IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLUMBIA

FEDERAL TRADE COMMISSION, Plaintiff, v. **WILH. WILHELMSEN HOLDING ASA,** **WILHELMSEN MARITIME SERVICES AS,** **RESOLUTE FUND II, L.P.,** **DREW MARINE INTERMEDIATE B.V.,** **AND** **DREW MARINE GROUP, INC.,** Defendants.	Civil Action No. 18-cv-00414-TSC

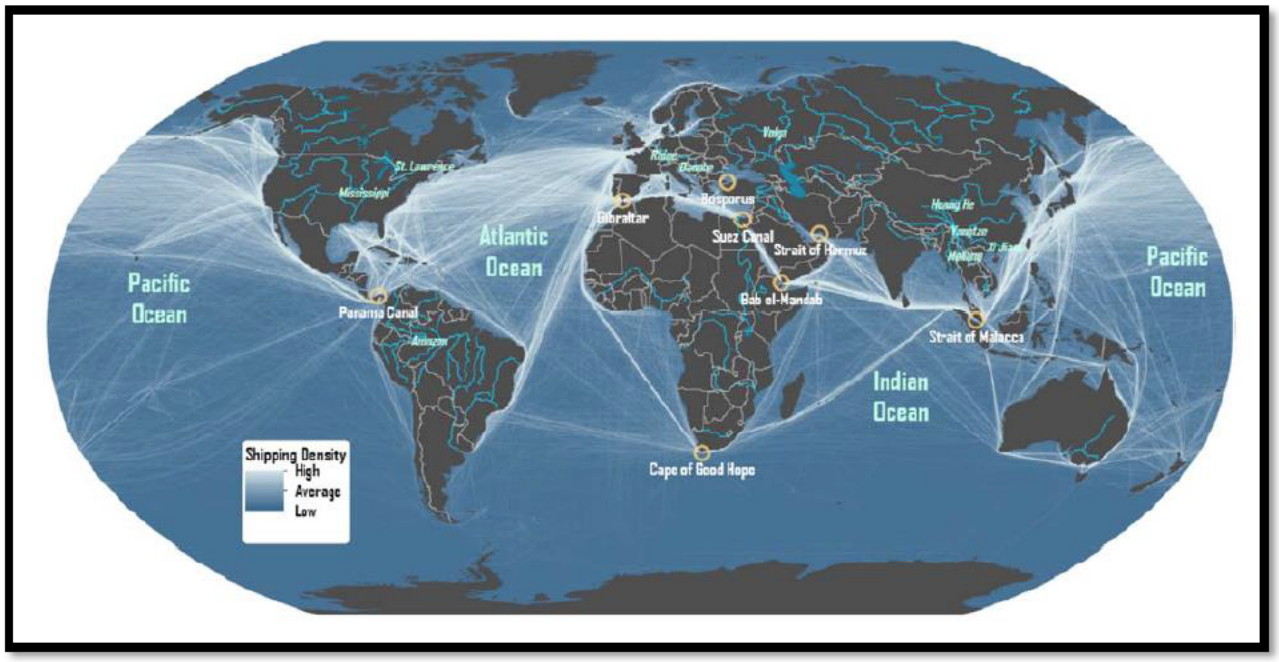
MEMORANDUM OPINION

The Federal Trade Commission ("FTC") has moved for a preliminary injunction to block a proposed merger between defendants Wilhelmsen Maritime Services AS ("WMS"), Wilhelmsen Ship Services ("WSS") (collectively "Wilhelmsen"), and The Resolute Fund II, L.P., Drew Marine Intermediate II B.V., and Drew Marine Group, Inc. (collectively "Drew"), two large providers of marine water treatment chemicals and related services. The FTC objects to the merger on the grounds that Defendants are each other's closest and only realistic competition for supplying these chemicals and services on a global scale, and the merger threatens to reduce or eliminate tangible consumer benefits resulting from market competition. Having considered the evidence presented

through live testimony, as well as extensive pleadings, exhibits, and other submissions, the court hereby GRANTS the motion for preliminary injunction.

I. BACKGROUND

This case is about the likely impact of a proposed merger in the international maritime industry—an industry on which much of the global economy, including intercontinental trade, large-scale transport of raw materials, and the import/export of foodstuffs and manufactured goods, depends. *See* PX90033 at 001; PX90034 at 001 (noting that "[i]nternational shipping transports more than 80 percent of global trade to peoples and communities all over the world," and that "[s]hipping is the most efficient and cost-effective method of international transportation for most goods"). By at least one estimate, the worldwide shipping industry includes 50,000 merchant ships registered in over 150 nations. PX90033 at 001. The following map, originally sourced from the National Center for Ecological Analysis and Synthesis, depicts common global shipping routes and underscores the breadth and density of maritime industry activities:



PX10126 at 023. While international merchant ships includes many types of vessels, all of them—and especially large ones—require regular maintenance to ensure continuous performance at operational levels. Companies like Wilhelmsen and Drew provide an array of products and services designed to ensure the continued operational performance of all types of maritime vessels. *See* PX10126 at 008–009 (noting that "VPP [vessel performance products] applications are necessary to maintain financial and operational efficiency of vessels," and that such products "are required by all commercial shipping vessel classes," which include container ships, bulk ships, cruise ships, military ships, tankers, cargo ships, and even offshore oil and gas rigs). Defendants sell maritime customers several categories of products, including cleaning chemicals, fuel treatment chemicals, welding gases, refrigerants, and, critically, water treatment chemicals. Am. Compl. ¶ 29; Ans. ¶ 29. The products at issue in this case are consumable water treatment products and related services, a category that includes products and services for the chemical treatment of boiler water, cooling water, water production, waste water, ballast water, and potable water. DX-1161 at 0019.

Marine vessels use water resources for a number of applications, including drinking, showering, cleaning, pools, spas, and—critically—for boiler and cooling systems. JX-0149 at 003. Depending on the type of ship, a boiler is necessary either as a constituent part of the main propulsion system or as part of an auxiliary system on which the propulsion system relies. PX90030 at 001. In auxiliary systems, the boiler primarily serves to generate steam to support ship functions in vessels running on marine diesel engines or diesel electric propulsion. PX90030 at 001. Examples include preventing Heavy Fuel Oil ("HFO")—a highly viscous substance—from falling below the temperature at which it is useable, heating HFO to ensure fluidity

immediately before use in the engine, and for use in purifiers, booster modules, and other applications. PX90030 at 002–005. Cooling water systems reduce excess heat produced by the working machinery of a vessel's engine. PX90032 at 001. Essentially, cooling water systems circulate water through the engine to remove heat and reduce the likelihood of engine failure. Fry Hrg. Tr. at 943: 17–24 ("If you don't maintain the cooling water side, then you're relying on the oil side of the house to take up and remove that heat from the engine. And what happens is, if you don't cool the cylinders down, the oil starts breaking down. When the oil starts breaking down, then you get metal-to-metal contact inside the piston and the rings, and then you have an engine failure, and usually . . . under those circumstances you have a crank case explosion as well.").

Marine water treatment chemicals "are all the chemicals associated with the maritime operation of ships"—including boiler chemistry, diesel chemistry, central cooling water, and evaporators. Fry Hrg. Tr. at 936: 11–12. After measuring the pH, conductivity, temperature, and oxidation-reduction potential of the water with specialized testing equipment, ship engineers inject these chemicals into the boiler and engine cooling systems through specialized dosing equipment optimized for high-pressure/low-volume or low-pressure/high-volume applications. Fry Hrg. Tr. at 945: 10–12; JX-0135 at 005; PX90014 at 003–004. Once injected, water treatment chemicals ensure the performance and reliability of marine boiler and engine cooling systems by: (1) removing excess oxygen from the systems, (2) allowing fine-tuned control of boiler water, cooling water, and feedwater pH; and (3) preventing the leaching and circulation of harmful metals. *See* Fry Hrg. Tr. at 937: 1–21; *see also* JX-0135 at 002. In each of these applications, the chemicals operate to reduce or eliminate the incidence of scale, corrosion, and oxygen formation within boiler, feedwater, and engine cooling systems, as well as the risk of engine overheating with respect to cooling systems specifically. Fry Hrg. Tr. at 937: 1–6; JX-0135 at 003; Fry Hrg. Tr. at

943: 12–14 ("Q. And why do vessels use engine cooling water chemicals? A. To control the amount of corrosion and erosion within the cooling channels of the engine itself.").

Although marine water treatment chemicals "only account for a small fraction of the cost of managing a ship," PX80014 ¶ 3, failure to treat the water resources in boiler and engine cooling systems comes with significant consequences, including breakdown or catastrophic failure. *See, e.g.*, Thompson Hrg. Tr. at 259: 18–24 ("Q. What happens if a boiler develops corrosion? A. [I]t could potentially damage the boiler. It may require significant servicing or even replacement"); JX-0135 at 002 ("Deviating from recommended pH and phosphate control limits can lead to caustic corrosion and result in catastrophic failure of the boiler system."); Fry Hrg. Tr. at 942: 24–25–943:4, 17–24 (describing how failure to treat high pressure boiler water could cause a ruptured pipe and boiler explosion, and how failure to treat cooling water could cause engine failure or explosion). System failure requires costly repairs and unscheduled downtime that translates to lost business and profits for shipping companies. JX-0149 at 003 ("Water treatment is as much about asset protection as it is about maintaining efficiency. The consequences of not using the right treatments can be costly, resulting in unscheduled downtime, or in the worst cases catastrophic, leading to total breakdown of equipment"); PX90014 at 003; Thompson Hrg. Tr. at 259:21–24 (noting that due to the size of the boilers involved, replacement would likely require cutting a hole in the hull and removing the boiler in pieces). Maritime companies therefore regard a consistent and effective marine water treatment program as critical to maintaining an operational fleet of ships. *See, e.g.*, PX80014 ¶¶ 3, 5, 7 (describing the importance of water treatment chemicals to ship operations, the need for consistency and dependability in chemical products, and the preference for companies offering total packages of chemical products and related services);

Medina Hrg. Tr. at 167: 8–10 ("[C]onstancy in the chemical makeup of [marine water treatment chemical] products is crucial to the maintenance of our equipment.").

Consistent with customer demand for reliable water treatment chemical programs, suppliers of water treatment chemicals focus their business strategy on providing more than the chemicals themselves. They supply a "total solution"—a program that includes chemical products, test kits, technical expertise and support, and access to a global network with the ability to quickly and reliably provide product on demand, wherever a vessel is located, and whatever its specific needs may be. JX-0231 at 154 ("Manufacturer/supplier should be able to . . . [s]upply a total solution rather than just the product"); [redacted] uses the phrase 'total solution' here, can you explain what that phrase means. A. It typically means the service that would come with the product, or even identifying what would be the best product for that application. So the total package would be not just a product but the service associated with the use, or identifying the right use of the right product for that application."); [redacted] (noting that when Drew enrolls a new customer in its water treatment program it offers recommendations on how to use specific water treatment chemicals, how to test water in boiler and cooling systems, and how to properly dose the chemicals); Medina Hrg. Tr. at 170:7–171:25 (discussing various services provided by marine chemical suppliers); *see also, e.g.*, Thompson Hrg. Tr. at 279:9–281:22 (describing the specific products and services covered under contract with marine chemical supplier). Defendants—whose business is described in more detail below—provide such programs.

Defendant Drew Marine Group, Inc. is a subsidiary of defendant Drew Marine Intermediate II B.V., which is owned by defendant The Resolute Fund II, L.P., a private equity fund managed by The Jordan Company. Am. Compl. ¶ 24. Drew was originally established in

1928, and has grown over the ensuing years into a company with a global infrastructure. Am. Compl. ¶ 24; DX-1161 at 0006, 0010. As Drew Marine representatives put it at a management presentation on February 15, 2017, "Drew Marine's strength is in delivering technical support in specialty chemicals." DX-1161 at 0019. Accordingly, roughly ■% of Drew's revenue is traceable to "Water Treatment Solutions," a category that includes an array of products and services related to the chemical treatment of boiler water, cooling water, water production, waste water, ballast water, and potable water. DX-1161 at 0019. Drew maintains a "sales, service and logistics network that spans 47 countries, with stocking locations in nearly 100 distribution facilities that in turn supply [an estimated] 1000 ports and customers worldwide." PX10126 at 017.

Defendant Wilhelmsen Maritime Services AS is a wholly owned subsidiary of defendant Wilh. Wilhelmsen Holding ASA, a publicly traded corporation headquartered in Norway. Am. Compl. ¶ 23. Wilhelmsen Ship Services (WSS) is a division of WMS that focuses on supplying marine customers with a number of products and services, including water treatment chemicals and associated equipment for boiler water, cooling water, water production, and pool water. PX61000 ¶¶ 51, 53; PX90046; PX90047; PX90050; PX90063. Wilhelmsen—the parent company—was founded as a shipping business in 1861. PX61000 ¶ 51. WSS was founded in 1968. Since then, WSS has developed into "the largest maritime services network in the world," capable of delivering "in 125 countries . . . [and] supporting [its] non-stop operations in 2,200 port locations across the globe." PX20172 at 006. Marine chemicals account for ■% of WSS's total revenues. PX20137 at 0010.

Pursuant to a Share Purchase Agreement dated April 27, 2017, WMS proposed to acquire 100% of Drew's voting securities for approximately $400 million. Am. Compl. ¶ 25. The FTC

then conducted a ten-month investigation, after which it "found reason to believe that the proposed Acquisition violates Section 7 of the Clayton Act and Section 5 of the FTC Act." Mem. Supp. Prelim. Inj. 12 ("Mot."). The FTC initiated an administrative action alleging a violation of the above statutes, and the merits trial in that action is scheduled to begin on July 24, 2018. Mot. at 2. The FTC also filed the instant motion for a preliminary injunction under Section 13(b) of the FTC Act, to preserve the status quo pre-merger during the pendency of the administrative proceeding. Mot. at 12–13.

