information as its stock in trade.

114. The information supplied by Defendants regarding hand dryers is false via multiple metrics. Across hundreds of trials conducted using the certifier's own stated methodology as a proper template for sampling by the Plaintiff, the certified products achieved zero compliance with the certified and signed specifications. Residual moisture as measured was an order of magnitude above the claimed result in the time allotted by the certifiers in their certifying documents. Products required to be hygienic via the requirements established by the defendants themselves, amplified airborne contamination. The walls and floor near the certified devices all contained mold in every test. Falsity is not a matter of interpretation; it is the gap between what was claimed, what was required and what was certified compared to what the products do -

documented and reproducible by anyone - much of which can be determined by everyone reading this now by performing the test offered in paragraph 1.

115. This false information was supplied for the guidance of others. A certification is not issued for the certifier's private use. It exists to guide the decisions of the facility operators and procurement officers who specify certified equipment, the building designers using LEED submissions that rely on the published environmental declarations, the government and commercial regulators who accept the certifier's recognized authority, and the members of the public who use the certified products. [Exhibits BBBB, FFF, SSS, RRR, QQQ] These are the precise audience the certification is created to reach, and whose reliance is the certification's entire commercial value. A certifier cannot earn its revenue from others' reliance and simultaneously claim that reliance was unforeseeable. Should they do so, harmed parties require redress.

116. The certifiers failed to exercise reasonable care. If Plaintiff, a lay person, could look at a dirty wall and discover the mechanism in play, Defendants—professional certification bodies that undertook to test, certify, and represent hand dryer performance for public reliance—were required to exercise reasonable care to identify the same mechanism. That duty arises from law, not from Defendants' ability to define the boundaries of their own standards. See Restatement (Second) of Torts § 324A; *Farabaugh v. Pa. Tpk. Comm'n*, 911 A.2d 1264, 1283 (Pa. 2006); *Hanberry v. Hearst Corp.*, 276 Cal. App. 2d 680, 683–84 (1969); *The T.J. Hooper*, 60 F.2d 737, 740 (2d Cir. 1932).

117. The governing committees for two of the defendants, one of which was organized by a third defendant, were controlled by the manufacturers whose products it certified with the agreement of the certifiers who created the standards. The residual-moisture thresholds were simply made up. To Plaintiff's knowledge there is no scientific data establishing what a dry hand actually might be and if there is, none of the defendants cite it. The certifiers verified energy claims via false drying times that are physically impossible as far back as 2007 and continue to do so today. Certifications have been maintained for years, and continue to be implemented without surveillance testing. A certifier that proceeds in this manner has not been careful and mistaken; it has been careless, and Section 552 binds to carelessness.

118. Reliance was justifiable. Justifiable reliance is not a high bar where the defendant holds itself out as the independent, competent authority on the questions the relying party cannot answer for itself and who has established a reputation via its branding efforts and its prior work as trustworthy. A consumer does not test a dryer against a Product Category Rule, assuming that work has been done by the presence of the product in the restroom. A facility manager does not audit a microbial-kill protocol, assuming that work has been done by the certifier, for that is the claim. A building designer cannot reproduce a life-cycle assessment, it can only rely on one. Certifications exist so that they need not. That is the product the certifier sells. One who sells reliance as its product

cannot be taken seriously when they argue reliance on their product is unreasonable.

119. Reliance caused pecuniary loss. The relying parties paid for certified performance the products did not deliver. The certification premium is embedded in the price of certified goods and the contracts that specify them, and it flows upstream to the certifier whether or not any individual ever inspected a physical mark. The loss is the difference between the certified performance paid for and the performance delivered - a classic benefit-of-the-bargain pecuniary loss, actionable under Section 552 without proof of physical injury.
120. This is not a duty the Court is asked to recognize for the first time. The Third Circuit has already imposed it on a nationally recognized testing laboratory on facts materially analagous to these. In *Brand Marketing Group v. Intertek Testing Services*, 801 F.3d 347 (3d Cir. 2015), the court affirmed a jury verdict of \$6,045,000 — including \$5,000,000 in punitive damages — against an NRTL that negligently certified a product whose standards it did not meet. The court held that a testing laboratory's negligent misrepresentation is actionable when the laboratory knows others will rely on its certifications, and that the economic loss doctrine does not bar the claim under Pennsylvania's Bilt-Rite exception. Plaintiff presents the same legal theory, the same kind of defendant, the same state's law as binding in this District. The duty the preceding sections establish is the law of this Circuit.

121. So established, the certifier's duty of care is complete on its own terms. It runs to foreseeable relying parties — the operator, the designer, the regulator, and the consumer alike — through every channel by which the certifier supplied its false information. This is the core of Plaintiff's case, and it stands on settled law.

122. Certifications do not merely inform the consumer; they are placed on the product, at the point of sale and the point of use, as a promise the consumer pays for and relies upon by the retail forward mark the certifiers sell to their manufacturers, bound directly to the standards and certifications issued to the product carrying the mark. The section that follows advances a deeper reading. It is not necessary to Plaintiff's recovery, that duty is already established and binding under Section 552. It does, however, open a long closed door for examination and Plaintiff trusts the court to give it consideration.

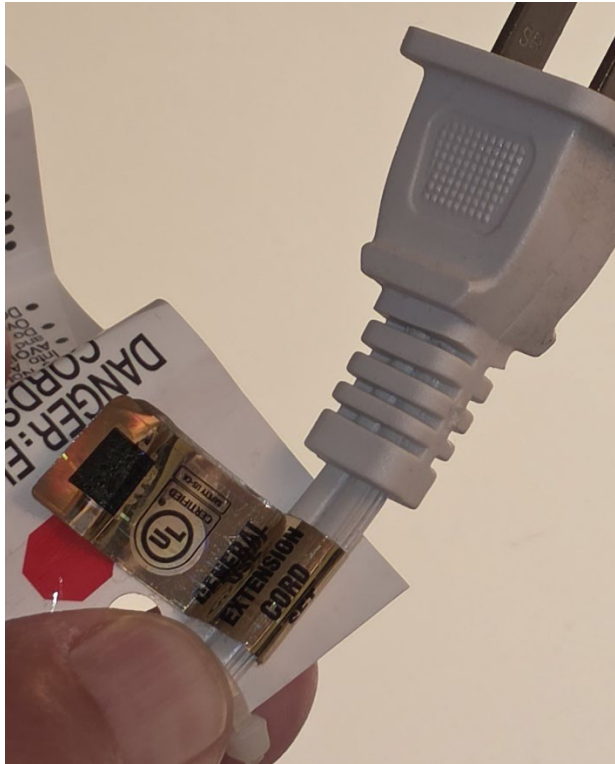
## **G. The Mark Is A Contract**

### **1. UL Solutions, Inc.**

123. Plaintiff incorporates paragraphs 72 through 122 above as though fully set forth herein.

124. Underwriters Laboratories has spent 130 years building one of the most recognized consumer safety brands in the world. The UL mark appears on 22 billion products annually. [Exhibit TTT] It is designed to be seen by consumers at the point of purchase and the point of use. It communicates a single message: this product has been tested and found safe.

125. UL did not build this brand by accident. UL built it through deliberate consumer-facing marketing. The paid manufacturer's certification sits in a file in the manufacturer's office. The UL seal faces the customer on the product.



**Figure [X]:** The UL certification mark, facing the consumer, on a general-use extension cord (UL 499).

[Exhibit UUU]

126. The UL mark functions similarly to the Nike swoosh or the Good Housekeeping Seal — it is brand advertisement directed at the purchasing public designed to generate a buying impulse – but it has an added component regular trademarks don't have: it is tied to a specific set of standards created by UL and binding to the product wearing the seal. Consumers do not read UL's testing protocols. Consumers do not review UL's certification documents. If UL was a manufacturer-facing company there would be no seal, only test results returned

to the purchaser of the tests to be kept in the file mentioned above. Consumers see the mark and trust it. That trust is the product UL sells.

127. What the consumer buys — embedded in the price of every marked product — is compliance with specific standards and specific testing. That is what distinguishes the UL mark from the Swoosh. The Swoosh promises an indeterminate set of brand qualities no court could enforce. The UL mark promises that a specific product conforms to published, enumerable standards that UL wrote, that UL tested against, and that UL certified as met *for that specific product*. That is not a dream of athletic greatness. It is not to Be Like Mike. That is a contract.

128. UL receives the benefits of that trust, earned from honest implementation of its testing and standards creation over a century. Manufacturers pay premium prices for UL certification because certification buys them a UL sticker, increases consumer confidence, product prices and value, and sales. Retailers stock certified products because certification reduces liability exposure because consumers are aware they have been tested, improving outcomes for not only the user but the seller. Facilities install listed and stamped equipment because certification represents due diligence, conveyed to the purchasers. The entire value proposition of UL certification depends on consumer reliance. Without the consumer trust UL Solutions has knowingly cultivated it is a tiny \$200M business like NSF International rather than the \$3B behemoth it has

properly become by virtue of its great work and skilled marketing. [Exhibits CCCC, ZZZ, AAAA]

129. Plaintiff advances this characterization in the alternative under Rule 8(d). Every element of contract formation is present, has always been present since the first UL sticker was attached, and UL has spent a century making certain of it. Plaintiff respects and admires the work.
130. Prior to discussion of any element of formation, it must be understood that at the moment of the creation of the UL label UL knew it was selling to the consumer. It turned a backchannel testing service into a public-facing certifier with a single act — the creation of the label — and has built its enterprise on that act with every sticker since.
131. This is not inferred from Plaintiff's reliance. It is established by UL's own conduct and words. UL's consumer-facing revenue - the premium that certification commands over bare testing - exists because consumers value the mark. Manufacturers pay for certification rather than testing alone because the mark raises consumer trust and sales.
132. UL places its mark on the reports it sends manufacturers to be filed in the cabinet, as it should. It then provides manufacturers a physical tag to put on the product itself, intentionally visible at the point of purchase and the point of use, meaningless to the manufacturer who already has the report. The sticker calls out at the two moments at which only the consumer is present, binding the

product and consumer to UL directly via the safety standard certification on file at the manufacturer.

133. UL spent a century building that mark into the most recognized consumer-safety symbol in the world. UL's own mission statement names “the public” as the beneficiary of its work and declares its purpose to “protect people.”
134. UL drafts language disclaiming liability to the very consumers it says it never undertook to reach — an acknowledgment that the relationship exists, or there would be nothing to disclaim. UL first sought the consumer at the moment of the invention of the product mark, it has cultivated the consumer ever since, and it substantially profits from the consumer company-wide.
135. The threshold question for any contract analysis is identifying the product and the parties. UL did not manufacture the hand dryer, and the hand dryer is not UL's product. UL's product is the certification — the standard it wrote, the test it specified, the verification it conducted, and the mark it placed on the device to communicate the result to the purchasing public and link the certification to the consumer via the product it certified.
136. When a consumer buys a product bearing the UL mark, the consumer buys two products from two businesses through one retail transaction: the physical device from its maker, and the certification from UL. The UL published standard contains the terms of the second transaction; the mark represents conformance to those terms; the price the consumer pays includes the cost of both.

137. The question is not whether a consumer may enforce a contract with a stranger about another maker's product. The question is whether a consumer who purchased UL's product - the certification - through a retail channel may enforce the terms UL published for it. As established above, the manufacturer is responsible for the product and UL is responsible for the standard. If the standard is broken, UL did it and redress is proper. If the standard is valid, UL did it and the customer is served. Stated correctly, the question is not novel; it is the most ordinary product transaction there is. The traditional privity objection — that the consumer did not contract directly with the certifier — dissolves once the product is correctly identified. The consumer purchased UL's product. The retail channel is the delivery mechanism, not a barrier to the transaction. Plaintiff brings it to the court to have it applied properly.

138. The UL mark is not merely a representation — it is a contract, and every element of formation is present. Under Restatement (Second) of Contracts § 19, a manifestation of assent “may be made wholly or partly by written or spoken words or by other acts.” Under § 4, a promise “may be stated in words ... or may be inferred wholly or partly from conduct.” The law enforces unsigned agreements formed by conduct as a matter of course; the only question is whether UL's deliberate, century-long, consumer-directed conduct manifests contractual assent. It does.

139. *Offer*: Because the certification is UL's product, the mark is UL's offer of that product — a definite promise, communicated to an identified party, on terms a

court can enforce. The UL product mark visibly attached to a certified product promises that the product conforms to a named published standard - UL 499 for a cord, the Product Category Rule and the Environmental Product Declaration for a dryer. In the case of hand dryers, 8.355 seconds at 0.25 grams and 3.68 watt-hours for energy use per dry. A dryer purchaser researching their purchase has found the above certified drying and energy specifications in the UL EPD, published since 2017. The mechanism is familiar. Every consumer who clicks past a license agreement is bound by published terms accepted through conduct - terms the consumer never opened and will likely never read. UL's mark operates the same way: published standards, accepted by purchase, binding without signature. But there is a critical difference. While the click-wrap license buries inscrutable legalese no regular person can comprehend, UL's terms are specifications the consumer needs - because the consumer is choosing, and alternatives exist. White paper towels are readily available. The consumer who knows the dryer does not dry in 8 seconds and is toxic chooses differently. That is why the terms matter, and that is why the offer is directed at the consumer rather than only filed in the manufacturer's cabinet. UL fixes its terms via PCR, LCA and EPD to a specific product and points the result at a specific person, the buyer, at the singular moment, standing in the store, at which the buyer decides. The public mark is not aimed at the manufacturer; the validation is done. There is no need for a mark, the manufacturer has already passed the test. The mark is exclusively outward facing. UL and the manufacturer point the mark directly at the consumer because the consumer is the one being asked to buy. That is an offer.

140. *Acceptance:* The consumer accepts UL's product by purchasing the product that carries it. No signature is required. UL has never asked a consumer to sign anything, the certifications and testing live behind the sticker, binding both UL and the consumer to the standards by virtue of the transaction. The law agrees: assent may be shown by acts, and a promise may be inferred wholly or partly

from conduct. Restatement (Second) of Contracts §§ 4, 19. The act here is the purchase. Where the marked product and the unmarked product sit side by side the buyer takes the marked one because it is marked. The buyer has accepted UL's product on UL's published terms. UL built the mark to produce exactly that act. It worked.

141. *Consideration:* The buyer pays for UL's product in the price of the carrier good, and UL is paid for it through the same channel. The manufacturer does not absorb the cost of certification out of charity; it buys the mark to protect itself and increase the value of its product. Protection for a manufacturer occurs when the certification certificate is placed into the filing cabinet. Value increases when the sticker is applied in the assembly line. That passes the cost into the price, the consumer pays it, and UL collects it. Strip the consumer out and UL's certification business earns a fraction of its current yearly gross. Consumer added value via public facing brand building is not incidental to UL's business - it is the reason UL is a three-billion-dollar company and NSF, selling a similar service without the same consumer trust nets \$200M a year. [Exhibits ZZZ, AAAA, CCCC] The very same premium proves both reliance and loss, and neither needs a contract. Plaintiff paid more with every cup of coffee at Starbucks, and for every extension cord he ever purchased, because of the mark. He received less than the mark promised in the Starbucks restroom while the extension cords uniformly performed perfectly for decades. Plaintiff unquestioningly used hand dryers for decades in reliance on standards like UL's. Whether consideration or loss, UL's failed certification was the cause.

142. *Mutual assent:* Two parties, one bargain, both committed to it — and the bargain is UL's product. The buyer's commitment is the purchase which is uncontroversial. UL's commitment has been repeatedly denied by UL across every civil suit Plaintiff has been able to find in this century. Twenty-two billion marks a year [Exhibit TTT], aimed directly at consumer eyes who paid UL for the privilege, marketed to the very same public UL's own mission statement swears

to protect (Exhibit QQQ), sold on the promise that the public can rely on what the mark says. UL has historically had it both ways, drafting language disclaiming any duty to the consumers it courts while clearly courting them. That language is not a defense but a confession — a party does not disclaim a relationship that does not exist. UL, Manufacturer and Consumer meet at the mark. They have met there, at the point of sale, on every marked product, for more than a hundred years. UL engineered it, priced it, and banked it.

143. *Capacity*: UL Solutions is a Delaware corporation, registered in every state, recognized by OSHA as a Nationally Recognized Testing Laboratory under 29 C.F.R. § 1910.7. UL is a company that contracts to certify products for a living. Plaintiff is an adult of sound mind. Capacity is not in question.
144. *Legality*: Certifying a product under a published standard is lawful and serves the public. Legality is not in question.
145. UL disclaims responsibility to the consumers whose trust it cultivates when certifications fail. See *Kikson v. Underwriters Laboratories, Inc.*, 501 F.3d 672, 675 (7th Cir. 2007) (UL contract disclaiming “no obligation or liability for damages... arising out of or in connection with the use of... information resulting from this investigation”) and *Toman v. Underwriters Laboratories, Inc.*, 532 F. Supp. 1017, 1019 (D. Mass. 1982) (“UL can be held liable only for its own negligence, not vicariously for that of [the manufacturer]”).
146. Courts have disagreed. *Hanberry v. Hearst Corp.*, 276 Cal. App. 2d 680, 685 (1969), held that one who endorses products for economic gain owes a duty of care to consumers who rely on that endorsement: “Having voluntarily involved itself into the marketing process, having in effect loaned its reputation to promote and induce the sale of a given product... public policy imposes upon it

the duty to use ordinary care in the issuance of its seal and certification of quality so that members of the consuming public who rely on its endorsement are not unreasonably exposed to the risk of harm.” Hanberry recognized the relationship. It imposed duty. The next step—recognizing that relationship as contractual—follows inevitably from the same facts.

147. UL is not liable for defective products. UL did not manufacture the hand dryers. UL did not design them. If a hand dryer explodes due to a manufacturing defect, UL bears no responsibility. That is a reasonable standard and is settled law. This Court should not disturb it. See *Toman v. Underwriters Laboratories, Inc.*, 532 F. Supp. 1017, 1019 (D. Mass. 1982).

148. UL has been given a special relationship with Federal Regulatory Agencies under 29 CFR § 1910.7 — Definition and requirements for a nationally recognized testing laboratory. UL remains an OSHA-recognized NRTL, most recently renewed March 5, 2021 (86 FR 12710). OSHA permits employers to rely on UL certification to satisfy federal workplace safety requirements. The UL mark carries regulatory weight. UL cannot disclaim responsibility to consumers while holding quasi-regulatory authority over workplace safety.

149. UL is liable for defective standards and defective testing.

150. UL created the Product Category Rules for Hand Dryers [Exhibit W]. UL convened the committee. UL published the standard. UL specified the test methodology.

151. Plaintiff tested products against UL's certified specifications using UL's specific testing guidelines in the PCR as the procedural template. 460 trials. Zero compliance. The certified specifications are proven false.
152. These distinctions are critical and have not been squarely addressed in prior litigation:
153. *Defective product, valid standard*: Manufacturer liability, radiates to the consumer. The certifier tested properly; the product failed in the field due to manufacturing variance or misuse. Certifier not liable. Settled law.
154. *Defective standard*: Certifier liability, radiates to the consumer. The certifier created a standard that fails to protect public safety. Products “pass” certification but harm users. The certification itself is the defect and is redressable by manufacturer and consumer both.
155. *Defective testing*: Certifier liability, radiates to the consumer. The certifier certified specifications that products do not meet. The testing process failed to detect non-compliance. The certification is false and is redressable by manufacturer and consumer both.
156. This case refers to all three but specifically involves the latter two. UL's standard is defective - it ignores water dispersal, ignores output air contamination, and was written by a committee composed of manufacturers that excluded public health officials. UL's testing is defective — it certified a drying time understated by an order of magnitude, misleading consumers about the duration of their

exposure to contaminated air and understating energy consumption by a factor of ten.

## **2. NSF International**

157. Plaintiff incorporates paragraphs 123 through 156 above as though fully set forth herein.

158. NSF International's position is equivalent, while also being more explicitly consumer-directed per the built-in, self-administered claims made in the hand dryer P335. NSF International is an NRTL, initially recognized on December 10, 1998 (63 FR 68309), under 29 CFR § 1910.7.

159. NSF's website states: "Choosing a product certified by NSF lets you know the company complies with strict standards and procedures imposed by NSF."  
[Exhibits YY, ZZ] It promises "assurance that the product has been rigorously tested." NSF markets itself as "protecting public health" and positions its mark as consumer protection.



**Figure [Y]:** The NSF P335 mark — 'TESTED. CERTIFIED. HYGIENIC.' — on a certified Dyson Airblade. [Exhibit SSS]

160. These are not implications to be inferred from conduct. These are explicit promises, in writing, directed at consumers. NSF does not merely allow consumer reliance—NSF solicits it. NSF advertises it. NSF built its business model on it.

161. If UL's contract with consumers must be deconstructed from 130 years of conduct, NSF's contract requires no effort at all. NSF stated the terms.  
"Choosing a product certified by NSF lets you know the company complies with

strict standards.” That is an offer. “Assurance that the product has been rigorously tested.” That is a promise. “Protecting public health.” [Exhibit RRR] That is the consideration consumers believed they were receiving. NSF wrote the contract in plain English on its own website and in its corporate and promotional statements and promises.

162. Consideration flows identically as it does with UL: certification fees embedded in product pricing, paid by consumers, received by NSF through manufacturers as conduit. The P335 certification commands premium pricing precisely because consumers value “assurance.” NSF captures that value. NSF is bound by the promise that created it, contracted with consumers through its label and the standard via its dryer certification.

163. NSF certified Dyson products under Protocol P335 — titled “Hygienic Commercial Hand Dryers” — for over nineteen years [Exhibit GG]. Plaintiff tested current certified models. 460 dry time trials. Zero compliance with NSF's certified specification. Bacterial amplification of 49.6-110× in products NSF certified as “hygienic.” [Exhibits A, I]

164. NSF created the standard. NSF certified the products. The certifications are proven false. NSF owns that failure.

165. This is why Hanberry imposes duty. The certifier has “loaned its reputation to promote and induce the sale” of products. The certifier profits from consumer reliance. But Hanberry addressed an implied endorsement relationship. NSF's

relationship is not implied—it is advertised. The law does not permit certifiers to make explicit promises to consumers and then disclaim responsibility when those promises prove false.

166. Defendants cannot take the benefits of consumer trust while disclaiming responsibility to consumers.

### **3. The Contract Defense and Its Failure**

167. The traditional defense is predictable: UL and NSF contracted with manufacturers, not consumers. Consumers are incidental beneficiaries. There was no meeting of minds.

