

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF COLUMBIA

Federal Trade Commission,

*Plaintiff,*

v.

RAG-Stiftung, Evonik Industries AG, Evonik Corporation, Evonik International Holding B.V., One Equity Partners Secondary Fund, L.P., One Equity Partners V, L.P., Lexington Capital Partners VII (AIV I), L.P., PeroxyChem Holding Company LLC, PeroxyChem Holdings, L.P., PeroxyChem Holdings LLC, PeroxyChem LLC, and PeroxyChem Cooperatief U.A.,

*Defendants.*

Civil Action No. 1:19-cv-02337-TJK

**DEFENDANTS' PROPOSED FINDINGS OF FACT  
AND CONCLUSIONS OF LAW**

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## INTRODUCTION

The FTC seeks the extraordinary and drastic remedy of preliminarily enjoining Evonik's proposed acquisition of PeroxyChem. When presented with similar requests, judges of this Court have demanded rigorous proof that a merger would lead to a substantial lessening of competition that will be sufficiently probable and imminent to warrant relief. The evidentiary record developed at the eight-day hearing in this case falls far short of that standard.

The evidence establishes instead that the FTC's complaint grossly oversimplifies how the hydrogen peroxide industry operates today and inaccurately predicts how the merger will affect competition in the future. Although the FTC tries to paint hydrogen peroxide as a commodity, customer and supplier witnesses recognized that there are many different hydrogen peroxide products, each tailored to particular customer needs, and that not all suppliers sell all of those products in the United States. For example, PeroxyChem does not sell a pre-electronics-grade product, and Evonik does not sell aseptic packaging or tin-free products.

The FTC glosses over these differences and argues that it is appropriate to analyze competition for *all* hydrogen peroxide products (other than electronics grade) in a single relevant product market because suppliers can shift between producing *some* of them. But the FTC's own Horizontal Merger Guidelines allow a relevant market to include only those products between which suppliers can easily, profitably, and nearly universally swing production capacity, and the FTC failed to prove that suppliers swing capacity among all hydrogen peroxide products. In fact, the evidence from the hearing demonstrates that no supplier easily and profitably swings between pre-electronics grade and other grades today or would be likely to do so in the future rapidly and without incurring significant costs.

The FTC's proposed relevant geographic markets also create misleading impressions about hydrogen peroxide competition because they assume that customers throughout those

regions face similar competitive conditions when they do not. In the FTC's proposed Pacific Northwest market, Canadian customers rely heavily on Evonik and PeroxyChem, but U.S. customers—on which the FTC ought to be focused—overwhelmingly depend on Solvay and almost never purchase from Evonik and PeroxyChem. Market shares in the FTC's proposed Southern and Central United States market also establish that different firms are strong in different parts of that expansive area covering 35 states from California to Delaware.

Without the evidence to support its proposed relevant product and geographic markets, the FTC has no basis for calculating market shares and concentration levels and, thus, is not entitled to any presumption that the merger is likely to harm competition. And, in any event, additional evidence from the hearing would overcome any market-concentration presumption.

First, the merger will have no effect in the Pacific Northwest because United Initiators will acquire PeroxyChem's Prince George business and continue to operate it as an independent competitor to Evonik and Solvay. United Initiators is an experienced chemical manufacturer and consumer of hydrogen peroxide that agreed to purchase the Prince George business as part of its global strategy to produce hydrogen peroxide not only in North America, but also in Europe. The FTC has asked the Court to ignore the divestiture to United Initiators, but even it concedes that, with the divestiture, the merger would not have any substantial effect in the Pacific Northwest.

Second, the merger is unlikely to have coordinated effects. The sale of hydrogen peroxide in North America is highly competitive today. There is no evidence of coordination, including in the FTC's alleged Pacific Northwest market where there are only three suppliers. Although some suppliers colluded nearly two decades ago, the hydrogen peroxide industry has undergone significant changes that make coordination far less likely today. Characteristics of today's hydrogen peroxide industry—including the highly differentiated nature of hydrogen peroxide

products, customers' use of blind bidding processes that impede transparency, and the presence of large, long-term contracts with sophisticated and powerful buyers—would frustrate any future attempt at coordination. The merger will not change any of these features or otherwise make the hydrogen peroxide industry more vulnerable to coordination.

Third, unilateral effects also are unlikely to result from the merger. Evonik and PeroxyChem focus on selling different products, and they focus on customers in different geographic areas in part because their U.S. plants are more than 450 miles away from each other. Due to these differences, Evonik and PeroxyChem do not significantly constrain each other today, and after the merger, Arkema, Nouryon, and Solvay will continue to constrain the merged firm. As Defendants' expert economist, Dr. Nicholas Hill, explained, one would not expect a merger to have significant unilateral effects in industries like this one, and he confirmed that intuition through his analysis of customer bidding data and supplier invoice data.

The bidding data showed that Evonik and PeroxyChem are rarely customers' lowest and second-lowest bidders and that the merger could cause prices to rise at most by a mere 0.4 percent (without taking cost savings into account). That is not a substantial unilateral effect by any measure. Dr. Hill found similar effects by analyzing the supplier invoice data with his "relative distance model." And when he took into account logistics savings that the merged firm could achieve by serving customers from closer plants, Dr. Hill calculated that the merger could end up *reducing* hydrogen peroxide prices by as much as 1.8 percent. Dr. Hill's predictions deserve greater weight than those made by the FTC's economist, Dr. Dov Rothman, because, unlike Dr. Rothman, Dr. Hill incorporated pricing data into his calculations, did not make any assumptions about competition in the hydrogen peroxide industry, and reached conclusions that are consistent with other real-world evidence.

Against all of this evidence that the merger is unlikely to substantially lessen competition, it is telling how little support the FTC finds for its theory. There are no Evonik and PeroxyChem documents indicating that the merger will lead to higher prices, reduced output, or other harms to customers. There were no customer witnesses who articulated specific concerns about the merger, and every customer witness confirmed that the hydrogen peroxide industry is highly competitive. Witnesses from Arkema, Nouryon, and Solvay described how, because of blind bidding, they compete as hard when there is one other bidder vying for a customer's business as when there are four other bidders. In short, the FTC has failed to prove that it is likely to succeed on the merits of its claim, so its motion for a preliminary injunction should be denied.

## **PROPOSED FINDINGS OF FACT AND CONCLUSIONS OF LAW**

### **I. FACTUAL BACKGROUND**

1. “Antitrust theory and speculation cannot trump facts, and even Section 13(b) cases must be resolved on the basis of the record evidence relating to the market and its probable future.” *FTC v. Arch Coal, Inc.*, 329 F. Supp. 2d 109, 116–17 (D.D.C. 2004).

2. The Supreme Court has directed that “only examination of the particular market – its structure, history, and probable future – can provide the appropriate setting for judging the probable anticompetitive effects of the merger.” *United States v. Gen. Dynamics Corp.*, 415 U.S. 486, 498 (1974) (citing *Brown Shoe Co. v. United States*, 370 U.S. 294, 322 (1962)); see also *United States v. Baker Hughes, Inc.*, 908 F.2d 981, 989–92 (D.C. Cir. 1990) (noting the Supreme Court's shift away from presumptions and structural analysis to focus more on real-world facts and economic analysis). Consequently, a robust understanding of hydrogen peroxide end uses, grades, products, production, suppliers, pricing, and procurement is required to assess the competitive effects of this merger.

**A. The Parties and the Proposed Transaction**

3. Evonik is a global chemicals company headquartered in Germany and listed on the Frankfurt Stock Exchange.<sup>1</sup> Evonik is controlled by the German trust RAG-Stiftung, which purchased Evonik’s predecessor, Degussa, in 2006.<sup>2</sup> In 2007, Degussa was renamed Evonik.<sup>3</sup>

4. Evonik’s business is divided into three segments: Nutrition and Care, Performance Materials, and Resource Efficiency.<sup>4</sup> Within the Resource Efficiency segment is the Active Oxygens business line, which is home to Evonik’s hydrogen peroxide business.<sup>5</sup> Evonik’s North American Active Oxygens business is headquartered in Parsippany, New Jersey.<sup>6</sup> Evonik has three hydrogen peroxide plants in North America.

5. PeroxyChem is a global manufacturer of hydrogen peroxide, persulfates, and peracetic acid (“PAA”) that is headquartered in Philadelphia, Pennsylvania.<sup>7</sup> PeroxyChem has two hydrogen peroxide plants located in North America.<sup>8</sup>

6. On November 7, 2018, Evonik agreed to purchase PeroxyChem for \$625 million.<sup>9</sup> On August 11, 2019, Evonik agreed to divest PeroxyChem’s Prince George plant and related assets (the “Prince George Business”) to United Initiators.<sup>10</sup> United Initiators’ acquisition of the Prince George Business is conditioned on the closing of the merger.<sup>11</sup> United Initiators would become a

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<sup>1</sup> Hr’g Tr. (Rettig–Open (“O”)) 1040:6–18.