An evidentiary hearing on the motion for preliminary injunction began on May 29, 2018 and concluded on June 19, 2018. The court heard testimony from fifteen fact witnesses—either live or via video deposition—and three expert witnesses. Plaintiff and Defendants each submitted proposed findings of fact and conclusions of law on June 25, 2018, along with a combined 4,186 exhibits.

II. LEGAL STANDARDS

A. Section 7 of the Clayton Act

Section 7 of the Clayton Act prevents mergers or acquisitions where "the effect . . . may be substantially to lessen competition, or to tend to create a monopoly" in "any line of commerce or in any activity affecting commerce in any section of the country." 15 U.S.C. § 18. As the Supreme Court has noted, Section 7 concerns "probabilities, not certainties," *Brown Shoe Co. v. United States*, 370 U.S. 294, 323 (1962), and thus the FTC need not demonstrate certainty that a proposed merger will produce anticompetitive effects—only that a "substantial lessening of competition will be 'sufficiently probable and imminent' to warrant relief." *FTC v. Arch Coal, Inc.*, 329 F. Supp. 2d 109, 115 (D.D.C. 2004) (citing *United States v. Marine Bancorporation*, 418 U.S. 602, 618 (1974)).

B. Section 13(b) Standard for Preliminary Injunction

Section 13(b) of the Federal Trade Commission Act empowers the Federal Trade Commission to seek preliminary injunctive relief in order to prevent a merger until it can adjudicate the merger's legality in an administrative proceeding, provided the agency has "reason to believe" that the merger will violate the antitrust laws. 15 U.S.C. § 53(b); *see also FTC v. CCC Holdings Inc.*, 605 F. Supp. 2d 26, 35 (D.D.C. 2009); *FTC v. H.J. Heinz Co.*, 246 F.3d 708, 714 (D.C. Cir. 2001). Section 13(b) provides that an injunction may issue "[u]pon a proper showing that, weighing the equities and considering the Commission's likelihood of ultimate success, such action would be in the public interest." 15 U.S.C. § 53(b). As the D.C. Circuit noted in *Heinz*, the omission of any irreparable harm element evinces Congress's intention "to depart from what it regarded as the . . . traditional equity standard" that applies to traditional requests for preliminary relief. *Heinz*, 246 F.3d at 714; *see also FTC v. Exxon Corp.*, 636 F.2d 1336, 1343 (1980) ("In enacting [15 U.S.C. § 53(b)], Congress . . . demonstrated its concern that injunctive relief be broadly available to the FTC by incorporating a unique 'public interest' standard . . . rather than the more stringent, traditional 'equity' standard for injunctive relief.").

Under Section 13(b), the district court balances the FTC's likelihood of success against the equities on a sliding scale. *FTC v. Whole Foods Mkt., Inc.*, 548 F.3d 1028, 1035 (D.C. Cir. 2008) (Brown, J.) (citing *H.J. Heinz Co.*, 246 F.3d at 727). Since Congress's particular "public equity consideration in enacting Section 13(b) was 'the public interest in effective enforcement of the antitrust laws,'" a showing of "private equities" alone will not suffice to overcome a showing of likelihood of success, and the equities often favor the FTC. *Id.* Moreover, "[t]he FTC is not required to *establish* that the proposed merger would in fact violate section 7 of the Clayton Act"

in a Section 13(b) proceeding. *FTC v. Sysco Corp.*, 113 F. Supp. 3d 1, 22 (D.D.C. 2015) (quoting *Heinz*, 246 F.3d at 714). Instead, "to demonstrate the likelihood of success on the merits, 'the government need only show that there is a reasonable probability that the challenged transaction will substantially impair competition." *Id.* (quoting *FTC v. Staples*, 970 F. Supp. 1066, 1072 (D.D.C. 1997)). Thus, the trial court's role in a Section 13(b) proceeding is to "measure the probability that, after an administrative hearing on the merits, the Commission will succeed in proving that the effect of the [proposed] merger 'may be substantially to lessen competition, or to tend to create a monopoly in violation of section 7 of the Clayton Act.'" *Id.* (quoting *Heinz*, 246 F.3d at 714). The FTC satisfies this standard where it "rais[es] questions going to the merits so serious, substantial, difficult[,] and doubtful as to make them fair ground for thorough investigation." *Whole Foods*, 548 F.3d at 1035 (Brown, J.) (quoting *Heinz*, 246 F.3d at 714–15); *see also Sysco*, 113 F. Supp. 3d at 22. Nevertheless, a preliminary injunction in this context remains "an extraordinarily drastic remedy," *Exxon*, 636 F.2d at 1343 (quoting *Medical Society v. Toia*, 560 F.2d 535, 538 (2d Cir. 1977)), especially since "as a result of the short life-span of most tender offers, the issuance of a preliminary injunction blocking an acquisition or merger may prevent the transaction from ever being consummated." *Id.*

C. *Baker Hughes* Burden-Shifting Framework

Courts in this Circuit apply the burden-shifting framework set out in *United States v. Baker Hughes Inc.*, 908 F.2d 981, 991 (D.C. Cir. 1990), to assess whether a proposed merger violates Section 7 of the Clayton Act. Under that framework, the FTC bears the initial burden to prove that a proposed merger would result in "undue concentration in the market for a particular product in a particular geographic area." *Id.* at 982; *see also Heinz*, 246 F.3d at 715 (quoting *United States v. Phila. Nat'l Bank*, 374 U.S. 321, 363 (1963)); *United States v. Anthem, Inc.*, 236 F. Supp. 3d

171, 192 (D.D.C. 2017). Such a showing entitles the FTC to a presumption that the merger will substantially lessen competition. *Baker Hughes*, 908 F.2d at 982 (citing *United States v. Citizens & Southern Nat'l Bank*, 422 U.S. 86, 120 –22 (1975)); *Arch Coal*, 329 F. Supp. 2d at 115–17, *appeal dismissed*, No. 04-5291, 2004 WL 2066879 (D.C. Cir. Sept. 15, 2004). Defendants are then entitled to rebut the presumption by presenting evidence that "'show[s] that the market-share statistics [give] an inaccurate account of the [merger's] probable effects' on competition in the relevant market." *Heinz*, 246 F.3d at 715 (quoting *Citizens & Southern Nat'l Bank*, 422 U.S. at 120). Where defendants successfully rebut the presumption of illegality, "the burden of producing additional evidence of anticompetitive effect shifts to the government, and merges with the ultimate burden of persuasion, which remains with the government at all times." *Baker Hughes*, 908 F.2d at 983; *see also Heinz*, 246 F.3d at 715.

III. DISCUSSION

A. Likelihood of Success on the Merits

1. Prima Facie Case

Given that "the ultimate determination of the legality of a merger involves an assessment of the new firm's market power . . . and the prima facie case concerns market concentration," *Anthem*, 236 F. Supp. 3d at 193 (D.D.C. 2017), it is appropriate to begin a merger analysis by defining the "relevant product and geographic boundaries of the market[] in question." *FTC v. Cardinal Health, Inc.*, 12 F. Supp. 2d 34, 45 (D.D.C. 1998); *see also id.* ("[d]efining the relevant market is critical in an antitrust case because the legality of the proposed mergers in question almost always depends upon the market power of the parties involved."); *Marine Bancorporation*, 418 U.S. at 618 (describing market definition as a "necessary predicate" to evaluating the legality of a merger under Section 7). The "relevant market has two components: (1) the relevant product

market and (2) the relevant geographic market." *CCC Holdings Inc.*, 605 F. Supp. 2d at 37; *see also Arch Coal*, 329 F. Supp. 2d at 117. In this case, there is no dispute regarding the relevant geographic market—the parties agree it is global. Nevo Hrg. Tr. at 564:18–565:8; Israel Hrg. Tr. at 1456:21–23. Thus, the court now turns to determining the bounds of the relevant product market.

a. Relevant Product Market

1. LEGAL STANDARD

The Supreme Court has long maintained that "[t]he outer boundaries of a product market are determined by the reasonable interchangeability of use or the cross-elasticity of demand between the product itself and the substitutes for it." *Brown Shoe Co.*, 370 U.S. at 325. Accordingly, the touchstone is demand substitution—"[m]arket definition focuses . . . on customers' ability and willingness to substitute away from one product to another in response to a price increase or a corresponding non-price change such as reduction in product quality or service." 2010 Merger Guidelines § 4. The key question is "whether there are other products offered to consumers which are similar in character or use to the product or products in question, as well as how far buyers will go to substitute one commodity for another." *Staples*, 970 F. Supp. at 1074 (citing *United States v. E.I. du Pont de Nemours and Co.*, 351 U.S. 377, 393 (1956)); *see also United States v. H & R Block*, 833 F. Supp. 2d 36, 51 (D.D.C. 2011). Where "one product is a reasonable substitute for the other, it is to be included in the same relevant product market even though the products themselves are not the same." *Cardinal Health*, 12 F. Supp. 2d at 46.

Whether a product is a reasonable substitute for another depends on two factors: (a) the extent to which "buyers view similar products as substitutes" and thus "can substitute the use of one for the other" (i.e., functional interchangeability), *Sysco* 113 F. Supp. 3d at 25; *Arch Coal*, 329

F. Supp. 2d at 119; and (b) the extent to which variations in the price of one product—an increase, for example—affects demand for another (i.e., cross-elasticity of demand). *See, e.g.*, *Cardinal Health*, 12 F. Supp. 2d at 46 ("a product is construed to be a 'reasonable substitute' for another when the demand for it increases in response to an increase in the price for the other."). Thus, the boundaries of the relevant market lie where the reasonable alternatives for substitution—based on use or price—end. "The relevant market consists of all the products that the Defendants' customers view as substitutes to those supplied by the Defendants" *id.*, "even though the products themselves are not entirely the same." *Sysco*, 113 F. Supp. 3d at 25.

Broad markets sometimes include relevant submarkets that themselves may "constitute product markets for antitrust purposes." *Whole Foods*, 548 F.3d at 1037–38 (Brown, J.) (quoting *Brown Shoe*, 370 U.S. at 325). A firm need not "be included in the relevant product market for antitrust purposes" just because "it may be termed a competitor in the overall marketplace." *H & R Block*, 833 F. Supp. 2d at 51 (quoting *Staples*, 970 F. Supp. at 1075); *see also Sysco*, 113 F. Supp. 3d at 26 ("[F]or example, fruit can be bought from both a grocery store and a fruit stand, but no one would reasonably assert that buying all of one's groceries from a fruit stand is a reasonable substitute for buying from a grocery store"). Moreover, "the 'product' that comprises the market need not be a discrete good for sale," *Sysco*, 113 F. Supp. 3d at 26, but can be a "cluster of products . . . and services," *Phila. Nat'l Bank*, 374 U.S. at 356, as long as the combination of "a number of different products or services" into "a single market . . . reflects commercial realities." *United States v. Grinnell Corp.*, 384 U.S. 563, 572 (1966); *Sysco*, 113 F. Supp. 3d at 26 ("[W]hat is relevant for consideration here is not any particular food item sold or delivered by Defendants, but the full panoply of products and services offered by them that customers recognize as 'broadline distribution.'"). Such a "cluster market" can even "allow items that are not substitutes for each

other to be clustered together in one antitrust market for analytical convenience." *FTC v. Staples, Inc. (Staples II)*, 190 F. Supp. 3d 100, 117 (D.D.C. 2016) (finding a cluster market of consumable office supplies justified because "market shares and competitive conditions are likely to be similar for the distribution of pens to large customers and the distribution of binder clips to large customers."); *see also ProMedica Health Sys., Inc. v. FTC*, 749 F.3d 559, 565–68 (6th Cir. 2014) (describing the appropriateness of clustering multiple types of hospital services for the purposes of analytical convenience where competitive conditions were similar).

Lastly, antitrust markets can be based on targeted customers. Section 4.1.4 of the Merger Guidelines—described by the court in *Sysco* as providing "[t]he clearest articulation of [a targeted customer] approach to product market definition"—states that "[i]f a hypothetical monopolist could profitably target a subset of customers for price increases, the Agencies may identify relevant markets defined around those targeted customers, to whom a hypothetical monopolist would profitably and separately impose at least a [small but significant and non-transitory increase in price]." Merger Guidelines § 4.1.4; *Sysco*, 113 F. Supp. 3d at 27. In other words, a targeted customer market may exist when "[a] price increase for targeted customers may be profitable even if a price increase for all customers would not be profitable because too many other customers would substitute away." Merger Guidelines § 3. Thus, "[d]efining a market around a targeted consumer . . . requires finding that sellers could 'profitably target a subset of customers for price increases,'" which in turn demands that there be "differentiated pricing and limited arbitrage." *Staples II*, 190 F. Supp. 3d at 117–18.

Courts employ two main analytical approaches in order to determine whether the boundaries of a relevant product market are "drawn narrowly to exclude any other product to which, within reasonable variations in price, only a limited number of buyers will turn." *United*

States v. Aetna, Inc., 240 F. Supp. 3d 1, 20 (D.D.C. 2017) (quoting *Times-Picayune Publ'g Co. v. United States*, 345 U.S. 594, 612 n.31 (1953)). These include the hypothetical monopolist test, the application of which is frequently the subject of "testimony from experts in the field of economics," and the "practical indicia" described by the Supreme Court in *Brown Shoe*. *Sysco*, 113 F Supp. 3d at 27.