168. Courts have been reluctant to open this door—but that reluctance reflects policy preference, not contract law or simple contract theory. The elements have never not been present since UL had the first manufacturer put the first sticker on the product for sale. The Certifiers' public marks have never not been a contract. Offer, acceptance, consideration, mutual assent—all satisfied with every purchase of every marked product for over a century. Courts have declined to recognize what was always there, protecting an industry that built its entire revenue model on consumer reliance while disclaiming responsibility to the consumers it cultivated, afraid to open a door that might eliminate the ability for a company to function as a certifier. That is worthy of respect but has left 100 years of legitimately harmed parties without redress.

169. Plaintiff proposes this case and these arguments allow the courts to safely unpack liability and provide harmed customers who were previously discarded access to proper redress and restitution while continuing to protect the certifiers from erroneous claims and improper litigation.
170. Every element of the certifier business model once the sticker was invented - the visible mark, the consumer-directed marketing, the promise of “protection,” the cultivation of trust - was engineered to create consumer reliance. Defendants built the relationship. Defendants profited from the relationship. Defendants are bound by the relationship. Intent is inferred from conduct, and Defendants' conduct for over a century admits of no other interpretation.
171. And Defendants relentlessly deny all of the above and have, under oath. For decades.
172. The mark is the contract. The certification is the breach.
173. Plaintiff advances the contract characterization above as one front among several, and in the alternative. Plaintiff does not rest his claims upon it. The same facts that establish the certifier's consumer-facing promise and the consumer's reliance — the deliberately consumer-directed mark, the consideration that flows through the manufacturer to the certifier, the cultivated and monetized trust — independently establish the certifier's duty of reasonable care under Restatement (Second) of Torts § 552 and its liability under the UTPCPL, on which Plaintiff's claims principally rest. Whether or not the Court

recognizes the relationship as contractual, the duty and the violation stand on the same conduct.

## **V. FACTUAL ALLEGATIONS**

### **A. THE APPLIED SCIENCE**

#### **1. Empirical Proofs**

174. Plaintiff's testing and analysis are fully documented, transparent, and open to independent verification. All underlying data, images, sampling records, and chain-of-custody materials have been preserved at multiple locations and will be made publicly available in their entirety at the time of filing. [Exhibits A-R]

Plaintiff's conclusions are not asserted as matters of authority, but as matters of record: they are testable, falsifiable, and reproducible by any qualified party using the same methods and materials. The associated research manuscripts are published pre-prints and are provided in complete form together with the full evidentiary record on which they are based, precisely so that Defendants, their experts, and the Court may evaluate the work directly rather than through second-hand characterization.

175. Plaintiff's research methodology, data, and analysis are published in ten studies with Digital Object Identifiers on Zenodo and at the Harvard Dataverse. All raw data, 1.3TB, is hosted at Cloudflare and Backblaze . The studies are publicly available, peer-accessible, and independently verifiable on 12 websites. All of this material is preserved on 50 hard drives distributed to 50 trusted individuals.

176. The standards at issue were not imposed on Defendants by regulators.

Defendants created them. Defendants promoted them. Defendants certified products under them. Defendants' own data proves compliance is impossible.

**a. Drying Time Performance Testing Results**

177. Performance curves from three manufacturers across 451 drying time trials demonstrated convergent correlation coefficients exceeding  $r = 0.99$  across all pairwise comparisons ( $p < 0.001$ ). [Exhibits B, E, H, L] In 31 trials conducted at manufacturers' exact claimed dry times—8 seconds for XLERATOR, 10-12 seconds for Dyson Airblade, 12 seconds for World Dryer—zero trials achieved any certification threshold [Exhibits B,E,H]. The most favorable result from all trials was 1.67 grams. Defendants certified 0.1 to 0.25 grams. Plaintiff documented 1.67 grams at best, 2.5 to 3.0 grams typically, ~1000% to 2500% over specification. At the times manufacturers claim and certifiers certified, every product failed every standard.

**Compliance rates at claimed dry times:**

| Threshold | Standard                | Compliance at Claimed Times |
|-----------|-------------------------|-----------------------------|
| 0.10g     | NSF P335                | 0%                          |
| 0.20g     | Excel rejected proposal | 0%                          |
| 0.25g     | UL PCR                  | 0%                          |

**Extended drying trials (429 total, drying times far beyond claims):**

| Threshold | Ever Achieved    |
|-----------|------------------|
| 0.10g     | 3.5% (15 trials) |
| 0.20g     | 14.9%            |
| 0.25g     | 16.8%            |

178. In real-world use, giving all the parties involved full benefit of the doubt with a 15 second drying time, hands remain visibly wet in 100% of observed trials. Water can be seen visibly dispersing from the hands onto the walls, floors, and the user with every drying cycle. No instrumentation or special skill is required to see it. Any person can verify this for themselves.
179. NSF P335 Section 6.3 establishes clear, quantified requirements: residual moisture of 0.1 grams or less at manufacturer-specified times, with 95% compliance across 20 trials.
180. Plaintiff conducted 451 trials—more than twenty times the sample size required for NSF certification. Zero trials achieved 0.1 grams or less at manufacturer-specified times. The average residual moisture was 2.77 grams—nearly 28 times the allowed threshold. The NSF standard requires 95% compliance. Actual compliance was zero percent. The deviation is not marginal. It is 2,770 percent.
181. The probability that products achieving zero percent compliance in 451 trials would achieve 95% compliance in a 20-trial certification test approaches zero. ( $p < .001$ ,  $r = .99$ ) [Exhibit H] This is not sampling variation, it is systematic failure. Certified products exceed the certified threshold by 2,770 percent. Exceeding

these thresholds harms users or renders the standards meaningless, establishing liability either way.

**b. The Physical Impossibility of Certified Drying Times**

182. The claimed drying times are not merely difficult to achieve. They are physically impossible to achieve. [Exhibits B, E, H, L]

183. Plaintiff's data demonstrates that water removal follows a bi-modal decay pattern [Exhibit H]. The first phase removes loose surface water quickly. The second phase removes bound water slowly. All dryers—regardless of manufacturer, technology, air velocity, or price—converge on 80 to 90 seconds of drying time to approach the 0.1 gram NSF drying threshold, with each brand and model having a slightly different profile but with all drying curves fitting together in a consistent pattern. R-squared across all trials of 0.9998—near-perfect fit.

184. Plaintiff later discovered that Excel's own researchers had identified bi-modal drying. In an undated preprint filed as Exhibit H in Case 3:12-cv-30211-MAP on February 22, 2013 "An Ultrafast, Comfortable Hand Dryer" [Exhibit UU], Excel's consultants Sol Aisenberg and G. Freedman documented the same bi-modal physics Plaintiff independently discovered. They wrote: "Two sequential phases of drying are used. Phase 1 is the blowing off of loose water droplets, accounting for about 75 percent of total water removal in the first 3 seconds, and Phase 2, the evaporation phase." Plaintiff agrees in principle and disagrees in practice as most water in phase 2 continues to blow off of hands rather than evaporate. This

requires further testing for validation. Their Figure 4 shows residual moisture of 1.25 grams at 4 seconds, declining to 0.2 grams at 13.5 seconds, again, magical numbers 1500% below Plaintiff's findings even at this early testing date. This is Excel's own data, using Excel's self-invented 0.2 gram threshold—not NSF's 0.1 gram standard. They concluded: "preliminary experimental data... indicate that we can realistically expect this number to be reduced to the 10 to 12 second range in the near future." Excel now markets 8 seconds to UL's 0.25g. Plaintiff found 80-90 seconds to approach 0.1g at  $p < .001$ .

185. Plaintiff tested this bi-modal framework across three manufacturers: Dyson, Excel (XLERATOR), and World Dryer. All three demonstrated effectively identical performance curves. Cross-manufacturer correlations exceeded  $r = 0.999$  ( $p < 0.001$ ). These are not similar curves. They are *functionally identical* curves produced by three different companies using three different engineering approaches. [Exhibit L, H]

186. On December 4, 2025, prior to testing a third manufacturer for the first time, Plaintiff documented a formal prediction: World Dryer products would fail identically to Dyson and Excel because this is a physics issue, not an engineering problem. On December 5, 2025, Plaintiff tested World Dryer VerdeDri units at three locations. The prediction was confirmed. World Dryer achieved first compliance with its claimed standard of 0.25 gram UL threshold at 40 seconds—233% longer than the manufacturer's 12-second claim, and never got below 0.1g

because water kept splashing back off the wall due to dryer nozzle proximity.

[Exhibit H]

187. The joint probability of three independent manufacturers producing correlation coefficients all exceeding  $r = 0.99$  under the null hypothesis (that performance varies by manufacturer) is less than one in one billion.

**c. Contamination Results: Microbe Load in Output Dryer Air**

188. Plaintiff's Microbial Contamination Study (Study 1, n=87) and Ambient Air Comparison Study (Study 9, n=49) documented bacterial amplification across all tested units. The methodology was consistent: measure ambient air at a realistic drying time, then measure dryer output air at a realistic drying time, then calculate amplification factor. Study 9's sampling time was based on the findings in Study 2 and Study 5 [Exhibits A, B, E, I, M, N]

**Table 3: Airborne Contamination Results**

| <b>Metric</b>                | <b>Study 1 (LB Agar)</b> | <b>Study 9 (TSA Agar)</b> | <b>Combined</b> |
|------------------------------|--------------------------|---------------------------|-----------------|
| Tests conducted              | 87                       | 49                        | 136             |
| Tests showing amplification  | 87 (100%)                | 49 (100%)                 | 136 (100%)      |
| Tests showing reduction      | 0 (0%)                   | 0 (0%)                    | 0 (0%)          |
| Median ambient air CFU       | 1                        | 2                         | —               |
| Median hand dryer output CFU | 73                       | 200                       | —               |

| Metric                            | Study 1 (LB Agar) | Study 9 (TSA Agar) | Combined             |
|-----------------------------------|-------------------|--------------------|----------------------|
| Median amplification factor       | 49.6×             | 110×               | —                    |
| Probability under null hypothesis | —                 | —                  | $p \approx 10^{-41}$ |

189. One hundred thirty-six consecutive tests showed amplification, validating the hypothesis generated before the first sample was ever taken [Exhibits A, I]. No dryers reduced bacterial load. The probability of this occurring by chance is approximately 10 to the negative 41st power.

190. Products certified as “hygienic” amplify bacterial contamination by 50 to 110 times compared to ambient room air, literally the opposite of hygienic. Defendants certified an industry built on hand washing science, providing the conceptual base for the products to sell. They cannot now escape it when those products fail their own testing standards. This is not hygiene. This is the opposite of hygiene.

191. The test remains simple: remove the dryer from the room. Is it more or less sanitary?

#### **d. Water Spray, the Absent Standard**

192. Plaintiff created a novel but accurate distinction that brings clarity to the current state of the hand dryer market. [Exhibits C, F] There are Dispersal-Type dryers and Capture-Type dryers. The recent discovery described in detail in

Memorandum One: LATE FINDING: THE INSERT HAND DRYER, THE NSF P335, AND THE CERTIFICATION GAP has led to further refinement of the types: Insert-Type and Downdraft -Type. There are four combinations of dryers in use today and discussed in this complaint: Insert and Downdraft Dispersal dryers and Insert and Downdraft Capture dryers.

193. Capture dryers collect water in receptacles for disposal. Very few remain in use, never having become common in the United states.
194. Dispersal dryers have no mechanism for processing the water after the output dryer air jets hit it. They spray it everywhere in a truly bizarre design parameter that everyone sees and nobody seems to think about. Does spraying water all over a restroom make any sense at any level of thinking?
195. NSF P335 Section 6.5 imposes detailed, strict disinfection requirements on capture dryers—and zero requirements on dispersal dryers. [Exhibit X]
196. The UL PCR and the NSF P335, along with all other known certifications, have no standards for the water coming off of hands, the necessary last phase of the product operational system cycle. It is *never mentioned anywhere*.
197. Dispersal dryers operate at air velocities of up to 420 mph—hurricane force. At these speeds, water is mechanically stripped from hands and thrown into the room with very little evaporation occurring as part of the removal process. The physics is not subtle. It is violent.

198. Plaintiff's baseline water study documented 7.30 grams of water on hands after washing [Exhibit F]. Approximately 90% of this water is removed by mechanical shear during the first phase of drying, not by evaporation. That water must go somewhere.

199. Plaintiff's Visual Dispersal Study documented where the water goes [Exhibit C].

High-speed video captured water destinations including:

- Adjacent walls and floor surfaces
- User clothing: torso, forearms, thighs, shoes
- User face and hair from upward dispersion
- Airborne mist remaining visible for three or more seconds after drying
- Concentrated accumulation patterns on all surrounding surfaces

200. Paper towels showed a single destination with occasional large drops falling off as the towels are grasped: absorption into the towel material, followed by disposal. Minimal environmental dispersal. [Exhibit C]

201. Remove the dryers from the room and replace them with white paper towels.

What is the impact on the restroom and the users?

202. The dispersed water cannot be sterile. Plaintiff's microbial studies documented 50-110× bacterial amplification in dryer output air [Exhibits A, I]. The contamination measured on petri dishes arrived via the air stream. The air stream contains water droplets. Those droplets originated from users' hands. The water is the carrier medium for the measured contamination.

203. Further, the contamination problem compounds with user behavior. The CDC recommends scrubbing with soap for at least 20 seconds. Few do. In a study observing 3,749 restroom users, only ~5% washed long enough to meet that standard; roughly one in ten did not wash at all, and nearly a quarter wet their hands without using soap. Among men, over a third merely wet their hands without soap. [Exhibit DDDD] The dryer does not verify washing compliance before turning on, it disperses whatever is present on hands - properly washed or not - into the shared environment.
204. Consider three users:
205. Compliant user (soap, 20 seconds, proper technique): Disperses water contaminated by dryer amplification of 50-110×.
206. Average user (quick rinse, minimal soap): Disperses significantly more contaminated water from inadequately washed hands plus dryer amplification.
207. Non-compliant user (10 second wet, no soap): Disperses fecal bacteria, pathogens, and whatever was touched directly into the room—amplified by the dryer—for the next person to encounter.
208. Every user's output becomes every other user's input.
209. The least hygienic user contaminates the air for everyone who follows. Certifiers and manufacturers provide no guidance or design standards for containment or elimination. It is *never mentioned* in any of the Defendants' documents. The

dryer broadcasts the consequences of improper washing to everyone in the room.

210. Poor washing plus a paper towel equals contamination contained in the towel and disposed in trash. Poor washing plus dispersal dryer equals contamination broadcast to surfaces and people in the space.

211. At 150 million daily dispersal-type dryer uses in the United States, water dispersal occurs at population scale [Exhibits AAA, BBB]:

- Daily: 2.8 to 4.6 million cups of water sprayed onto users, walls, floors, and fixtures
- Annually: 1 to 1.7 billion cups of water dispersed into public restroom environments
- Per dryer: Approximately 3 cups of water dispersed daily

212. That is not incidental moisture. It is systematic environmental contamination at industrial scale.

213. Neither NSF P335 nor the UL PCR contains any standard, test, measurement, or specification for water dispersal. The primary output of the device—where the water goes—is completely unaddressed. [Exhibits W, X]

214. Defendants certified drying time. Defendants certified energy consumption. Defendants certified HEPA filtration of intake air. Defendants ignore water that sprays onto walls, floors, clothing, faces, and into the lungs of everyone in the room. The most consequential sanitation related output of the device has not a single standard written to manage it.

215. Remove the dryers from the room. Is it more or less hygienic?

216. The water the standard never accounts for does not vanish. It lands, and it grows. The physical evidence of where it goes is documented next.

**e. Physical Environmental Mold Contamination: The Plume of Filth**

217. Plaintiff's Wandering Plume of Filth Study [Exhibits J, Q, R] documented visible contamination patterns beneath hand drying equipment. Plaintiff randomly entered 127 public restrooms and visually examined the areas under the dryers and towel dispensers using NIOSH and FDA standard mold assessment techniques along with a proprietary set of criteria that offered much greater detail. The study compared all drying interventions as found in the restrooms with no criteria for non-inclusion. Hand dryers and/or paper towels using various dispenser configurations were found in all restrooms.

**Table 4: Environmental Contamination Results (n=127 restrooms)**

| Intervention Type            | n  | Wall Plume Present | Visible Mold | Mold Rate |
|------------------------------|----|--------------------|--------------|-----------|
| Dispersal-type hand dryers   | 50 | 50 (100%)          | 50           | 100%      |
| Capture-type hand dryers     | 3  | 0 (0%)             | —            | —         |
| Brown paper towel dispensers | 30 | —                  | 12           | 40%       |
| White paper towel dispensers | 39 | —                  | 5            | 13%       |

**Statistical comparison:**  $\chi^2 = 72.0$ ,  $p < 0.001$ ; **Ratio:** Dispersal dryers show 8× higher mold rates than white paper towel installations (100% vs. 13%)

218. Every dispersal-type hand dryer installation exhibited visible wall mold. One hundred percent. The contamination pattern radiates outward from the device, originating narrow at the unit and fanning toward the floor like a plume—which is exactly what it is.
219. Independent laboratory analysis by Hayes Microbial Consulting (EPA Laboratory ID: VA01419) confirmed fungal presence in wall contamination samples. Species identified include *Aspergillus*/*Penicillium*, *Alternaria*, *Cladosporium*, and *Chaetomium*—organisms documented by CDC and the Institute of Medicine to cause allergic reactions, hypersensitivity pneumonitis, and mycotoxin production. [Exhibit U]
220. The plume is a persistent physical presentation that correlates with the microbial and fungal findings in the dryer output air. Mold was present at 100% of dispersal-dryer installations and 13% of white-paper-towel installations — an eightfold difference ( $\chi^2 = 72.0$ ,  $p < 0.001$ ). In matched same-restroom comparisons, the difference tracked the device, not the environment, and the contamination radiates outward from the unit in a gradient consistent with the dryer's documented output dispersal. The convergence of these findings supports the dryer as the source of the contamination. The visible contamination reflects dryer emissions minus cleaning, with even the cleanest installations still

showing trace mold, particularly under the dryer itself, in the zone of maximum air turbulence during drying.

221. Critical finding: The contamination affects everyone who enters the restroom, not just dryer users. A person who uses paper towels if they are provided, a person who uses the sink but not the dryer, a person who simply walks through—all are exposed to amplified microbial loads and environmental mold created by a hand dryer. The harm extends beyond users to everyone in the space.
- Defendants certified drying. Defendants certified products whose sole purpose is hygiene. They are entirely responsible for what happens when those products contaminate rather than clean.

#### **f. The Paper Towel Alternative**

222. Plaintiff's paper towel contamination studies produced a novel finding: prior paper towel research never sorted by towel type. [Exhibits D, I, M-P]
223. White paper towels are statistically equivalent to ambient room air in microbial content. In Study 4 (n=29), 55.6% of white towels were completely sterile. The remainder contained 1-2 CFU. Mean contamination: 0.56 CFU. Wilcoxon signed-rank test against ambient air:  $p = 0.23$ —no significant difference. White paper towels do not add contamination. They may reduce it.
224. Brown paper towels are contaminated from the factory. 100% of samples contained microbial colonies, ranging from 6-186 CFU across both studies. The contamination is intrinsic to the product.

225. The distributions do not overlap. The 75th percentile of white towels (1 CFU) falls below the 25th percentile of brown towels (11 CFU). This complete distributional separation is exceptionally rare in biological data. Cohen's  $h = 1.671$ .  $p < 0.003$ .
226. Study 9 conducted dual-intervention tests: dryer and paper towels tested in the same restroom on the same day under identical ambient conditions. Hand dryers produced 138-407× more contamination than white paper towels. The difference is the device, not the environment.
227. Paper towels dry hands in 20-30 seconds to 0.1g residual moisture—faster than dryers at actual performance. Water is absorbed into the towel and disposed in trash. No dispersal. No aerosol. No plume.
228. Plaintiff's Wandering Plume study documented the environmental consequence. White paper towel dispensers showed 13% mold rates (5/39 installations). Brown paper towel dispensers showed 40% (12/30). Dispersal-type hand dryers showed 100% (50/50). The 8-fold difference between white paper towels and dispersal dryers is not variation — it is categorical. The dryer creates the mold. The paper towel does not. [Exhibits J, M-P, Q, R]
229. Remove the dryer. Install a white paper towel dispenser. Every problem documented in this complaint disappears. The infrastructure exists. The cost is equivalent. The dispenser fits the space. The hypothetical answers itself.

## **2. The Green Energy Catastrophe**

230. False drying time claims corrupt every environmental calculation built upon them. Energy consumption is power multiplied by time. When manufacturers claim 8 seconds but products require 70-90 seconds, energy consumption increases tenfold. The entire environmental marketing narrative collapses.  
[Exhibits B, E, G, H, L]
231. Manufacturers claim hand dryers use 3 Wh per dry and produce 85-90% less CO<sub>2</sub> than paper towels. These claims assume 8-12 second drying times. At actual drying times of 70-90 seconds, energy consumption rises to 25-28 Wh per dry—7.5 to 8.75 times higher than claimed.
232. Using Defendants' own commissioned lifecycle data [Exhibits AA, BB, CC DD, EE, FF], the claimed 85-90% environmental advantage disappears entirely. At actual drying times, hand dryers produce CO<sub>2</sub> emissions equivalent to paper towels. When independent academic studies are included, hand dryers perform 2-3 times worse.
233. False times create false energy and CO<sub>2</sub> emissions values, leading to false marketing claims made by manufacturers with explicit attribution to certification by Defendants.
234. The false data propagates into building certification. Excel's LEED v4.1 guidance [Exhibit HH] instructs building professionals to "input 3.68 Wh per 8 second cycle use... for energy modelling purposes." Thousands of LEED-certified buildings contain false energy data in their certification calculations. The

environmental benefits represented to building owners, tenants, and the public do not exist.

235. Products marketed as environmentally superior consume 7-10 times more energy than claimed and provide no CO<sub>2</sub> advantage over paper towels.

236. Three independent AI systems (Claude, ChatGPT, Grok) verified these calculations using manufacturer-published lifecycle assessment data, working from primary sources without access to each other's outputs. All three converged on the same conclusion. [Exhibits BBB, CCC]

#### **a. The Claimed Calculation**

237. Excel claims XLERATOR dries hands in 8 seconds at 1,450 watts:  $1,450W \times 8s \div 3,600 = 3.22$  Wh per use. Dyson claims Airblade dries hands in 10-12 seconds at 1,000 watts:  $1,000W \times 12s \div 3,600 = 3.33$  Wh per use. [Exhibit YYY] These figures form the basis of all environmental marketing.