<sup>2</sup> Hr’g Tr. (Rettig–O) 1040:23–1041:16.

<sup>3</sup> Hr’g Tr. (Rettig–O) 1041:12–16.

<sup>4</sup> Hr’g Tr. (Rettig–O) 1041:23–1042:10.

<sup>5</sup> Hr’g Tr. (Rettig–O) 1043:6–13.

<sup>6</sup> Hr’g Tr. (Costanzo–O) 1103:22–1104:5.

<sup>7</sup> Hr’g Tr. (Lerner–O) 1360:11–12, 1364:23–24, 1367:3–11.

<sup>8</sup> Hr’g Tr. (Kramer–O) 1622:5–10.

<sup>9</sup> JX0078.

<sup>10</sup> JX0147.

<sup>11</sup> JX0147-005.

new entrant into the hydrogen peroxide marketplace in North America.<sup>12</sup>

7. After accounting for the divestiture, the merger will result in the transfer from PeroxyChem to Evonik of a single hydrogen peroxide plant in North America—PeroxyChem’s Bayport, Texas plant—along with other assets, including PeroxyChem’s PAA business.

8. Evonik is acquiring PeroxyChem to expand into specialty-grade hydrogen peroxide products that offer higher growth potential, low cyclicalities, and higher returns than the standard-grade products on which Evonik has traditionally focused in North America.<sup>13</sup> The merger also will lead to logistics and other costs savings by optimizing the merged firm’s combined assets.<sup>14</sup>

## **B. Hydrogen Peroxide Products and Grades**

### **1. Differentiation**

9. Historically, hydrogen peroxide has been used in North America predominantly as a bleaching agent in the pulp and paper and textile industries.<sup>15</sup> However, as the pulp and paper industry has stagnated, and textile production has moved off-shore, hydrogen peroxide producers developed alternative specialty applications for hydrogen peroxide to grow customer demand.<sup>16</sup>

10. At the same time, producers began to recognize the growth potential of hydrogen peroxide as a “green” alternative to conventional chemicals because the only byproducts of hydrogen peroxide decomposition are water and oxygen.<sup>17</sup>

11. Over the last two decades, these industry changes have increased demand for hydrogen peroxide products across a variety of industry segments and end-use applications. For

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<sup>12</sup> Hr’g Tr. (Cummins–O) 1728:17–1732:15, 1737:14–25.

<sup>13</sup> Hr’g Tr. (Rettig–O) 1047:13–17, 1053:1–9.

<sup>14</sup> Hr’g Tr. (Rettig–O) 1054:14–1055:6; JX0068.

<sup>15</sup> Hr’g Tr. (Lerner–O) 1363:24–1364:7.

<sup>16</sup> Hr’g Tr. (Lerner–O) 1371:6–1372:4; Hr’g Tr. (Lerner–Closed (“C”)) 1446:21–24; Hr’g Tr. (Myrick–C) 494:3–7.

<sup>17</sup> Hr’g Tr. (Rettig–O) 1048:13–20; 1052:7–21.

example, in the chemical synthesis segment, hydrogen peroxide is now used to make sodium chlorite, organic peroxides, and epoxidized soybean oil.<sup>18</sup> In the environmental segment, hydrogen peroxide is used for odor control in municipal water treatment plants and soil remediation for contaminated soil.<sup>19</sup> In the home and personal care segment, hydrogen peroxide is used in products for hair bleaching, teeth bleaching, and contact lens solution.<sup>20</sup> In the food segment, hydrogen peroxide is used in food fiber bleaching, to combat sea lice in salmon farming, and as a disinfectant for aseptic packaging.<sup>21</sup> In the electronics segment, semiconductor manufacturers use ultra-pure hydrogen peroxide to clean and etch semiconductor wafers for cell phones, computers, and other devices.<sup>22</sup> Customers also use hydrogen peroxide in a range of other end-use applications, from rocket propulsion to hospital equipment sterilization.<sup>23</sup>

## 2. Categorization by Grade

12. While the broad spectrum of differentiated hydrogen peroxide products defies easy categorization, it is useful to sort hydrogen peroxide products into four broad categories based on purity level: (1) standard grade; (2) specialty grade; (3) pre-electronics grade; and (4) electronics grade.<sup>24</sup> Each broad category—specialty grade in particular—can encompass a variety of hydrogen peroxide products that are sold into different end-use segments and applications.

13. Products within the four broad grade categories are differentiated by their stabilizers and concentration, among other characteristics.<sup>25</sup> Stabilizers are chemicals added to hydrogen

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<sup>18</sup> Hr'g Tr. (Corson-O) 661:18–662:15.

<sup>19</sup> Hr'g Tr. (Corson-O) 665:17–25.

<sup>20</sup> Hr'g Tr. (Corson-O) 668:2–10; Hr'g Tr. (Montag-O) 1510:8–1511:13.

<sup>21</sup> Hr'g Tr. (Corson-O) 669:8–20; Hr'g Tr. (Montag-O) 1515:25–1516:24.

<sup>22</sup> JX0001-001.

<sup>23</sup> Hr'g Tr. (Montag-O) 1519:15–25; Hr'g Tr. (Hamann-C) 1316:13–18.

<sup>24</sup> JX0066-018 ¶ 39; *see also* JX0075-010 to -011 ¶¶ 18–20.

<sup>25</sup> Hr'g Tr. (Kramer-C) 1632:6–1633:4.

peroxide to prevent the product from decomposing.<sup>26</sup> Each supplier uses its own stabilizer packages, and suppliers generally view the composition of their individual stabilizer packages as proprietary trade secrets.<sup>27</sup> Because stabilizers also introduce impurities that are unacceptable for certain applications, suppliers often must tailor stabilizer packages to meet customer needs.<sup>28</sup>

14. Hydrogen peroxide products also are differentiated based on regulatory certifications and specialized applications technology, both of which vary by end-use application.<sup>29</sup>

### 3. Standard Grade

15. Standard-grade hydrogen peroxide contains the highest level of impurities, as it typically does not go through any purification process.<sup>30</sup> Standard-grade hydrogen peroxide has a variety of end-use applications, including as a bleaching agent to remove ink in wastepaper recycling and to brighten textile fibers, or as an oxidizer for odor control in industrial and municipal wastewater treatment.<sup>31</sup> When market participants refer to hydrogen peroxide as a “commodity,” they are generally referring only to standard-grade hydrogen peroxide.<sup>32</sup>

16. Production of standard-grade hydrogen peroxide involves processing a gasoline-like working solution containing anthraquinones through a three-step sequence: hydrogenation, oxidation, and extraction.<sup>33</sup> The production process is continuous and runs 365 days a year.<sup>34</sup>

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<sup>26</sup> Hr’g Tr. (Kramer–O) 1626:9–13.

<sup>27</sup> Hr’g Tr. (Kramer–O) 1626:14–24; [REDACTED].

<sup>28</sup> Hr’g Tr. (Kramer–C) 1701:2–8; Hr’g Tr. (Montag–O) 1518:7–15.

<sup>29</sup> Hr’g Tr. (Montag–C) 1510:8–1526:9.

<sup>30</sup> Hr’g Tr. (Hamann–C) 1310:23–1312:20.

<sup>31</sup> Hr’g Tr. (Montag–C) 1566:25–1567:3; Hr’g Tr. (Suter–O) 408:8–14.

<sup>32</sup> [REDACTED]; [REDACTED]; [REDACTED];  
[REDACTED]; Hr’g Tr. (Anderson–O) 209:14–210:5.

<sup>33</sup> Hr’g Tr. (Hamann–O) 1233:13–16.

<sup>34</sup> Hr’g Tr. (Hamann–O) 1234:7–9; (Hamann–C) 1337:15–23.

17. In the first step, hydrogenation, hydrogen gas is injected into the working solution.<sup>35</sup> In the second step, oxidation, the hydrogenated working solution is injected with oxygen.<sup>36</sup> In the third step, extraction, purified water is brought into contact with the oxidized working solution to extract hydrogen peroxide molecules into an aqueous solution.<sup>37</sup> The resulting product is crude hydrogen peroxide, which generally is at about a 40 percent concentration level.<sup>38</sup>

18. Evonik adds proprietary tin-based stabilizers to the crude hydrogen peroxide to prevent decomposition and to improve the efficiency of its production process.<sup>39</sup>

19. After the hydrogen peroxide molecules are extracted from the hydrogenated and oxidized working solution, the hydrogen peroxide-depleted working solution is returned to the hydrogenation stage, and the process begins again.<sup>40</sup>

20. In many plants, the next step in the production process is “concentration” (or “distillation”) in which water is removed from the crude hydrogen peroxide to concentrate the product for transportation and sale.<sup>41</sup> The resulting product is standard-grade hydrogen peroxide.<sup>42</sup> Standard-grade hydrogen peroxide is treated with stabilizers to prevent decay.<sup>43</sup>

#### 4. Specialty Grades

21. In contrast to standard grade, specialty-grade hydrogen peroxide describes any hydrogen peroxide product that has been purified at least once.<sup>44</sup> Impurities in specialty-grade

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<sup>35</sup> Hr’g Tr. (Kramer–O) 1624:8–22; Hr’g Tr. (Hamann–O) 1233:6–16.