Hypothetical Monopolist Test

In determining the bounds of a relevant market, courts often opt "to ask hypothetically whether it would be profitable to have a monopoly over a given set of substitutable products . . . . If so, those products may constitute a relevant market." *H & R Block*, 833 F. Supp. 2d at 51–52; *see also* 5C PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW (hereinafter, "Areeda & Hovenkamp"), ¶ 530a, at 237 (4th ed. 2014) ("[A] market can be seen as the array of producers of substitute products that could control price if united in a hypothetical cartel or as a hypothetical monopoly."). This hypothetical inquiry is referred to by courts and in the merger guidelines as the hypothetical monopolist test. *See Sysco*, 113 F. Supp. 3d at 27; Merger Guidelines § 4.1.1. The test essentially asks whether a "hypothetical profit-maximizing firm, not subject to price regulation, that was the only present and future seller of those products . . . likely would impose at least a small but significant and non-transitory increase in price ("SSNIP") on at least one product in the market, including at least one product sold by one of the merging firms." Merger Guidelines § 4.1.1. A SSNIP is usually defined as five percent or more. *Id.*

The Brown Shoe Practical Indicia

Courts also determine the boundaries of a relevant product market by examining "such practical indicia as industry or public recognition of the [relevant market] as a separate economic entity, the product's peculiar characteristics and uses, unique production facilities, distinct

customers, distinct prices, sensitivity to price changes, and specialized vendors." *Whole Foods*, 548 F.3d at 1037–38 (Brown, J.) (quoting *Brown Shoe*, 370 U.S. at 325). The *Brown Shoe* "'practical indicia' of market boundaries may be viewed as evidentiary proxies for proof of substitutability and cross-elasticities of supply and demand." *H & R Block*, 883 F. Supp. 2d at 51 (quoting *Rothery Storage & Van Co. v. Atlas Van Lines, Inc.*, 792 F.2d 210, 218 (D.C. Cir. 1986)).

2. ANALYSIS

The FTC defines the relevant product market here as "the supply of marine water treatment ("MWT") products and services to Global Fleet customers," where MWT products and services include "[t]he supply of BWT chemicals, CWT chemicals, and associated products and services." Plaintiff's Proposed Findings of Fact and Conclusions of Law ("PFF") ¶¶ 7, 17, ECF No. 81-2. This definition depends on at least three premises: (1) that there are no functional substitutes for the supply of boiler water treatment ("BWT") products and services or cooling water treatment ("CWT") products and services, (2) that it is appropriate to cluster BWT products and services and CWT products and services into one antitrust market for analytical convenience (while excluding other water treatment products), and (3) that it is appropriate to define the relevant market around "Global Fleets" as a distinct set of targeted customers. *See* PFF ¶¶ 17–44.

As an initial matter, the court finds that there are no reasonable substitutes for BWT or CWT products and services. These products and services have unique purposes—preserving the functionality of boilers and engines—and no party has pointed to any chemical or group of chemicals, or associated services, that could replace the critical functions that such products perform. In other words, it is possible to regard BWT products and services and CWT products and services as two *separate* product markets (e.g., the market for BWT and the market for CWT), insofar as none of the products grouped in either category have any reasonable substitutes that can

perform the same functions.[1] Thus, the disputed threshold issues are (1) whether the markets for BWT and CWT can be clustered together in the manner proposed by the FTC, and (2) whether that cluster market can be further defined around the FTC's preferred set of targeted customers.

i. BWT and CWT as a Cluster Market

Defendants, supported by their expert, Dr. Mark A. Israel, advance two primary arguments against the FTC's proposed cluster market: that the market is overinclusive and underinclusive. Mem. Supp. Opp'n to Mot. at 23, ECF No. 50-2. They argue that the market is overinclusive insofar as it combines two categories of product—BWT and CWT—that are not reasonably interchangeable, meaning that combining them does not accurately reflect commercial realities and conflicts with the notion that product market definition depends on substitutability. ECF No. 50-2 at 24; DX-0060 ¶¶ 66–67. Defendants also argue that the proposed market is underinclusive because it is inappropriate for the FTC to consider BWT and CWT in the same market without also including the other water treatment and marine products typically sold alongside BWT and CWT, frequently in the same contract. ECF No. 50-2 at 25; DX-0060 ¶¶ 68–70. While Defendants acknowledge that these other products are not reasonable substitutes for BWT or CWT, they assert that neither are BWT and CWT reasonable substitutes for one another, such that with respect to products typically sold together, the FTC cannot include one product category that is not a reasonable substitute and then exclude others on that same ground. In other words, "the FTC cannot both lump BWTC and CWTC because they are part of the same sales and purchase process,

[1] Defendants essentially concede this narrow point in their Memorandum in Opposition to Plaintiff's Motion for Preliminary Injunction, which acknowledges that "a market could be the market for the sale of boiler water treatment chemicals." ECF No. 50-2 at 2; *see also* ECF No. 50-2 at 28 (describing the appropriateness of separate BWT and CWT product markets).

but then also exclude all other products that are also part of that process." ECF No. 50-2 at 25–26.

The FTC responds first that Defendants' argument regarding overinclusiveness—based on the absence of interchangeability between BWT and CWT—fundamentally misapprehends the nature of a cluster market. According to the FTC, a cluster market does not aim to group together substitutable products, but rather groups non-substitutable products that face similar competitive conditions. Reply to Opp'n. to Mot. 5, ECF No. 56-2. The FTC argues that since both BWT and CWT products function to maintain operational equipment on marine vessels, both involve the same customers with the same need for global consistency, and both are distinguishable from products like cleaning chemicals, which do not require the same level of consistency. ECF No. 56-2 at 5–6. Moreover, the FTC argues that Defendants face the same set of competitors for both products, and therefore BWT and CWT face similar competitive conditions and can be appropriately clustered. ECF No. 56-2 at 5–6. As for Defendants' underinclusiveness argument, the FTC notes that clustering BWT and CWT with other marine products is inappropriate because those products do not share similar competitive conditions, despite the fact that customers negotiate for them at the same time as they negotiate for BWT and CWT. ECF No. 56-2 at 9–10.

The court concludes that the FTC's use of the cluster market approach is appropriate in this case.[2] Although BWT and CWT products are distinct products intended for distinct uses, they are also indisputably similar. Both are specially blended chemicals that are injected into water systems using special equipment, in order to prevent corrosion and erosion in critical systems. Thompson

[2] Defendants' argument regarding the lack of interchangeability between BWT and CWT—i.e., the alleged product market's "overinclusiveness"—is at odds with the concept of a cluster market as a doctrine that "allow[s] items that are not substitutes for each other to be clustered together in one antitrust market for analytical convenience." *Staples II*, 190 F. Supp. 3d at 117.

Hrg. Tr. at 259:18–24; Fry Hrg. Tr. at 943:13–14. While both products make up a "small fraction of the cost of managing a ship," PX80014 ¶ 3, the cost of system failure in the absence of these products is high. JX-0135 at 002. The fact that these products are low cost, highly critical, and heavily dependent on precise chemistry means that maritime companies strongly prefer consistency in their use, so as to avoid the risk of adverse chemical reaction and the resulting temporary or catastrophic system failure. Moreover, BWT and CWT products are frequently sold together as part of an overall management program that includes a number of additional product-related services. Deckman Hrg. Tr. at 475: 4–14. These similar characteristics matter because they factor into customers' decisions regarding the quantity of products they purchase, the timing of those purchases, as well as where they make their purchases. In other words, similar product characteristics—including function and risk—produce similar needs and constraints for shipping companies, which in turn affects supplier strategies and, accordingly, promotes similar competitive conditions across these product categories.[3]

It follows from this point that products that do not share key characteristics do not produce similar needs or constraints for shipping companies, meaning that they give rise to different competitive conditions. The court finds that the FTC has carried its burden to demonstrate those

[3] The FTC also notes that for both BWT and CWT, "Defendants have similar market shares, earn similar margins, and face a nearly identical set of competitors," PFF ¶ 12, and the margins and revenue shares are higher than for other marine products. PX-61002 ¶¶ 84, 85. To be sure, competitive conditions for BWT and CWT are not identical. Defendants have noted that while engine manufacturers approve specific brands of CWT chemicals for use in their engines, DX-2599 at 0007, boiler manufacturers do not maintain any such list. DX-0060 ¶ 67. Moreover, there is at least one supplier of CWT chemicals that does not supply BWT chemicals. DX-0060 ¶ 67. Nevertheless, the law on cluster markets requires only *similarity* in competitive conditions—not indistinguishability. *See Staples II*, 190 F. Supp. 3d at 117.

differences. While BWT and CWT chemicals are both "water treatment chemicals"—a category that includes "chemicals for the treatment of evaporator water, ballast water, potable water, and pool/spa water or their related equipment," DFF ¶ 85 —the evidence is clear that (1) sales of BWT and CWT are the driving force behind sales in the "water treatment chemicals" category,[4] and (2) other chemicals in that category, such as pool and spa chemicals, are easier to obtain from multiple suppliers. PX80006 ¶¶ 10, 27; Thompson Hrg. Tr. at 326:24–327:10. They also do not pose the same risks to a ship's critical systems, because they have no function related to those systems.

The same is true for the larger grouping of marine products. While Defendants correctly note that agreements for the sale of marine products to global fleets often include products in addition to BWT and CWT—such as tank cleaning chemicals, gases, or refrigerants, *see* Sarro Hrg. Tr. at 113 (noting that Teekay purchase agreements often include many different marine products, and that Teekay also purchases many products from WSS in addition to BWT and CWT); DX-1297 at 0013–0015 (listing products covered by purchase agreement)—the differences

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Table 2:
The Parties' Sales of Water Treatment Products by Type
2017

	WSS		Drew	
Product	**Sales**	**Shares**	**Sales**	**Shares**
Boiler water treatment chemicals	[redacted]			
Cooling water treatment chemicals				
Boiler and cooling water treatment equipment				
Water production treatment chemicals				
Pool & spa treatment chemicals				
Other water testing and dosing equipment				
Other water treatment chemicals				
Total				

Source: Parties' invoice data.
Notes: Sales to all vessels and sales to non-vessels are included. Drew's fixed fee revenues are excluded. For additional methodology details, please refer to Appendix 1.

The table above, taken from DX-0060 at 0018, indicates that BWT and CWT products account for [redacted] and [redacted] of WSS and Drew's "water treatment products" revenue, respectively. All other chemicals in the category together account for only [redacted] and [redacted] of water treatment products revenue.

between these products and BWT/CWT are material. For example, tank cleaning products are less technically complex, do not pose the same operational risks, and are ordered on a short term, cleaning-by-cleaning basis, which makes it easier for shippers to switch suppliers. *See* Franzo Hrg. Tr. at 348:22–350:1–22 (describing the differences between tank cleaning and water treatment business and the difference in competitive conditions based on the characteristics of each product); JX-0254 ¶ 7 ("Different categories of chemicals require different levels of sophistication in chemistry. Water treatment chemicals are generally more sophisticated and harder to develop than other categories of marine chemicals."). Accordingly, tank cleaning presents a more lucrative business opportunity for smaller suppliers than does water treatment, where ships "really [do not] want to upset the apple cart by changing their products." Franzo Hrg. Tr. at 349:7–11; JX-0254 ¶ 3 (noting that tank cleaning is roughly 60% of [redacted] business, and that water treatment business is small in comparison); PX-80028 at ¶ 3 (describing water treatment chemicals as [redacted] "smallest product category" and tank cleaning chemicals as the largest). In other words, differences in product characteristics between BWT/CWT and other water treatment products lead to differences in maritime companies' sourcing decisions and are therefore connected to differences in competitive conditions.

Moreover, while the evidence suggests that companies tend to negotiate prices for multiple products at the same time, it also cuts against the notion that customers engage in one-stop shopping for all their marine products. *See* PX00004 at 010, 015 (noting that WSS and Drew customers do not typically "one-stop shop" and often "mix and match across suppliers"). In other words, framework agreements may set the price for several products from a particular supplier, but such agreements tend to be non-exclusive, leaving the door open to other, specific product purchases at individual ports. *See* PX-61002 at 041–042. Thus, an analytical approach that focuses

on BWT and CWT to the exclusion of other marine products does not appear to fundamentally conflict with commercial reality, given that customers are empowered to make individualized product choices in different places and at different times.

For these reasons, the court concludes that FTC has appropriately clustered BWT and CWT products and services into one antitrust market for analytical convenience.

ii. "Global Fleets" as Targeted Customers

As defined by the FTC, "Global Fleets are fleets of 10 or more globally trading vessels—vessels above 1,000 gross tons in size that have traded at two ports that are at least 2,000 nautical miles apart in the preceding 12 months." Mot. Prelim. Inj. at 18, ECF No. 45-3. The FTC argues that it is appropriate to define the relevant product market around this group because "Global Fleets have distinct characteristics and requirements that limit customer choice, as compared to local or regional fleets," thus making them susceptible to price discrimination as a distinct customer group. ECF No. 45-3 at 19. In particular, the FTC points out that Global Fleet customers have "particular needs as it relates to centralized negotiation of contracts for delivery to geographically dispersed locations, product consistency, and product availability." ECF No. 45-3 at 19. The FTC also argues that Defendants have the ability to price discriminate because they "individually negotiate prices with each customer[,] and customers have a limited ability to arbitrage." ECF No. 45-3 at 19.

Defendants proffer several reasons why the "Global Fleets" distinction is not a meaningful way of segmenting customer groups. First, they contend that the definition of Global Fleets does not accord with commercial reality, given that neither WSS nor Drew use the FTC's definition of that term and less than half of WSS customers meet the Global Fleet criteria. ECF No. 50-2 at 26; DX-0060 ¶¶ 82, 85, 86. Defendants further argue that the Global Fleets construct is premised on

arbitrary thresholds and accordingly produces variable and underinclusive results. Specifically, they allege that: (1) 43% of the vessels that WSS and Drew supply had trading patterns fitting the FTC's criteria in some fiscal quarters, but not in others, indicating that the boundaries of the Global Fleets construct are too permeable to be analytically helpful; and (2) the FTC's numerical cutoff—10 or more globally trading vessels—is arbitrary, and produces the following anomalous mismatches: (a) a quarter of the vessels in 23% of Global Fleets were not globally trading vessels, (b) 31% of the vessels in non-Global Fleets count as globally trading vessels, and (c) 20% of non-Global Fleets are comprised completely of globally trading vessels. ECF No. 50-2 at 27; *see also* DX-0060 ¶¶ 83–84 & Table 4. Defendants contend that including all vessels weighing 1,000 gross tons or more in the antitrust market would better accord with commercial realities.