238. At claimed times, manufacturers report approximately 2 grams CO<sub>2</sub> per use. This is the foundation of the "85-90% less CO<sub>2</sub> than paper towels" claim. [Exhibits AA, EE]

#### **b. The Actual Calculation**

239. Plaintiff's 430 time-to-dry trials establish actual drying times of 70-90 seconds to reach manufacturer-specified dryness thresholds. Zero units achieved compliance at claimed times. [Exhibits E, H]

240. At actual times:

- XLERATOR at 70 seconds:  $1,450\text{W} \times 70\text{s} \div 3,600 = 28.2\text{ Wh per use}$
- Dyson Airblade at 90 seconds:  $1,000\text{W} \times 90\text{s} \div 3,600 = 25.0\text{ Wh per use}$
- Energy consumption is 7.5 to 8.75 times higher than claimed.
- CO<sub>2</sub> emissions scale with use-phase electricity, which constitutes 87-92% of total hand dryer lifecycle impact. At actual drying times:
  - Conservative estimate (manufacturer LCA data): 12-18 g CO<sub>2</sub> per use
  - Expansive estimate (independent academic sources): 30-50 g CO<sub>2</sub> per use
  - CO<sub>2</sub> emissions are 6-9 times higher than claimed under conservative assumptions. Under expansive assumptions incorporating independent academic studies, emissions are 15-25 times higher.

### c. The Paper Towel Comparison

241. Paper towel lifecycle emissions for two towels (approximately 4 grams total) range from 12-20 g CO<sub>2</sub> per use depending on recycled content and source methodology.

242. The comparison:

| Metric                             | Paper Towels (4g) | Dryer (Claimed) | Dryer (Actual) |
|------------------------------------|-------------------|-----------------|----------------|
| Energy (Wh)                        | 75-80             | 3-4             | 25-28          |
| CO <sub>2</sub> - Conservative (g) | 17-19.5           | ~2              | 12-18          |
| CO <sub>2</sub> - Expansive (g)    | 12-20             | 4-10            | 30-50          |

243. At manufacturer-claimed drying times, hand dryers produce 50-70% less CO<sub>2</sub> than paper towels. At empirically-measured actual drying times, hand dryers produce emissions equivalent to paper towels under conservative analysis—and 2-3 times worse under expansive analysis. The claimed 85-90% CO<sub>2</sub> advantage does not exist.

244. Energy comparisons tell a different story. Paper towel manufacturing derives 40-60% of process energy from biomass combustion, which is classified as carbon-neutral under ISO 14040/14044 lifecycle accounting. Hand dryers consume 100% grid electricity at full carbon intensity. The result: paper towels have higher total lifecycle energy but lower fossil carbon intensity per unit energy. The claimed 95% energy advantage shrinks to approximately 65%—overstated but directionally accurate. The CO<sub>2</sub> advantage inverts entirely. [Exhibits Y, Z]

**d. The LEED Propagation**

245. False energy data flows into building certification systems. Excel's LEED v4.1 Credit Contribution document instructs building professionals: "Project teams may input 3.68 Wh per 8 second cycle use... for energy modelling purposes." [Exhibit HH]

246. This is not marketing. It is an instruction to embed false data into LEED energy modeling software. Building professionals following Excel's guidance enter 3.68 Wh into certification calculations. The actual figure is 25-28 Wh—7 to 8 times higher.

247. The same document claims XLERATOR provides "80 percent energy use reduction over conventional hand dryers." At actual drying times, this claim is false.

248. Excel's LEED guidance explicitly cites Defendants' certifications as authority: "Product-Specific Type III Environmental Product Declaration (EPD) certified by

UL Environment." The chain operates as follows: SGS tests at 12-15 seconds. UL Environment certifies EPD stating 8.355 seconds and 3.680 Wh. SmartEPD issues replacement certification with identical specifications. Excel cites these certifications in LEED guidance. Building professionals enter false values into LEED software. LEED awards credits based on false underlying data. At no point does any party verify that the 8-second claim is achievable. [Exhibits AA, BB, CC]

249. Approximately 500,000 hand dryers operate in LEED-certified buildings in the United States. Every one earned credits based on 3.68 Wh per use—a figure that assumes 8-second drying times. Actual energy consumption is 7-10 times higher than LEED databases reflect. An estimated 560 GWh of annual energy consumption is missing from LEED environmental accounting—enough to power 50,000 American homes.

#### **e. Global Scale**

250. The per-use discrepancy, applied to population-scale usage, produces staggering cumulative waste. Based on market analysis: 1.5-15 million units in the United States, 55-550 billion annual uses domestically, 220 billion to 2.2 trillion annual uses globally.

251. Annual global impact of the gap between claimed and actual performance:

- Excess energy: 5.8-45 TWh
- Excess CO<sub>2</sub>: 2.85-20 million metric tons
- Equivalent homes powered: 550,000 to 4.3 million
- Equivalent national CO<sub>2</sub> output: Iceland (conservative) to Mongolia (expansive)

252. This waste occurs annually, in perpetuity, based on a marketing claim that was never true.

253. Products marketed as environmentally superior provide no CO<sub>2</sub> advantage over paper towels and may perform 2-3 times worse. This is not environmental responsibility. This is the opposite of environmental responsibility.

**f. UL Unexpectedly Validates Plaintiff's Energy Claims Calculations**

254. After completing the empirical testing program and energy calculations described above, Plaintiff discovered UL Environment EPD Declaration No. 4787616201.106.1 for the Hokwang HK-2200 hand dryer, issued April 1, 2022 and valid through April 1, 2027. [Exhibit DD]

255. The Hokwang EPD certifies a conventional warm-air dryer (2.0 kW, 20.5 m/s air speed) at 30-35 seconds drying time to 0.074 grams residual moisture—the same threshold specified in the UL PCR. UL's certification produces 18 Wh energy consumption and 13.5-14.8 g CO<sub>2</sub> per use depending on regional methodology.

256. Plaintiff's empirical calculations—completed before discovering the Hokwang EPD—predicted 25-28 Wh and 12-18 g CO<sub>2</sub> at actual drying times of 70-90 seconds. The convergence is striking: UL's certification at 30-35 seconds and Plaintiff's calculations at 70-90 seconds produce CO<sub>2</sub> values in the same range (12-18 g), while SmartEPD's certification at 8 seconds produces values 6-7 times lower (~2 g).

| Source                | Time      | Energy (Wh) | CO <sub>2</sub> (g) |
|-----------------------|-----------|-------------|---------------------|
| NSF/SGS/SmartEPD      | 8-12 sec  | 3-4         | ~2                  |
| UL Hokwang            | 30-35 sec | 18          | 14                  |
| Plaintiff (empirical) | 70-90 sec | 25-28       | 12-18               |

257. The Hokwang EPD was verified by the same personnel who verified Excel's certifications. Thomas Gloria signed both the Hokwang UL EPD and the Excel SmartEPD as independent verifier. [Exhibits AA, DD] The UL PCR Review Panel that approved the Hokwang certification was chaired by Jon Dettling—the same methodology, the same verifiers, the same standards.

258. The timeline is significant:

- April 1, 2022: UL issues Hokwang EPD at 30-35 seconds
- April 26, 2022: Anna Lasso incorporates EPD USA LLC in Virginia
- July 2022: Excel's UL EPD expires, not renewed
- June 23, 2023: SmartEPD certifies Excel at 8 seconds

259. UL certified a hand dryer at 30-35 seconds and would not certify lower. Excel needed 8 seconds for its marketing claims. Anna Lasso, who had worked with Excel's William Gagnon on the UL PCR committee for seven years, created a certification body that would certify what UL would not.

260. Even accepting UL's 30-35 second time as accurate—which Plaintiff's data suggests it is not for a conventional warm-air dryer—UL's energy and CO<sub>2</sub>

methodology validates Plaintiff's calculations while proving SmartEPD's certification physically impossible. If 30 seconds produces 14 g CO<sub>2</sub>, then 8 seconds cannot produce 2 g. The math does not work. The physics does not work. The certification is false. Further, by offering a certified calculation of its own that is in alignment with Plaintiff's calculations done separately, this entire project and this entire complaint is validated by a defendant.

#### **g. The Causal Chain**

261. The false drying time claim is the root cause of environmental contamination and energy/environmental failure. Each step follows inevitably from the one before. [Exhibits A, I, J, M, N]

262. Manufacturers claim 8 to 14 second drying times. Actual drying requires 80 to 90 seconds. The claim is false by 500 to 1,000 percent.

263. If a user stops drying at claimed times, 2.5 to 3.5 grams of water remain on hands.

264. That water has been infested with the microorganisms in the dryer output air stream.

265. Carrying that water after dryer use increases microorganism transfer by 1000x.

266. If a user dries until hands are dry – 80-90 seconds – microorganism amplifications on the hands increase over room air by 50-110X.

267. Energy and CO<sub>2</sub> production become equal to or greater than that of paper towels.

268. At up to 420 mph air velocity in a Dispersal-type dryer water is violently blown onto walls, floors, users, and into the air as aerosol.
269. Dispersed water carries microorganisms from users' hands and the output air jets, contaminating the room for the users who come after.
270. Continuous deposition grows visible mold in 100% of installations, volume controlled by the cleaning practices of the restroom owners.
271. The restroom becomes a permanent contamination zone. Everyone who enters is exposed, regardless of whether they use the dryer.
272. The user faces several impossible choices with every restroom use: don't enter to avoid dryer contamination, wash and don't dry, dry for specified time and leave wet or dry for the actual time-to-dry and carry increased microbial exposure and use more energy.
273. The hypothetical answers itself. Remove the dryer and every step in this chain disappears. The water stays on hands or is absorbed by a towel. The mold doesn't grow. The contamination zone doesn't form. The impossible choices don't exist. The dryer is not incidental to the harm. The dryer is the harm.

### **3. The User's Dilemma**

274. Users of certified hand dryers face two options, both creating harm.
275. Option one: Use the dryer for the specified 8 to 14 seconds. Leave with wet hands, freshly sprayed with bacteria and fungus. Transfer bacteria to every surface touched thereafter—doorknobs, phones, keyboards, other people, food.

276. Option two: Use the dryer for 70 to 90 seconds to actually achieve dry hands.

During this extended exposure, breathe air contaminated by liquid aerosols with 50 to 110 times room air microorganism load and be sprayed with liquid water carrying the same.

277. A user cannot achieve dry hands without extended exposure to contaminated output or pull out prematurely and leave with wet hands transmitting organisms at a rate 500 times higher than dry hands. [Exhibit A]. A user cannot limit exposure without leaving with wet hands. The product design creates a forced choice between two harms.

278. Once the problem is understood, the user faces a third harm: the knowledge that entering a restroom with a hand dryer means accepting one of the two options above, or not entering at all.

## **B. VIOLATIONS IN THE DOCUMENTS**

### **1. Summary**

279. The certified drying time is false, and that single fact is sufficient, standing alone, to establish that every certification at issue is false. The Empirical Proofs set out above establish the point on the evidence: across 460 residual-moisture trials spanning three manufacturers, not one trial achieved any certified threshold at any manufacturer-claimed time, and the average residual moisture was 2.77 grams against certified thresholds of 0.1 to 0.25 grams — a deviation of roughly 1,000 to 2,770 percent. [Exhibits B, E, H] The finding is not marginal, and it is not

contestable by argument: it is demonstrable in a courtroom in minutes, with a production dryer, a stopwatch, and a scale.

280. Every other certified representation is computed from the drying time. Energy consumption is power multiplied by time; the certified figure of 3.68 watt-hours rests entirely on the certified 8.355-second cycle. When the time is false, the energy value is false, the carbon value derived from it is false, and the environmental-advantage and LEED claims built on those values are false in turn. The drying time is the root input. Falsify it and every dependent representation falls with it. UL's own Hokwang certification confirms the arithmetic: a dryer certified at 30 to 35 seconds produces roughly 14 grams of CO<sub>2</sub> per use, which makes the 8-second, 2-gram figure on the XLERATOR certificate a physical impossibility. The math does not work, because the time does not.

281. Defendants certified products under NSF P335, titled "Hygienic Commercial Hand Dryers." The title is itself a representation. The Empirical Proofs establish 50 to 110 times bacterial amplification in dryer output air, visible mold in 100 percent of dispersal-type installations, and laboratory-confirmed pathogenic fungi in wall samples. A product that amplifies airborne contamination by 50 to 110 times is not hygienic. [Exhibits A, I, J] These findings are set out in full above; each is independent of the drying-time failure and each is independently sufficient to establish that the certifications do not describe the products as they perform.

282. Plaintiff's data, methodology, and chain-of-custody records are public and reproducible; Defendants' underlying test data is not. On this record, Plaintiff's evidence that the certified specifications are false stands un rebutted by any comparable public data. The drying-time claim alone is sufficient to carry this action; Plaintiff's remaining claims are independent of it and each is independently sufficient. The Court may rest on any one of them.

## **2. NSF P335 Section 6.2: HEPA Filtration**

283. NSF P335 Section 6.2 requires HEPA filtration with 99.97% efficiency. The stated purpose is to prevent dryers from using air contaminated with microbes.

284. Plaintiff's Ambient Air Comparison Studies tested 144 restroom locations. Median ambient air bacterial counts were 1 colony-forming unit. Thirty-two percent of samples showed zero CFU. The air in typical restrooms is already nearly sterile. There is nothing for HEPA filters to remove. [Exhibits A,J]

285. We do not know where the contamination in hand dryer output air is coming from because we have not tested for it. We do not believe the source matters, only the result. The HEPA filter issue strongly suggests that bacterial amplification originates downstream of the HEPA filter. Section 6.2 tests the wrong variable. It measures intake filtration when contamination occurs at output. This is either incompetence or misdirection.

## **3. NSF P335 Section 6.5: Discriminatory Standards**

286. NSF P335 Section 6.5 states that Capture dryers—products that collect water in receptacles—must achieve 99.9999% bacterial kill and 99.99% fungal kill. Six-log reduction. Four-log reduction.
287. Dispersal dryers—products that spray water throughout the restroom at up to 420 mph and the predominant form of hand dryers in use today—are not mentioned in the document. Products that contain water must kill nearly everything. Products that disperse water into the shared environment face no standards at all.
288. Dispersal dryers create a far greater public health risk than capture dryers. Capture dryers contain contaminated water. Dispersal dryers spread it throughout the restroom. NSF applies strict standards to the lower-risk category and no standards to the higher-risk category.

#### **4. NSF P335 Section 5.7: Categorical Ineligibility**

289. NSF P335 Section 5.7 requires: “Liquid containment shall be monitored during all testing.”
290. Plaintiff has read this section 100 times and fails to understand its intention or what it’s referencing. It stands alone, with no context. High-velocity dispersal dryers do not contain liquid. They disperse it. At up to 420 mph, water is scattered throughout the restroom—onto walls, floors, surfaces, other users, and into the air. Products designed to disperse liquid cannot comply with

containment requirements and it makes no sense that this statement even exists without other supporting material.

291. A

## **5. UL PCR Omissions**

292. A The UL PCR for Hand Dryers is 35 pages long. It addresses air velocity, air temperature, drying time methodology, energy consumption, lifecycle calculations, and numerous other technical specifications.

293. The word “hygiene” appears once. Water dispersal—the primary mechanism by which these products affect public health—is not mentioned at all.

294. A professional standard for hand dryers that mentions hygiene once and ignores water dispersal entirely is not incomplete by accident. It is incomplete by design. It addresses what manufacturers want addressed and ignores what manufacturers want ignored.

## **6. ISO 14025 Binds UL and SmartEPD and is Suggestive for NSF. EN 15804 is governing but not Binding for UL**

295. A late discovery in response to UL’s settlement demand period responses fully alters the entire scope of the problems identified above. These matters are detailed and cited at length in the Memorandum in Support of the Complaint, ISO 14025, ISO 14020, AND EN 15804 COMPLIANCE ANALYSIS: *The Governing*

*Standard Requires What the Defendants Excluded*, included by reference.

[Exhibit MMM]

296. UL's PCR and EPD state that they comply with ISO 14025. [Exhibit W] This binding relationship was discovered by Plaintiff during the settlement demand period, after the complaint and supporting research were substantially complete.
297. SmartEPD's EPD and LCA independently declare compliance with ISO 14025, ISO 14040, and ISO 14044 in its Reference Standards field. [Exhibit EE] Both programme operators willingly bound themselves to the standard and all of its provisions by their own declarations.
298. NSF cites no significant governing standard in the P335. NSF in 2026 has an entire ISO 14025 PCR and EPD division advertised on its website. [Exhibit EEEE]
299. SGS is a testing company for this application. They cite 95 different ISO, EN, and other sources on their website as governing standards companywide. Discovery will determine those that apply, as all of their work pertinent to this case is held as proprietary by Excel Dryer, excepting the testing documents submitted under oath by Excel in the 2012 legal case with Dyson. SGS standards citations reside in Exhibit FFFF.
300. The direct application of ISO 14025 and EN 15804 to UL's and SmartEPD's certification products is briefed in this section and detailed in the accompanying

Memorandum in Support of Complaint: ISO 14025, ISO 14020, and EN 15804  
Compliance Analysis. [Exhibit MMM]

301. ISO 14025 establishes a clear, linear framework for the creation of a Type III Environmental Product Declaration: the program operator writes a set of Product Category Rules under the mandatory and optional reporting requirements of 14025, a Life Cycle Assessment is conducted under ISO 14040, and the output of those two documents is reported within an Environmental Product Declaration combining the required and optional reporting mandated by the PCR with a summary of the LCA. ISO 14025 is a remarkably well organized standard, laying out the entire process in clear sequential hierarchy — complicated but not ambiguous.
302. Every use of the word "environmental" in ISO 14025 is governed by the standard's definitional framework: ISO 14025 §3.18, incorporating ISO 14001:2004 §3.5, defines "environment" to include "air, water, land, natural resources, flora, fauna, humans, and their interrelation." [Exhibit Zb] The functional unit is where the product meets that environment — the air it moves, the water it disperses, the humans it contacts, and their interrelation. Every mandatory assessment ISO 14025 requires attaches to this boundary because this is where the interaction occurs.
303. UL's EPD defines the functional unit as "the drying of 100,000 hand dryings, to dryness equaling 0.25 grams of residual water or less." [Exhibit CC] UL's PCR identifies the product function as "a hygienic method to dry hands in public

washrooms." [Exhibit W, §1.2] The functional unit is the boundary UL drew around the product's environmental evaluation. Everything that follows in this section occurs inside of it. UL and SmartEPD have generally done good work outside of the Functional Unit while ignoring the Functional Unit itself as it applies the ISO and EN requirements for evaluation and testing. Further, they have both denied that it matters. [Exhibits GGG, KKK]

304. During each execution of the functional unit — during each drying event — the dryer draws ambient restroom air across internal components and expels it at high velocity onto wet hands, strips water from the hands and disperses it onto the walls, floor, and user, and exposes the user to amplified microbial loads for the duration of the drying cycle. These interactions are not peripheral to the functional unit. They are the functional unit in operation. The duration of exposure is the dry time, falsely stated in SGS testing documents and UL and SmartEPD EPDs. [Exhibits AA, BB, CC, DD, EE, FF, TT, VV]

305. The minimal elemental evaluation of UL's functional unit must include 1- a dryer, 2- electricity, 3- a wall and floor, 4- time, 5- dryness, 6- air, 7- water, and 8- hands. Those are the environmental elements mandated by UL and SmartEPD via their existing EPDs. Larger, non-local environmental considerations expand outward to include manufacture and disposal, but there is no EPD or LCA without those 8 parts.

306. ISO 14025 requires the PCR to include environmental hazard and risk assessment methodology (§6.7.1(f)) and identification of materials and

substances that can adversely affect human health in all stages of the life cycle (§6.7.1(g)). It requires the EPD to include a content declaration covering health-affecting substances (§7.2.1(i)), toxicity related to human health (§7.2.3(a)(2)), hazard and risk assessment on human health and the environment (§7.2.3(h)), environmentally significant performance data (§7.2.3(b)), and potential for incidents with environmental impact (§7.2.3(k)). It prohibits omissions that result in misinterpretation (§7.2.4(d)). UL's Functional Unit is the base environmental definition. UL's PCR and EPD contain none of these assessments or declarations, the same for SmartEPD's EPD. [Exhibits W, CC]

307. UL's EPD reports no data on microbial content in the dryer's output air, no data on water dispersal during the drying cycle, and no data on emissions to indoor air during the use stage. SmartEPD's EPD, the same.

308. EN 15804, the European standard UL voluntarily adopted as a reference framework and tracked closely enough to footnote its specific deviations, independently confirms each of the requirements above. EN 15804 defines itself as a PCR under ISO 14025, requiring that it comply with ISO 14025 standards for a PCR. It lists ISO 14025 among the documents "indispensable for the application of this document."

309. The data UL and SmartEPD did certify within the functional unit is false. UL's EPD reports a drying time of 8.355 seconds to 0.25 grams residual moisture and energy consumption of 0.01325 MJ per use. [Exhibit CC] Smart EPD uses UL's 8.355 number as well. Further, during a phone call with Anna Lasso when

directly challenge regarding the drying time number, she said....nothing. Silence. [Exhibit KKK]. Plaintiff's 460 field trials, conducted using UL's own PCR methodology as the procedural template, produced 0% compliance with the certified drying time across three manufacturers with results 2700% higher than claimed. [Exhibits B, E, H] UL's Associate General Counsel stated that the drying time methodology "exists only to calculate the expected energy consumption of the hand dryer." [Exhibit GGG] The drying time is determinate for the energy figure. The energy figure produces the carbon figure. The carbon figure produces the environmental claims. If the drying time is wrong by a factor of ten, and it is, every downstream value built on it is wrong by the same factor.

310. Two certificates for the same product evaluated under the same PCR and signed by the same man report conflicting energy values by an order of magnitude. The UL EPD reports an energy of 0.01325 MJ per use and global warming potential of 286 kg CO<sub>2</sub>eq per 100,000 uses. [Exhibit CC]. The SmartEPD EPD reports an energy use of 0.12 MJ per use and global warming potential of 174 kg CO<sub>2</sub>eq per 100,000 uses. [Exhibit EE] Both of these documents cannot simultaneously be true. The energy values differ by a factor of ten, both documents signed by Thomas P. Gloria as a contractor or employee within the wide network of hand dryer certification professionals who appear and reappear from one company to another across decades.

311. Section 8 of the ISO 14025 is entirely about the necessary verification steps required for PCRs, EPDs and LCAs. UL's and SmartEPD's EPD Project Managers

verified the EPD his own program produced. Coherent verification following the ISO standards would have captured all of these issues. [Exhibits CC, EE, MMM]

312. ISO 14025 requires the program operator, the critical reviewer, and the external verifier to be separate parties (§8.1.3, §8.1.4, §8.2.1). On the SmartEPD certificate, Anna Lasso — who sat on UL's original PCR committee — occupies all three roles. The PCR review panel that was required to be independent included the LCA contractor, a manufacturer certified under the rules, a competing certifier, and the testing laboratory with no outside parties as suggested by the 14025 in its committee creation guidelines.