<sup>36</sup> Hr’g Tr. (Hamann–O) 1233:17–22; Hr’g Tr. (Kramer–O) 1624:23–1625:2.

<sup>37</sup> Hr’g Tr. (Hamann–O) 1233:23–1234:6; Hr’g Tr. (Kramer–O) 1625:3–12.

<sup>38</sup> Hr’g Tr. (Hamann–O) 1234:2–13.

<sup>39</sup> Hr’g Tr. (Hamann–O) 1234:16–23.

<sup>40</sup> Hr’g Tr. (Hamann–O) 1233:17–1234:6; JX0131-009.

<sup>41</sup> Hr’g Tr. (Hamann–O) 1235:19–1236:6, 1236:22–1237:2.

<sup>42</sup> Hr’g Tr. (Kramer–O) 1625:13–1626:3; Hr’g Tr. (Hamann–O) 1235:8–1237:14.

<sup>43</sup> Hr’g Tr. (Hamann–O) 1237:3–5, 1234:18–20; Hr’g Tr. (Kramer–O) 1626:9–13.

<sup>44</sup> Hr’g Tr. (Hamann–O) 1237:17–21; JX0066-018 ¶ 39; Hr’g Tr. (Rothman–O) 848:25–849:5.

hydrogen peroxide products typically are measured in parts per million.<sup>45</sup>

22. Specialty-grade products encompass a variety of formulations that are differentiated by their purity levels, stabilization packages, and other requirements to meet specific customer demands, such as suitability for aseptic food packaging.<sup>46</sup> To produce specialty grades of hydrogen peroxide, producers purify crude hydrogen peroxide through distillation or standard-grade hydrogen peroxide through reverse osmosis.<sup>47</sup>

23. In the distillation process, crude hydrogen peroxide is heated to create hydrogen peroxide gas.<sup>48</sup> The impurities in the hydrogen peroxide stay in the unevaporated liquid (which is sold as standard grade), and the purified gas is distilled into specialty-grade hydrogen peroxide.<sup>49</sup> Using reverse osmosis, standard-grade hydrogen peroxide passes through ultra-fine synthetic filters that separate the hydrogen peroxide from impurities on a molecular level.<sup>50</sup>

24. Whether using either distillation or reverse osmosis, only a limited portion of the crude hydrogen peroxide can be purified due to physical limitations in the purification process. For example, using distillation, PeroxyChem's Bayport plant can produce only [REDACTED] percent of its output as specialty grade.<sup>51</sup> [REDACTED]

[REDACTED]

[REDACTED]<sup>52</sup> [REDACTED]

25. Using reverse osmosis, Evonik can purify up to about [REDACTED] percent of standard grade

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<sup>45</sup> Hr'g Tr. (Hamann-C) 1281:7-10.

<sup>46</sup> Hr'g Tr. (Hamann-O) 1237:22-1238:19; Hr'g Tr. (Montag-O) 1518:7-15.

<sup>47</sup> Hr'g Tr. (Kramer-C) 1637:4-1638:8.

<sup>48</sup> Hr'g Tr. (Kramer-C) 1630:4-1631:3, 1637:22-1638:8.

<sup>49</sup> Hr'g Tr. (Kramer-C) 1630:4-1631:3.

<sup>50</sup> Hr'g Tr. (Hamann-C) 1278:20-1280:23.

<sup>51</sup> Hr'g Tr. (Kramer-C) 1637:22-1638:8.

<sup>52</sup> Hr'g Tr. (Kramer-C) 1638:9-18.

into specialty-grade hydrogen peroxide.<sup>53</sup> The remaining [REDACTED] percent does not meet specialty-grade specifications because it has too many impurities, so it is sold as standard grade.<sup>54</sup>

26. Different stabilizer packages are added to the specialty-grade hydrogen peroxide to create specialty-grade products tailored to specific customer end uses requirements.<sup>55</sup>

## 5. Pre-Electronics Grade

27. Specialty-grade hydrogen peroxide can be further purified to create pre-electronics-grade hydrogen peroxide. Pre-electronics-grade hydrogen peroxide is used to make electronics-grade hydrogen peroxide that ultimately is sold to semiconductor manufacturers.<sup>56</sup> Only Evonik and Arkema produce and sell pre-electronics-grade hydrogen peroxide.<sup>57</sup>

28. There is only one significant customer for pre-electronics-grade hydrogen peroxide in North America: MGC Pure Chemicals America, Inc. (“MGC”).<sup>58</sup> MGC is based in Arizona and is the largest producer of electronics-grade hydrogen peroxide in North America.<sup>59</sup>

29. Compared to standard-grade products (which are not purified) and specialty-grade products (which Evonik purifies once and have impurities in the parts per million range), Evonik purifies pre-electronics grade twice,<sup>60</sup> and its impurities are measured in parts per billion.<sup>61</sup>

30. Evonik produces pre-electronics grade by purifying its specialty-grade hydrogen

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<sup>53</sup> Hr’g Tr. (Hamann–C) 1278:20–1279:19.

<sup>54</sup> Hr’g Tr. (Hamann–C) 1278:20–1279:19.

<sup>55</sup> Hr’g Tr. (Hamann–O) 1237:17–1238:4; Hr’g Tr. (Suter–O) 407:15–408:4.

<sup>56</sup> Hr’g Tr. (Costanzo–O) 1140:5–7; Hr’g Tr. (Corson–O) 664:16–23.

<sup>57</sup> [REDACTED]; Hr’g Tr. (Montag–C) 1528:12–1532:1; [REDACTED];  
[REDACTED]; Hr’g Tr. (Costanzo–O) 1115:14–18.

<sup>58</sup> Hr’g Tr. (Hamann–O) 1239:3–6; [REDACTED].

<sup>59</sup> JX0001-001 ¶¶ 1–4.

<sup>60</sup> JX0066-018 ¶ 39; Hr’g Tr. (Rothman–O) 848:25–849:5.

<sup>61</sup> Hr’g Tr. (Hamann–C) 1281:7–13; Hr’g Tr. (Corson–O) 665:2–11.

peroxide through a second stage of reverse osmosis.<sup>62</sup> As with specialty-grade production, there is a physical limitation to the volume of pre-electronics grade that Evonik can yield by purifying specialty grade with reverse osmosis. Only about [REDACTED] percent of specialty-grade hydrogen peroxide that enters the second reverse osmosis process is purified sufficiently to be sold as pre-electronics grade.<sup>63</sup> The remaining [REDACTED] percent still contains levels of impurities that are too high to be used for pre-electronics, so that portion is used to make specialty-grade products.<sup>64</sup>

31. Even small variations in the purity levels across production runs of pre-electronics grade are unacceptable to MGC.<sup>65</sup> Evonik must continuously monitor the production process to mitigate the risk that the product will fall out of MGC's specifications.<sup>66</sup> To achieve the required consistency, Evonik employs specially trained personnel who monitor the pre-electronics production process 24 hours a day with special analytical equipment and propriety know-how.<sup>67</sup>

32. Pre-electronics grade cannot be co-mingled with standard grade or specialty grade, and must be stored in specialized storage tanks to avoid contamination.<sup>68</sup> Evonik must also transport pre-electronics grade in dedicated containers and railcars, which must [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]<sup>69</sup>

## 6. Electronics Grade

33. Electronics-grade hydrogen peroxide is an ultra-high purity product that is used by

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<sup>62</sup> Hr'g Tr. (Hamann-C) 1278:24-1279:15.

<sup>63</sup> Hr'g Tr. (Hamann-C) 1279:7-19.

<sup>64</sup> Hr'g Tr. (Hamann-C) 1279:17-19.

<sup>65</sup> Hr'g Tr. (Hamann-C) 1280:24-1281:6; *see also* Hr'g Tr. (Lerner-C) 1471:12-25.

<sup>66</sup> Hr'g Tr. (Hamann-C) 1282:23-1285:24.

<sup>67</sup> Hr'g Tr. (Hamann-C) 1283:15-25.

<sup>68</sup> Hr'g Tr. (Hamann-C) 1284:16-24.