The "Global Fleets" construct is meant to capture key aspects of the economic reality facing fleets with a significant number of globally trading vessels and which need access to the products and services that defendants provide. The construct purports to isolate a relevant subset of the market and measure how the result of a merger would affect customers within that subset. It follows that the construct is a useful way to discuss and predict economic conditions only if its key aspects correspond to elements of the existing marketplace that would make it possible to "profitably target a subset of customers for price increases" post-merger. *Sysco*, 113 F. Supp. 3d at 38. The FTC, relying on the analysis of its economic expert, Dr. Aviv Nevo, has carried its burden to show that the construct is useful here.

a. Global Fleets Constitute a Distinct Customer Group with Distinct Needs

The FTC has adequately demonstrated that Global Fleets are a distinct group with distinct needs, as compared to the entire group of MWT customers. The distinction matters primarily because vessel trading patterns differ. Some vessels trade more globally than regionally or locally,

meaning they travel further, visit more countries and ports in more varied locations, and spend less time in port. PX-61000 ¶ 103. Within the FTC's definition of Global Fleets as fleets including ten or more globally trading vessels, a vessel trading pattern that includes distances of more than 2,000 nautical miles is global, while regional patterns include distances of 500 and 2,000 nautical miles and local patterns include distances of less than 500 nautical miles. PX-61000 ¶ 105. The following data, reproduced from PX-61000 ¶ 110, illustrates the distinct travel patterns of local, regional, and globally trading vessels.

EXHIBIT 8
Number of unique ports, countries, and continents visited, by trading pattern, 2017

	Trading Pattern	5th Percentile	25th Percentile	Median	75th Percentile	95th Percentile
	Number of unique ports visited					
1.	Global	5	12	18	25	38
2.	Regional	2	5	10	19	41
3.	Local	1	2	3	4	9
	Number of unique countries visited					
4.	Global	3	6	10	13	19
5.	Regional	1	1	3	5	12
6.	Local	1	1	1	2	3
	Number of unique continents visited					
7.	Global	1	2	3	4	5
8.	Regional	1	1	1	2	3
9.	Local	1	1	1	1	1

Source: Vessel Characteristic Data; Vessel Movement Data
Notes: Globally, regionally, and locally trading vessels are vessels that traveled more than 0 nm within the calendar year to two locations that were more than 2,000 nm, between 500 nm and 2,000 nm, and less than 500 nm apart from each other, as the crow flies. I include only the 42,986 live and active vessels of 1,000 gt or higher in 2017 that are classified as either globally trading, regionally trading, or locally trading in 2017.

Importantly, neither the emphasis on vessels with global trading patterns nor the 2,000 nautical mile cutoff for defining a globally trading vessel are arbitrary parameters. Different trading patterns create different product needs that affect how customers weigh the value of consistent worldwide service potential at high levels of product quality. PX-61000 ¶ 111 ("Globally trading vessels tend to be larger, travel much greater distances, and visit more countries and multiple continents during the course of a year. Therefore, it should be expected that their

preferences over the importance of high quality water treatment products and services that are consistently available differs from vessels with regional and local trading patterns); *see* Sarro Hrg. Tr. at 77:15–25 ("Q. When Teekay's vessels are operating on a spot charter, how predictable is where they're traveling to? A. Well, it's quite unpredictable, actually, because it's subject to market conditions. So whatever charter we pick up at the time—you know, that's what ends up happening. And it's on a per-voyage basis, is whatever it is . . . would be where we're loading, and then we have to discharge. . . . Q. Do you know necessarily which port a spot charter will call in from month to month? A. No."); PX80002 at 003 ("Because we conduct much of our business as spot charters, we have limited ability to predict our vessels' trade routes, including what ports they will visit or when."). The industry itself recognizes that vessel trading patterns have commercial significance, as shown by the parties' own statements and internal documents. *See e.g.*, PX70006 (Grimholt IH Vol. 1 Tr.) at 164:23–167:15 (describing how WSS categorizes vessels as global when they "have traveled in excess of 2,000 nautical miles between the furthest points in a given twelve months," noting that such categorization "makes a difference [in] how [WSS] sell[s] and deliver[s]," and explaining how globally trading vessels "have different needs because they have vessels trading globally or further from their home ports, which means that our capability to serve them will be of more interest in a sales meeting than their local needs would be"); PX20388 at 005 (explaining that a potential sales model distinguishes between local, regional, and global trading patterns, and noting that the former two "don't necessarily correspond as well with our main competitive advantage which is our ability to provide standard products and services in virtually every port worldwide").[5] Notably, WSS collects data on which vessels

[5] Although WSS President and CEO Bjoerge Grimholt testified that trading pattern was not used internally for sales purposes, Grimholt Hrg. Tr. at 1224:24–25, this assertion is at odds with internal WSS documents explicitly using trading patterns to track sales and define market segments

traveled 2,000 nautical miles between furthest points in the last 12 months in order guide its sales strategy. *See* JX-0188 at 044–45.

The FTC's vessel size cutoff of 1,000 gross tons is also non-arbitrary and based on the parties' own conceptions of the market. The evidence shows that vessel size correlates with global trading pattern and, accordingly, with distinct product needs. *See* PX61000 ¶¶ 109, 111. In general, the larger the vessel, the more likely it is to trade globally. PX61000 ¶ 109. In keeping with this trend, internal documents show that Defendants focus their sales efforts on larger vessels and frame their business and competitive potential in terms of vessel size. *See* PX61000 ¶ 93; DX-1247_WSSFTC-0018878 at 11 (discussing categorization of vessels by weight for purposes of segmenting market and estimating market size); Grimholt Hrg. Tr. at 1236:10–16 (describing the total market in terms of sailing ships above 1,000 gross tons). Thus, combining the court's findings regarding trading pattern and vessel size, it follows that the FTC's definition of a globally trading vessel—vessels larger than 1,000 gross tons that have traveled 2,000 nautical miles between furthest points in the last 12 months—is both non-arbitrary and grounded in the ordinary course of business.

The evidence also shows that vessels are typically organized into fleets, containing varying numbers of globally trading vessels. *See* PX61000 ¶ 91. In order to measure the effect that a significant number of globally trading vessels would have on the water treatment needs of a fleet as a whole, Dr. Nevo organized the vessel-level raw data into fleets according to affiliation with unique owners or separate technical managers ("operators"). PX61000 ¶ 113. Dr. Nevo grouped vessels with the same operator into the same fleet, producing 9,407 unique "fleets" made up of

for sales purposes, *see, e.g.*, JX-0188 at 044–45, and with Grimholt's deposition testimony explaining the relationship between the two. PX70006 (Grimholt IH Vol. 1 Tr.) at 164:23–167:15.

varying numbers of vessels. PX61000 ¶¶ 113, 114; Nevo Hrg. Tr. at 586:6–20. He then defined "Global Fleets" as those having ten or more globally trading vessels, Nevo Hrg. Tr. at 586:21–587:6, and on the basis of that definition, identified 532 Global Fleets and calculated Defendants' market shares within the Global Fleets category. PX61000 ¶¶ 118, 123.

As noted above, Defendants objected to Dr. Nevo's definition of "ten or more globally trading vessels," on the grounds that ten vessels is arbitrary and incongruent with commercial reality. While the court agrees that Dr. Nevo's choice of ten globally trading vessels was arbitrary in the sense that the number ten is not compelled by any specific market reality, the court disagrees that Dr. Nevo's construction is therefore meaningless. As the court understands it, Dr. Nevo's choice of ten globally trading vessels was not intended as an exact statement of the threshold number of globally trading vessels a fleet must have in order to manifest distinct product-related needs and preferences. Rather, Dr. Nevo chose ten as a starting point for developing a series of statistical estimates, the non-statistical implications of which support the appropriateness of regarding Global Fleets as a distinct customer group.

Dr. Nevo's fleet-level analysis took the following course: first, he inferred—after analyzing data and documentation used or created in the ordinary course of Defendants' business—that fleets with a significant number of globally trading vessels were likely to have distinct preferences that uniquely suit global suppliers. Nevo Hrg. Tr. at 587:7–19. Then, using the fleet data he compiled, Dr. Nevo sought to approximate what share of the fleet-level market would have those preferences. Because he did not know what threshold number of vessels would separate fleets with distinct preferences from those without, Dr. Nevo chose the number ten because of its roundness and simplicity. Nevo Hrg. Tr. at 587:20–22 ("So then, the question is, where's the cutoff. And I started with ten. Ten is a starting point. . . . [I]t's a round number. That's literally why we chose [it]."),

589:3–4 ("[I]'ll be the first to admit . . . there's no hard rule as to why it was ten); *see also Staples II*, 190 F. Supp. 3d at 118 n.10 (acknowledging and accepting expert's need to establish threshold cutoff for "practical analytical purposes"). After obtaining the results of that analysis, he ran trials to test the robustness of the results—that is, to measure how dependent his initial results were on his initial assumption of ten vessels. Nevo Hrg. Tr. at 589:1–590:11. Less dependency—i.e., more stability in the result—indicates the presence of a stable market reality that produces similar results despite variation in threshold numbers. *See* Nevo Hrg. Tr. at 596:20–597:19. Based on the initial trial, Dr. Nevo found that (1) Global Fleets accounted for most of all globally trading vessels—84% of vessels by tonnage and 71% by vessel count; (2) Global Fleets were mostly made up of globally trading vessels: 81.8% and 92.2% by count and tonnage; and (3) Global Fleets accounted for [redacted] and [redacted] of WSS's and Drew's respective MWT revenue. *See* Nevo Hrg. Tr. at 595:16–596:13; PX61000 ¶¶ 118, 161, 123. He also found that similar market share calculations held across four subsequent trials, two substituting five and then fifteen as the threshold numbers, one using ten but omitting any attempt to standardize the names of "operators" as they appeared in the raw data, and one only measuring sales to all globally trading vessels, without sorting those vessels into fleets (thus eliminating the need for any threshold number at all). PX61000 ¶ 123 n.234; Nevo Hrg. Tr. at 589:14–590:11. Notably, the specific percentages differ between each of these trials. PX61000 ¶ 123 n.234. That is because the point of the trials is not to establish that any particular set of percentages is the most accurate one, but rather to rely on the consistency across the range of percentages to illustrate that (1) there is a significant segment of the market—whatever the exact numbers—that focuses on global trading and therefore has needs and preferences that distinguish it from other customers; and (2) that segment accounts for a majority of Defendants' business. *See* PX61000 ¶¶ 119–21. In other words, the qualitative implications of

the percentages do not change even if the percentages themselves shift somewhat across trials. *See* PX61000 ¶ 123 n.234 (noting that market share percentages "are not qualitatively sensitive to alternative definitions of 'global fleets'"); Nevo Hrg. Tr. at 589:10–13 ("So . . . I really tried to say, well, what happens if I define it as 5 and 15, or various other measures, to make sure that the end result, at least qualitatively, doesn't actually change."). The court considers these factual observations to be accurate and well supported, and therefore finds that the FTC has carried its burden to demonstrate that it is appropriate to consider Global Fleets a distinct customer group within the market for MWT products.

b. Price Discrimination Against Global Fleet Customers is Possible Post-Merger

The court finds that the FTC has carried its burden to demonstrate that price discrimination is possible post-merger because: (1) Global Fleets are a distinct group of customers with distinct needs; (2) negotiation with Global Fleets typically occurs on an individualized basis; and (3) documentation reveals that Defendants have contemplated pricing differentials based on size and trading pattern. As the court has already discussed the first factor, the discussion in this section focuses on the remaining two.

Defendants typically negotiate framework agreements with Global Fleets for the whole fleet or for a significant proportion of vessels. *See e.g.*, PX80006 ¶ 21 (describing fleet-level negotiations for the entire [redacted] fleet); JX-0277 ¶ 23 (describing same for Teekay). These negotiations are customer specific, and result in customer-specific pricing at ports relevant to the particular customer. *See* JX-0248 at 014 ("In negotiations, customers often focus on specific ports that they consider to be key in light of their trading patterns. They then negotiate a customer specific net price for the ports relevant to them."). JX-0240 at 011–014 (showing course of negotiation between [redacted] and Drew Marine). While there are general pricing trends—for

instance, low volume ports tend to have higher pricing than high volume ports—ultimate prices are determined on a customer-by-customer basis. PX70000 (Cassaras (Drew) IH Tr. at 84:8–85:3, 87:7–10). While customers retain the freedom to purchase outside of framework agreements, they typically choose not to do so with products for which consistency is valued. Sarro Hrg. Tr. at 106:9–107:11 (noting that he prefers not to purchase outside contract when "it's really important that you have that product on board from that supplier," including BWT). This individualization makes the pricing for each Global Fleet opaque to the next, which in turn facilitates differential pricing.

Moreover, WSS internal documents expressly contemplate market segmentation for the purpose of price discrimination. An internal pricing presentation dated November 2014 notes the benefits of "value-based pricing," which allows WSS to "segment customer[s] based upon preferences." PX20381 at 003. The presentation also distinguishes local and global customers by their preference for suppliers with global reach, and then considers a price discrimination exemplar that distinguishes local and global customers, noting that global customers are willing to pay more for global reach and describing how "[v]alue based pricing identifies differences in customers' preferences and valuation of attributes, then identifies ways to make them pay different prices for virtually the same product/service." PX20381 at 003. The presentation also describes how "[a]greement discount levels will be built bottom up by applying indexes to multiple price discrimination levels," which include "segment" and "trading pattern" indexes, among other factors. PX20381 at 011.