313. Notably, and possibly the most important element of this complaint, is that during two years of independent work Plaintiff identified every one of these deficiencies through direct observation, horrified that these products were being used with standards that did not capture the environmental disaster they create before discovering that ISO 14025 and EN 15804 mandate reporting on every issue he had already addressed.

## **C. THE CERTIFICATION NETWORK**

### **1. How the Certifications Came to Exist**

314. In 2001 Denis Gagnon, the new owner of Excel Dryer, claimed he had invented the world's first high-speed hand dryer, one that dried hands in less than 20 seconds, and marketed it against the 60–90 second dryers of a market then dominated by World Dryer. By 2012 Gagnon claimed a 12-second dry time; today

he claims 8 seconds. Dyson claims 12 seconds for its downdraft-dispersal Airblade. Plaintiff's 460 individually run trials — and anyone who performs The Test at the opening of this Complaint — show 2–3 grams of water still on the hands at those times, with full drying to the manufacturers' own thresholds requiring 60–90 seconds.



**Excel XLERATOR** / early high-speed dryer

315. In approximately 2006 Dyson entered the United States market and began working with NSF International to create a performance standard for hand dryers. That work became NSF Protocol P335, the foundational “Hygienic Commercial Hand Dryers” standard from which all certification in this industry derives. Published in April 2007, P335 was written around a specific machine: the insert-dispersal Dyson AB01,



**Dyson AB01**, insert-dispersal type

316. introduced to compete with an existing insert-capture dryer, the Mitsubishi Jet Towel.



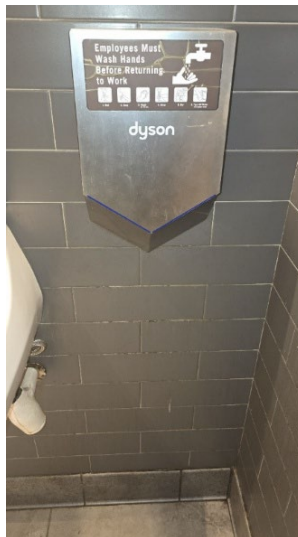
**Mitsubishi Jet Towel**, insert-capture type

317. An insert-capture dryer requires hands to be inserted from above and provides a storage tank for the water blown off by the air jets. An insert-dispersal dryer also requires hands inserted from above but allows the water to go wherever it will — onto the user, the walls, and the floor.

318. P335 defined dry hands as “less than 0.1 g residual moisture” (Section 3.4) and required 95% compliance across a minimum of 20 trials (Section 6.3). [Exhibit X] It also specified water-sanitation provisions — collection, disinfection, drainage, and containment — that apply only to a machine with a tank, making it

functionally impossible for the tanked Mitsubishi Jet Towel to comply in a working restroom, while never addressing where a tankless dispersal dryer sends its water. The AB01 had no tank to sanitize and therefore faced no rule for the water it dispersed. The standard specified the competitor's architecture while exempting Dyson's by omission. Intent will be determined during discovery.

319. By 2012 Dyson had largely abandoned the AB01 design, building instead tankless downdraft dryers mounted high on the wall with downblowing jets, similar to the existing World Dryer and Excel XLERATOR models. The stripped water is blown around the room and onto the user at velocities up to 420 mph.



**Downdraft-dispersal dryer (Airblade V)**

320. The NSF standard was never rewritten to reflect that change and remains unchanged as of the filing of this Complaint in 2026. Defendants certified and listed the new machines under a standard built for a design that was rarely used. The AB01 and later insert-type dryers dried hands in roughly 10 seconds; the

downdraft-dispersal Airblade required roughly 90. Who was testing? Where are the test results? Those materials remain proprietary and unpublished, except for the claimed drying times published in the Environmental Product Declarations and related documents that prompted this lawsuit.

321. Also in 2012, Excel Dryer proposed amending P335 to weaken the dryness threshold from 0.1 grams to 0.2 grams. NSF rejected the proposal. Dyson’s attorneys later stated in federal court: “Excel proposed an amendment to NSF Protocol P335 to amend the definition of ‘dry hands’ from 0.1 grams to 0.2 grams. However, NSF has rejected Excel’s proposal.” [Exhibit RR] Toby Saville, a Dyson microbiologist who served on the NSF P335 Protocol Development Panel, confirmed the rejection in his sworn declaration. [Exhibit PP, ¶83] Excel used the rejected standard anyway. SGS testing commissioned by Excel in 2012 applied “a revised version of NSF Protocol P335 ... currently being developed and reviewed by NSF,” language that appears in the SGS report [Exhibit BB] and that Excel represented to the federal court as “the revised NSF Protocol P335” without disclosing that NSF had rejected the revision.

322. That same year, Excel and Dyson sued each other. Under oath in federal court, each documented in detail how the other’s drying-time claims were false. Both were right. The certifiers certified both products anyway.

323. By 2016 the U.S. market and installed base were almost entirely downdraft-dispersal units — machines that meet neither P335’s drying threshold nor its water-sanitation provisions. [Exhibits B, E, H] Manufacturers whose products

could not qualify under the NSF standard, Excel among them, turned to Underwriters Laboratories. In July 2016 UL published the Product Category Rules for Hand Dryers with a 0.25-gram threshold — two and a half times weaker than NSF’s, and weaker than the 0.2-gram proposal NSF had rejected four years earlier. [Exhibit W] No scientific justification for the 0.25-gram figure appears anywhere in the thirty-five-page document. The entire document mentions hygiene once and, like P335, says nothing about the water the dryers spray into the room; it drops even P335’s tank-sterilization rules, eliminating the one place the older standard had at least admitted the water was dangerous.

324. On July 25, 2017, UL Environment issued Environmental Product Declaration No. 4787137936.102.1 for Excel’s XLERATOR, certifying a drying time of 8 seconds, energy consumption of 3.68 Wh per use, and a 0.25-gram residual-moisture threshold. [Exhibit CC] Wade Stout, UL Environment’s EPD Project Manager, signed as external verifier; Thomas P. Gloria of Industrial Ecology Consultants verified the life-cycle assessment. The certificate carried a five-year term and expired in July 2022. Excel did not renew with UL. UL continues to certify hand dryers for other manufacturers.

325. The timing of what followed is documented in Virginia State Corporation Commission records. On April 26, 2022, articles of organization were filed for “EPD USA LLC,” with Anna Lasso as registered agent and “Member or Manager”; on July 6, 2022, the company was renamed “Smart EPD LLC”; and in July 2022 Excel’s UL EPD expired. At the time of the April 2022 formation, Lasso was either

employed by UL Environment as Product Manager of EPDs and PCR Project Manager or had recently left that role. Hokwang's UL EPD issued April 1, 2022 — the same month Lasso incorporated her company — at a certified 30–35 second dry time. [Exhibit DD] When Excel's UL EPD expired three months later, Excel did not renew with UL; it obtained certification from Lasso's new company instead. UL was willing to certify Hokwang at 30–35 seconds. UL was apparently not willing to certify Excel at 8. [Exhibit KK]

326. On June 23, 2023, Smart EPD issued Environmental Product Declaration No. SmartEPD-2023-002-0006-01 for the XLERATOR, certifying a drying time of 8 seconds, energy consumption of 3.68 Wh per use, and a 0.25-gram threshold — specifications identical to the expired UL certificate. [Exhibit AA] Thomas P. Gloria verified the life-cycle assessment for this certificate, as he had for the 2017 UL certificate; the same verifier signed both. Page 13 states: "Tests were performed by SGS International on standard XLERATOR Hand Dryer with 0.8 inch nozzle to 0.25g or less of residual moisture, pursuant to the UL Environment Global Product Category Rules (PCR) for Hand Dryers." The SGS report referenced — Performance Test Report No. 2774929EFF-001, dated September 7, 2012 [Exhibit BB] — tested at 12 and 15 seconds, not 8. After an exhaustive search, no other SGS report exists. Excel, SGS, UL, and SmartEPD all claim an 8-second drying time without having provided any public evidence of a test at that time. The Test described in paragraph 1 of this Complaint is instructive.

327. Discovery will seek to determine: (1) whether Excel applied to renew its UL EPD in 2022; (2) if so, whether UL declined, and on what grounds; (3) communications between Anna Lasso and Excel regarding SmartEPD's formation; (4) communications between Anna Lasso and UL Environment regarding Excel's certification status; and (5) whether UL refused to certify the 8-second claim that SmartEPD subsequently certified.

328. The trajectory is documented from end to end. NSF set 0.1 grams in 2007. Excel proposed 0.2; NSF rejected it. UL created 0.25 in 2016. Anna Lasso certified Excel to that standard in 2023. All three thresholds — 0.1, 0.2, and 0.25 grams — are proven false by Plaintiff's data showing 2.5 to 3.0 grams at the certified times. The differences among the thresholds are irrelevant when actual performance fails every one of them by 1,000 to 2,500 percent.

## **2. Interconnection**

329. This action names five Defendants who created, operated, and profited from an interconnected certification system, the anchors of a larger web of people and organizations all declaring that hand dryers are safe and efficient. NSF International created the first non-manufacturer standard. [Exhibit X] UL Solutions later created a weaker alternative. [Exhibit W] SGS North America tested the products [Exhibit BB] and certified false drying times that cascaded into every later claim by Smart EPD and, before it, UL's now-expired EPD. Smart EPD LLC certified the results. [Exhibit AA] Anna Lasso helped create the UL

standard while employed at UL, then founded Smart EPD to certify products under the standard she had helped write. [Exhibits KK, LL] Together these certifications grew a fringe product into an estimated 1.3 to 1.6 million installed U.S. units, used roughly 55 billion times a year — a \$1.5 billion annual U.S. market that would not exist without their stamps of approval.

330. NSF holds current P335 certifications for Dyson, which markets itself as “the only hand dryer certified by NSF International Protocol P335.” [Exhibit GG] Dyson products achieve zero percent compliance in all independent trials. [Exhibits A, B, E, H] Excel has never been NSF certified; its single-outlet design cannot reach NSF’s 0.1-gram threshold in practice, and Plaintiff’s trials recorded zero Excel units below 0.15 grams. [Exhibits B, E, H]

331. The UL PCR committee that set the 0.25-gram threshold consisted of ten manufacturer representatives and two from UL — no public health official, no consumer, no independent scientist. [Exhibit JJ] Excel held four of the ten manufacturer seats; William Gagnon, Excel’s VP and COO, chaired the committee, and his father Denis Gagnon, who purchased Excel in 1996 claiming to have invented the first high-speed dryer, also held a seat. [Exhibit OO] World Dryer held three seats (Dave Fisher, Susan Fan, Dan Storto); Hokwang/FASTDRY held three. UL continues to certify under this standard, including Hokwang EPDs valid through April 2027 at 30–35 seconds. [Exhibit DD]

332. The UL PCR Review Panel included Jon Dettling (Chair) and Jeremy Gregory. Dettling authored the 2009 Quantis LCA commissioned by Excel; Gregory co-

authored the 2011 MIT LCA. [Exhibits FF, WWW] Each reviewed a PCR that cited his own prior work as authority. Both had also signed the October 2012 Quantis joint letter acknowledging that the Airblade and the XLERATOR were “statistically indistinguishable” in environmental impact — yet neither disclosed that when serving on the panel whose standard would enable differentiated environmental claims. [Exhibit TT]

333. The companies that wrote the standard know what it tests and what it ignores, and their present choices are revealing. World Dryer, with three seats, maintains zero current EPD certifications under any program operator. Hokwang, with three seats, maintains active UL EPDs at a realistic 30–35 seconds. Excel, which chaired the committee, left UL and maintains four active EPDs through Anna Lasso’s Smart EPD at 8 seconds — the time UL would not certify.

**Three-Manufacturer Certification Divergence (January 2026):**

| Manufacturer        | PCR Seats   | Current EPD Status   | Certified Drying Time |
|---------------------|-------------|----------------------|-----------------------|
| Excel Dryer         | 4 (+ Chair) | 4 SmartEPD (left UL) | 8 seconds             |
| Hokwang/FAS<br>TDRY | 3           | 3+ UL EPDs (active)  | 30-35 seconds         |
| World Dryer         | 3           | ZERO (any program)   | N/A                   |

334. The people and companies that wrote these standards know what they test and what they ignore. One manufacturer chose silence. One chose realistic

certification. One doubled down on the false dry-time claim. One chose Anna Lasso. [Exhibit JJ]

335. When Excel's XLERATOR certification was about to expire in 2022, Anna Lasso — who had sat on the original UL PCR committee and signed the PCR and EPD documents — formed Smart EPD and certified the XLERATOR using the test numbers from the original Excel EPD. On the resulting certificate she is listed as Program Operator, as Independent Critical Reviewer, and as Independent External Verifier — three roles ISO 14025 requires to be held by separate parties. She is checking her own work. Read in sequence, the network is a loop that closes on itself: at no point does a truly independent set of reviewers verify that any product performs as certified.

### **3. Defendants' Responses to Plaintiff's Demand**

336. On April 22, 2026, Plaintiff served a demand package on all five Defendants including a draft complaint, supporting research, and a proposed resolution. UL Solutions responded through its Associate General Counsel for Litigation, Lisa Sullivan, on May 22, 2026 [Exhibit GGG] and again on June 5, 2026 [Exhibit III]. Anna Lasso called Plaintiff on April 27, 2026 [Exhibit KKK]. NSF International and SGS North America have never responded.

337. Sullivan's May 22 letter advanced three defenses: that hand dryer EPDs do not pertain to hygiene or sanitation, that they do not pertain to safety, and that they do not certify drying time. In support of the third defense, Sullivan stated: "The

only purpose of this method is to calculate the expected energy consumption of the hand dryer as part of assessing its expected environmental impact.” [Exhibit GGG] This admission is significant: if the drying time method exists solely to calculate energy, then the energy figure in the EPD depends entirely upon the accuracy of the drying time. One produces the other. If the time is wrong by a factor of seven to ten, as Plaintiff’s 460 trials establish, the energy figure is wrong by the same factor. Sullivan’s defense of the drying time concedes the energy claim.

338. Sullivan further stated: “UL Solutions has not certified an 8.355 second drying time claim for the Xlerator hand dryer (or for any other hand dryer that has had an EPD).” [Exhibit GGG] A product declaration verified by UL’s own EPD Project Manager as “valid and scientifically sound,” containing a specific drying time to three decimal places in a document titled Environmental Product Declaration bearing UL’s name, is a certification of that drying time regardless of UL’s stated intention. UL’s litigation counsel’s after-the-fact disavowal does not change what the document communicates to the reader who relies on it.

339. Sullivan’s June 5 letter narrowed UL’s defense to a single provision: the exclusion clause in ISO 14025 §7.2.3, which provides that “information and instructions on product safety unrelated to the environmental performance of the product shall not be part of a Type III environmental declaration.” [Exhibit III] Sullivan asserted: “EPDs are not intended to, nor can they, evaluate the potential for bacterial spread.” The standard Sullivan cited as authority

mandates, in the same section, toxicity related to human health (§7.2.3(a)(2)) and hazard and risk assessment on human health (§7.2.3(h)). The exclusion clause reaches product safety matters unrelated to environmental performance — electrical safety, fire safety, the territory of UL 499. Bacterial amplification during the functional unit is the product’s environmental performance, because the governing standard defines environment to include humans (ISO 14001:2004 §3.5). The exclusion’s requirement of “unrelated” is not met. The full analysis is set forth in the accompanying memorandum and inline responses. [Exhibits HHH, JJJ]

340. Sullivan’s June 5 letter also quoted UL’s self-authored EPD disclaimer: “EPDs do not indicate that any environmental or social performance benchmarks are met... nor are [LCAs] meant to assess human health toxicity.” [Exhibit III] This disclaimer accurately describes the LCA in the absence of the optional impact assessment phase. It does not accurately describe the EPD, whose content requirements under ISO 14025 §7.2.1(i) and the PCR construction requirements under §6.7.1(f) and (g) independently mandate health-affecting substance declarations and hazard assessment — obligations that live in the PCR and EPD, not in the LCA. UL wrote the disclaimer. A programme operator cannot override the governing standard’s mandatory provisions through self-authored boilerplate in its own declaration.

341. Sullivan requested that Plaintiff report unauthorized use of the UL EPD mark by Excel Dryer to UL’s Market Surveillance group. [Exhibit III] ISO 14025 §6.3(j)

provides that the programme operator shall establish “procedures to avoid misuse of references to the programme and its declarations.” The obligation to police misuse of the UL EPD mark belongs to UL. Sullivan’s request that Plaintiff perform UL’s compliance function is itself an acknowledgment that UL is not currently monitoring compliance with its own mark-protection obligations.

342. Anna Lasso, in a phone call on April 27, 2026 from 5:00 to 5:09 p.m. [Exhibit KKK], explicitly denied that she is responsible for verifying the drying time claims in the certifications she issued, and denied that she is responsible for the hygienic performance of the dryers she has certified. She holds three roles — Programme Operator, Independent Critical Reviewer, and Independent External Verifier — on the SmartEPD certificate that states “The XLERATOR dries hands completely in 8 seconds.” The person who verified the certification denies responsibility for verifying the certification.

*[IMAGE PLACEHOLDER: SmartEPD Certificate Page 2 — showing Anna Lasso listed as Programme Operator, Independent Critical Reviewer, and Independent External Verifier, each marked “External”]*

*Figure [X]: SmartEPD Certificate Page 2 — Anna Lasso in three roles, each labeled “External” and “Independent.” [Exhibit AA]*

*[IMAGE PLACEHOLDER: SmartEPD Appendix I: Critical Review Statement — showing “independent third-party verification” conducted by Anna N. Lasso, Founder/CEO, Smart EPD]*

*Figure [Y]: SmartEPD Critical Review Statement — “independent third-party verification” conducted by the Founder/CEO of the issuing company. [Exhibit AA]*

343. The certificate labels each of Ms. Lasso’s roles “External.” The Critical Review Statement describes the verification as “independent third-party verification” conducted by a panel that includes Ms. Lasso as “Founder/CEO, Smart EPD” — the company that issued the certificate. The document uses the words “independent,” “external,” and “third-party” to describe the work of the person who owns the company performing it.

344. Across two formal responses totaling approximately 1,500 words, UL’s Associate General Counsel did not challenge Plaintiff’s scientific findings in any respect, did not dispute zero-percent compliance across 460 trials, did not assert that 8.355 seconds to 0.25 grams of residual moisture is achievable, did not address the PCR construction requirements at §6.7.1(f) or (g), did not address the core EPD content requirement at §7.2.1(i), did not address the verification chain or any of its failed checkpoints, did not address the PCR committee composition, did not address the tenfold energy discrepancy between the UL EPD and the SmartEPD certificate, and did not address the definition of “environment” as including humans under ISO 14001:2004 §3.5. NSF International and SGS North America have not responded to the demand at all.

#### **4. The Certification Ecosystem**

345. The certification system operates as an interconnected network where each entity relies on the entity before it.

**Table 5: Certification Chain**

| Step | Entity                 | Action                            | Relies On                                | Independent Verification                        |
|------|------------------------|-----------------------------------|------------------------------------------|-------------------------------------------------|
| 1    | Excel Dryer            | Claims 8-second drying time       | Internal assertion                       | None                                            |
| 2    | SGS                    | Tests products, certifies results | Manufacturer-provided test parameters    | None — tested at 12-15 sec, not 8               |
| 3    | UL Environment         | Issues EPD citing SGS data        | SGS test report                          | None — certified 8 sec despite testing at 12-15 |
| 4    | SmartEPD               | Issues EPD citing same SGS data   | 11-year-old SGS report                   | None — Anna Lasso verifies herself              |
| 5    | TrueNorth Collective   | Conducts LCA                      | "Average test results provided by Excel" | None — manufacturer-supplied data               |
| 6    | LEED / USGBC           | Awards green building credits     | EPD certifications                       | None — accepts certified values                 |
| 7    | Building Professionals | Input data into energy models     | LEED guidance documents                  | None — use published specifications             |
| 8    | Building Owners        | Claim environmental benefits      | LEED certifications                      | None — rely on professional certifications      |

**Foundation:** A drying time claim with no supporting test data **Result:** Every downstream calculation is false

346. SGS independently verified drying performance at 12 and 15 seconds in 2012.

No entity in the Excel Dryer portion of this chain independently verified the 8-second claim. Yet every downstream certification, calculation, and credit is

based on 8 seconds—a claimed value that appears nowhere in any public test data Plaintiff can locate.

347. This cascade culminates in building certification: Excel's LEED v4.1 guidance instructs professionals to enter the false 3.68 Wh figure into energy models, and LEED awards credits on that basis. The propagation is documented in detail in The Green Energy Catastrophe above. [Exhibit HH]

## **5. The 2012 SGS Report**

348. SGS Performance Test Report No. 2774929EFF-001, dated September 7, 2012, was filed as Exhibit B to Excel's motion for preliminary injunction in Case 3:12-cv-30211-MAP, Document 6-2. [Exhibit BB] The report is signed by Martin Dodd, Project Engineer, and reviewed by Jody Leber. The client is Excel Dryer, Inc., 357 Chestnut Street, East Longmeadow, MA 01028.

349. The report tested five hand dryer models: Excel Dryer HO-IW, World Dryer XA5-974AU, Excel Dryer XL-BW, World Dryer K972A, Dyson AB04, and Dyson A01. Samples were received between June 29 and August 13, 2012. Testing occurred August 15-24, 2012.

350. Page 4 of the report states: "Each product was tested in accordance with a revised version of NSF Protocol P335 Hygienic Commercial Hand Dryers currently being developed and reviewed by NSF and its new technical panel for the 5 year protocol update."

351. Plaintiff states unequivocally after having had his hands in 200 unique hand dryers across all testing protocols that Excel Dryers cannot reach a dryness level of 0.1g, likely because one hand is always blocking the other. [Exhibits B, E, F, H] Excel performed testing via SGS before approval was given for the 0.2g NSF P335 modification and those numbers have migrated throughout the industry. NSF rejected the standard but Excel deferred to the testing done under the proposed standard for years and “SGS testing” is still referenced on their website as of the date of this complaint.

352. Page 9 of Annex A states: “For the purposes of NSF Protocol P335, ‘thoroughly dry’ means that less than 0.1 grams of residual moisture per hand for a total of 0.2 grams or less is recovered when a user dries his or her hands on a paper towel after using the hand dryer.” SGS certified results using this methodology. Plaintiff, following comparable methodology, documents 2.5 to 3.0 grams—not 0.1 to 0.2 grams. The certified results cannot be independently reproduced.