<sup>69</sup> Hr'g Tr. (Hamann-C) 1285:2-1286:16.

semiconductor manufacturers to clean and etch silicon microchips.<sup>70</sup> Electronics-grade hydrogen peroxide undergoes an additional level of purification beyond pre-electronics grade.<sup>71</sup> Impurities in electronics-grade hydrogen peroxide are measured in parts per trillion.<sup>72</sup> MGC, PeroxyChem, and Solvay produce and sell electronics-grade hydrogen peroxide in North America.<sup>73</sup>

### C. Hydrogen Peroxide Suppliers

34. Five suppliers compete in the manufacture and sale of hydrogen peroxide products in North America: Arkema, Evonik, Nouryon, PeroxyChem, and Solvay. Those competitors maintain ten production plants throughout the United States and Canada.<sup>74</sup>

35. Arkema has one plant in the United States, located in Memphis, Tennessee, and one plant in Canada, located in Becancour, Quebec.<sup>75</sup> Evonik has one plant in the United States, located in Mobile, Alabama, and two plants in Canada, located in Gibbons, Alberta, and Maitland, Ontario.<sup>76</sup> Nouryon has one plant in Columbus, Mississippi.<sup>77</sup> PeroxyChem has one plant in the United States, located in Bayport, Texas, and one plant in Canada, located in Prince George, British Columbia.<sup>78</sup> PeroxyChem also has a facility in Saratoga Springs, New York, where it purifies hydrogen peroxide into electronics grade.<sup>79</sup> Solvay has two plants in the United States. One plant is located in Deer Park, Texas, which is less than 10 miles from PeroxyChem's

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<sup>70</sup> Hr'g Tr. (Hamann-O) 1244:9-14.

<sup>71</sup> Hr'g Tr. (Kramer-C) 1635:19-1636:24.

<sup>72</sup> Hr'g Tr. (Hamann-C) 1281:11-16.

<sup>73</sup> Hr'g Tr. (Suter-O) 405:17-20; Hr'g Tr. (Kramer-C) 1635:24-1636:7; JX0001-001.

<sup>74</sup> JX0132-006.

<sup>75</sup> Hr'g Tr. (Myrick-O) 474:4-9.

<sup>76</sup> Hr'g Tr. (Hamann-O) 1229:12-20.

<sup>77</sup> Hr'g Tr. (Radlinski-O) 537:22-538:2.

<sup>78</sup> Hr'g Tr. (Kramer-O) 1622:4-10.

<sup>79</sup> Hr'g Tr. (Kramer-C) 1636:4-7.

Bayport, Texas plant; Solvay's second U.S. plant is located in Longview, Washington.<sup>80</sup>

#### **D. Pricing and Procurement**

##### **1. Prices Vary Among Products and Grades**

36. The price of hydrogen peroxide can vary significantly depending on the grade, the specific product formulation, and the end-use application into which the product is sold.

37. Evonik's standard-grade hydrogen peroxide sells for an average delivered price of about [REDACTED]<sup>81</sup> Evonik's pre-electronics grade sells for an average price of [REDACTED] (prior to transportation costs), or [REDACTED] percent more than Evonik's standard-grade product.<sup>82</sup>

38. The prices of PeroxyChem's products vary even more significantly because PeroxyChem sells a broader variety of specialty products. PeroxyChem's standard-grade product sells for an average price of approximately just over [REDACTED]<sup>83</sup> PeroxyChem's specialty-grade products sell for average prices up to [REDACTED] the average price of its standard-grade products.<sup>84</sup> PeroxyChem's food grade products, such as for aseptic packaging, sell for an average price of almost [REDACTED], while its EPA-approved biocides sell for an average price of over [REDACTED]<sup>85</sup>

##### **2. Transportation Costs are a Significant Component of Price**

39. Customers typically pay for hydrogen peroxide on an as-delivered basis,<sup>86</sup> and transportation costs are one of the most significant components of the price.<sup>87</sup>

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<sup>80</sup> Hr'g Tr. (Suter-O) 404:17-20.

<sup>81</sup> JX0066-024 fig.2.

<sup>82</sup> JX0066-024 fig.2; JX0066-023 n.61 ([REDACTED]); Hr'g Tr. (Corson-O) 663:23-664:1; Hr'g Tr. (Hamann-C) 1330:24-1331:1.

<sup>83</sup> JX0066-025 fig.3.

<sup>84</sup> JX0066-025 fig.3.

<sup>85</sup> JX0066-025 fig.3.

<sup>86</sup> Hr'g Tr. (Montag-C) 1538:21-1539:8.

<sup>87</sup> [REDACTED] Hr'g Tr. (Hamann-O) 1235:19-1236:6; Hr'g Tr. (Radlinski-O) 541:4-13; Hr'g Tr. (Montag-O) 1539:5-8.

40. Hydrogen peroxide is costly to transport for three primary reasons. First, hydrogen peroxide must be transported in specially designed railcars or trucks because it is dangerous to transport.<sup>88</sup> Second, the rail cars and trucks must return empty to the plant after each delivery, which means serving a customer 100 miles away requires paying for transportation for 200 miles.<sup>89</sup> Third, hydrogen peroxide typically is diluted with water for transport, which increases the overall volume of product that needs to be moved, increasing costs.<sup>90</sup>

41. Due to the high cost of transporting hydrogen peroxide, customers often prefer to be served by a plant closer to their delivery location.<sup>91</sup> Rail transport is less expensive than truck transport.<sup>92</sup> To reduce the cost of serving distant customers that cannot accept direct rail deliveries, plants transport hydrogen peroxide by rail to terminals (also known as transloaders) near the customer and then transfer the product to a truck for delivery to the customer.<sup>93</sup>

### 3. Procurement Through Blind Bidding

42. In North America, hydrogen peroxide customers run blind-bidding contests for high-volume, long-term supply contracts.<sup>94</sup> A typical bidding event begins with a customer issuing a request for proposal (“RFP”) providing the: (i) customer location; (ii) precise hydrogen peroxide product specification; (iii) anticipated volume requirements; and (iv) contract duration.<sup>95</sup>

43. Producers consider a wide range of factors in determining whether or not to respond

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<sup>88</sup> Hr’g Tr. (Niessner–O) 1011:24–1012:8.

<sup>89</sup> Myrick Dep. (JX0046) 43:6–16.

<sup>90</sup> Hr’g Tr. (Radlinski–O) 541:4–13; Hr’g Tr. (Corson–O) 651:22–652:4.

<sup>91</sup> [REDACTED]; [REDACTED]

<sup>92</sup> Hr’g Tr. (Montag–C) 1535:16–23.

<sup>93</sup> [REDACTED]; Hr’g Tr. (Costanzo–C) 1123:18–25.

<sup>94</sup> [REDACTED] (testifying that the “all or nothing” nature of the bidding process forces [REDACTED] to make the best bid possible regardless of the number of potential competitors); Hr’g Tr. (Shirley–O) 1921:2–1922:21.

<sup>95</sup> Hr’g Tr. (Montag–C) 1533:18–1534:3; [REDACTED].

to an RFP, including logistics, capacity available to serve the customer, the specific product that the customer is seeking to purchase, the term of the agreement, and any technical or engineering requirements involved in supplying that particular customer.<sup>96</sup>

44. After suppliers submit their RFP responses, negotiations for hydrogen peroxide contracts become more complex. Customers often leverage bids from competing suppliers to negotiate the most favorable terms.<sup>97</sup> In selecting a supplier, customers consider numerous factors,<sup>98</sup> but price is the primary consideration.<sup>99</sup>

#### **E. Procedural History**

45. After the merger was announced in November 2018, the FTC began what would become a nine-month investigation. On August 2, 2019, the FTC filed both an administrative complaint and this preliminary injunction action to prevent Evonik's acquisition of PeroxyChem.<sup>100</sup> For more than 20 years, no merger in which the FTC has first sought preliminary injunctive relief has been fully adjudicated in an FTC administrative trial. If the Court enjoins the merger, the final closing date will pass on February 3, 2020, and commercial imperatives will force the merging parties to terminate their merger agreement.<sup>101</sup> If the Court

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<sup>96</sup> Hr'g Tr. (Montag-C) 1533:18-1534:16; [REDACTED].

<sup>97</sup> [REDACTED] Hr'g Tr. (Shirley-O) 1924:2-25; [REDACTED]

<sup>98</sup> [REDACTED]

<sup>99</sup> [REDACTED]; Hr'g Tr. (Anderson-O) 198:4-11; [REDACTED]

<sup>100</sup> ECF No. 1; Compl., *In the Matter of Evonik Indus.*, FTC Docket No. 9384 (Aug. 2, 2019).