In sum, based on (a) the lack of pricing transparency in a marketplace characterized by individualized negotiations, combined with (b) evidence that Global Fleets constitute a distinct segment of the market with distinct preferences, (c) evidence that WSS recognizes the potential

benefits of price discrimination, and (d) the lack of any evidence suggesting arbitrage, the court concludes that price discrimination is possible post-merger.

iii. Hypothetical Monopolist Test

Having determined in the foregoing discussion the validity of the cluster market and targeted customer approaches in defining the relevant product market in this case, the court also finds that the *Brown Shoe* practical indicia support the FTC's candidate market, with regard to (1) a product's peculiar characteristics and uses, for which there are no reasonable substitutes; (2) industry recognition of the product market as a separate entity, as shown by ordinary course documents demonstrating a business focus on globally trading vessels; and (3) distinct customers with distinct needs who require (4) specialized vendors who provide both the products and value-added services. *Whole Foods*, 548 F.3d at 1037–38 (Brown, J.); *Brown Shoe*, 370 U.S. at 325. The court now turns to an examination of expert evidence concerning the Hypothetical Monopolist Test ("HMT").

To model the course of a hypothetical monopolist, Dr. Nevo—the only economist to have performed the HMT in this case—conducted a critical loss analysis, which essentially calculates "the largest amount of sales that a monopolist can lose before a price increase becomes unprofitable." *Swedish Match*, 131 F. Supp. 2d at 160. The test has three steps. First, Dr. Nevo calculated the critical loss threshold—that is, the point at which a hypothetical monopolist would lose too many customers for a SSNIP to be profitable. This step is purely mathematical—the critical loss threshold is the point at which increased profit margins resulting from an increase in price are offset by increased costs resulting from lost sales. Second, Dr. Nevo estimated the *actual* aggregate diversion ratio, which "represents the proportion of lost sales that are recaptured by all other firms in the proposed market as the result of a price increase . . . [s]ince these lost sales are

recaptured within the proposed market, they are not lost to the hypothetical monopolist." *H & R Block*, 833 F. Supp. 2d at 63. The aggregate diversion is calculated with reference to suppliers to whom lost customers would potentially take their business. *Sysco*, 113 F. Supp. 3d at 34. Third, Dr. Nevo compared aggregate diversion to critical loss, and if aggregate diversion exceeds critical loss, then a SSNIP would be profitable for a hypothetical monopolist. *Id.* (citing *Swedish Match*, 131 F. Supp. 2d at 160).

Dr. Nevo used four kinds of data to calculate margins for different trials—estimates of gross margin for all water treatment products sold to all customers, WSS and Drew invoice data specific to BWT/CWT and Global Fleets, lowest gross margins by quarter, and variable cost margins based on accounting data specific to BWT/CWT and Global Fleets. For aggregate diversion, Dr. Nevo used three kinds of data—revenue information provided by marine suppliers, WSS salesforce data, and WSS and Drew win-loss data. PX61000 ¶ 227. After running multiple trials with varying inputs, including a SSNIP of 10% (in addition to the typical 5%), Dr. Nevo found that across all cases, the highest critical loss estimate was 17.5%, and the lowest aggregate diversion ratio estimate was 90%. PX61000 ¶¶ 232, 237; Nevo Hrg. Tr. at 903:14–904:4. In cross-examining Dr. Nevo and in closing arguments, Defendants challenged the basis for his estimates of margins and aggregate diversion, correctly noting that his BWT/CWT-specific estimates are drawn from broader data sets that include all water treatment products. Nevo Hrg. Tr. at 812:1–17. Nevertheless, Defendants' expert, Dr. Israel, presented nothing to suggest that the methodology Dr. Nevo employed in arriving at his estimates was flawed (apart from contesting the appropriateness of a cluster market analysis), and did not present any alternative calculations or HMT results. *See generally* DX-0060. Moreover, the gap between critical loss and aggregate diversion in every trial was so large as to ensure the stability of the HMT's qualitative result against

any but the gravest of statistical errors. *See* PX61000 ¶¶ 232, 237. Further, that large gap is consistent with other, qualitative evidence regarding the role of ship chandlers and industrial suppliers in the product market.[6]

In sum, the court concludes that "the supply of MWT products and services"—including BWT chemicals, CWT chemicals, and associated products and services—to Global Fleets constitutes a relevant antitrust market.

a. Market Concentration, Probable Effects on Competition, and Prima Facie Case

1. LEGAL STANDARD

Having defined a relevant antitrust market, the court must "consider the likely effects of the proposed acquisition on competition within that market." *Swedish Match*, 131 F. Supp. 2d at 166. At this juncture, the government must complete its prima facie case by showing that "the

[6] Defendants argue that industrial suppliers and ship chandlers should be included as sellers in the relevant market, insofar as they sell some MWT chemicals to marine customers. The court disagrees. The evidence establishes that industrial suppliers focus most of their business on providing water treatment for industrial use on land, and have very limited involvement in the marine market. *See, e.g.*, Lange Hrg. Tr. at 1141:1–9 (noting that Nalco (owned by Ecolab) does not promote itself to the marine business), 1143:2–17 (describing total of [redacted] in annual sales to marine industry, [redacted] of which is to WSS); JX-0283 at 001 (explaining that [redacted] "deals with water treatment chemicals for manufacturing industry sector on 'land,'" that only [redacted] deals with water treatment for the marine sector, and that it only sells to a distributor in Japan). Additionally, Defendants have not shown that the small number of marine sales attributable to industrial suppliers includes the range of additional services that comprise the "total solution" that WSS and Drew provide. *Cf. Sysco*, 113 F. Supp. 3d at 26 ("[F]or example, fruit can be bought from both a grocery store and a fruit stand, but no one would reasonably assert that buying all of one's groceries from a fruit stand is a reasonable substitute for buying from a grocery store."). Defendants have also produced no evidence to suggest that ship chandlers—marine retailers that stock a wide range of consumable goods in warehouses near ports—provide that solution. The same is true of testing equipment manufacturers. These observations are consistent with the HMT results, which suggest that neither industrial suppliers nor ship chandlers would be considered viable substitutes by any significant group of customers in the event of a price increase. To the extent that Defendants suggest that ship chandlers or other companies could easily reorganize to supply a total MWT solution that argument relates to ease of entry into the market, not to current market conditions.

merger would produce 'a firm controlling an undue percentage share of the relevant market, and [would] result[ ] in a significant increase in the concentration of firms in that market.'" *Heinz*, 246 F.3d at 715 (quoting *Philadelphia Nat'l Bank*, 374 U.S. at 363); *see also Baker Hughes*, 908 F.2d at 982. "Market concentration . . . is often measured using the Herfindahl-Hirschmann Index ("HHI")." *Heinz*, 246 F.3d at 716; *Swedish Match*, 131 F. Supp. 2d at 167 n.11. As the court explained in *Swedish Match*:

> "The HHI calculates market power [by] summing the squares of the individual market shares of all the firms in the market. The HHI takes into account the relative size and distribution of the firms in a market, increasing both as the number of firms in the market decreases and as the disparity in size among those firms increases."

Id. Sufficiently high HHI figures establish a *prima facie* case of anticompetitiveness. *H & R Block*, 883 F. Supp. 2d at 71 (citing *Heinz*, 246 F.3d at 715 n.9). The merger guidelines consider markets with an HHI above 2500 to be "highly concentrated," and state that "[m]ergers resulting in highly concentrated markets that involve an increase in the HHI of more than 200 points will be presumed to be likely to enhance market power." Merger Guidelines § 5.3; *Heinz*, 246 F.3d at 715 (citing *Baker Hughes*, 908 F.2d at 982) (noting that significant increase in market concentration "establishes a 'presumption' that the merger will substantially lessen competition.").

The FTC may also bolster its *prima facie* case by offering additional evidence. Relevant to this case, courts generally recognize that "a merger that eliminates head-to-head competition between close competitors can result in a substantial lessening of competition." *Sysco*, 113 F. Supp. 3d at 61. Where head-to-head competition between close competitors is an important feature of the relevant market, "[a] merger is likely to have unilateral anticompetitive effect if the acquiring firm will have the incentive to raise prices or reduce quality after the acquisition, independent of competitive responses from other firms." *H & R Block*, 883 F. Supp. 2d at 81; *see also Whole Foods*, 548 F.3d at 1043 (Tatel, J.) (citation omitted) (internal quotation marks omitted) ("[T]here

can be little doubt that the acquisition of the second largest firm in the market by the largest firm in the market will tend to harm competition in that market.").

2. ANALYSIS

i. Defendants Have High Market Shares and HHIs Predict High Concentration

Dr. Nevo calculated HHIs based on market share information from two sources—revenue information reported by Defendants and in sworn declarations of third-party suppliers, and information provided by WSS's Potential Sales Model ("PSM").[7] PX61000 ¶¶ 250–51. Dr. Nevo claims that market shares based on revenue information are preferred because such information "actually reflect[s] the actual choices made by customers when choosing products." Nevo Hrg. Tr. at 627:17–628:3. He calculated market size by (a) aggregating the revenues of all suppliers who provided information, and (b) assigning each supplier a share based on their revenue as a proportion of overall revenue. *See* PX61000 ¶¶ 252–56. The market share calculations indicated that Defendants are the two largest MWT suppliers by revenue. The following graph depicts the size of all marine water treatment suppliers who submitted revenue data.

[7] Though Dr. Nevo believes that the PSM tends to overestimate the size of the market and accordingly understate market concentration, he found that the results of his calculations using the PSM do not qualitatively differ from those obtained using revenue information from MWT suppliers. PX61000 ¶ 251.

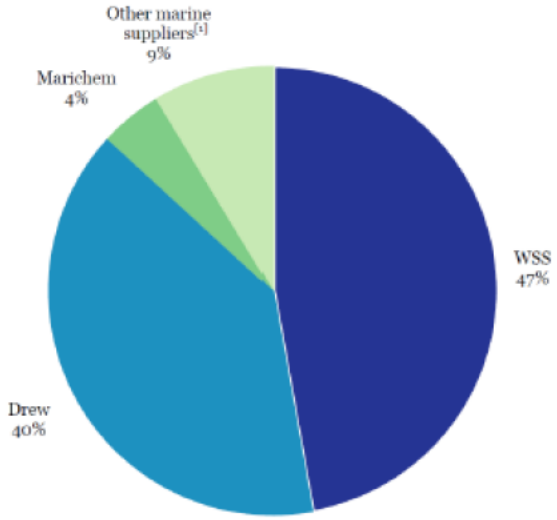
[redacted]



PX61002 ¶ 120, Ex. 12. Acknowledging that at least one supplier failed to submit revenue data, and to account for the possibility that other unknown suppliers exist, Dr. Nevo ran trials including revenue entries for five and ten unknown suppliers by assigning them revenue totals equal to the median for all non-party MWT suppliers. Nevo Hrg. Tr. at 628:8–17 (noting inclusion of all suppliers mentioned by Dr. Israel with exception of one, and including "dummy" suppliers). Dr. Nevo also ran trials assigning the "dummy" suppliers revenues equal to the *average* of all non-party MWT suppliers. PX61002 ¶ 271. Assuming five missing suppliers, and using the median value for "dummy" suppliers, Dr. Nevo calculated market shares at 46.1% for WSS and 38.7% for

Drew (84.7% combined). PX61002 ¶ 271. Additional trials with different inputs produced combined shares between 78.7% and 82.8%. PX61002 ¶ 271 Ex. 26. The following graph depicts the result of Dr. Nevo's market share calculations, which correspond to his revenue calculations.[8]

EXHIBIT 25
Updated relevant antitrust market shares among marine suppliers that produced information



Source: Drew Invoice Data; Vessel Characteristic Data; Vessel Movement Data; Water Treatment Supplier Revenue Submissions; WSS Invoice Data
Notes: See Exhibit 12. [1] Includes sales by Alpha Marine, Blutec, Chemo Marine, Chevron, EazyChem, Marine Care, Marisol, Star Marine, UNI Americas, UNIservice Belgium, UNIservice Germany and Norway, UNIservice Italy, and UNIservice Turkey.

PX61002 ¶ 270, Ex. 25. Based on these market shares, the post-merger HHI is 7,214, with an increase of 3,563, indicating extremely high market concentration and a very large increase in concentration. PX61002 ¶ 272, Ex. 27. Alternative trials based on the different formulations of

[8] Defendants contend that the revenue information upon which Dr. Nevo relied is "unverified" because he made no effort to verify the accuracy of the information with the submitting parties. Hrg. Tr. at 1877:10–12. The court notes however that much of the revenue information was included in declarations given under penalty of perjury, and although some was provided in email communications with the FTC, Defendants have not proffered any specific reason to doubt the information's accuracy.

the revenue and market share calculations revealed HHIs between 6,235 and 6,883, along with changes in HHIs between 3,075 and 3,399. PX61002 ¶ 272, Ex. 27.

Defendants' expert Dr. Israel challenged Dr. Nevo's analysis on a number of grounds. First, Dr. Israel questioned the appropriateness of applying the cluster market doctrine and focusing on Global Fleets, contending that BWT and CWT should be broken out separately and that the relevant market should include sales to all vessels. DX-0060 ¶¶ 109–10. Dr. Israel also suggested that Dr. Nevo's use of revenues as a metric to compute shares is problematic because it (a) relies on several estimates and assumptions to fill gaps in revenue data, (b) places more weight on larger vessels with more engines and boilers, rather than treating every vessel as an equal business opportunity, and (c) ignores the utility of treating sales of MWT chemicals as unit sales—corresponding to vessels—where one vessel makes one lower or higher-priced product choice and so constitutes one unit share. DX-0060 ¶¶ 112–114. Dr. Israel calculated market share based on sales to all vessels weighing 1,000 gross tons or more. DX-0060 ¶¶ 108, 111, 112, 115. He also employed a "single invoice" rule, whereby he assumed that any vessel with less than two invoices from the merging parties in 2017 was making a "one-off" purchase, which Dr. Israel took to mean that that vessel purchased most of its BWT or CWT products from other suppliers. DX-0060 ¶ 116. Dr. Israel separated BWT and CWT into individual market categories, and, applying the single invoice rule, computed Defendants' combined market share as 31% and 33%, resulting in HHIs that are substantially lower and below the Guidelines cutoff of 2500. DX-0060 ¶ 117.