353. This is linguistic sleight of hand. NSF P335 Section 3.4 defines dry hands as “less than 0.1 g residual moisture”—total, not per hand. [Exhibit X] By redefining the threshold as “0.1 grams per hand for a total of 0.2 grams,” Excel doubled the acceptable moisture while preserving the appearance of the 0.1 gram figure.

354. Table 1 of the SGS report reveals the test results at 120V, 60Hz:

- Excel Dryer XL-BW at 12 seconds: 0.186 grams average residual moisture.
- Excel Dryer XL-BW at 15 seconds: 0.108 grams average residual moisture.
- World Dryer XA5-974AU at 15 seconds: 0.916 grams average residual moisture.

- World Dryer XA5-974AU at 30 seconds: 0.306 grams average residual moisture.
- Dyson AB04 at 12 seconds: 0.183 grams average residual moisture.
- Dyson AB04 at 15 seconds: 0.143 grams average residual moisture.

355. SGS certified these results: XLERATOR at 0.186 grams at 12 seconds, World Dryer at 0.916 grams at 15 seconds, Dyson Airblade at 0.183 grams at 12 seconds. These are the certified figures on which all subsequent certifications rely. Plaintiff's 451 trials, following stated methodology, document 2.5 to 3.0 grams at equivalent times—15 to 25 times higher than SGS certified. The certified results cannot be independently reproduced and the failures are at one to two orders of magnitude out of compliance.

356. Excel's current marketing claims 8 seconds. Denis Gagnon testified under oath to 12 seconds. [Exhibits OO, SS] The SGS report tested at 12 and 15 seconds. The 8-second claim, while attributed to current models, has no foundation in any testing document anywhere in the evidentiary record.

## **6. THE STANDARD WAS WRITTEN FOR A PRODUCT NO LONGER SOLD**

357. Throughout the development of this action, Plaintiff understood the foregoing record principally as a matter of falsified figures — residual-moisture thresholds set below achievable levels, test results that could not be reproduced, and a certified eight-second drying time supported by no test in the record. That understanding was incomplete. Late in the investigation, Plaintiff used a Dyson Airblade AB14 in a public restroom and observed it dry his hands in approximately ten seconds — a result no unit in his 460 trials had produced. That

observation required Plaintiff to reexamine his conclusions, and it disclosed the defect underlying the entire certification record: the foundational standard was not written for the machines now certified under it. It was written for a different class of machine, one no longer sold. This finding emerged last and reframes each of the sections preceding it. The complete architectural analysis is set forth in the accompanying Memorandum in Support of Complaint: Late Finding: The Insert Hand Dryer, the NSF P335, and the Certification Gap. [Exhibit NNN]

358. The architectural history set forth in Section F above establishes that P335 was built around the insert-dispersal Dyson AB01, written against the insert-capture Mitsubishi Jet Towel, and never rewritten when the market shifted to downdraft-dispersal machines. The consequence is structural: P335 dedicates detailed technical provisions to ensuring that water retained inside a hand dryer tank is rendered as sanitary as surgical instruments, while certifying as "Hygienic" products that expel that same water onto the walls, floor, and users of the restroom. The standard's drying-time requirements can be met only by insert-type dryers, and its water-containment requirements can be satisfied only by insert-capture dryers, yet NSF continues to certify downdraft-dispersal dryers under it.

359. The technical foundation for this standard originated with Dyson. Toby Saville, the Dyson microbiologist who served on the NSF P335 Protocol Development Panel in 2007, supplied the performance data on which the standard's drying claims rest — data drawn from Dyson's insert-dispersal Airblades, the

architecture P335 was built around. [Exhibit PP] When the products changed, that foundation did not. The detailed treatment of Saville's data and the architectural timeline appears in the accompanying Memorandum.

360. UL adopted the same architecture in its 2016 PCR, and SGS produced testing results for machines tested in 2012 and afterward that Plaintiff's research shows must be false ( $p < .001$ ). [Exhibits B, E, F, H] Anna Lasso did not validate the drying-time claims while employed at UL or afterward, telling Plaintiff by phone on Monday, April 27, 2026, from 5:00 to 5:09 p.m. that she was not responsible for drying-time accuracy. That was later corroborated by Lisa Sullivan, Associate General Counsel, Litigation, for UL, in an email dated Thursday, May 22, 5:55 p.m., who said the same thing. [Exhibit GGG] Both companies wrote and certified separate EPDs that, as a result, provide false energy and environmental harm claims by a factor of ten. The defect Saville's data introduced in 2007 was inherited, adopted, and re-certified by the later group — UL, SGS, Excel, and SmartEPD — without correction at any step.

361. The water the standard never accounts for in dispersal dryers — entirely ignored by P335 and the later UL 2016 PCR — is the same water a capture tank requires be rendered sterile. A standard cannot demand surgical sterility of that water in one machine and ignore it entirely in another. These two things cannot coexist in a functioning set of standards.

## **7. EXCEL VS DYSON LITIGATION**

362. In December 2012, Excel Dryer sued Dyson in the United States District Court for the District of Massachusetts, Case 3:12-cv-30211-MAP. Under oath, both companies placed previously proprietary and trade secret information into the public record, revealing a decade-long trail of conflicting drying time claims, testing protocols, and disputed science — mirroring the claims in this complaint and predating Plaintiff's discoveries by 14 years. The correlation between Plaintiff's independent findings and the material exposed in this litigation is nearly exact — arrived at entirely without knowledge of the case or its record, only discovered much later. The record establishes who did what, when, and with whose knowledge. Several of the certifications at issue in this complaint trace directly to data generated during that dispute. [Exhibits NN-UU]

363. The litigation produced sworn testimony and documentary evidence of both companies and the certifying agencies arguing about standards and test results that powerfully foreshadow the claims made in this complaint. Each manufacturer publicly accused the other of fraud. Both were right. They appear to have been so focused on proving the other was lying, they documented in great detail, under oath, exactly how the false claims interweave with each other. Dyson explained how Excel manipulated thresholds. Excel explained how Dyson generated self-serving data. Both of them provided a timeline for historical standards setting and the reasons they and the certifiers made the choices they did. Neither realized they were building the case against both of

them, elements of which mirror and detail the false claims Plaintiff found in his science and are material here.

**a. The Core Dispute**

364. Excel sought a preliminary injunction against Dyson's advertising, which claimed XLERATOR required 20 seconds to dry hands while Airblade required only 12 seconds. Excel's motion relied on a single SGS test purportedly showing the products' performance was "comparable" at 12 seconds.

365. Dyson's opposition memorandum, filed January 22, 2013 (Case 3:12-cv-30211-MAP, Document 27) [Exhibit RR], exposed Excel's deception.

**b. The "Revised NSF Protocol P335" Fraud**

366. Excel represented to the court that its SGS testing used "a revised version of NSF Protocol P335 Hygienic Commercial Hand Dryers currently being developed and reviewed by NSF."

367. Dyson's attorneys responded: "The phrase 'revised NSF Protocol P335' unambiguously communicates that at some point, NSF revised its protocol P335 and that Excel's test was based on this revised protocol. That is absolutely untrue." [Exhibit RR]

368. Dyson revealed that Excel had proposed amending NSF P335 to change the dryness threshold from 0.1 grams to 0.2 grams. NSF rejected this proposal. Excel used the rejected standard anyway and represented to the federal court

that it was “the revised NSF Protocol P335” without disclosing that NSF had rejected the revision.

**c. XLERATOR Is Not NSF Certified**

369. Dyson’s memorandum stated explicitly: “The Xlerator is not NSF Certified, meaning NSF has not independently verified that it passes NSF P335 and dries hands within 15 seconds.” [Exhibit RR]

370. This remains true today. Excel has never achieved NSF P335 certification, likely due to its single airjet design forcing hands on top of each other to trade water back and forth. The company that proposed weakening the NSF standard, was rejected, helped create UL’s weaker standard, and now markets under SmartEPD certification has never met the original hygiene standard.

**d. Dyson’s Sworn Counterclaims**

371. On February 22, 2013, Dyson filed its Answer, Statement of Defenses, and Counterclaims (Case 3:12-cv-30211-MAP). [Exhibit QQ] In sworn counterclaims, Dyson alleged: “The claim that the Xlerator dries hands completely in 10-15 seconds is literally false. According to testing performed by Dyson in accordance with NSF P335, the Xlerator takes approximately 20 seconds [Exhibit VVV].” Dyson further alleged under oath that “the Airblade achieves hygienic dryness in less than 12 seconds.”

372. Both companies’ sworn claims are now proven false. Plaintiff’s 451 residual moisture trials demonstrate that neither product achieves threshold dryness until 70-90 seconds. Dyson was right about Excel. Excel was right about Dyson.

Both are responsible for making false claims about themselves. [Exhibits WW, XX]

**e. Dyson's Testing Data**

373. Dyson provided detailed testing results under oath. For XLERATOR, Dyson conducted three studies using NSF P335 methodology:

| <b>Test Date</b>   | <b>Mean Dry Time</b> |
|--------------------|----------------------|
| February 27, 2008  | 19.86 seconds        |
| September 28, 2011 | 19.97 seconds        |
| September 28, 2011 | 19.99 seconds        |

374. For Airblade, Dyson conducted 22 studies between 2009 and 2011. The aggregate mean dry time was 9.58 seconds. No test showed a mean dry time exceeding 11.34 seconds. Dyson provided MIT with a conservative 12-second figure—1 to 2 seconds longer than actual test results. [Exhibit PP]

375. Plaintiff's independent testing data contradicts these claims by orders of magnitude for all currently manufactured and installed products. Dyson's sworn mean of 9.58 seconds was generated using DTM 553 on units whose model identification Saville did not specify in his declaration. If Saville tested original

insert-dispersal Airblades (AB01/AB03)—units featuring dual opposing air blades in a vertical slot that dry hands in approximately 10–12 seconds—his data may reflect the performance of a discontinued architecture that bears no resemblance to the downdraft-dispersal products currently sold under the same certification. Plaintiff’s 212 Dyson downdraft dispersal-unit trials show mean residual moisture of 2.547 grams at 10 seconds. Whether the gap reflects fabricated data or a certification transferred across incompatible architectures, the result is the same: current products do not perform as certified. The 19.86 to 19.99 second XLERATOR tests fare no better: Plaintiff’s data shows 2.77 grams average residual moisture at manufacturer-specified times. Discovery will determine which Dyson models Saville tested and whether Defendants can replicate Saville’s sworn results on any currently manufactured unit. Defendants should be able to replicate their sworn results for the court in a matter of minutes with no equipment other than a stopwatch and a production dryer, properly installed.

**f. The White Paper Admission**

376. Dyson attached Excel’s own White Paper, authored by Sol Aisenberg and G.

Freedman and indeterminately dated, as an exhibit. [Exhibit UU] The White Paper used Excel’s self-invented 0.2 gram threshold—not the NSF standard of 0.1 grams. Even using this weakened threshold, Excel’s own data showed 14 seconds to reach 0.2 grams. The authors admitted they hoped to achieve drying times “in the 10 to 12 second range in the near future.”

377. Excel's own researchers, in Excel's own document, using Excel's own weakened threshold, could not achieve the times Excel marketed.

**g. Denis Gagnon's Testimony**

378. Denis Gagnon, Excel's President, signed a declaration under pains and penalties of perjury. [Exhibit OO] He testified that 12 seconds was accurate for XLERATOR. He also signed the Verification to Excel's Complaint, swearing that all allegations therein were "true and accurate to the best of my personal knowledge."

379. On June 24, 2016—nineteen days before UL published the PCR on July 13, 2016—Denis Gagnon Jr., Excel's CFO, signed a verified complaint with the International Trade Commission stating that XLERATOR drying time was "10-15 seconds." [Exhibit VV]

380. Plaintiff's 451 retained moisture trials unequivocally disprove those claims. (P<.001; r=.99)

**h. Toby Saville's Testimony**

381. Toby Saville, the Dyson microbiologist who served on the NSF P335 Protocol Development Panel in 2007, provided a sworn declaration exceeding 120 paragraphs. [Exhibit PP] He testified that DTM 553 testing achieved 0.1 grams residual moisture in 9.58 seconds mean—the aggregate of Dyson's 22 studies. Saville's declaration does not identify which specific Dyson models were tested. Plaintiff assumed for two years that Saville's numbers had to be fraudulent because they were more than 2000% lower than his best case test in nearly 300 sampled dryers. The findings documented in MEMORANDUM IN SUPPORT OF COMPLAINT: LATE FINDING: THE INSERT HAND DRYER, THE NSF P335, AND

THE CERTIFICATION GAP allow for the possibility Saville's test results were valid, pending discovery regarding tested models used. This omission is critical: at the time these studies were conducted (2009–2011), Dyson manufactured insert-dispersal Airblades (AB01/AB03) featuring dual opposing air blades in a vertical slot—a fundamentally different drying architecture from the downdraft-dispersal products that replaced them. There have been no updates to the 2007 standards to accommodate any changes. Current models are uncertifiable by the old standards yet have been, and are, certified-in-full by NSF for decades.

382. Plaintiff's 429 time-to-dry trials on currently manufactured Dyson dispersal-type units document a different reality: only 15 trials (3.5%) ever achieved 0.1 grams residual moisture, and only with extended drying at 90 to 110 seconds, one order of magnitude beyond any manufacturer's claimed times. Plaintiff's 212 Dyson downdraft dispersal type dryer time-to-dry trials show mean residual moisture of 2.547 grams at 10 seconds—a differential of 20 to 40 times versus Saville's sworn claim. If Saville's data was generated on insert-dispersal type units, this differential reflects a certification transferred to incompatible downdraft-dispersal type products. If generated on dispersal-type units, it reflects a data integrity collapse. Either conclusion supports this complaint.

383. This discrepancy—a differential of 20 to 40 times—cannot be explained by normal experimental variation. Discovery will seek Saville's complete raw data from all 22 DTM 553 studies, the specific Dyson models tested, the methodology and test conditions, and whether any defendant can replicate the sworn results on any currently manufactured unit. If the tested models were insert-dispersal units, the certification was transferred to incompatible products. If they were

downdraft-dispersal units, the 20–40× gap indicates data integrity failure.

Defendants can resolve the question by replicating their sworn results for the Court in minutes; if they cannot, that failure will demonstrate why.

#### **i. The MIT Study's Data Source**

384. The MIT Materials Systems Laboratory Life Cycle Assessment, filed as Document 6-1 in the Excel v. Dyson litigation, reveals the circular nature of the competing claims. [Exhibit FF] The study's Table 4 lists XLERATOR's dry time as "20 sec [27]." Reference 27 is: "Blower, L. Personal communication with Dyson, Ltd., (2010)."

385. Dyson provided the dry time data for its competitor's product. The study states explicitly: "NSF protocol measurements were performed by Dyson." MIT did not independently verify either company's dry times. The study further acknowledges: "Neither Excel Dryer nor the standard dryer manufacturers, however, provide documentation on how they arrived at their dryers' respective dry times or what their basis was for dryness."

386. The 20-second XLERATOR figure that Dyson used in advertising came from Dyson's own testing of a competitor's product, reported through "personal communication" to researchers Dyson had commissioned. Excel's allegation that Dyson's data was "self-serving" was literally true—Dyson tested Excel's product and reported the results to its own commissioned study.

387. On October 17, 2012, the authors of both competing lifecycle assessments—Jon Dettling (Quantis, Excel’s 2009 LCA), Jeremy Gregory (MIT, Dyson’s 2011 LCA), and Randolph Kirchain (MIT)—wrote a joint letter to William Gagnon. [Exhibit TT] The letter admitted: “the Airblade and the XLERATOR are statistically indistinguishable” in environmental impact. It also revealed that Dyson’s test of its own product matched independent SGS results, while Dyson’s test of Excel’s XLERATOR was “nearly 50% higher than the SGS result.” The authors admitted: “We cannot explain these differences since we did not observe the testing by either entity.” The entire comparative advantage Dyson advertised rested on dry time data Dyson itself had generated for its competitor’s product—data the study’s own authors could not verify.

388. The certifiers watched two manufacturers publicly accuse each other of fraud and certified both anyway.

389. The case settled before discovery; both companies continue marketing the drying times neither can achieve, and the false certifications remain active.

## **8. THE DOCUMENT THAT PROVES IT**

390. Certificate SmartEPD-2023-002-0006-01, issued June 23, 2023, certifies the XLERATOR Hand Dryer, 120V. [Exhibit AA] The certificate expires June 23, 2028. The EPD Holder is Excel Dryer, 357 Chestnut St, East Longmeadow, MA. Page 2 of the certificate lists the verification parties. Three entries appear:

EPD Program Operator: Smart EPD, with Anna Lasso as contact at anna.lasso@smartepd.com.

Independent critical review of the LCA and data, according to ISO 14044 and ISO 14071: Anna Lasso, Smart EPD, anna.lasso@smartepd.com.

Independent external verification of EPD, according to ISO 14025 and reference PCR: Anna Lasso, Smart EPD, anna.lasso@smartepd.com.

391. ISO 14025 requires independence between the program operator, the LCA reviewer, and the external verifier. [Exhibit Y] These are meant to be separate parties providing independent oversight. On this certificate, one person occupies all three roles. Anna Lasso operates the program, reviews the underlying life cycle assessment, and verifies the final EPD.
392. Page 3 of the certificate states: “The XLERATOR dries hands completely in 8 seconds.”
393. Page 4 lists product specifications including: “Dry time: 8 seconds.”
394. Page 13, under Additional Environmental Information, states: “Dry Time and Energy Use: Tests were performed by SGS International on standard XLERATOR Hand Dryer with 0.8 inch nozzle to 0.25g or less of residual moisture, pursuant to the UL Environment Global Product Category Rules (PCR) for Hand Dryers.”
395. This certificate is not limited to environmental claims. It embeds the 8-second drying time as a product specification and uses that specification as the basis for all energy and lifecycle calculations. The functional unit is 100,000 instances

of hand drying. Energy consumption is calculated assuming 8-second cycles. If the drying time is false, every downstream calculation in the certificate is false.

396. The certificate explicitly documents testing to 0.25 grams—the UL PCR threshold that is 2.5 times weaker than NSF P335. [Exhibit W] The certificate does not claim NSF compliance. It does not claim UL certification. It claims testing to the UL PCR standard, verified by the person who helped create that standard while employed at UL.

397. The TrueNorth Collective Life Cycle Assessment underlying this certificate states on page 1: “Dry time, power and energy consumption are based on the average test results provided by Excel.” [Exhibit EE] No independent verification. Manufacturer-provided data, certified by the manufacturer’s former collaborator.

398. The same TrueNorth LCA states: “Although hygiene is another purpose for hand dryers that is of interest to the scientific community (Materials Systems Laboratory, 2011), hygiene is not considered in this study.” A Life Cycle Assessment for products marketed as “hygienic” explicitly excludes hygiene from consideration.

399. Excel Dryer’s current marketing claims XLERATOR dries hands in 8 seconds. [Exhibit II] This claim appears on Excel’s website, on Smart EPD certificates, and in LEED credit documentation. No test data in the evidentiary record supports this claim.

400. The 2012 SGS report tested at 12 seconds and 15 seconds. [Exhibit BB] No 8-second data exists.

401. Denis Gagnon testified under oath in 2012 that 12 seconds was accurate.  
[Exhibit OO]

402. On June 24, 2016, Denis Gagnon Jr., Excel's CFO, signed a verified complaint with the International Trade Commission stating that XLERATOR drying time was "10-15 seconds." [Exhibit VV] This was filed 19 days before UL published the PCR on July 13, 2016.

403. Excel's own White Paper, authored by Sol Aisenberg and G. Freedman, showed 14 seconds to reach 0.2 grams and expressed hope to achieve "10 to 12 second range in the near future." [Exhibit UU]

404. The 2023 Smart EPD certificate states 8 seconds as a product specification but cites testing to the UL PCR's 0.25 gram threshold. [Exhibit AA] The certificate does not cite any test data validating the 8-second claim itself.

405. Plaintiff's 500+ independent trials show actual drying time to 0.1 grams is 70-90 seconds across all manufacturers. No Excel unit achieved below 0.15 grams at any tested interval. [Exhibits B, E, H]

406. The claim has propagated through the certification ecosystem without ever being validated. Excel claims 8 seconds. Smart EPD certifies a document stating 8 seconds. LEED credits reference documentation claiming 8 seconds. Building Green databases list 8 seconds. At no point in this chain has any party

independently verified that 8 seconds is achievable. The claim is an input, not a finding. It is assumed, not tested. It flows from manufacturer to certifier to green building system without scrutiny. [Exhibits AA, HH]

407. The drying time claim evolution under oath and certification [EXHIBITS NN-SS]:

| Date      | Source                | Claimed Time  | Document                                        |
|-----------|-----------------------|---------------|-------------------------------------------------|
| Dec 2012  | Denis Gagnon Sr.      | 12 seconds    | Federal court testimony under oath [Exhibit OO] |
| June 2016 | Denis Gagnon Jr.      | 10-15 seconds | ITC verified complaint [Exhibit VV]             |
| June 2023 | Smart EPD Certificate | 8 seconds     | SmartEPD-2023-002-0006-01 [Exhibit AA]          |

408. The actual, historical performance of all production hand dryers has never not been 70-90 seconds to 0.1g of residual water. Claims otherwise must be publicly validated. If they cannot be validated, the certifications must be publicly revoked. Plaintiff's test trials were perfectly executed using the testing protocols of the certifiers themselves. Both cannot be true.

409. Defendants can replicate their certified results for the Court in minutes. Or not.

## **D. REFERENCE**

### **1. DEFENDANTS' CITED CLAIMS WITH A BRIEF SUMMARY ANALYSIS, DETAIL**

410. This section is the detailed mirror of the summary claims made in the introduction.

**a. Purpose**

411. Defendant Anna Lasso as committee chair and verifier of the TrueNorth Collective Comparative Life Cycle Assessment of Hand Drying Systems: Excel Hand Dryers and Paper Towel Systems (May 2023)[Exhibit EE] states on page 16, “The purpose of [Excel hand dryers] is to dry hands after washing in a public restroom.”

412. Defendant Underwriters Laboratories states on page 9 of its UL Product Category Rules for Hand Dryers (2016) [Exhibit W], “The function of a hand dryer is to dry hands after washing in a public restroom.”

413. Defendant NSF International in its Protocol P335: Hygienic Commercial Hand Dryers (April 2007)[Exhibit X], section 1.2 states, “Commercial hand dryers are commonly used in public or commercial hand washing stations to dry hands after hand washing.”

414. Defendant SGS International states in Annex A of its Performance Test Report No. 2774929EFF-001 (Sept. 7, 2012)[Exhibit BB], “The purpose of this test is to ensure that [.....] the hand dryer is able to thoroughly dry hands during one 15-sec operating cycle.”