<sup>101</sup> *See FTC v. Lab. Corp. of Am.*, No. 10-cv-1873, 2011 WL 3100372, at \*22 (C.D. Cal. Mar. 11, 2011) ("Courts must also carefully consider whether preliminary injunctive relief is appropriate in light of the long time period between preliminary proceedings and a final decision on the merits") (citing *FTC v. Occidental Petroleum Corp.*, No. 86-900, 1986 WL 952, at \*13 (D.D.C. 1986) (Because of the "glacial pace of an FTC administrative proceeding," the FTC's burden is a heavy one as "[e]xperience seems to demonstrate

denies the FTC's motion, the FTC likely will abandon its administrative challenge, as it has done every time it has not been able to obtain a preliminary injunction for more than 20 years.

## II. LEGAL STANDARD

46. The FTC seeks a preliminary injunction to block the merger under § 13(b) of the FTC Act. Section 13(b) requires proof that an injunction would be in the "public interest." 15 U.S.C. § 53(b). The public interest standard involves "a weighing of the equities and a consideration of the Commission's likelihood of success on the merits." *FTC v. Arch Coal, Inc.*, 329 F. Supp. 2d 109, 115 (D.D.C. 2004) (citing *FTC v. H.J. Heinz Co.*, 246 F.3d 708, 714 (D.C. Cir. 2001)).

47. Section 13(b)'s public interest standard "demands rigorous proof to block a proposed merger or acquisition," and the issuance of a preliminary injunction remains "an extraordinary and drastic remedy." *FTC v. Sysco Corp.*, 113 F. Supp. 3d 1, 23 (D.D.C. 2015) (quoting *FTC v. Exxon Corp.*, 636 F.2d 1336, 1343 (D.C. Cir. 1980)).

48. To determine the FTC's likelihood of success on the merits, courts "measure the probability that, after an administrative hearing, the Commission will succeed in proving that the effect" of the merger may be to substantially lessen competition in violation of Section 7. *FTC v. H.J. Heinz Co.*, 246 F.3d 708, 714 (D.C. Cir. 2001).

49. Section 7 of the Clayton Act prevents the acquisition of one company by another where "the effect of such acquisition may be substantially to lessen competition, or to tend to create a monopoly." 15 U.S.C. § 18.

50. Federal courts consistently require the FTC to show that there is a "reasonable probability" the challenged transaction "will substantially impair competition." *FTC v. Staples Inc.*, 190 F. Supp. 3d 100, 114 (D.D.C. 2016); *see also FTC v. Tronox Ltd.*, 332 F. Supp. 3d 197,

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that . . . the grant of a temporary injunction in a Government antitrust suit is likely to spell the doom of an agreed merger." (quotation omitted)).

197 (D.D.C. 2018). While a showing of certainty is not required, the Supreme Court and this Court have stressed that “Section 7 deals in probabilities not ephemeral possibilities.” *Arch Coal*, 329 F. Supp. 2d at 115 (citing *FTC v. Tenet Health Care Corp.*, 186 F.3d 1045, 1051 (8th Cir. 1999)); *see also United States v. Marine Bancorp., Inc.*, 418 U.S. 602, 622–23 (1974).

51. “Given the stakes, the FTC’s burden is not insubstantial, and ‘[a] showing of a fair or tenable chance of success on the merits will not suffice for injunctive relief.’” *Arch Coal*, 329 F. Supp. 2d at 115 (quoting *Tenet Health Care*, 186 F.3d at 1051). Instead, under Section 7, a plaintiff must “demonstrate that the substantial lessening of competition will be ‘sufficiently probable and imminent’ to warrant relief.” *Arch Coal*, 329 F. Supp. 2d at 115 (quoting *Marine Bancorp.*, 418 U.S. at 618).

52. To determine the FTC’s likelihood of success on the merits in a Section 7 challenge, courts in this circuit apply the three-step burden-shifting framework established in *United States v. Baker Hughes, Inc.*, 908 F.2d 981, 982–93 (D.C. Cir. 1990). The FTC “bears the initial burden of (1) defining the appropriate product market, (2) defining the appropriate geographic market, and (3) showing that the merger will lead to undue concentration in the relevant product and geographic market.” *Tronox*, 332 F. Supp. 3d at 197 (citing *Arch Coal*, 329 F. Supp. 2d at 117). Only if it satisfies that initial burden is the FTC entitled to a “presumption that the merger will substantially lessen competition.” *Id.*

53. If the FTC appropriately defines the market and shows that the merger will lead to undue concentration in that market, the burden shifts to the defendants to produce evidence to rebut that presumption. The weight of the defendants’ burden varies with the strength of the FTC’s prima facie case: “The more compelling the prima facie case, the more evidence the defendant must present to rebut it successfully.” *Baker Hughes*, 908 F.2d at 991. The converse is

equally true: a weak prima facie presumption requires less evidence to defeat it. *See Arch Coal*, 329 F. Supp. 2d at 129 (“Certainly less of a showing is required from defendants to rebut a less-than-compelling prima facie case.”) (citations omitted).

54. In neither case is the defendants’ burden intended to be “unduly onerous” because:

[i]mposing a heavy burden of production on a defendant would be particularly anomalous where, as here, it is easy to establish a prima facie case. The government, after all, can carry its initial burden of production simply by presenting market concentration statistics. To allow the government virtually to rest its case at that point, leaving the defendant to prove the core of the dispute, would grossly inflate the role of statistics in actions brought under section 7. ***The Herfindahl-Hirschman Index cannot guarantee litigation victories.***

*Baker Hughes*, 908 F.2d at 991–92 (emphasis added).

55. Defendants can rebut the presumption that a merger will substantially lessen competition in a variety of ways. For example, defendants can show that the FTC failed to properly define the product and geographic markets where it alleges harm or that market-share statistics “produce an inaccurate account of the merger’s probable effects on competition in the relevant market.” *Arch Coal*, 329 F. Supp. 2d at 116. Defendants can also rebut the FTC’s presumption by showing strong competition in a relevant market, excess capacity, marketing and sales methods, industry structure, product differentiation, or the prospect of efficiencies from the merger. *See Baker Hughes*, 908 F.2d at 985 (collecting cases).

56. If defendants rebut the presumption, “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.” *Heinz*, 246 F.3d at 715 (quoting *Baker Hughes*, 908 F.2d at 983). Ultimately, the plaintiff bears the burden “on every element of [its] Section 7 challenge, and a failure of proof in any respect will mean the transaction should not be enjoined.” *Arch Coal*, 329 F. Supp. 2d at 116.

### **III. THE FTC HAS FAILED TO DEFINE THE RELEVANT MARKETS PROPERLY.**

#### **A. The FTC Bears the Burden of Defining the Relevant Markets.**

57. “A relevant market has two components: (1) the relevant product market and (2) the relevant geographic market.” *FTC v. CCC Holdings Inc.*, 605 F. Supp. 2d 26, 37 (D.D.C. 2009); *see also Baker Hughes*, 908 F.2d at 982 (stating the government must establish a market “for a particular product in a particular geographic area”). A well-defined market facilitates the analysis of the effect of a merger on competition by (1) specifying the part of the economy on which to focus competitive effects analysis and (2) allowing for the calculation of market shares.<sup>102</sup>

58. “The FTC bears the burden of proof and persuasion in defining the relevant market.” *Arch Coal*, 329 F. Supp. 2d at 119; *see also FTC v. Cardinal Health, Inc.*, 12 F. Supp. 2d 34, 45 (D.D.C. 1998) (stating that properly defining the relevant market is a “necessary predicate” to establishing a violation of § 7 of the Clayton Act). In this case, the FTC has failed to carry the burden of demonstrating that its proposed relevant product and geographic markets comport with commercial realities and economic principles.

#### **B. The FTC’s Proposed Relevant Product Market Is Flawed.**

59. The FTC’s Complaint alleges that there is one “relevant product market in which to assess the effects of the Acquisition” and that product market includes all hydrogen peroxide products, except for electronics-grade products.<sup>103</sup> The FTC’s economist, Dr. Dov Rothman, also defined a single relevant product market for hydrogen peroxide formulated for non-electronics applications, including standard-grade, specialty-grade, and pre-electronics-grade products.<sup>104</sup>

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<sup>102</sup> JX0070–010 § 4.

<sup>103</sup> ECF No. 1 ¶¶ 23–24.

<sup>104</sup> Hr’g Tr. (Rothman–O) 831:13–20; *see also* JX0075-006 ¶ 10.

Neither the FTC nor Dr. Rothman defined any other relevant product markets.<sup>105</sup>

**1. Demand-Side Analysis Makes Clear that All Non-Electronics Grade Hydrogen Peroxide Products Do Not Belong in a Single Relevant Product Market.**

60. “The ‘relevant product market’ identifies the products and services with which the defendants’ products compete.” *CCC Holdings*, 605 F. Supp. 2d at 37. “[T]he 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.’” *FTC v. Wilh. Wilhelmsen Holding ASA*, 341 F. Supp. 3d 27, 45 (D.D.C. 2018) (quoting the Horizontal Merger Guidelines § 4); *see also Arch Coal*, 329 F. Supp. 2d at 119.