The court credits Dr. Nevo's analysis. While it has already determined that both the cluster market approach and the focus on Global Fleets are appropriate, the court also disagrees with Dr. Israel for other reasons. For one, the court sees no justification for treating all vessels as constituting equal shares of the overall market for MWT. The core of the FTC's argument in this

case—as borne out by the evidence—is that all vessels are *not* created equal. *See* Nevo Hrg. Tr. at 640:18–19 (noting that "not all vessels are created equal"). Where a vessel has more boilers and engines, it has greater MWT needs that comprise a correspondingly larger part of the market, making such vessels more valuable to suppliers. Conducting the analysis by using just the number of vessels obscures this fact, while using revenue data acknowledges that capturing the market for larger ships means capturing a larger part of the market for MWT. The court views this increased sensitivity to market reality as a strength of Dr. Nevo's revenue-based analysis, not a flaw. Moreover, while there is some imprecision inherent in estimating revenue shares for suppliers that did not produce revenue information, there appears to be only one known supplier—Vecom—that failed to produce such data. *See* PX61002 ¶ 271 Ex. 26. Dr. Nevo ran trials accounting for up to ten additional hypothetical suppliers with revenues matching the median and average of all non-party suppliers. *See* PX61002 ¶ 271 Ex. 26; PX61000 ¶ 263 Ex. 32. Defendants have pointed to no evidence suggesting that the absence of specific information about one missing supplier would change the data more substantially than ten additional suppliers with median or average revenues.[9] *See Sysco*, 113 F. Supp. 3d at 54 ("The FTC need not present market shares and HHI estimates with the precision of a NASA scientist. The 'closest available approximation' often will do.") (quoting *FTC v. PPG Industries, Inc.*, 798 F.2d 1500, 1505 (1986)).

[9] The court does however have concerns about Dr. Israel's "single invoice" rule. In an effort to exclude "one-off" purchasers, that rule excludes any vessel with only a single invoice in 2017, regardless of how much was purchased in that invoice and regardless of the timing of purchases from year to year. Thus, if a vessel were to purchase multiple times from Defendants in 2015 and 2016, but only once in 2017, the single invoice rule would treat that vessel as a non-loyal customer that bought its total supply of MWT elsewhere—ignoring the quantity it did buy from Defendants during 2017, and discounting the possibility that the vessel stocked up on supplies for the relevant time period, or experienced downtime, or did not need to purchase again during that year for some other reason.

Moreover, Dr. Nevo explained in his reply report that, notwithstanding his conceptual misgivings, he did compute market shares and HHI using Dr. Israel's methodology. PX61002 ¶ 142. Disregarding the single-invoice rule and clustering BWT and CWT, Dr. Nevo's analysis yielded a combined market share across all vessels of 49.2% and lower bound HHI of 2,546 with change in HHI of 945. *See* PX61002 ¶¶ 141–42, Ex. 15 & 16. Dr. Nevo further explained at the evidentiary hearing and in his reply report that he performed multiple alternative HHI calculations using several of Defendants' preferred candidate markets. Nevo Hrg. Tr. at 637:24–640:6. These markets include supply of marine water treatment as a whole, BWT separately, CWT separately, and one market including all chemicals, gases, and refrigerants—all at the vessel level, regardless of trading pattern, and including only vessels weighing at least 1,000 gross tons. Nevo Hrg. Tr. at 637:24–640:6; PX61002 ¶¶ 104–12. The results in each case satisfied the Guidelines threshold for a structural presumption.[10] PX61002 ¶ 104 Ex. 8. In other words, here, as in *PPG* and *Sysco*, the FTC has presented "share calculations for 'every market the evidence suggests is remotely possible,' which yield[ed] results of similar magnitudes in market concentration." *Sysco*, 133 F. Supp. 3d at 54 (quoting *PPG Industries*, 798 F.2d at 1506).

In sum, the court finds that based on Dr. Nevo's testimony and other evidence, the FTC has demonstrated that the proposed merger will significantly increase concentration in the market for supply of MWT products to Global Fleets. Thus, the FTC has made out a *prima facie* case and

[10] The complete results of these trials are presented in Dr. Nevo's reply report at PX61002 ¶ 104 Ex. 8. The relevant HHI statistics are summarized in the chart below:

Alternative Market Definition	Post-merger HHI	Change in HHI	Presumptively Unlawful?
Supply of marine water treatment to all vessels	6,991	3,399	Yes
Supply of boiler water treatment to all vessels	5,899	2,861	Yes
Supply of cooling system water treatment to all vessels	4,779	2,189	Yes
Supply of marine chemicals, gases, and refrigerants to all vessels	6,274	2,630	Yes

PFF ¶ 65.

established a rebuttable presumption that the merger will substantially lessen competition in the aforementioned market.

ii. Ordinary Course Documentation and Customer Testimony Confirm Market Position and Suggest Competitive Effects From Elimination of Head-to-Head Competition

The notion that WSS and Drew are each other's primary competition in the relevant market is supported by a number of Defendants' own documents. For instance, in a January 2015 internal presentation on the strategic rationale for the merger, WSS acknowledged that "[t]he combined entity will be the unrivalled leader in maritime services in general and marine chemicals in particular." PX20329 at 48. Another WSS internal presentation titled "Global Strategy 2013-2017" described WSS as having "relatively high market shares within Marine Chemicals"—listing WSS as possessing slightly more than 50% market share in marine chemicals and describing Drew as having 25%. JX-0192 at 005. Furthermore, internal Drew documents acknowledge that "Drew Marine essentially has one global competitor – Wilh. Wilhemsen Holding ASA." JX-0055 at 027; *see also* JX-0053 at 024 (noting that "VPP segment is dominated by Drew Marine and the market's largest participant, Wilh. Wilhelmsen Holding ASA" and that "[r]emaining market [is] characterized by small regional/local suppliers, specializing in product sub-categories with limited product offerings, execution capabilities, and geographic reach."); JX-0048 at 006 (suggesting in strategic planning email that if Drew were to "[a]cquire WSS chemical business, take away [its] main competitor and win back this space fully for [Drew Marine], this could increase our ability to charge far better prices and win across all segments."); JX-0182 at 067 (noting that "WSS and DM hold majority of contract business for marine chemicals (in particular water treatment) due to long-term market participation and global presence."); JX-0096 at 054 (describing Drew Marine as "one of two global players in the performance chemicals market"). Moreover, the record

includes multiple instances of serious competition between WSS and Drew, specifically on issues such as price and other non-price incentives.[11] *See Sysco*, 113 F. Supp. 3d at 64–65.[12]

Customer testimony from Global Fleets further supports the notion that Defendants occupy the number one and number two market positions and that competition between them plays a key role in providing consumer benefits at the fleet level. *See, e.g.*, [redacted] (describing WSS and Drew as only viable options, describing how merger would leave fleet without alternatives, describing how negotiation with Vecom broke down over capability concerns); Sarro Hrg. Tr. at 93:24–99:9, 157:6–25 (describing WSS and Drew as only realistic options, and explaining how review process that originally included multiple suppliers was necessarily narrowed to WSS and Drew based on capability considerations); [redacted] (describing WSS and Drew as only credible options, explaining how other suppliers would be unable to meet fleet-level needs, and explaining that merger would leave fleet without options); *see also* PX400013 (same). The court agrees with

[11] *See, e.g.*, [redacted] (describing process of pitting WSS and Drew against one another, resulting in lower prices); Knowles Hrg. Tr. at 1426:23–1427:6 (describing how Drew won [redacted] business through competitive pricing against WSS); PX20063 (internal WSS email describing "aggressive offer from Drew" leading to increase in cost savings for Global Fleet customer); PX10346 at 002 (describing multiple non-price benefits afforded by Drew to Global Fleet customer in an effort to win business from WSS).

[12] Defendants argue that current market pricing is inconsistent with the notion that they exercise market power. This is because the generally low cost of MWT (as a function of vessel operating cost) relative to the importance of the products should incentivize suppliers to charge higher prices to realize maximum value. Defendants argue that the fact that suppliers have not done so indicates that the products must exist in a competitive environment—not a highly concentrated (and therefore noncompetitive) one. Israel Hrg. Tr. at 1500:8–1501:17. However, the court does not understand the FTC to contend that the current market is noncompetitive—rather, the FTC contends that the market *is* competitive, and that the continued competitiveness of the market depends on aggressive competition between the two existing global suppliers with high market shares. A head-to-head competition theory is not inconsistent with the presence of lower prices in the current market.

Defendants that such testimony is not without its flaws—while many customers testified that they consider Drew and WSS to be the only proven suppliers capable of meeting their needs on a global basis, some also admitted that they have not undertaken any detailed investigation of other suppliers. *See, e.g.*, PX70028 106:14–18. It is also true that customer testimony alone is often considered a less reliable form of evidence in this context. *Arch Coal*, 329 F. Supp. 2d at 145 (noting that "[i]n many contexts . . . antitrust authorities do not accord great weight to the subjective views of customers in the market."). Nevertheless, in light of the extensive documentary and statistical evidence the FTC has presented in this case, it does not appear that the FTC is over-relying on customer input, and the fact that the documentary and statistical evidence aligns with customer testimony bolsters the reliability of the testimony.

iii. Quantitative Evidence Suggests Competitive Effects Based on High Market Shares and Elimination of Head-to-Head Competition

Dr. Nevo performed two additional studies to confirm that Defendants will have the incentive and ability to raise post-merger prices—the Gross Upward Pricing Pressure Index methodology ("GUPPI") and a merger simulation model.

A GUPPI analysis is essentially a bargaining framework that quantifies a firm's change in incentive to raise prices following a merger—i.e., the "upward pricing pressure." PX61000 ¶¶ 318–19. The model takes as a premise that, when WSS (or Drew) bids for business in the current market, higher prices increase the chance that customers will choose another supplier, and that given the closeness of competition between WSS and Drew, Drew (or WSS) will usually be the alternative supplier. PX61000 ¶ 317. In this model, the firm that chooses to raise or lower prices must balance the potential for increased profits at a higher price against the potential to lose profits but gain business at a lower price. PX61000 ¶ 317. The optimal price lies somewhere between these points. PX61000 ¶ 317. The model hypothesizes that without Drew or WSS as a check, the

need for balancing disappears. PX61000 ¶ 317. The incentive to raise prices depends on the size of the fraction of diverting WSS customers that go to Drew (or vice versa) and the size of the margin that Drew or WSS earns. PX61000 ¶ 320. To estimate these variables, Dr. Nevo used a number of values drawn from market share estimates based on revenue data, market share estimates based on WSS's PSM tool, WSS salesforce data, and WSS win-loss data. PX61000 ¶ 321. For margins, Dr. Nevo used invoice data and variable cost margins. PX61000 ¶ 323. Dr. Nevo's results across multiple trials, accounting for variations of these inputs and calculated from the perspective of both Drew and WSS, produced percentages consistently over 20%, indicating strong incentives for post-merger price increase. Nevo Hrg. Tr. at 658:20–660:23.[13]

Dr. Nevo's merger simulation model aimed to quantify the effect that combining the first and second choice MWT suppliers would have on bargaining and prices in the relevant antitrust market. The model hypothesized that since customers needing supply are likely to solicit more than one bid and play the second-best supplier alternative off the first-best in order to secure better offers, a situation in which (a) the first and second-best merge, and (b) the third-best supplier (which will become second-best post-merger) represents a weak alternative relative to the merging parties, will tend to produce higher prices. Indeed, the weaker an option the third supplier represents relative to the merging parties, the more likely it is that customers will face higher prices. PX61000 ¶¶ 332–23; Nevo Hrg. Tr. at 663:22–665:5, 670:16–671:18. Using the same market share and margin estimates as in the GUPPI analysis, Dr. Nevo calculated estimated percentage price increases post-merger using eight scenarios involving all input combinations. Percentage increases across all sensitivities ranged from 13.6% to 53.1% ($6.7 million to $26

[13] Dr. Nevo's calculations did not rely on the salesforce data for the Drew GUPPI because that data was unavailable. Nevo Hrg. Tr. at 660:15–16.

million in dollar increases), with ranges based on Dr. Nevo's preferred data of 29% to 46.6% (14.4 million to 23 million in dollar increases). PX61000 ¶ 339. Notably, the model did not predict the timing of price increases. As Dr. Nevo testified at the evidentiary hearing, such high price increases can be implemented over time, and in a market where it is typical for parties negotiating framework agreements to bargain over substantial discounts off list prices, price increases could simply involve reducing the amount of the discount in proportion to reduced negotiating leverage. Nevo Hrg. Tr. at 675:12–677:5.