415. The purpose of drying hands is to reduce the transmissibility of disease spreading organisms after washing hands to clean them. Hand washing and

drying are supported by 150 years of unequivocal science proving that both together reduce disease individually and in populations. [Exhibits S, T]

#### **b. Drying Time**

416. Defendant Anna Lasso states in the SmartEPD Environmental Product Declaration: XLERATOR® Hand Dryer, Registration No. SmartEPD-2023-002-0006-01 (2023) [Exhibit AA], “The XLERATOR dries hands completely in 8 seconds.” Also, “Tests were performed by SGS International on standard XLERATOR Hand Dryer with 0.8" nozzle to 0.25g or less of residual moisture, pursuant to the UL Environment Global Product Category Rules (PCR) for Hand Dryers.”
417. Defendant SGS International states in its Performance Test, “The purpose of this test is to ensure ..... that the hand dryer is able to thoroughly dry hands during one 15-sec. ( $\pm 1$  sec.) operating cycle. .... 'thoroughly dry' means that less than 0.1 grams of residual moisture per hand for a total of 0.2 grams or less is recovered when a user dries his or her hands on a paper towel after using the hand dryer.”
418. Defendant NSF International in its P335, Section 4.3.3 states, “The unit must dry the user's hands to a satisfactory level (0.1 gram of residual moisture) within a period of one normal operating cycle or 15 seconds, whichever is lower.”
419. Defendant UL Solutions provides a standardized method for establishing drying time and residual moisture levels in Appendix II of its PCR, stating elsewhere,

“Dry Time: After washing the hands, the length of time required to dry one's hands to a dryness threshold equaling 0.25 grams residual moisture or less using a hand dryer.”

420. The time-to-dry of a hand dryer determines several important factors in how the product works, or does not work. Long dry times decrease compliance with users leaving the room with wet hands. Long dry times increase unit energy use per dry. Long dry times increase the carbon footprint of the product. Long dry times expose the user to increased bacterial and fungal loads. Every commercial pressure for hand drying in a dryer is to claim fast times, not slow ones.

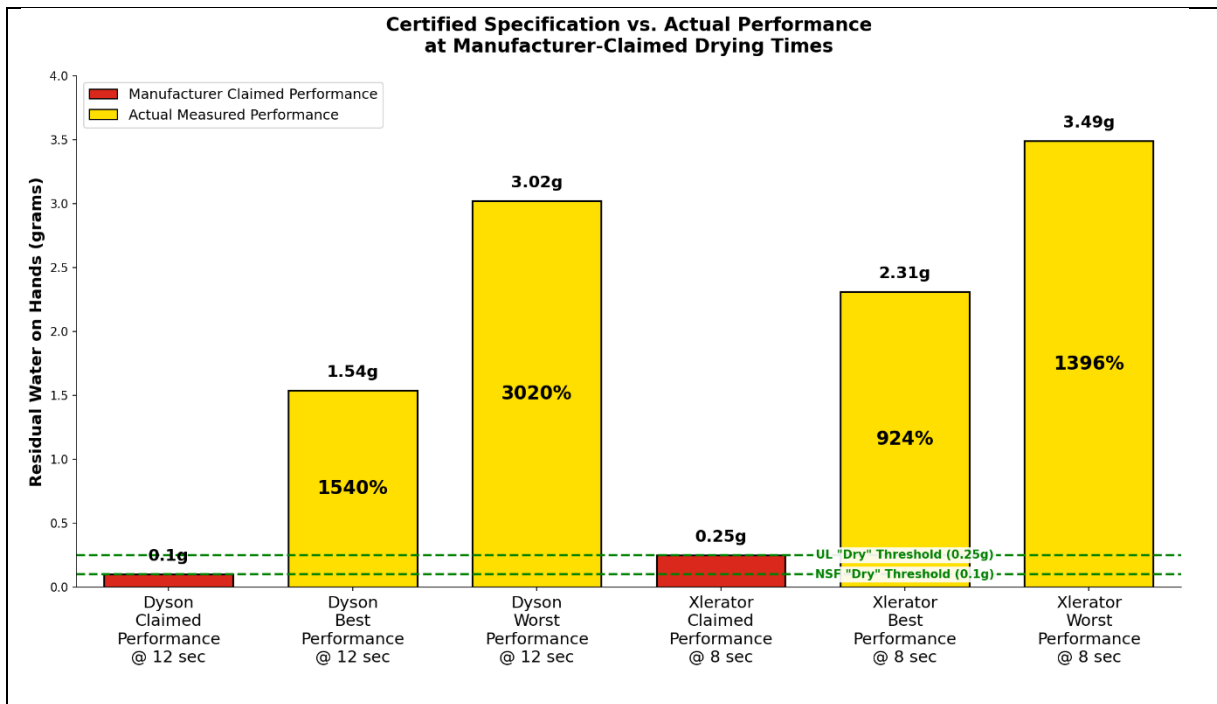
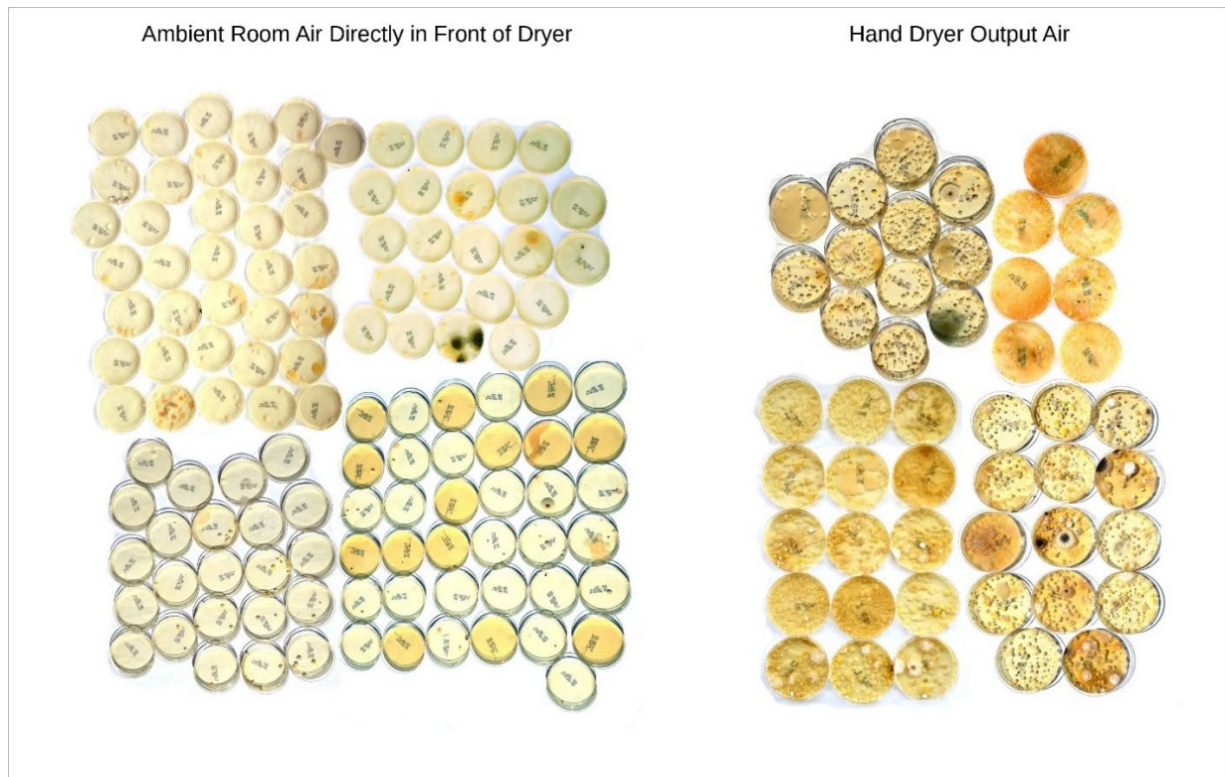


Figure 2: Actual performance of Dyson and Xlerator hand dryers versus manufacturers' and certifiers' claims.

### c. Hygiene

421. Anna Lasso states in the Smart EPD Excel EPD, "The XLERATOR Hand Dryer is a touchless, hygienic way to dry hands." She states in the TrueNorth LCA that, "hygiene is part of the protocol for commercial hand dryers." and then, oddly, in the same document, states, "Although hygiene is another purpose for hand dryers that is of interest to the scientific community (Materials Systems Laboratory, 2011), hygiene is not considered in this study."
422. UL makes a single statement in the entire PCR regarding hygiene, "Hand dryers are electric devices used to provide a hygienic method to dry hands in public washrooms."
423. NSF states in the P335, "Additionally, if a hand dryer insufficiently dries the user's hands, the residual moisture remaining on the user's hands could facilitate transmission of transient microorganisms to and from other objects and people after leaving the machine." and, "Commercial hand dryers can promote distribution of potentially pathogenic bacteria and allergenic mold spores or recontaminate hands with bacteria and molds during drying."
424. SGS entirely fails to mention hygiene anywhere in its test report.
425. Hand dryers are the direct result of a lineage of continuous science extending for 150 years that, without exception, proves that washed and dried hands decrease death and disease. The scientific consensus on this subject far exceeds the science on second hand cigarette smoke, already well established in the courts as causal for disease even without proof of downstream harm. Hand dryers' sole

purpose for existence is, uncontroversially, to increase sanitation for the user of a restroom. Drying hands after having washed them is the method. The Defendants, rather than building their standards around testing for functional sanitary performance barely mention it, and their testing results and processes are hidden, obfuscated and proprietary.

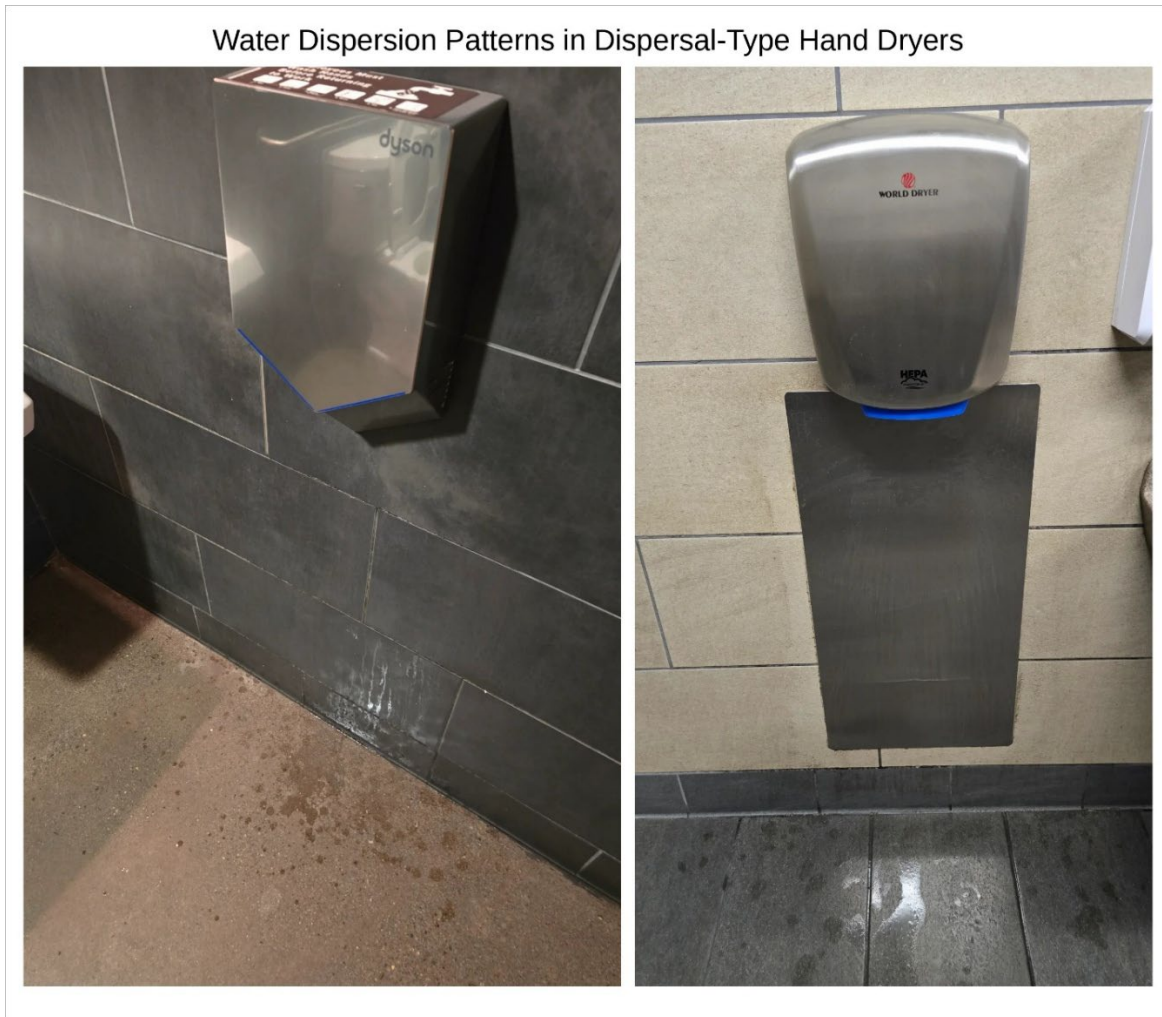


**Figure 3:** Microbial colonization comparison. TSA petri dishes exposed to ambient room air and dryer output air for the same length of time.

#### **d. Water Dispersal**

426. Defendant Anna Lasso fails to mention in the 51 pages of the Smart EPD Xlerator Certificate and the TrueNorth Collective LCA a single word about the dispersal of water into the room after the dryer air jets strike it.

427. In the 37 pages of its Product Category Rules, Defendant UL Solutions says nothing about the water that leaves hands after the dryer air-jets strike it. In Appendix 2, instructions for testing residual water, Defendant states, “Move hands slowly and evenly through the air stream in order to *blow off large water droplets*”, acknowledging that there are water droplets involved in the process of using a hand dryer.
428. NSF International created specifications for water in capture-type hand dryers but does not mention anywhere in the 11 pages of its Protocol P335 what occurs, or should occur, to the water after the air-jets strike it in a dispersal-type dryer, leaving only an odd mention in its methods section 5.7 that “liquid containment ..... should be monitored during testing”.
429. SGS International fails to mention anything about the destination of water struck by hand dryer air jets in its Performance Test Report.
430. In a product whose single purpose, its literal reason for existing, is to remove water from wet hands it is impossible to believe that the several certifying bodies writing the design, build, and testing standards for the products – and the manufacturers who make and sell them - completely fail to mention the destination and management of the water on hands after the dryer air strikes it. Water dispersal is the final stage of the product operational cycle and it has been entirely ignored. That is surreal.

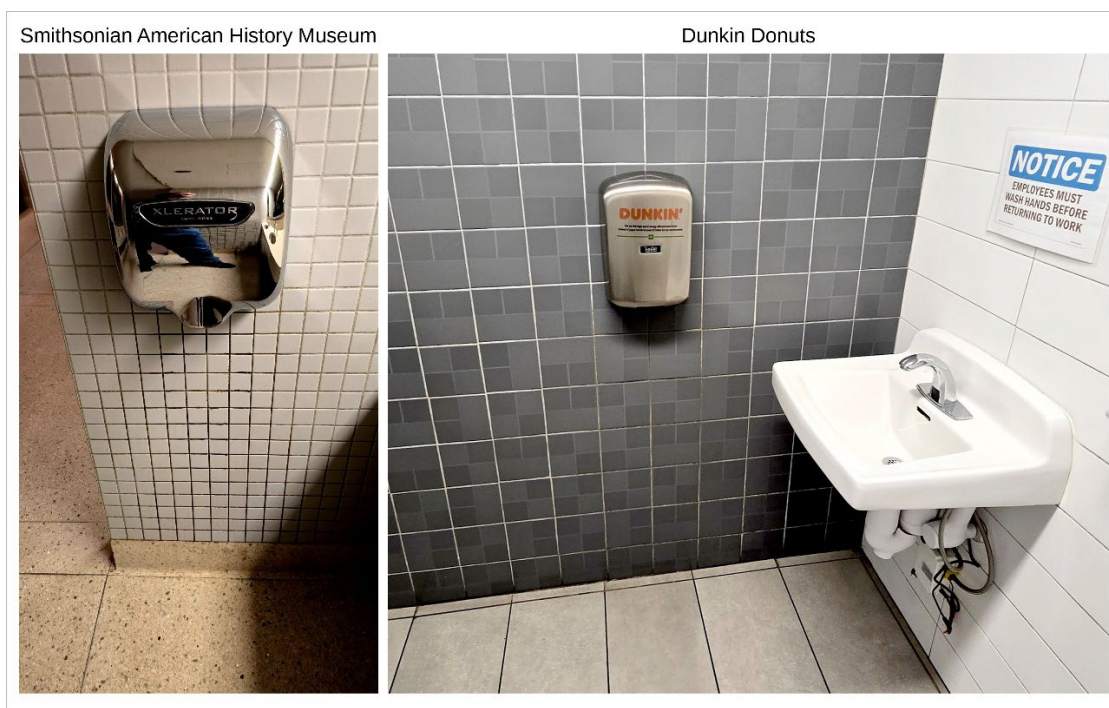


**Figure 4:** Environmental contamination from sprayed post-wash hand water. Each complete drying cycle disperses 7.3g of water directly into the air and onto the walls, floors and user of the restroom.

#### **e. Plume of Filth**

431. Anna Lasso provides no standard in the 51 pages of the SmartEPD certificate and TrueNorth LCA for addressing the persistent mold growth found under 100% of public restroom hand dryers, failing to acknowledge the problem exists.

432. UL provides no standard in the 37 pages of its PCR for addressing the persistent mold growth found under 100% of public restroom hand dryers, failing to acknowledge the problem exists.
433. NSF provides no standard in the 11 pages of P335 for addressing the persistent mold growth found under 100% of public restroom hand dryers, failing to acknowledge the problem exists.
434. SGS provides no testing protocol for addressing the persistent mold growth found under 100% of public restroom hand dryers, failing to acknowledge the problem exists.
435. Plaintiff documented visible mold colonization in 100% of ~200 tested installations. No defendant mentions the problem, much less providing any standard for preventing, measuring, or remediating it.



**Figure 5:** The Plume of Filth. 100% of tested hand dryers had mold somewhere on or below the dryer, even in the cleanest restrooms.

#### **f. Energy and Environmental Claims**

436. Anna Lasso claims in the TrueNorth LCA, "The comparative results indicate that the Excel dryers have between 80% to 97% fewer impacts than the paper towel baseline." and "The cradle-to-grave global warming potential of dryers can be 83% less than the cradle-to-grave global warming potential of paper towel baseline."

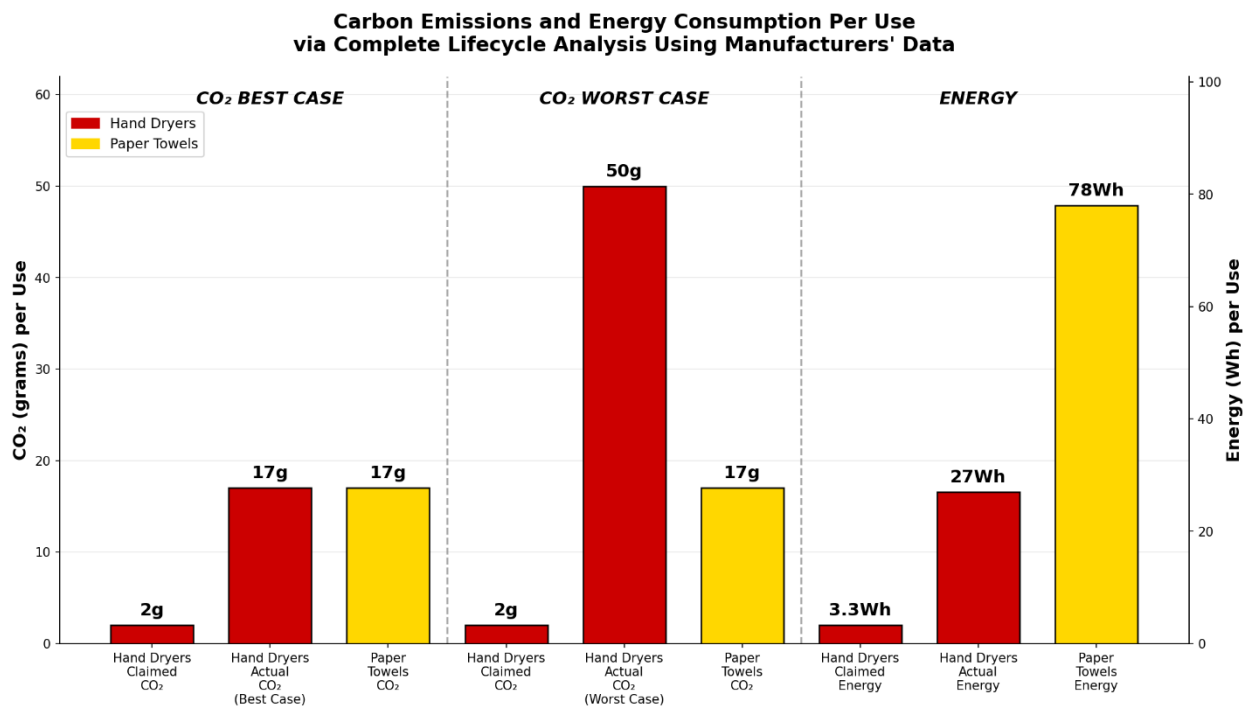
437. UL Solutions provides in its PCR the methodology for calculating environmental impacts, stating the purpose is to "support comparable, informed, and objective sustainable purchasing of hand dryers."

438. NSF Protocol P335 makes no direct environmental or energy claims. NSF P335 Section 2 incorporates "Dyson Test Method DTM 553, Evaluation of Hand Dryer Drying Times" as a normative reference. [Exhibit X] DTM 553 was created by Toby Saville, a Dyson microbiologist who served on the NSF Protocol Development Panel that wrote P335. [Exhibit PP] In sworn testimony filed in *Excel Dryer, Inc. v. Dyson, Inc.*, Saville reported that DTM 553 testing produced a mean dry time of 9.58 seconds to the 0.1g threshold NSF P335 establishes. That certified performance data—generated by a manufacturer's employee using a test method he created, incorporated into a standard he helped write, and potentially obtained on products no longer manufactured—became the input for every subsequent life cycle assessment claiming environmental advantage.

Those certified values, whether or not they were accurate for the products originally tested, form the basis for all subsequent life cycle assessments for products that cannot replicate the claimed performance.