61. Issued jointly by the FTC and the Department of Justice, the Horizontal Merger Guidelines (the “Guidelines”) instruct that “[m]arket definition focuses solely on demand substitution factors” and describe a “hypothetical monopolist test” that the agencies use to define relevant product markets based on how customers respond to price increases.<sup>106</sup> The hypothetical monopolist test is a “demand-side analysis,”<sup>107</sup> and courts often rely on it when defining relevant markets. *See, e.g., Wilhelmsen*, 341 F. Supp. 3d at 57; *Staples*, 190 F. Supp. 3d at 121–22; *Sysco Corp.*, 113 F. Supp. 3d at 33–34; *Arch Coal*, 329 F. Supp. 2d at 120–21.

62. Based on the hypothetical monopolist test’s demand-side analysis, Dr. Rothman stated that each hydrogen peroxide product formulated for a specific end use could be defined as a separate relevant product market because a customer purchasing a product formulated for any

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<sup>105</sup> Hr’g Tr. (Rothman–O) 831:21–832:1.

<sup>106</sup> JX0070-011 to -013 § 4.1.1; “The [Horizontal] Merger Guidelines are not binding, but the Court of Appeals and other courts have looked to them for guidance in previous merger cases.” *Sysco Corp.*, 113 F. Supp. 3d at 38.

<sup>107</sup> Hr’g Tr. (Rothman–O) 833:24–835:6.

particular end use likely would not substitute to a product formulated for a different end use.<sup>108</sup>

63. Industry participants confirm that different hydrogen peroxide products are not demand-side substitutes because customers would not substitute among them. For example, MGC, the primary pre-electronics-grade customer, cannot switch to standard grade because standard grade is not pure enough.<sup>109</sup> Likewise, customers that use a hydrogen peroxide product for aseptic packaging cannot substitute away to a standard-grade product or another specialty-grade product because those products do not meet the necessary specifications.<sup>110</sup> And customers requiring tin-free products cannot switch to hydrogen peroxide products containing tin.<sup>111</sup>

64. Because customers do not view different hydrogen peroxide products as interchangeable, demand-side analysis indicates that all standard-grade, specialty-grade, and pre-electronics-grade products should not be combined into a single relevant product market.

**2. The FTC Failed To Prove that Supply-Side Substitution Can Be Used to Aggregate All Non-Electronics Grade Hydrogen Peroxide Products into a Single Relevant Product Market.**

65. Faced with a complete lack of demand-side support for its alleged product market, the FTC turns to supply-side considerations to attempt to define a single relevant product market for all hydrogen peroxide products (other than electronics grade).<sup>112</sup>

66. The FTC's Guidelines describe the facts that must be proven before supply-side considerations can be used to aggregate products that are not demand-side substitutes into a single relevant product market. The Guidelines provide for such aggregation only where

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<sup>108</sup> Hr'g Tr. (Rothman-O) 833:24-835:6; *see also* JX0075-026 ¶ 62; JX0075-029 ¶ 70.

<sup>109</sup> Hr'g Tr. (Hamann-C) 1280:15-1281:13.

<sup>110</sup> Hr'g Tr. (Montag-O) 1516:20-1518:6; [REDACTED] Hockenbury Dep. (JX0055) 20:19-22:9.

<sup>111</sup> Hr'g Tr. (Corson-O) 662:16-663:12, 667:2-10 l; Hr'g Tr. (Montag-O) 1522:9-25.

<sup>112</sup> FTC Br. 15-16; JX0075-029 to -034 ¶¶ 70-78.

suppliers easily and profitably “swing” capacity from one product to another.<sup>113</sup>

67. “Swinging” refers to a supplier moving back and forth between making different products.<sup>114</sup> Dr. Nicholas Hill, Defendants’ economic expert, described how containerboard used to make cardboard boxes can be aggregated in the same relevant product market as kraft paper used to make grocery bags because producers use the same machine to make both products and can easily swing between them with the touch of a button, depending on relative profitability.<sup>115</sup>

68. The Guidelines provide that multiple products may be aggregated into one relevant product market “as a matter of convenience” only if (1) suppliers can “easily” swing capacity between products; (2) suppliers can “profitably” swing capacity between products; and (3) such swinging “is nearly universal” among suppliers selling the products.<sup>116</sup> Dr. Rothman and Dr. Hill agree that proof of each of these three conditions is required before a relevant product market may be defined based on supply-side considerations.<sup>117</sup>

**a) The FTC Failed To Prove that Any Hydrogen Peroxide Suppliers Swing Between Pre-Electronics Grade and Other Grades.**

69. To aggregate pre-electronics grade with standard and specialty grades in a single relevant product market, the Guidelines require that swinging “is nearly universal,”<sup>118</sup> but the evidence shows that *none* of the five suppliers of hydrogen peroxide currently swing between producing standard and specialty grades on the one hand and pre-electronics grade on the other,

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<sup>113</sup> Hr’g Tr. (Rothman–O) 837:13–838:13; JX0075-029 to -030 ¶¶ 71–72; Hr’g Tr. (Hill–O) 2077:10–22.

<sup>114</sup> Hr’g Tr. (Hill–O) 2077:23–2078:12.

<sup>115</sup> Hr’g Tr. (Hill–O) 2078:25–2080:1.

<sup>116</sup> JX0070-019 § 5.1 & n.8.

<sup>117</sup> Hr’g Tr. (Rothman–O) 837:13–838:13; JX0075-029 to -030 ¶¶ 71–72; Hr’g Tr. (Hill–O) 2077:10–22.

<sup>118</sup> JX0070-019 § 5.1 n.8.

and that no supplier could rapidly begin swinging without incurring significant costs.<sup>119</sup>

**(1) Swinging from Pre-Electronics Grade into Other Grades Would Not Be Profitable for Evonik and Arkema.**

70. Evonik and Arkema currently sell pre-electronics-grade hydrogen peroxide,<sup>120</sup> but they do not swing capacity from pre-electronics grade to other grades because pre-electronics grade is more profitable. Dr. Hill analyzed Evonik's average margins and found that pre-electronics grade is the most profitable grade, followed next by specialty grade, and then by standard grade.<sup>121</sup> [REDACTED]

[REDACTED]<sup>122</sup> Even if the prices of other grades were to rise by 10 percent, it still would not be profitable for [REDACTED] to shift capacity away from pre-electronics grades and into other grades.<sup>123</sup>

71. Dr. Rothman asserts that profitability should not be measured using average margins because Evonik earns a margin on some standard-grade and specialty-grade sales that is higher than its average margin on pre-electronics-grade sales.<sup>124</sup> Dr. Hill explained, however, that variation in standard-grade and specialty-grade margins does not imply that Evonik would swing between pre-electronics grade and other grades. If there were an opportunity to sell more high-margin standard grade, Evonik would be more likely to meet that demand with capacity currently

<sup>119</sup> See Hr'g Tr. (Hill-O) 2083:22-2084:2.

<sup>120</sup> Hancock Dep. (JX0045) 12:5-13; Hr'g Tr. (Hamann-C) 1286:17-20, 1291:16-22; Hr'g Tr. (Myrick-O) 468:9-20.

<sup>121</sup> JX0066-042 to -043 ¶¶ 79-80 fig.10; Hr'g Tr. (Hill-O) 2081:21-2082:4 (discussing DDX-14, at 47); see also Hr'g Tr. (Costanzo-C) 1142:19-23, 1142:7-13, 1142:19-23, 1143:16-1144:1.

<sup>122</sup> JX0151-022; [REDACTED]; Hr'g Tr. (Myrick-O) 468:9-20.

<sup>123</sup> JX0066-042 ¶ 78 n.128, ¶ 79; Hr'g Tr. (Hill-O) 2082:7-17; see also Hr'g Tr. (Costanzo-C) 1142:19-23, 1143:10-15.

<sup>124</sup> Hr'g Tr. (Rothman-O) 791:12-792:19.

devoted to low-margin standard grade than with capacity currently used to produce pre-electronics grade.<sup>125</sup> Moreover, Dr. Rothman used average margins in his own calculations.<sup>126</sup>

72. In addition to the differences in their relative profitability, Evonik would not swing pre-electronics-grade capacity into other grades because [REDACTED]

[REDACTED]

[REDACTED]<sup>127</sup> [REDACTED]

[REDACTED]

[REDACTED]<sup>128</sup>

73. Swinging involves moving back and forth between products; a strategic decision to sell more of a product is a permanent reallocation of capacity, not swinging between products.<sup>129</sup>

Evonik and Arkema have made the strategic decision to [REDACTED]

[REDACTED]<sup>130</sup> and [REDACTED]<sup>131</sup>

**(2) Swinging from Other Grades into Pre-Electronics Grade Would Not Be Easy for Evonik and Arkema.**

74. Evonik and Arkema cannot easily swing capacity from standard and specialty grades into pre-electronics grade. Neither company can swing 100 percent of its hydrogen peroxide capacity to make pre-electronics grade because their production processes require them to make some standard grade.<sup>132</sup> For instance, Evonik can purify at most only about [REDACTED] pounds of pre-

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<sup>125</sup> Hr’g Tr. (Hill–O) 2082:18–2083:21; Hr’g Tr. (Costanzo–C) 1142:19–1143:4.