Defendants argue that Dr. Nevo's models are flawed because they depend on unreliable data, specifically incomplete win-loss data and overbroad salesforce data. *See* Nevo Hrg. Tr. at 581:23–582:3 ("THE COURT: Dr. Nevo . . . for this win-loss data . . . what kind of numbers are we talking about in reaching these percentages? THE WITNESS: So these are very small numbers. I forget exactly. . . . But I think this is—it is very sparsely populated."), 722:11–723:8 (noting that salesforce and win-loss datasets are not specific to the market alleged). While the court agrees that there are some reliability issues with both the win-loss and salesforce data, the court disagrees that this flaw dooms the studies' significance, especially when, with respect to the merger simulation model in particular, the difference in market share between the merging parties and the third-best alternative so closely tracks the model's basic assumptions. Win-loss and salesforce data were the basis for market share estimates in only two of the scenarios in each analytical category (GUPPI and merger simulation), and did not form the basis of Dr. Nevo's preferred calculations. In all other trials, market shares were estimated using other data, and the results were stable across these variations. Moreover, even acknowledging the limited usefulness of certain data, calculations using that data can be considered as confirmatory, insofar as the results match the results of calculations that use more reliable data and accord with the inferences suggested by

a larger body of evidence. *See Sysco*, 113 F. Supp. 3d at 67 (finding merger simulation strengthened *prima facie* case despite imperfections in underlying data where result was qualitatively robust to other variations using more reliable data). Thus, the court concludes that Dr. Nevo's GUPPI analysis and merger simulation model strengthen the FTC's *prima facie* case that the proposed merger will substantially lessen competition in the relevant antitrust market.[14]

iv. Summary

The FTC has made out a strong *prima facie* case of anticompetitive effects based on high market concentration and has bolstered that case with additional evidence that the merger would substantially lessen competition in the market for supply of MWT chemicals and services to Global Fleets.

[14] The court also acknowledges the vessel-level "switching" study performed by Dr. Israel, which investigated head-to-head competition by examining what happens when vessels stop buying MWT from one of the merging parties, in order to find out whether the vessels "switch" to the other merging party or go elsewhere. Essentially, Dr. Israel used sales data to focus on vessels weighing 1,000 gross tons or more that purchase from one of the merging parties in one year but not the next year (or years, in some formulations). If that vessel disappeared from the invoice data for one party, and did not show up in the invoice data for the other within the relevant time period, Dr. Israel counted it as a "loss." Dr. Israel's results indicated that most vessels that switch from one merging party do not typically switch to the other. DX-0060 at ¶ 124 & Appendix 3.

Dr. Israel's study does not factor heavily in the court's calculus for several reasons: (1) the study does not appear to address the effect of the transaction on fleet-level bargaining over framework agreements, unlike Dr. Nevo's studies; (2) it employs the single-invoice rule, which this court has already found to be problematic in note 9, *supra*; (3) it assumes that vessel absences from sales data for a given period mean that another supplier is serving its needs, but provides no data to support that assumption (while the FTC has come forward with some evidence to show that the assumption is false or true in only a small number of cases that do not relate to competitive considerations, *see, e.g.*, PX70025 (Sarro Dep. Tr. at 116:12–23); PX40031 at 001)).

2. Rebuttal

Given the court's conclusion that the FTC has met its burden to show a *prima facie* case, the burden now shifts to Defendants "to show that traditional economic theories of the competitive effects of market concentration are not an accurate indicator of the merger's probable effect on competition in [this] market or that the procompetitive effects of the merger are likely to outweigh any potential anticompetitive effects." *CCC Holdings*, 605 F. Supp. 2d at 46. Typically, "the more 'compelling the [FTC's] prima facie case, the more evidence the defendant must present to rebut [the presumption] successfully." *Sysco*, 113 F. Supp. 3d at 72 (quoting *Baker Hughes*, 908 F.2d at 991). Given that the FTC has made out a strong prima facie case, Defendants must make out a correspondingly strong rebuttal showing.

a. Barriers to Entry or Expansion

1. LEGAL STANDARD

A prima facie showing of anticompetitive effects associated with a merger can be rebutted by—among other factors—evidence that there are no significant entry barriers in the relevant market. *CCC Holdings*, 605 F. Supp. 2d at 47. Indeed, the D.C. Circuit has recognized that "[t]he existence and significance of barriers to entry are frequently . . . crucial considerations in a rebuttal analysis," given that "[i]n the absence of significant barriers, a company probably cannot maintain supracompetitive pricing for any length of time. *Baker Hughes*, 908 F.2d at 987. Accordingly, analysis of ease of entry—"the ability of other firms to respond to collusive pricing practices by entering to compete in the market," *Cardinal Health*, 12 F. Supp. 2d at 54–55—is key to "evaluating whether market concentration statistics accurately reflect the pre- and likely post-merger competitive picture." *Heinz*, 246 F.3d at 717 n.13. "Low barriers to entry enable a potential competitor to deter anticompetitive behavior by firms within the market simply by its

ability to enter the market." *Id.* (citing *FTC v. Procter & Gamble Co.*, 386 U.S. 568, 581 (1967)). "In other words, entry is one way in which post-merger pricing practices can be forced back down to competitive levels." *CCC Holdings*, 605 F. Supp. 2d at 47.

Nevertheless, "[t]he prospect of entry into the relevant market will alleviate concerns about adverse competitive effects only if such entry will deter or counteract any competitive effects of concern so the merger will not substantially harm customers." Merger Guidelines § 9. Thus, entry must be "timely, likely, and sufficient in its magnitude, character, and scope to deter or counteract the competitive effects of concern." *Id.*; *Cardinal Health*, 12 F. Supp. 2d at 55. According to the Merger Guidelines, entry is timely when it is "rapid enough to make unprofitable overall the actions causing [competitive] effects and thus leading to entry," likely where it is profitable even "accounting for the assets, capabilities, and capital needed and the risks involved"—including sunk costs—and sufficient where the entering competitors provide products that "are . . . close enough substitutes to the products offered by the merged firm to render a price increase . . . unprofitable" and there are limited constraints on entrants' "competitive effectiveness," such that one firm can replicate the scale and strength of a merging firm, or one or more firms can operate without competitive disadvantage. Merger Guidelines § 9.1–9.3. In general, "[t]he relevant time frame for consideration . . . is two to three years." *Staples II*, 190 F. Supp. 3d at 133. The expansion of current competitors is regarded as "essentially equivalent to new entry," and is therefore evaluated according to the same criteria. *CCC Holdings*, 605 F. Supp. 2d at 57; *Cardinal Health*, 12 F. Supp. 2d at 55.

2. ANALYSIS

Defendants contend that there are no significant barriers to expansion by other firms already in the market as defined by the FTC, and that one or more of those firms will expand to provide a competitive counterbalance that will maintain prices at pre-merger levels. Defendants note that they are required only to show that "another competitor or group of competitors could fill Drew's current position in the market," DFF ¶ 280, examine a number of potential barriers, and argue that none of them prevent expansion in this case.

First, Defendants argue that "there is no meaningful limit on the supply of BWTC and CWTC," meaning that the FTC cannot argue that "current suppliers are capacity constrained." ECF No. 50-2 at 39. In particular, Defendants assert that the chemistry that guides formulation of MWT products is well known, and toll blenders—chemical companies that blend MWT chemicals for suppliers, including Drew—are not bound by exclusive agreements and could find another outlet for their products among other market participants. ECF No. 50-2 at 34; DFF ¶¶ 287–91. Second, Defendants argue that the need for a global distribution network does not constitute a significant barrier to entry because "there is nothing that prevents . . . competitors from easily expanding their [distribution] networks in response to customer demand." ECF No. 50-2 at 40; DFF ¶¶ 298–300. Defendants emphasize that Drew outsources about two-thirds of its MWT business, [redacted] and engaging others such as Wrist—a large ship chandler—to make last-mile deliveries to vessels at distant ports, often far from warehouses (which are leased, rather than owned). DFF ¶¶ 301–03. Defendants also argue that the FTC has failed to identify any ports "where entry would be needed and would purportedly not occur." ECF No. 50-2 at 37; DFF ¶¶ 298, 301–14. Third, Defendants argue that the ability to offer technical services in conjunction with the delivery of chemical products poses no barrier. They point out

that Drew offers only three kinds of technical services: (1) log sheet reporting, which involves periodically recording boiler and cooling testing results in proprietary software and collating data in a central location to ensure consistency over time; (2) initial training sessions, which involve providing new customers with written materials describing dosing and testing methods for Drew's products and conducting a presentation for onboard engineers; (3) on-board visits to customer vessels, during which Drew representatives answer shipboard engineers' questions, review the testing history, and make recommendations. Defendants note that Drew had 40–53 service engineers between January 2015 and June 2017, and contend that procuring engineers is not a sustainable entry barrier because an entrant can start with a smaller number and scale up over time. ECF No. 50-2 at 40–41; DFF ¶¶ 316–21. Fourth, Defendants argue that reputation and brand are not significant barriers to entry because Global Fleet customers are highly sophisticated, and are therefore unlikely to be influenced by branding. DFF ¶ 322. Defendants note that to the extent that some Global Fleet customers believe other suppliers are incapable of serving their needs, they are uninformed. DFF ¶ 326.

The court concludes that Defendants have not carried their burden to establish that entry will be appropriately timely, likely, and sufficient to deter or counteract the competitive effects of the merger. *See Cardinal Health*, 12 F. Supp. 2d at 55. Defendants' contention that Drew's business—including its products, services, reputation, customer relationships, and distribution model—is simple and capable of replication in a short period of time is at odds with inferences drawn from the state of the current market and with documentary and testimonial evidence from customers and suppliers. It defies basic economic principles for a profitable market to be simultaneously characterized by (a) markedly high concentration and head-to-head competition between two dominant firms over a significant period of time, and (b) low barriers to entry and

easily replicable business models. Where the latter is true, economic incentives to compete should ensure that the former is not. Low barriers signify economic opportunities, and as Defendants' own expert acknowledges, "[e]conomics teaches that firms will enter markets where there are opportunities to earn economic profits (profits above the competitive level) until those economic profits are pushed to zero." DX-0060 ¶ 224; Israel Hrg. Tr. at 1567:4–10, 1568:11–24. The FTC has presented strong evidence that the current market is highly concentrated and dominated by head-to-head competition between Drew and WSS, notwithstanding that a number of other suppliers have been present in the market for years. In other words, "the fact that the merging parties have been able to maintain high margins and market shares without witnessing notable entry and expansion" suggests that, contrary to Defendants' contentions, the market for supply of MWT products is characterized by significant barriers to entry. PX61002 at ¶ 244.

This perspective is borne out in documentary and testimonial evidence, which suggests that barriers to entry—especially global distribution networks, customer relationships and reputation, and customer retention rates—play a significant role in the merging parties' respective business models. Global presence in particular is consistently considered a distinguishing feature of Defendants' business that is capital intensive and difficult to replicate. *See* JX-0279 at 022 (Drew presentation describing one of its features as an "Established Global Presence with Significant Barriers to Entry," and further explaining that its "Expansive Global Logistics and Distribution Network Enables Swift Order Fulfillment and is Difficult and Costly to Replicate"); *see also* PX60008 (Drew) at 006 ("Q. Rough order, how long would it take and how much would it cost to replicate your global fulfillment network? A. It would take a vast investment to enter our market from a distribution perspective and even if they did that they would inevitably fail to gain any traction [because]: [(i)] brand reputation (quality, consistency and reliability); [(ii)] High cost of

failure means customers are not going to swap supplier from a product they trust for essential compliance or maintenance products and services"); JX-0231 at 157 (consultant's internal presentation to WSS describes barriers to entry as "logistics, channel, market knowledge, and customer base"); PX20184 at 003 (internal assessment explaining that "[t]he business idea and the strategic role played by the company is to supply these products to vessels around the world . . . through a truly global and seamless operation, meticulously designed for the global shipping community . . . [t]he complexity of this operation is the major barrier to entry for competing manufacturers and suppliers, focusing their efforts towards larger, land based markets."). Indeed, other market participants have confirmed that expanding a distribution network to the size of Drew's would require significant capital investment. *See* Franzo Hrg. Tr. at 357: 13–358:4 ("Q. What would it take for UNI Americas to expand its distribution network to the size of Drew Marine's? A. . . . I mean, we would need financial backing to make that move . . . Drew has built a tremendous company over 50 years . . . they didn't do it overnight. . . . [I]t would take a financial influx of capital to do such a thing.").

Similarly, evidence indicates that prior customer relationships and reputation function as barriers in the MWT industry because customers are highly risk averse, leading them to favor known providers and avoid switching suppliers. *See* JX-0250 at 009 (consultant presentation of MWT analysis to WSS indicates that "[c]ustomer relationships are important to maintain sales and contract extensions," because "[w]ater treatment products has a lock-in effect, as the vessels cannot change water treatment supplier continuously, as it would defeat its purpose"); [redacted] (describing elimination of Marine Care from bidding process because "[t]he evaluation of the team was that the Marine Care bid had more risk to it. They didn't cover as many ports as we were seeking. They were an unknown supplier to us, so a lot more testing would be

required to consider their chemicals."); Fry Hrg. Tr. at 962:11–23 (explaining that Military Sealift Command single sources its chemicals worldwide because "[c]ommonality of chemicals, commonality of training, commonality of test equipment" helps "prevent[] . . . mistakes and . . . minimize the risk to the ship itself.");[15] PX80000 (MSC Decl.) at ¶¶ 51–52 (noting that "[r]eputation cannot be understated given that even small discrepancies in the quality, availability, or service of marine chemicals could shorten the lifecycle of equipment or cause immediate failure," and that "if another company decided to make a concerted effort to replace Drew, it would take additional time for that company to earn the reputation for quality, service, and reliability that Drew and Wilhelmsen have developed over decades in the marine industry").