439. SGS makes no energy claims but it is upon their false test results that all subsequent life cycle assessments are based.

440. The energy savings and environmental claims made by hand dryer manufacturers are a primary reason they are purchased and the most heavily marketed aspect of their performance. Energy savings are based on false dry times certified by the Defendants.



**Figure 6:** Certifiers claimed Carbon and Energy use per dry cycle versus actual Carbon and Energy per dry cycle as compared to paper towels via complete Life Cycle Analyses at valid time-to-dry values

## 2. FACTUAL BASIS: UNTANGLING CERTIFIER LIABILITY

#### **a. Unbinding Mixed Law in the Factual Allegations**

441. Defendants authored the standards, designed the test methods, controlled the protocols, and issued the certifications at issue. Each was within the issuing Defendant's control.

442. Plaintiff tested the certified specifications across 451 residual-moisture trials.

[Exhibits A-R] None achieved compliance at the certified times. Measured residual moisture was 2.5 to 3.0 grams against certified values of 0.1 to 0.25 grams. Bacterial amplification measured 50-110× in products certified as “hygienic.” Visible mold colonization was present in 100% of installations in products certified with HEPA filtration.

443. Plaintiff's testing data and methodology are public and reproducible. The underlying test data on which Defendants' certifications rest is not public.

#### **b. The Science Is The Product in the Factual Allegations**

444. Semmelweis established the importance of hand hygiene in 1847. Patrick et al. (1997) established that wet hands transfer up to 1,000 times more bacteria than dry hands. [Exhibits S, T]

445. Defendants cite this body of hand-hygiene research in their own marketing materials.

#### **c. The Liability Position in the Factual Allegations**

446. NSF set a residual-moisture threshold of 0.1 grams. UL set a threshold of 0.25 grams.

447. Plaintiff's testing shows certified products exceed those thresholds by 1,000 to 2,770 percent. [Exhibits B, E, H]

448. The UL PCR committee held 10 manufacturer seats and 2 UL representatives, with no public health officials, consumer representatives, or independent researchers. The residual-moisture threshold was set at 0.25 grams, 2.5 times weaker than the existing NSF P335 standard. No scientific justification for the threshold appears in the 35-page document. [Exhibits FF, JJ, KK]

**d. The Standard Is Indivisible in the Factual Allegations**

449. Defendants certified drying time. Defendants' own materials state that wet hands spread contamination. [Exhibits S, T]

450. Defendants created no standard to measure the microbial content of the output air of functioning dryers in situ. Measured output air amplifies ambient restroom air contamination 50-110×. [Exhibits A, I]

451. Dispersal-type certified dryers show mold colonization on surrounding walls in 100% of installations. [Exhibits J, Q, R]

452. NSF P335 Section 6.2 requires HEPA filtration to prevent contaminated air intake. NSF P335 Section 6.5 requires 99.9999% bacterial kill for water in capture-type dryers, and requires nothing comparable for dispersal-type dryers. The UL PCR mentions hygiene once in 35 pages and does not mention water dispersal. [Exhibit W]

**e. The Mark Is A Contract in the Factual allegations**

453. The UL mark appears on approximately 22 billion products annually. It is displayed at the point of purchase and point of use. [Exhibit TTT]
454. UL is an OSHA-recognized Nationally Recognized Testing Laboratory under 29 CFR § 1910.7, most recently renewed March 5, 2021 (86 FR 12710). OSHA permits employers to rely on UL certification to satisfy federal workplace safety requirements.
455. NSF is an OSHA-recognized NRTL under 29 CFR § 1910.7, recognized December 10, 1998 (63 FR 68296).
456. NSF's website states that choosing an NSF-certified product “lets you know the company complies with strict standards and procedures imposed by NSF,” promises “assurance that the product has been rigorously tested,” and markets NSF as “protecting public health.” [Exhibits YY, ZZ]
457. UL created the Product Category Rules for Hand Dryers, convened the committee, published the standard, and specified the test methodology. [Exhibit W]
458. NSF certified Dyson products under Protocol P335, titled “Hygienic Commercial Hand Dryers,” for over nineteen years. [Exhibit GG] Plaintiff tested current certified models: 451 dry-time trials, zero compliance; bacterial amplification of 50-110×. [Exhibits A, I]

**f. Scientific Consensus in the factual allegations**

459. The hand-hygiene literature establishing that hand drying reduces disease transmission spans more than 150 years and is undisputed. [Exhibit S]  
Researchers, public-health authorities, and Defendants cite this science.

460. The literature establishing that hand dryers amplify contamination spans 36 years across 18 peer-reviewed studies. [Exhibit S] Every study of hand dryers in functioning restrooms shows the same result; no published study contradicts it.

## **VI. PLAINTIFF'S STANDING AND INJURIES**

### **A. ONE INJURY SUFFICES**

461. Standing requires one injury that is concrete, particularized, traceable to the defendant, and redressable by the Court. A plaintiff who pleads more than one independent injury need establish only one; a defendant seeking dismissal for want of standing must defeat every one. Plaintiff pleads four independent injuries below. The primary injury — economic loss from paying for certified performance the products did not deliver — is sufficient on its own. The remainder are pleaded independently, and each stands or falls on its own terms.

### **B. ECONOMIC INJURY — PRIMARY GROUND**

462. Plaintiff, a consumer, paid for hand-drying services that Defendants certified as compliant with their own specifications and received services that were not. He paid for products certified to dry hands to a residual-moisture threshold in approximately eight seconds; the products in fact require sixty to ninety seconds, a level of non-performance Plaintiff's 460 drying trials establish at zero-percent compliance. He paid for products certified and marketed as hygienic; the products amplify microbial contamination in their output by median factors of 49.6 times under the original LB-agar methodology and 110 times under broader-spectrum TSA methodology. The difference between the certified performance Plaintiff paid for and the performance the products

delivered is a concrete, particularized, ascertainable economic loss, personal to Plaintiff. It is the injury on which Plaintiff's standing principally rests.

463. This injury is particularized and Plaintiff's own. It rests on his documented patronage of specific facilities on specific dates (Exhibit V), on his own repeated transactions at those facilities, and on an ascertainable loss cognizable under Pennsylvania's Unfair Trade Practices and Consumer Protection Law. It is not the undifferentiated grievance of the public at large; it is the loss of a bargain Plaintiff personally paid for and did not receive. Pennsylvania's Unfair Trade Practices and Consumer Protection Law affords a private right of action to any person who purchases goods or services primarily for personal, family, or household purposes and thereby suffers an ascertainable loss of money or property. 73 P.S. § 201-1 et seq. The Pennsylvania Supreme Court has confirmed that justifiable reliance and ascertainable loss, not physical harm, are the operative elements. *Gregg v. Ameriprise Financial, Inc.*, 245 A.3d 637 (Pa. 2021).

464. The certification's quantifiable commercial value independently corroborates the injury but is not the ground on which it rests. UL's Environmental Product Declaration for the Xlerator hand dryer is a documented input to the U.S. Green Building Council's LEED v4 rating system. Excel Dryer's own LEED documentation states that the Xlerator may contribute to the LEED "Building Product Disclosure and Optimization — Environmental Product Declarations" credit on the strength of its UL-certified EPD, and to the LEED energy-performance prerequisite and credit, worth up to eighteen points, on the

strength of a certified consumption figure of 3.68 watt-hours per eight-second cycle. [Exhibit HH] A second manufacturer's hand dryer is marketed into the same LEED energy credits. [Exhibit II] The certified eight-second figure is the figure Plaintiff's 460 drying trials show to be false at zero-percent compliance. The defective certification is therefore not ornamental; it is the literal data input by which buildings claim LEED credit. Commercial facilities pursue LEED certification for competitive and market advantage, and the costs of pursuing it — including the specification and installation of products selected for their certified contribution to LEED credits — are reflected in the occupancy and operating costs those facilities pass through to their tenants and patrons. Plaintiff patronized such facilities. [Exhibit V] This commercial-value chain is pleaded as corroboration; it is not the ground on which Plaintiff's standing rests, which is the direct consumer loss set out above.

465. The mechanism by which Defendants' conduct reached Plaintiff is the certification mark itself. Remove the mark and the chain disappears: without it, Defendants' representations never reach the point of sale, never command the premium that certification carries, and never induce the reliance on which the purchasing and pricing decisions rest. With the mark, those representations ride into the facility's procurement, into the price of the goods and services Plaintiff purchased, and into Plaintiff's own reliance. The mark is thus the but-for mechanism that makes Plaintiff's economic injury fairly traceable to Defendants' conduct, as Article III requires.

466. Plaintiff's reliance was not limited to any single representation or mark. Plaintiff relied on the certification ecosystem as a whole — including standards creation, testing protocols, certification issuance, and public-facing marks — each of which Defendants represented as independent safeguards. Defendants collectively created the appearance of layered verification and scientific consensus, upon which Plaintiff relied.

## **C. SPECIFIC INJURIES**

### **1. Consumer Economic Injury**

467. Plaintiff incorporates the direct economic injury set out in Section VI.B: he paid for certified performance and received non-compliant performance, and the difference between what was paid for and what was delivered is the ascertainable loss.

### **2. Time Injury**

468. The time injury was not chosen by Plaintiff; it was compelled by the false certification. The certified specifications represented drying to the residual-moisture threshold in approximately eight seconds. Achieving that threshold in fact requires sixty to ninety seconds. Each use of a certified dryer therefore extracted from Plaintiff sixty or more seconds beyond the represented time — time Plaintiff did not elect to spend and would not have spent had the certification been truthful. The loss was involuntary, imposed by the gap

between the certified representation and the product's actual performance, and repeated across years of compelled use.

### **3. Research Costs**

469. Plaintiff did not set out to build a lawsuit. In September 2023 Plaintiff encountered, by chance, a physical condition — visible mold at the air outlet of a commercial hand dryer — that called for investigation. Plaintiff investigated what he had observed because the observation demanded it, conducting the testing that ultimately disclosed the certification failures alleged here. For approximately eighteen months Plaintiff sought to have the condition addressed by others, approaching the commercial operators whose facilities were affected and seeking to have the matter taken up by those with the resources to pursue it. Only after those efforts failed did Plaintiff turn to litigation as a last resort. The costs Plaintiff incurred were thus incurred in response to a condition the Defendants' conduct created, not manufactured to support a suit Plaintiff had already resolved to bring. The investigation produced the case; the case did not require the investigation.

### **4. Contamination Exposure**

470. Plaintiff was personally and repeatedly exposed to the amplified microbial output of certified dryers, over use-periods many times longer than the certified drying time, during the years he relied on the certifications. Plaintiff pleads this exposure as a discrete injury. To the extent the Court regards exposure shared

with other members of the public as insufficiently particularized to support standing on its own, the injury is severable, and Plaintiff's standing rests on the economic injury set out above, which is his alone.

#### **D. CONTINUING VIOLATION AND ONGOING HARMS**

471. Plaintiff's claims are not time-barred. The continuing violation doctrine applies where, as here, the wrongful conduct is ongoing rather than a discrete historical act. The Defendants issued the certifications, the Defendants maintain them, and the Defendants have not withdrawn, corrected, or updated them notwithstanding the documented failure. The violation continues, and the limitations period does not bar claims for conduct still occurring.

472. The injury is likewise ongoing. Hand dryers bearing the challenged certifications remain in widespread use throughout Pennsylvania, and Plaintiff continues to encounter them in the ordinary course of daily life. So long as the certifications remain in force, they continue to govern procurement, pricing, and consumer reliance, and Plaintiff continues to bear the economic consequence of paying for certified performance that the certified products do not deliver.

#### **E. DOCUMENTED EXPOSURE AND RELIANCE**

473. Exhibit V documents Plaintiff's patronage of facilities operated by retailers that publicly commit to environmental sustainability and pursue recognized green-building standards, including locations in Camp Hill, Mechanicsburg, and the surrounding area. Each documented visit represents a transaction in which

Plaintiff paid for goods and services at a facility whose operating costs reflect its pursuit of the sustainability standards the challenged certifications feed, and at which the certified products — claiming dry times that achieve zero-percent compliance in testing, and energy and environmental performance derived from those same false figures — were in use. Plaintiff did not receive the benefit of his bargain. The certified "hygienic" dryers did not dry hands to certified specifications, and the certifications on which the bargain depended are false.

474. Plaintiff reasonably and foreseeably relied on Defendants' certification marks, standards, testing representations, and public assurances in deciding to use certified hand dryers and in refraining from alternative hand-drying methods. Defendants' marks and certifications were designed, marketed, and maintained precisely for that purpose: to induce trust and reliance by users, purchasers, facility operators, and regulators.

475. Plaintiff encountered Defendants' certification marks repeatedly over more than a decade in public restrooms, including facilities operated by national retailers and food-service establishments. Plaintiff understood these marks to signify that the certified products had been independently tested, complied with published standards, and were safe, hygienic, and environmentally responsible as represented. Plaintiff relied on those representations in using the products as intended.

476. Plaintiff relied on Defendants' certifications by not taking additional protective actions. Plaintiff did not bring personal paper towels, did not avoid certified

dryers, and did not treat certified dryers as potential contamination sources, because Defendants' marks communicated that such precautions were unnecessary. This reliance resulted in repeated exposure to conditions that Defendants' own standards purported to prevent.

## **VII. JOINDER OF DEFENDANTS**

477. Joinder is proper under Federal Rule of Civil Procedure 20(a)(2).

478. Same Transaction or Occurrence. All claims arise from an interconnected certification network. NSF created P335. UL created PCR referencing NSF P335. SGS tested to UL PCR. Smart EPD certified using UL PCR methodology. Anna Lasso participated in UL PCR development while at UL and now operates Smart EPD. Each Defendant's conduct is part of the same certification system.

479. Common Questions. All claims present common questions: whether certified products meet certified specifications; whether certification creates duties to consumers; whether certifiers are liable for false certifications.

480. Joint and Several Liability. The harm is non-divisible. A user's contamination exposure cannot be allocated among Defendants who created standards, tested products, and certified compliance. The harm flows from the interconnected system, not from any single participant's isolated conduct.

## **VIII. APPLICABLE CASE LAW**

481. *Brand Marketing Group v. Intertek Testing Services*, 801 F.3d 347 (3d Cir. 2015). The Third Circuit affirmed a jury verdict of \$6,045,000 — including \$5,000,000 in

punitive damages — against a nationally recognized testing laboratory for negligent certification under Restatement (Second) of Torts §552. Intertek negligently certified a heater as meeting ANSI safety standards when it did not. The court held that a testing laboratory's negligent misrepresentation is actionable when the lab knows others will rely on its certifications. The court further held that the economic loss doctrine does not bar §552 claims under Pennsylvania law, applying the Pennsylvania Supreme Court's Bilt-Rite exception. This case is binding precedent in the Middle District of Pennsylvania, applies the same legal theory (§552), the same type of defendant (testing/certification laboratory), and the same state's law (Pennsylvania) as the present action.

482. *Hempstead v. General Fire Extinguisher Corp.*, 269 F. Supp. 109 (D. Del. 1967).

UL was held liable for negligent testing of a fire extinguisher that failed during use. The court established that testing organizations owe duties to foreseeable users who rely on certifications. This case directly supports liability for Defendants who certify products that do not meet certified specifications.

483. *Hanberry v. Hearst Corp.*, 276 Cal. App. 2d 680 (1969). The Good Housekeeping

Seal created liability for a defective product. An endorsement seal creates a duty to consumers who rely on it. The NSF P335 mark is precisely such an endorsement seal.

484. *Bilt-Rite Contractors, Inc. v. The Architectural Studio*, 866 A.2d 270 (Pa. 2005).

Pennsylvania adopted Restatement § 552 for information suppliers. Parties who supply false information for the guidance of others are liable to those who justifiably rely on that information. Certification is precisely such information supply.

485. *Toman v. Underwriters Laboratories, Inc.*, 532 F. Supp. 1017 (D. Mass. 1982),  
aff'd 707 F.2d 620 (1st Cir. 1983). The court denied UL's motion for summary  
judgment on claims that UL "negligently developed, established and  
promulgated safety standards," "negligently inspected, tested and examined" a  
product, and "negligently endorsed, certified and approved" it. On appeal, the  
First Circuit held UL has a duty to "police the use of its approval marks." This  
case establishes that negligent standards development and negligent  
certification are actionable against UL specifically.
486. *Alflex Corp. v. Underwriters Laboratories, Inc.*, 914 F.2d 175 (9th Cir. 1990).  
Distinguished: In *Alflex*, UL had limited electrical testing duties and did not  
undertake broader product safety certification. Here, UL voluntarily created  
hygiene-relevant standards by publishing a PCR that expressly references NSF  
P335 and its hygiene requirements.
487. *Warren Technology, Inc. v. UL LLC*, 962 F.3d 1324 (11th Cir. 2020). The Eleventh  
Circuit identified three theories viable against UL: that UL "failed to meet its own  
standards for testing," "interpreted the [standard] inconsistently over time," or  
"lacked independence." Plaintiff alleges all three. UL failed to meet ISO 14025  
requirements in twelve provisions. UL applied the standard inconsistently,  
producing two contradictory certificates for the same product with a tenfold  
energy discrepancy. UL lacked independence through structural conflicts in its  
verification chain.

488. *Gregg v. Ameriprise Financial, Inc.*, 245 A.3d 637 (Pa. 2021). The Pennsylvania Supreme Court confirmed that UTPCPL creates strict liability. No proof of intent is required. Deceptive conduct is actionable regardless of mental state.
489. *Dekens v. Underwriters Laboratories Inc.*, 107 Cal.App.4th 1177 (Cal. Ct. App. 2003). UL prevailed because it had never undertaken to test small appliances for medical safety from asbestos. The court applied Restatement §324A, holding that liability requires the defendant to have specifically undertaken the task charged. This case is distinguishable: in *Dekens*, UL never defined its product's function as asbestos-safe. Here, UL's PCR defines the product's function as providing "a hygienic method to dry hands in public washrooms." UL undertook hygiene when it wrote the word into its own functional definition mandated by ISO 14025 §6.7.1(a). The scope of undertaking explicitly includes the harm alleged.
490. *Hounen Solar, Inc. v. UL LLC*, 2023 U.S. Dist. LEXIS 134978 (N.D. Ill. Aug. 3, 2023). UL's motion to dismiss was denied on claims of fraud and negligent misrepresentation in UL's certification process. The court held that reliance on UL's representations was reasonable because UL "internally controls its certification process" and "unilaterally decides what it means to 'obtain authorization.'" UL's hand dryer EPD programme is equally opaque — purchasers cannot independently verify the 8.355-second drying time or energy calculations without conducting their own testing. This is the most recent

federal court ruling allowing certification misrepresentation claims against UL to proceed.

491. *The T.J. Hooper*, 60 F.2d 737 (2d Cir. 1932). Judge Learned Hand held that industry custom does not set the standard of care: "a whole calling may have unduly lagged in the adoption of new and available devices. It may never set its own tests, however persuasive be its usages. Courts must in the end say what is required; there are precautions so imperative that even their universal disregard will not excuse their omission." Defendants' anticipated defense that no EPD programme evaluates hygiene was rejected as a matter of law ninety-four years ago.

## **IX. COUNTS**

### **A. COUNT I**

#### **NEGLIGENT MISREPRESENTATION**

492. (Against All Defendants)

493. Plaintiff incorporates all preceding paragraphs.

494. Under Restatement (Second) of Torts §552, one who supplies false information for the guidance of others in their business transactions is liable for pecuniary loss caused to them by their justifiable reliance upon the information. Defendants supplied false information regarding hand dryer performance for the guidance of facility operators and consumers. This information included: certification that products achieve 0.1 grams or 0.25 grams residual moisture

when products actually achieve 2.5 to 3.0 grams; certification that products are “hygienic” when products amplify bacterial contamination by 50 to 110 times and create visible mold in 100% of installations; certification that products meet drying performance standards when zero percent of 451 trials achieved compliance; and certification under a standard titled “Hygienic Commercial Hand Dryers” when certified products convert restrooms into permanent contamination zones.

495. Defendants failed to exercise reasonable care in obtaining and communicating this information. NSF failed to conduct competent testing. UL failed to prevent manufacturer capture of its committee. SGS failed to test at claimed times. Smart EPD failed to verify physically impossible claims. Anna Lasso failed to maintain independence between conflicting roles.

496. Plaintiff justifiably relied on Defendants’ certifications. In reliance on those certifications, Plaintiff paid — through the price of the goods and services he purchased at facilities equipped with certified dryers — for certified performance the products did not deliver, sustaining a pecuniary loss: the loss of the benefit of his bargain. Exhibit V documents this pattern of patronage through Plaintiff’s Starbucks Rewards history and bank statements showing regular patronage at facilities equipped with hand dryers bearing the challenged certifications. The reliance and resulting loss are not hypothetical future harm; they are documented and repeated, on products certified to specifications that achieve zero percent empirical compliance.

497. Plaintiff's reliance was reasonable. Defendants hold themselves out as independent, technically competent, and scientifically rigorous certification and testing bodies. Defendants' certifications purport to resolve precisely those questions that individual consumers cannot assess for themselves: drying efficacy, hygiene, microbial safety, and environmental impact. Plaintiff had no practical ability to independently verify Defendants' claims and was entitled to rely on the accuracy of certifications issued by entities occupying positions of trust and quasi-regulatory authority.

498. Plaintiff's injuries were a direct and proximate result of this reliance. Had Defendants accurately certified product performance — or declined to certify products that failed to meet their own standards — Plaintiff would not have been exposed to the conditions documented in this Complaint. The causal chain is direct, unbroken, and foreseeable.

499. Plaintiff suffered damages as a direct result, including economic loss from the loss of the benefit of his bargain, time injury, research costs, and contamination exposure.

## **B. COUNT II**

### **NEGLIGENT UNDERTAKING (RESTATEMENT §324A)**

500. (Against All Defendants)

501. Plaintiff incorporates all preceding paragraphs.

502. Each Defendant undertook to render services necessary for the protection of consumers. NSF undertook hygiene certification. UL undertook standard creation. SGS undertook testing. Smart EPD undertook EPD verification. Anna Lasso undertook standard development while at UL and certification while at Smart EPD.

503. Each Defendant's undertaking was relied upon by manufacturers, facility operators, and consumers. The reliance was foreseeable. Indeed, reliance is the entire point of certification—without reliance, certification has no value.