<sup>126</sup> Hr’g Tr. (Rothman–O) 867:24–868:6.

<sup>127</sup> Hr’g Tr. (Hamann–C) 1322:13–22; Hr’g Tr. (Costanzo–C) 1143:16–1144:1.

<sup>128</sup> DX0338.

<sup>129</sup> Hr’g Tr. (Hill–O) 2078:7–12.

<sup>130</sup> Hr’g Tr. (Costanzo–C) 1142:10–16; Hr’g Tr. (Myrick–C) 487:17–19.

<sup>131</sup> Hr’g Tr. (Hill–O) 2081:11–20 (discussing DDX-14, at 46).

<sup>132</sup> Hr’g Tr. (Hamann–C) 1279:20–1280:14; Hr’g Tr. (Myrick–C) 497:24–498:25.

electronics grade for every 100 pounds of crude hydrogen peroxide that it produces.<sup>133</sup>

75. In light of the challenges associated with swinging more standard and specialty capacity into pre-electronics production, Evonik and Arkema [REDACTED]. Recognizing that it would hit the limits of its technical capabilities to produce pre-electronics grade at its Mobile plant, Evonik invested [REDACTED] to upgrade the Gibbons plant so it could produce pre-electronics-grade product there as well.<sup>134</sup> [REDACTED]

[REDACTED]<sup>135</sup> [REDACTED]<sup>136</sup> [REDACTED]  
[REDACTED]  
[REDACTED]<sup>137</sup>

**(3) Nouryon, PeroxyChem, and Solvay Do Not Currently Sell Pre-Electronics Grade.**

76. Nouryon does not sell pre-electronics-grade hydrogen peroxide,<sup>138</sup> so it cannot currently swing between pre-electronics grade and other grades.

77. PeroxyChem does not and has never supplied a manufacturer of electronics-grade hydrogen peroxide with pre-electronics-grade hydrogen peroxide.<sup>139</sup> PeroxyChem uses purified hydrogen peroxide as feedstock for producing electronics-grade hydrogen peroxide at its own

<sup>133</sup> JX0131-017; *see also* Hr'g Tr. (Hamann-C) 1279:20-1280:2.

<sup>134</sup> Hr'g Tr. (Costanzo-C) 1136:7-1137:3; DX304, at 7.

<sup>135</sup> JX0151-015 ([REDACTED]); Hr'g Tr. (Myrick-C) 497:9-23.

<sup>136</sup> JX0001 ¶ 16; Hancock Dep. (JX0045) 31:18-32:6.

<sup>137</sup> *See* JX0151-012; Myrick Dep. (JX0046) 70:4-72:6 ([REDACTED]); Hr'g Tr. (Myrick-C) 499:7-500:8.

<sup>138</sup> [REDACTED]; PX7102-008 n.6.

<sup>139</sup> Hr'g Tr. (Montag-C) 1531:23-1532:1.

purification facilities in Bayport and Saratoga Springs.<sup>140</sup> [REDACTED]

[REDACTED]

[REDACTED]<sup>141</sup> [REDACTED]

[REDACTED]<sup>142</sup> [REDACTED]

[REDACTED]<sup>143</sup> [REDACTED]

[REDACTED]<sup>144</sup> This evidence fails to show that PeroxyChem currently swings between pre-electronics grade and other grades. To the contrary, it proves that PeroxyChem [REDACTED]

[REDACTED]<sup>145</sup>

78. Solvay does not sell pre-electronics-grade hydrogen peroxide.<sup>146</sup> [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]<sup>147</sup> [REDACTED]

[REDACTED]<sup>148</sup> This evidence fails to prove that Solvay does or even could swing between pre-electronics grade and other grades.<sup>149</sup>

79. Dr. Rothman misinterprets the Evonik document on which he relies for

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<sup>140</sup> Hr'g Tr. (Montag-C) 1528:1-5; Hr'g Tr. (Kramer-C) 1635:19-1636:7.

<sup>141</sup> PX2517.

<sup>142</sup> JX0001-004 ¶ 22; *see also* [REDACTED].

<sup>143</sup> Hr'g Tr. (Lerner-C) 1468:19-1469:6; Hr'g Tr. (Montag-C) 1531:17-22, 1617:2-1618:14.

[REDACTED] *See* Hr'g Tr. (Montag-C) 1528:17-1531:16, 1616:9-20; *see also* PX2515.

<sup>144</sup> Hr'g Tr. (Lerner-C) 1471:23-25 ([REDACTED]).

<sup>145</sup> Hr'g Tr. (Hill-O) 2080:18-2081:2 (discussing DDX-14, at 44).

<sup>146</sup> [REDACTED].

<sup>147</sup> Hr'g Tr. (Suter-C) 414:13-416:4.

<sup>148</sup> JX0001-004 ¶ 23.

<sup>149</sup> Hr'g Tr. (Hill-O) 2081:3-10 (discussing DDX-14, at 45).

[REDACTED]

[REDACTED]<sup>150</sup> That document does not indicate that PeroxyChem and Solvay currently sell pre-electronics grade. It explicitly discusses [REDACTED]

[REDACTED]

[REDACTED]<sup>151</sup> When asked about a nearly identical version of the document, [REDACTED]

[REDACTED]

[REDACTED]<sup>152</sup> And in any event, Dr. Rothman should not rely on Evonik statements about PeroxyChem's and Solvay's products when Evonik witnesses testified that they do not know what products [REDACTED] can sell<sup>153</sup> and when more direct evidence [REDACTED] establishes that they do not currently sell pre-electronics grade.

**(4) There is No Evidence that Nouryon, PeroxyChem, or Solvay Would Become a Rapid Entrant into Selling Pre-Electronics Grade.**

80. In his rebuttal report, Dr. Rothman implied that, even if suppliers do not currently sell pre-electronics-grade hydrogen peroxide, pre-electronics grade nevertheless could be aggregated with other products into a single relevant product market if suppliers would begin selling pre-electronics grade in response to a change in competitive conditions.<sup>154</sup> Although he did not specify what changes would be relevant, the Guidelines recognize that “[f]irms that are not current producers in a relevant market, but that would *very likely* provide *rapid* supply responses

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<sup>150</sup> PX7102-013 ¶ 34 (discussing PX1156-010); *see also* Hr’g Tr. (Rothman–O) 788:21–789:11, 845:3–848:24.

<sup>151</sup> PX1156-010.

<sup>152</sup> Hr’g Tr. (Costanzo–C) 1141:12–1142:5 (discussing JX0132-080).

<sup>153</sup> Hr’g Tr. (Costanzo–C) 1140:12–16, 1141:2–5; Hr’g Tr. (Hamann–C) 1286:21–1287:1.

<sup>154</sup> *See* PX7102-011 to -013 ¶¶ 28–32.

with direct competitive impact in the event of a SSNIP, *without incurring significant sunk costs*” are considered “rapid entrants.”<sup>155</sup>

81. There is no evidence that Nouryon, PeroxyChem, or Solvay would be “very likely” to “rapidly” begin producing pre-electronics grade “without incurring significant sunk costs.”<sup>156</sup>

[REDACTED]

[REDACTED]

[REDACTED]<sup>157</sup> Similarly, [REDACTED]

[REDACTED]<sup>158</sup> and [REDACTED]

[REDACTED]<sup>159</sup>

82. The only evidence about the level of effort involved in beginning production of pre-electronics grade relates to Evonik’s investment in upgrading its Gibbons plant for that purpose. Evonik has had [REDACTED] of experience supplying pre-electronics grade that meets MGC’s requirements from its Mobile plant,<sup>160</sup> and it will still take Evonik roughly [REDACTED] [REDACTED] to be able to begin supplying MGC from its Gibbons plant.<sup>161</sup> On this record, there is no basis to conclude that Nouryon, PeroxyChem, or Solvay—none of which has ever sold pre-electronics-grade hydrogen peroxide—could begin producing pre-electronics grade

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<sup>155</sup> See JX0070-018 to -019 § 5.1 (emphases added).

<sup>156</sup> See JX0070-018 to -019 § 5.1.

<sup>157</sup> Hr’g Tr. (Radlinski–C) 572:18–573:18 ([REDACTED]).