In sum, evidence relating to the foregoing barriers alone shows that here, as in *Sysco*, new entry and/or expansion are "capital intensive and demand[] a long time horizon"—capital to fund expansion of distribution network, and time to build relationships with customers and develop a high reputation for quality and reliability. 113 F. Supp. 3d at 81. The evidence does not reveal any specific competitor or potential competitor with any plan to enter, and in fact suggests the opposite—that expansion is costly, and no smaller competitor or potential competitor intends to expand or reposition in order to make a bid for Global Fleet customers. *See, e.g.*, [redacted] ¶ 10 (noting that expansion is costly, on the order of $20,000–$30,000 in shipping per container of product on top of third-party fees, and that [redacted] has not expanded for water treatment chemicals in five years); [redacted] ¶ 8 (noting that [redacted] has no intention of entering the MWT business); [redacted] ¶ 6 (noting absence of expansion

[15] Defendants' contention that customers who believe that there are no other MWT suppliers capable of serving their needs are uninformed is itself indicative of the importance of reputation in the industry—if reputation were less important, it is unlikely that a sophisticated customer would fail to investigate potentially cheaper alternatives.

plans); *cf. Sysco*, F. Supp. 3d at 81 ("Based on their assessment that expansion would not be an economically viable strategy, regional distributors have said that they have no plans to expand or reposition in order to serve national customers."). Defendants may be correct that at some point in the future one or more smaller competitors will be in a position to replicate the competitive benefits that Drew's presence currently provides. Nevertheless, the record does not support the notion that any entry or credible threat thereof will be timely, likely, and sufficient to counteract the likely anticompetitive effects of this merger.

b. Power Buyers

1. LEGAL STANDARD

Courts have also noted that the existence of power buyers—sophisticated customers who retain strategies post-merger that "may constrain the ability of the merging parties to raise prices," Merger Guidelines § 8—is a factor that can serve to "rebut a prima facie case of anti-competitiveness." *Cardinal Health*, 12 F. Supp. 2d at 59. However, "[t]he ability of large buyers to keep prices down . . . depends on the alternatives these large buyers have available to them." *Sysco*, 113 F. Supp. 3d at 48. Where mergers reduce alternatives—i.e., prevent the use of certain competitive strategies—"the power buyers' ability to constrain price and avoid price discrimination can be correspondingly diminished." *Id.* (citing Merger Guidelines § 8). Thus, the mere presence of power buyers "does not necessarily mean that a merger will not result in anti-competitive effects." *Cardinal Health*, 12 F. Supp. 2d at 59. In assessing a power buyer argument, the court should "examine the choices available to powerful buyers and how those choices likely would change due to the merger," keeping in mind that "[n]ormally, a merger that eliminates a supplier whose presence contributed significantly to a buyer's negotiating leverage will harm that buyer." Merger Guidelines § 8. Finally, although the consideration of non-entry factors—

including the existence of power buyers—is "relevant, and can even be dispositive, in a section 7 rebuttal analysis," *Baker Hughes*, 908 F.2d at 987, courts have not typically held "that power buyers alone enable a defendant to overcome the government's presumption of anticompetitiveness." *Cardinal Health*, 12 F. Supp. 2d at 58; *Chicago Bridge & Iron Co. N.V. v. FTC*, 534 F.3d 410, 440 (5th Cir. 2008) ("[C]ourts have not considered the 'sophisticated customer' defense as itself independently adequate to rebut a *prima facie* case.").

2. ANALYSIS

Defendants argue that the FTC's Global Fleets construct focuses on the largest shipping companies—those most likely to have the power to constrain the merger's anticompetitive effects. In support of this contention, Defendants point out that customers tend to purchase other goods from suppliers, which permits them to discipline attempted BWT and CWT price increases by switching or credibly threatening to switch purchases of these other products to other suppliers or by negotiating price decreases on other products. ECF No. 50-2 at 45; DFF ¶¶ 246–249. Defendants further argue that customers could adapt purchases to another supplier's distribution network or shift part of their fleet to another competitor, since many vessels in Global Fleets do not avail themselves of all of Defendants' networks—instead visiting a subset of available ports and picking up MWT from an even smaller subset. DFF ¶¶ 250–253. Defendants also contend that Global Fleets could stockpile larger quantities of MWT products in order to shift purchases to major ports with lower costs, DFF ¶¶ 254–258; ECF No. 50-2 at 45–46, and that customers can partner with suppliers to sponsor entry or expansion to new ports.

The court is unpersuaded by Defendants' power buyer argument. The evidence is mixed—at best—regarding the effectiveness of each of the Defendants' suggested strategies. Although at least one witness suggested that customers could shift purchases of other products in more

competitive markets to other suppliers, *see* Kelleher Hrg. Tr. at 536:6–20, there is, as Dr. Nevo noted, little empirical basis for the notion that this strategy—already available to large customers—would yield any additional benefits beyond those customers currently enjoy. PX61002 ¶¶ 223, 232. Similarly, while testimony suggested that customers may be able to stockpile product and concentrate purchases in ports where products are cheaper, that same testimony suggests that storage space is often limited and that customers already do so. *See e.g.,* [redacted] (describing size of storage facilities onboard and efforts to ensure that product sourcing occurs efficiently); *see also* Fry Hrg. Tr. at 963:13–964:22 (describing space constraints due to safety regulations, number of different consumable products, and need to maximize revenue-generating space). Defendants have not identified any *new* strategy or alternative likely to emerge post-merger—instead, they have focused on strategies that are already part of the competitive landscape and which show no promise of becoming more effective. On the other hand, the FTC has shown that the merger will result in the loss of a proven strategy—the ability to leverage one large, global supplier against another—that appears to be the most effective price constraint in the consolidated MWT market. In other words, the FTC has established a reasonable probability that as a result of the merger, sophisticated buyers will have one less alternative strategy through which they can exercise power, and Defendants have not identified any equally or more effective buyer options to counteract that loss. Thus, the reduction of buyer alternatives means that "power buyers' ability to constrain price and avoid price discrimination can be correspondingly diminished," *Sysco*, 113 F. Supp. 3d at 48, and evidence of buyer power is insufficient to rebut the FTC's prima facie case.

c. Efficiencies

1. LEGAL STANDARD

As the Merger Guidelines explain, "a primary benefit of mergers to the economy is their potential to generate significant efficiencies and thus enhance the merged firm's ability and incentive to compete, which may result in lower prices, improved quality, enhanced services, or new products." Merger Guidelines § 10. Though the Supreme Court has never recognized the so-called "efficiencies" defense in a Section 7 case, other courts and the Horizontal Merger Guidelines acknowledge that evidence of efficiencies may prove "relevant to the competitive effects analysis of the market required to determine whether the proposed transaction will substantially lessen competition," *Arch Coal,* 329 F. Supp. 2d at 151, and accordingly that efficiencies produced by a merger can form part of a defendant's rebuttal of the FTC's prima facie case. *Sysco*, 113 F. Supp. 3d at 81; *Heinz*, 246 F.3d at 720. This is true even though "[c]ourts have rarely, if ever, denied a preliminary injunction solely based on the likely efficiencies." *CCC Holdings*, 605 F. Supp. 2d at 72.

Potential efficiencies require close judicial scrutiny—"the court must undertake a rigorous analysis of the kinds of efficiencies being urged by the parties in order to ensure that those 'efficiencies' represent more than mere speculation and promises about post-merger behavior," *Heinz,* 246 F.3d at 721, and a defendant must prove "extraordinary efficiencies" where market concentration levels are high. *Id.* at 720–21. An efficiencies analysis must demonstrate that the claimed efficiencies are (1) merger-specific, and (2) verifiable—meaning that efficiency claims "must represent a type of cost saving that could not be achieved without the merger and the estimate of the predicted saving must be reasonably verifiable by an independent party." *United States v. H & R Block, Inc.*, 833 F. Supp. 2d 36, 89 (D.D.C. 2011); *see also Sysco*, 113 F. Supp.

3d at 82. Moreover, "it is incumbent upon the merging firms to substantiate efficiency claims," as "much of the information relating to efficiencies is uniquely in the possession of the merging firms." Merger Guidelines § 10.

2. ANALYSIS

Defendants claim that the proposed merger will result in significant merger-specific efficiencies in the form of cost savings of [redacted] and that these efficiencies will be realized in four ways: (1) production cost reductions from eliminating duplicative product lines, (2) customer-facing cost reductions from eliminating duplicative account managers and customer service operations, (3) reductions from eliminating duplicative back-office and administrative costs, and (4) price reductions as part of a plan to address expected revenue dis-synergies, in order to compensate for the possibility of lost customers who oppose the merger.

The FTC engaged an expert, Dr. Dov Rothman, to evaluate whether Defendants had substantiated their estimated cost efficiencies, and whether such efficiencies were merger-specific. Dr. Rothman reviewed data and documentation from the merging parties, and the parties' consultants provided him with spreadsheets relevant to their claimed cost savings. Dr. Rothman concluded in his report and his testimony at the evidentiary hearing that the merging parties had failed to provide sufficient information for him to verify the likelihood and magnitude of the claimed cost savings. PX61001 at ¶ 10. In particular, Dr. Rothman found that the alleged cost savings in each of the categories were based on a series of significant assumptions—percentage reductions in cost, percentage increases in productivity, or assumed cost/product equivalencies—that were "doing all the work" in calculation of the estimates. Rothman Hrg. Tr. at 1035:5–6. Dr. Rothman further pointed out that Wilhelmsen failed to provide any information that would have allowed him to confirm whether those assumptions are reasonable. *See, e.g.*, Rothman Hrg. Tr. at

1039:19–1040:5 ("So what Wilhelmsen has provided here, it's provided a description of the process by which these cost savings were estimated. So it's explained that it had functional teams and Cardo Partners go around and identify and assess areas of duplicative overlap. And Wilhelmsen has . . . provided information that describes the output of the analysis. What Wilhelmsen hasn't provided is information about the analysis itself. And I think there's an important distinction between describing the process of estimating cost savings and describing the actual analysis, the assumptions that go into that analysis.").

In response to these criticisms, Defendants note that WSS has a history of acquiring companies that produce MWT chemicals—specifically Unitor and Nalfleet—that demonstrates that WSS has previously achieved the cost savings it projected. Defendants also note that the efficiency estimates went through many rounds of internal vetting, DFF ¶¶ 352, 354, 357, 358, and rely on the testimony and report of Dr. Israel, who contended that the estimates are verifiable insofar as WSS identified the potential bases for cost savings, performed its own vetting and due diligence, and has a track record of realizing projected cost savings. DX-0060 ¶¶ 287, 290, 298.

The court finds that Defendants have failed to carry their burden to demonstrate the verifiability of their claimed efficiencies. In reaching this decision, the court stresses that the determinative issue is neither the presence of assumptions nor the absence of completely precise estimates. Instead, the critical issue is that because the bases for the assumptions Dr. Rothman identified and their role in the efficiencies analysis is unclear, the reasonableness of those assumptions, along with the ultimate determinations of likelihood and magnitude, cannot be verified with any degree of rigor. *Heinz*, 246 F.3d at 721 ("[G]iven the high concentration levels, the court must undertake a *rigorous* analysis of the kinds of efficiencies being urged by the parties in order to ensure that those 'efficiencies' represent more than mere speculation and promises

about post-merger behavior.") (emphasis added); *see also id.* (scrutinizing quantitative basis for claimed efficiencies). Nor can reference to the merging parties' past practices, managerial expertise and incentives, or internal verification processes serve to substantiate any efficiencies. The court cannot substitute Defendants' assessments and projections for independent verification. *H & R Block*, 883 F. Supp. 2d at 91 ("While reliance on the estimation and judgment of experienced executives about costs may be perfectly sensible as a business matter, the lack of a verifiable method of factual analysis resulting in the cost estimates renders them not cognizable by the Court. If this were not so, then the efficiencies defense might well swallow the whole of Section 7 of the Clayton Act because management would be able to present large efficiencies based on its own judgment and the Court would be hard pressed to find otherwise."). The court concludes that Defendants have failed to provide enough information about their estimated efficiencies to render them "reasonably verifiable by an independent party." *Id.* at 89. Given this conclusion, the court need not address the question of merger-specificity.

B. Weighing the Equities

Notwithstanding the court's determination on the likelihood of success on the merits, the court must still "weigh the equities in order to decide whether enjoining the merger would be in the public interest." *Heinz*, 246 F.3d at 726. The interests at issue are "(i) the public interest in effectively enforcing antitrust law and (ii) the public interest in ensuring that the FTC has the ability to order effective relief if it succeeds at the merits trial." *Sysco*, 113 F. Supp. 3d at 86; *see also Heinz*, 246 F.3d at 726 ("The principal public equity weighing in favor of issuance of preliminary injunctive relief is the public interest in effective enforcement of the antitrust laws."). The FTC notes that absent a preliminary injunction, Defendants can combine assets and operations such that it is administratively difficult to restore competition to its pre-merger state. *Heinz*, 246

F.3d at 726 ("Section 13(b) itself embodies congressional recognition of the fact that divestiture is an inadequate and unsatisfactory remedy in a merger case."). On the other hand, Defendants note that if this court issues a preliminary injunction, they will abandon the transaction rather than continue with the administrative proceeding—meaning that the efficiencies that they have identified will be lost, along with their potential benefits to consumers. *See Arch Coal*, 329 F. Supp. 2d at 160 (taking abandonment of the transaction into account in weighing the equities).

Given the court's finding that Defendants' claimed efficiencies cannot be independently verified, the court cannot conclude on this record that those efficiencies outweigh the potential harm to the public resulting from further consolidation in the MWT industry. Moreover, although the court recognizes the time, resources, and effort that Defendants have put into planning this transaction, the parties' stated intention to abandon the transaction prior to the merits proceeding is a private equity, and cannot on its own overcome the public equities that favor the FTC. *Heinz*, 246 F.3d at 727; *Sysco*, 113 F. Supp. 3d at 87.

IV. CONCLUSION

The court finds on the basis of the entire record that the FTC has carried its burden to show a "reasonable probability" that the proposed merger between Drew and WSS would harm competition in the market for supply of MWT products and services to Global Fleets. The FTC has "raised questions going to the merits so serious, substantial, difficult and doubtful as to make them fair ground for thorough investigation, study, deliberation and determination by the FTC in the first instance and ultimately by the Court of Appeals," *Heinz*, 246 F.3d at 714–15 (quoting *FTC v. Beatrice Foods Co.*, 587 F.2d 1225, 1229 (D.C. Cir. 1978)), and Defendants have offered insufficient evidence to rebut the FTC's showing of likely harm. Moreover, the equities favor

issuance of a preliminary injunction. Accordingly, the FTC's Motion for Preliminary Injunction will be GRANTED. An appropriate order accompanies this memorandum opinion.