504. Each Defendant failed to exercise reasonable care in performing the undertaking.

505. Plaintiff suffered damages as a direct result.

### **C. COUNT III**

#### **PENNSYLVANIA UNFAIR TRADE PRACTICES AND CONSUMER PROTECTION LAW**

506. (Against All Defendants)

507. Plaintiff incorporates all preceding paragraphs.

508. Defendants engaged in unfair or deceptive acts in the conduct of trade or commerce in violation of 73 P.S. § 201-1 et seq. Defendants' conduct falls squarely within the practices the statute declares unlawful, including 73 P.S. § 201-2(4)(ii) (causing a likelihood of confusion or misunderstanding as to the approval or certification of goods or services), § 201-2(4)(iii) (causing a likelihood of confusion or misunderstanding as to certification by another), and § 201-

2(4)(v) (representing that goods or services have approval, characteristics, or benefits that they do not have).

509. Under *Gregg v. Ameriprise*, 245 A.3d 637 (Pa. 2021), UTPCPL creates strict liability. No proof of intent is required. Defendants' conduct was deceptive regardless of their mental state.

510. Plaintiff suffered ascertainable loss as a result of Defendants' conduct.

511. Plaintiff is entitled to actual damages, treble damages, and attorneys' fees under 73 P.S. § 201-9.2.

#### **D. COUNT IV**

##### **BREACH OF DUTY AS ACCREDITED CERTIFICATION BODY**

512. (Against NSF International)

513. Plaintiff incorporates all preceding paragraphs.

514. NSF operates as an accredited certification body. By undertaking to certify products for public health and safety, NSF assumed duties to conduct competent initial evaluation, ensure ongoing compliance through surveillance testing, and maintain certification integrity by revoking certifications for non-compliant products.

515. NSF breached these duties by certifying products that achieve zero percent compliance with certified specifications and by failing to conduct surveillance testing over eleven years of continuous certification.

516. Plaintiff suffered damages as a direct result.

## **E. COUNT V**

### **EXPRESS WARRANTY (UCC §2-313)**

517. (Against NSF International)

518. Plaintiff incorporates all preceding paragraphs.

519. NSF P335 certification includes precise numerical specifications: residual moisture of 0.1 grams or less, compliance rate of 95% or greater, achieved within 15 seconds or less.

520. Products bearing NSF P335 certification do not meet these specifications.

Actual residual moisture is 2.77 grams. Actual compliance is zero percent.

Actual time to compliance is 80 to 90 seconds.

521. Plaintiff suffered damages as a direct result.

## **F. COUNT VI**

### **NEGLIGENT TESTING**

522. (Against SGS North America, Inc.)

523. Plaintiff incorporates all preceding paragraphs.

524. SGS tested hand dryer products to UL PCR standards. SGS's test reports are relied upon by manufacturers, certification bodies, and consumers.

525. SGS failed to exercise reasonable care by testing at 12 to 15 seconds rather than the 8-second times manufacturers claim in marketing, and by providing test data

that enabled false marketing claims to be made with apparent third-party validation.

526. SGS's court-filed data shows World Dryer Smartdri at 15 seconds produced 0.770 to 0.774 grams residual moisture—more than three times the 0.25 gram threshold.

527. Plaintiff suffered damages as a direct result.

## **G. COUNT VII**

### **NEGLIGENT STANDARD CREATION AND CERTIFICATION**

528. (Against UL Solutions Inc.)

529. Plaintiff incorporates all preceding paragraphs.

530. This Count does not ask the Court to hold UL liable for defective products. When certified products fail due to manufacturing defect, the manufacturer bears responsibility. This Count asks the Court to hold UL liable for defective standards and defective testing—for creating standards that fail to protect public safety and for certifying specifications that products cannot meet.

531. UL created Product Category Rules for Hand Dryers that are relied upon by testing organizations, certification bodies, and consumers. UL certified products under those rules from 2017 to present. UL's certification of Excel Dryer expired in July 2022. UL continues to certify hand dryers, including Hokwang products certified through April 2027 at 30-35 seconds drying time.

532. UL failed to exercise reasonable care in standard creation by allowing 100% manufacturer control of the PCR committee; giving Excel Dryer 40% plurality control; excluding public health officials and consumer representatives entirely; publishing Figure 2 data proving 8-second claims impossible while enabling those claims to proliferate; mentioning hygiene once in 35 pages; and omitting water dispersal—the primary public health mechanism—entirely.

533. UL failed to exercise reasonable care in certification by issuing EPD No. 4787137936.102.1 certifying 8-second drying times and 3.68 Wh energy consumption when UL's own Figure 2 showed these specifications were unachievable; by certifying claims that contradicted data UL itself had published one year earlier; and by maintaining certification for five years without surveillance testing. UL continues to exercise negligent certification by maintaining active EPDs for products that operate for 30-35 seconds per drying cycle without addressing water dispersal, output air contamination, or mold formation that occurs during that extended operation.

534. Plaintiff suffered damages as a direct result.

## **H. COUNT VIII**

### **EPD VERIFICATION NEGLIGENCE**

535. (Against Smart EPD LLC and Anna Lasso)

536. Plaintiff incorporates all preceding paragraphs.

537. Smart EPD certifies Environmental Product Declarations for hand dryer manufacturers.
538. Smart EPD failed to exercise reasonable care by certifying EPDs based on physically impossible drying time claims and by operating with Anna Lasso serving simultaneously in three roles that ISO 14025 requires to be independent.
539. Anna Lasso knew UL's certification standards. She administered them. She knew what UL would and would not certify. UL certified Hokwang at 30-35 seconds using the same methodology. Excel sought certification at 8 seconds and UL allowed the EPD to lapse. Anna Lasso created SmartEPD and certified.
540. Anna Lasso is personally liable because she participated in creating UL PCR methodology while employed at UL, founded Smart EPD to certify products under that methodology, and serves in three conflicting roles on certifications she issues.
541. Plaintiff suffered damages as a direct result.

## **I. COUNT IX**

### **DECLARATORY JUDGMENT**

542. (Against All Defendants)
543. Plaintiff incorporates all preceding paragraphs.

544. An actual controversy exists regarding: whether certifications create enforceable duties to consumers; whether certified products meet certified standards; and whether Defendants have obligations to monitor and correct false certifications.

545. Plaintiff seeks declaratory judgment establishing: that certification marks constitute representations of current compliance; that certifiers owe duties of reasonable care to consumers who rely on certifications; that Defendants' certifications were false when made and remain false; and that Defendants have affirmative duties to correct false certifications.

## **X. PRAYER FOR RELIEF**

546. The hypothetical test proposed in Paragraph 2 governs: does the device improve or degrade the room? Until Defendants can demonstrate improvement, the devices should not be there.

547. WHEREFORE, Plaintiff requests judgment against Defendants, jointly and severally:

### **A. INJUNCTIVE RELIEF**

548. Order Defendants to cease certifying products that do not meet certified specifications.

549. Order Defendants to conduct public, transparent surveillance testing of currently certified products.

550. Order Defendants to suspend or revoke certifications for non-compliant products.

551. Order Defendants to publish corrective notices informing the public that certified products do not meet certified specifications.

552. Order Defendants to notify BuildingGreen, LEED, WELL, and similar organizations of certification failures.

## **B. IN-COURT DEMONSTRATION**

553. Order an in-court demonstration under judicial supervision. Plaintiff will provide commercial hand dryer unit(s) mounted on portable backboard. Using standardized methodology, the Court and jury can verify that certified products do not achieve 0.1 grams residual moisture at specified times. The demonstration will take approximately 15 minutes.

554. Order that if Defendants contest Plaintiff's findings, Defendants shall demonstrate certified performance using Paragraph 1 methodology under judicial supervision, with results measured by three independent third parties.

## **C. DECLARATORY RELIEF**

555. Declare that certification marks constitute representations of current compliance.

556. Declare that certifiers owe duties of reasonable care to consumers who rely on certifications.

557. Declare that Defendants' certifications were false when made and remain false.

558. Declare that Defendants have duties to monitor and correct false certifications.

#### **D. DAMAGES**

559. Award compensatory damages for economic loss from the loss of the benefit of the bargain, time injury, research costs, and contamination exposure.

560. Award treble damages under Pennsylvania UTPCPL.

561. Award pre-judgment and post-judgment interest.

562. Award costs and attorneys' fees to the extent authorized by law.

563. Grant such other relief as the Court deems just and proper.

## **XI. JURY TRIAL DEMAND**

564. Plaintiff demands trial by jury on all issues so triable.

Dated: \_\_\_\_\_

Respectfully submitted,

Ronald A. Blouch Jr. [Address] Mechanicsburg, PA [ZIP] [Phone] [Email] Pro Se Plaintiff

## **VERIFICATION**

I, Ronald A. Blouch Jr., verify that I am the Plaintiff in the above-captioned action. The statements in the foregoing Complaint are true and correct to the best of my knowledge, information, and belief. I understand that these statements are made subject to the penalties of 18 Pa.C.S. § 4904.

Dated: \_\_\_\_\_

Ronald A. Blouch Jr.

## **FILING DOCUMENTS**

### **Declarations**

This Complaint is supported by contemporaneously filed declarations:

1. Declaration of Ronald A. Blouch Jr. in Support of Complaint
2. Affidavit of Ronald A. Blouch Jr. Regarding Artificial Intelligence Collaboration (executed February 2026)(executed June 2026)

## **SUPPORTING MEMORANDA**

This Complaint is supported by contemporaneously filed memoranda:

1. MEMORANDUM IN SUPPORT OF COMPLAINT: ISO 14025, ISO 14020, AND EN 15804 COMPLIANCE ANALYSIS: The Governing Standard Requires What the Defendants Excluded. During the Settlement Demand period UL's responses directed Plaintiff deeply into the ISO documents UL cites as authoritative for both their PCR and EPD. They cite EN 15804 as non-binding but guiding. This complaint was written before Plaintiff understood the relationship between UL's certifications and the ISO and EN standards UL cites as governing. Every issue raised in the complaint is directly addressed by those standards. This memorandum is a comprehensive examination of that convergence.

This memorandum is incorporated by reference as though fully set forth herein

2. MEMORANDUM IN SUPPORT OF COMPLAINT: LATE FINDING: THE INSERT HAND DRYER, THE NSF P335, AND THE CERTIFICATION GAP. Documents the three-category dryer taxonomy (insert capture, insert dispersal, downdraft dispersal), the architectural timeline from Dyson's original insert-dispersal Airblade to current downdraft-dispersal products, the implications of NSF P335's mandatory water management provisions for products that cannot satisfy them, and the logical fork in Toby Saville's sworn DTM 553 data.

This memorandum is incorporated by reference as though fully set forth herein

3. MEMORANDUM IN SUPPORT OF COMPLAINT: DOCUMENTING DYSON LTD. CONDUCT. Documents Dyson's 126 false advertising claims, Method 769, Patrick citations, AIRMID testing methodology, Toby Saville's panel participation, DTM 553 incorporation, and WHO/CDC authority appropriation.

4. MEMORANDUM IN SUPPORT OF COMPLAINT: DOCUMENTING EXCEL DRYER, INC. CONDUCT. Documents Excel's UL PCR committee control, Denis Gagnon's federal testimony, UL PCR Figure 2 data, Anna Lasso's role transition, Jon Dettling's conflict,

SGS testing parameters, Northwestern Memorial Hospital installation, and 31 false advertising claims.

## **EXHIBITS**

### **Journal Preprints**

**[EXHIBIT-A]** Transmission of Bacteria and Fungus via Dyson and Xlerator Hand Dryers, Blouch, R. A. Jr. (2025); DOI: 10.5281/zenodo.15504115; Journal Preprint 1 of 11

**[EXHIBIT-B]** Testing the Validity of Hand Dryer Drying Time Specifications, Blouch, R. A. Jr. (2025); DOI: 10.5281/zenodo.15503698; Journal Preprint 2 of 11

**[EXHIBIT-C]** Visual Analysis of Water Dispersion Patterns, Blouch, R. A. Jr. (2025); DOI: 10.5281/zenodo.15503304; Journal Preprint 3 of 11

**[EXHIBIT-D]** Bacterial and Fungal Contamination Assessment of Paper Towel Types, Blouch, R. A. Jr. (2025); DOI: 10.5281/zenodo.15504144; Journal Preprint 4 of 11

**[EXHIBIT-E]** Systematic Performance Failure in Commercial Hand Dryers, Blouch, R. A. Jr. (2025); DOI: 10.5281/zenodo.17858443; Journal Preprint 5 of 11

**[EXHIBIT-F]** Baseline Water Mass on Freshly Washed Hands, Blouch, R. A. Jr. (2025); DOI: 10.5281/zenodo.17858834; Journal Preprint 6 of 11

**[EXHIBIT-G]** An Empirical Refutation of Green Energy Claims, Blouch, R. A. Jr. (2025); DOI: 10.5281/zenodo.17859198; Journal Preprint 7 of 11

**[EXHIBIT-H]** Catastrophic Time-To-Dry Failures via Bi-Modal Mechanism, Blouch, R. A. Jr. (2025); DOI: 10.5281/zenodo.17869567; Journal Preprint 8 of 11

**[EXHIBIT-I]** Validation of Hand Dryer Microbial Amplification, Blouch, R. A. Jr. (2025); DOI: 10.5281/zenodo.17859894; Journal Preprint 9 of 11

**[EXHIBIT-J]** The Wandering Plume of Filth, Blouch, R. A. Jr. (2025); DOI: 10.5281/zenodo.17860971; Journal Preprint 10 of 11

### **Complete List of Testing Data Files**

**[EXHIBIT-K]** Complete Data File Index, Blouch 2025

### **Dryer Time Test Results Graphs**

**[EXHIBIT L]** Comprehensive All-Trials Time-To-Dry Hand Dryer Data Graph

### **Petri Dish Images**

**[EXHIBIT-M]** 136 Ambient Room Air Petri Dish Images Sampled In Front of Machines, Blouch, R. A. Jr. (2025)

**[EXHIBIT-N]** 60 Hand Dryer Output Air Jet Petri Dish Sample Images, Blouch, R. A. Jr. (2025)

**[EXHIBIT-O]** 28 Brown Paper Towel Petri Dish Sample Images, Blouch, R. A. Jr. (2025)

**[EXHIBIT-P]** 47 White Paper Towel Petri Dish Sample Images, Blouch, R. A. Jr. (2025)

#### **Plume of Filth Images**

**[EXHIBIT-Q]** Hand Dryer Plume of Filth Images

**[EXHIBIT-R]** Hand Dryer Mold Images with Corroborating Petri Dish Test Images

#### **Comprehensive summary articles**

**[EXHIBIT-S]** Comprehensive Hand Washing and Hand Drying Efficacy Studies, 59, AI, (December 2025)

**[EXHIBIT-T]** Comprehensive Functioning Hand Dryer Output Air Studies, 18, AI, (December 2025)

#### **Lab Testing**

**[EXHIBIT-U]** Hayes Microbial Consulting Report (EPA Laboratory ID: VA01419)

#### **Evidence of Plaintiff Exposure**

**[EXHIBIT-V]** Evidence of Plaintiff Exposure — Starbucks Rewards History + M&T Bank Statements

#### **Standards documents**

**[EXHIBIT-W]** UL PCR for Hand Dryers (July 13, 2016)

**[EXHIBIT-X]** NSF Protocol P335: Hygienic Commercial Hand Dryers (April 2007)

**[EXHIBIT-Y]** ISO 14025 Type III Environmental Standards Principles and Procedures

**[EXHIBIT-Z]** ISO 14044 Life Cycle Assessment Requirements and Guidelines

**[EXHIBIT-Za]** ISO 14040 ENVIRONMENTAL MANAGEMENT — LIFE CYCLE ASSESSMENT — PRINCIPLES AND FRAMEWORK

**[EXHIBIT-Zb]** ISO 14001 ENVIRONMENTAL MANAGEMENT SYSTEMS - REQUIREMENTS WITH GUIDANCE FOR USE

#### **Certifications**

**[EXHIBIT-AA]** Smart EPD Certificate SmartEPD-2023-002-0006-01 (XLERATOR)

**[EXHIBIT-BB]** SGS Performance Test Report No. 2774929EFF-001 (Sept. 7, 2012)

**[EXHIBIT-CC]** UL Environment EPD No. 4787137936.102.1 — XLERATOR Hand Dryer certification; July 25, 2017

**[EXHIBIT-DD]** UL Environment EPD No. 4787616201.106.1 — Hokwang 2200 Hand Dryer certification; April 1 2022

**[EXHIBIT-EE]** TrueNorth Collective LCA (May 2023): Comparative Life Cycle Assessment of Hand Drying Systems: Excel Hand Dryers and Paper Towel Systems

**[EXHIBIT-FF]** MIT Materials Systems Laboratory Lifecycle Assessment — Document 6-1, September 2011.

**[EXHIBIT-GG]** NSF P335 Dyson Certified Live Listing 251231

**[EXHIBIT-HH]** XLERATOR LEED v4.1 Document

**[EXHIBIT-II]** DYSON LEED May 2014 Document

### **Network Structures**

**[EXHIBIT-JJ]** Personnel and Committee Connections Master Reference Document

**[EXHIBIT-KK]** Standards and Certification Chronology UL to Smart EPD, Lasso, Blouch 2025

### **Defendant Source Documents**

**[EXHIBIT-LL]** Anna Lasso, The First Sustainable Hand Dryer, Excel UK Website December 2025

### **Journalistic Industry Analysis and History**

**[EXHIBIT-MM]** Hand dryers v paper towels, The Guardian\_files, The Guardian, 25 April, 2019

### **Excel V Dyson Court Documents — Case\_3:12-cv-30211-MAP\_(D.\_Mass.)**

**[EXHIBIT-NN]** Excel V Dyson Original Complaint, PACER

**[EXHIBIT-OO]** Denis Gagnon Affidavit Excel V Dyson, PACER

**[EXHIBIT-PP]** Toby Saville Affidavit Excel V Dyson, PACER

**[EXHIBIT-PP-A]** Toby Saville Claimed Dry Times Versus Ron Blouch Data, a Detailed Comparison

**[EXHIBIT-QQ]** Dyson’s Answer, Statement of Defenses, and Counterclaims — Document filed February 22, 2013.

**[EXHIBIT-RR]** Defendant Dyson, Inc.'s Memorandum of Law in Opposition to Plaintiff Excel Dryer, Inc.'s Motion for Preliminary Injunction

**[EXHIBIT-SS]** Excel Reply to Dyson Opposition — Document 32, Filed February 4, 2013; includes Second Declaration of Denis Gagnon (Document 32-1)

**[EXHIBIT-TT]** MIT-QUANTIS Letter in response to dry time testing conflicts, 17 October 2012

**[EXHIBIT-UU]** Excel White Paper: “An Ultrafast, Comfortable Hand Dryer”

### **ITC Complaint**

**[EXHIBIT-VV]** ITC COMPLAINT; Excel Dryer V Multiple Respondents, China; DN 3159; June 24, 2016

### **False Claims Summary Documents**

**[EXHIBIT-WW]** False Advertising Claims Analysis Dyson

**[EXHIBIT-XX]** False Advertising Claims Analysis Excel

**[EXHIBIT-YY]** False Claims Analysis NSF with UL Supplemental Analysis

**[EXHIBIT-ZZ]** False Claims Supporting Screenshots and Document Images

### **Global Dryer Statistical Estimates**

**[EXHIBIT-AAA]** US Dryer Use Estimates Annual and Per Use with microbe estimates, Blouch 2025

**[EXHIBIT-BBB]** US Dryer Use Estimates Annual and Per Use with energy estimates, Blouch 2025

**[EXHIBIT-CCC]** US Dryer Use Estimates Annual and Per Use with LEED estimates, Blouch 2025

### **Hokwang Dryer Product Sheets, UL**

**[EXHIBIT-DDD]** Hokwang 2200W product sheet with UL certification, December 2025

**[EXHIBIT-EEE]** Hokwang high speed EcoHygiene product sheet without UL certification, December 2025

### **Journal Preprint**

**[EXHIBIT-FFF]** Performance Failures in Commercial Hand Dryers: An Historical Synthesis and Sequential Summary Review of an Eleven-Study Research Program, Blouch, R. A. Jr. (2026); DOI: 10.5281/zenodo.18322481; Journal Preprint 11 of 11

### **ADDITIONAL EXHIBITS**

**[EXHIBIT-GGG]** UL Solutions response letter to the demand package May 22, 2026

**[EXHIBIT-HHH]** Blouch response to the claims in the May 22 UL letter

**[EXHIBIT-III]** UL Solutions response letter to the demand package June 5, 2026

**[EXHIBIT-JJJ]** Blouch response to the claims in the June 5 UL letter

**[EXHIBIT-KKK]** Demand response log: all communication from defendants and Blouch in sequence from April 27-June 20,2026

**[EXHIBIT-LLL]** Comprehensive analysis of ULS PCR and EPD against the ISO 14025 standards series

**[EXHIBIT-MMM]** Memorandum to the Complaint regarding ISO 14025 and EN 15804 standards issues

**[EXHIBIT-NNN]** Memorandum to the Complaint regarding NSF P335 and Dyson insert dryers

**[EXHIBIT-OOO]** SmartEPD ISO 14025 standards attribution in the Xlerator EPD #1

**[EXHIBIT-PPP]** SmartEPD ISO 14025 standards attribution in the Xlerator EPD #2

**[EXHIBIT-QQQ]** UL mission statement consumer facing safety and integrity content screenshot 6/20/26

**[EXHIBIT-RRR]** NSF statement consumer facing health and standards content screenshot 6/20/26

**[EXHIBIT-SSS]** NSF stamp on a Dyson AB14 in a restroom May 2026

**[EXHIBIT-TTT]** UL 22 billion public facing marks website screenshot 6/20/26

**[EXHIBIT-UUU]** UL sticker on an extension cord 6/20/26

**[EXHIBIT-VVV]** Current Dyson NSF certification listing section 1.5.A

**[EXHIBIT-WWW]** Complete Quantis LCA for Xlerator dryer, 2009

**[EXHIBIT-XXX]** NSF 14025 compliant PCR division website screenshot 6/20/26

**[EXHIBIT-YYY]** Complete Dyson technical specifications for the Airblade V 6/21/26

**[EXHIBIT-ZZZ]** UL annual revenue and other financials Stock Analysis website, 6/12/26

**[EXHIBIT-AAAA]** UL quarterly filing for q1 2026 with current financials

**[EXHIBIT-BBBB]** NSF Annual Report 2025 with corporate employee verification and hundreds of consumer facing claims.

**[EXHIBIT-CCCC]** NSF form 990 financial reporting 11/14/25

**[EXHIBIT-DDDD]** Michigan State University Hand Washing Practices study with washing compliance reporting

**[EXHIBIT-EEEE]** NSF website screenshot of the PCR and EPD division 6/21/26

**[EXHIBIT-FFFF]** SGS AI website scrape of governing referenced documents 6/21/26

**END OF COMPLAINT**