<sup>158</sup> Hr’g Tr. (Montag–C) 1528:25–1529:4; Hr’g Tr. (Suter–C) 434:20–23.

<sup>159</sup> Hr’g Tr. (Montag–C) 1608:24–1609:2; Hr’g Tr. (Suter–C) 434:24–435:6.

<sup>160</sup> Hr’g Tr. (Costanzo–C) 1144:11–1145:9.

<sup>161</sup> Hr’g Tr. (Costanzo–C) 1136:19–1337:3; DX385, at 8; Hr’g Tr. (Hamann–C) 1291:5–10 ([REDACTED]); Hr’g Tr. (Corson–C) 719:19–720:2 ([REDACTED]); Hr’g Tr. (Hamann–C) 1333:24–1334:11 ([REDACTED]).

more rapidly than it took Evonik to upgrade Gibbons or without incurring sunk costs as significant as those borne by Evonik.

83. The FTC relies primarily on only two older, out-of-circuit decisions to justify its use of supply-side substitution, but neither of them supports a conclusion that pre-electronics grade can be aggregated with other grades in a single relevant product market. The first case involved a merger of industrial dry corn mills that produced a range of “prime” products (including grits, corn meal, and corn flour),<sup>162</sup> and the court defined a single relevant product market of “all prime products” because there was no dispute that all “industrial dry corn mills possess[ed] the ability to configure their operations to produce all prime products used by food processors.”<sup>163</sup> In the second case, the court defined a relevant product market including both full-serve and self-serve sales of gasoline because it was undisputed that all “sellers of full-serve gasoline can easily convert their full-serve pumps, at virtually no cost, into self-serve, cash-only pumps.”<sup>164</sup>

84. While both of the FTC’s cases recognize that supply-side considerations can sometimes be used to define a market, neither articulates a legal standard for resolving disputes (like the one in this case) about when supply-side substitution properly applies. The FTC’s Guidelines do provide those standards, including the requirements that rapid entrants must be “very likely” to quickly shift production “without incurring significant sunk costs.”<sup>165</sup>

85. The evidence in this case falls short of those standards. Indeed, there is no evidence that Nouryon, PeroxyChem, and Solvay can begin swinging between pre-electronics-grade

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<sup>162</sup> *FTC v. Ill. Cereal Mills, Inc.*, 691 F. Supp. 1131, 1135–36 (N.D. Ill. 1988), *aff’d sub nom. FTC v. Elders Grain, Inc.*, 868 F.2d 901 (7th Cir. 1989). *Elders Grain* does not discuss supply-side substitution.

<sup>163</sup> *Ill. Cereal Mills*, 691 F. Supp. at 1141.

<sup>164</sup> *Rebel Oil Co., Inc. v. Atlantic Richfield Co.*, 51 F.3d 1421, 1436 (9th Cir. 1995).

<sup>165</sup> See JX0070-018 to -019 § 5.1. The FTC’s Guidelines have been revised several times since the cases the FTC cites were published, including in 1992, 1997, and 2010.

hydrogen peroxide and other grades as rapidly and inexpensively as corn mills can switch between making grits and corn meal or gasoline stations can switch between selling self-service gasoline and full-service gasoline.

**b) The Same Reasons that the FTC Used to Exclude Electronics Grade from the Relevant Product Market Also Apply to Pre-Electronics Grade.**

86. The FTC has offered three reasons for excluding electronics grade from its relevant product market for all other grades, and all of those reasons indicate that pre-electronics grade should also be excluded from the relevant market.<sup>166</sup> First, like electronics grade, pre-electronics grade is produced by a different set of suppliers from other grades. While all five suppliers make standard-grade and some specialty-grade products, only Evonik and Arkema produce pre-electronics grade.<sup>167</sup> Second, like electronics grade, pre-electronics grade is more highly purified than other grades<sup>168</sup> and is transported in special containers.<sup>169</sup> Third, like electronics grade, pre-electronics grade is produced using techniques that differ from other grades, such as the involvement of specially trained personnel engaged in round-the-clock monitoring of the

<sup>166</sup> FTC Br. 16–17; JX0075-034 to -036 ¶¶ 79–81.

<sup>167</sup> Hr’g Tr. (Hill–O) 2075:2–11 (discussing DDX-14, at 37); [REDACTED]; JX0001-004 ¶¶ 22–23 ([REDACTED]); Hr’g Tr. (Rothman–O) 853:19–23; Hr’g Tr. (Hamann–C) 1286:17–20 (explaining that Arkema competes with Evonik to supply pre-electronics grade to MGC); [REDACTED]; Hr’g Tr. (Montag–C) 1531:23–1532:1 ([REDACTED]).

<sup>168</sup> Hr’g Tr. (Hill–O) 2075:12–18 (discussing DDX-14, at 38); Hr’g Tr. (Hamann–C) 1281:7–23 (explaining that impurities are measured in parts per million for specialty grades, parts per billion for pre-electronics grade, and parts per trillion for electronics grade); [REDACTED]; Hr’g Tr. (Corson–O) 665:7–16; Hr’g Tr. (Rothman–O) 848:25–849:13.

<sup>169</sup> Hr’g Tr. (Hill–O) 2075:19–23 (discussing DDX-14, at 38); Hr’g Tr. (Rothman–O) 849:14–16; Hr’g Tr. (Hamann–C) 1284:9–24 ([REDACTED]); [REDACTED] (same).

production process using special analytical equipment and proprietary know-how.<sup>170</sup>

**c) The FTC Overstates Swinging Between Standard-Grade and Specialty-Grade Products.**

87. There is no dispute that, at the margins, hydrogen peroxide suppliers can swing some capacity between certain specialty-grade products and even between standard-grade products and some specialty-grade products. But this swinging takes place only between products that a supplier currently produces. Even then, there are technical limitations preventing suppliers from swinging all of their standard-grade capacity into making specialty-grade products,<sup>171</sup> and it would not be profitable for them to swing all of their specialty-grade capacity into making standard-grade products.<sup>172</sup> The FTC fails to account for these facts: its market-share calculations assume that suppliers could and would swing 100 percent of their standard-grade capacity and 100 percent of their specialty-grade capacity.<sup>173</sup> That failure alone invalidates the FTC's attempt to define a relevant product market of all non-electronics-grade hydrogen peroxide.

88. In addition, the FTC aggregates some hydrogen peroxide products that Evonik does not sell in the United States and could not sell in the United States anytime soon. For example, Evonik cannot sell an aseptic packaging product for bath applications in the United States because Evonik's product contains chelants, which are permissible in Europe, but prohibited by FDA regulations,<sup>174</sup> and a Solvay patent blocks Evonik from selling an aseptic packaging

<sup>170</sup> Hr'g Tr. (Hill-O) 2075:24-2076:4 (discussing DDX-14, at 39); Hr'g Tr. (Hamann-C) 1282:20-1283:9, 1292:8-18.

<sup>171</sup> Hr'g Tr. (Hamann-C) 1279:20-1280:14; [REDACTED] 5 ([REDACTED]); Hr'g Tr. (Kramer-C) 1637:22-1638:8 ([REDACTED]).

<sup>172</sup> JX0066-042 to -043 ¶¶ 78-80 fig.10; JX0151-22; [REDACTED].

<sup>173</sup> Hr'g Tr. (Rothman-O) 868:16-20.

<sup>174</sup> Hr'g Tr. (Corson-O) 597:17-22, 672:12-16.

product for spray applications in the United States until 2026.<sup>175</sup> Despite attempts to overcome these hurdles, Evonik has not been successful in developing aseptic packaging products that can meet the needs of U.S. customers,<sup>176</sup> and [REDACTED]

[REDACTED]<sup>177</sup>

89. Similarly, Evonik cannot produce a tin-free product because it adds a tin-based stabilizer very early in its production process for all hydrogen peroxide produced in North America, and that stabilizer contaminates its plants with tin.<sup>178</sup> Producing a tin-free product is not as easy as switching to a tin-free stabilizer because Evonik would have to stop production for several months in order to decontaminate its existing infrastructure or invest to build a new production installation.<sup>179</sup> Switching to a tin-free stabilizer would also make Evonik's product less attractive to customers that prefer a tin stabilizer.<sup>180</sup>

90. This evidence demonstrates that Evonik cannot and would not swing capacity into or away from producing aseptic packaging and tin-free products. As a result, the FTC has no basis for defining a single relevant product market that includes aseptic packaging and tin-free products along with other products for which some swinging may occur.

**d) The FTC Misinterprets the Parties' Submissions to Regulators.**

91. Lacking the evidence that its Guidelines require to support a supply-side theory of market definition, the FTC seeks to substitute three documents that the parties submitted to

<sup>175</sup> Hr'g Tr. (Hamann-O) 1239:16-1240:15; Hr'g Tr. (Costanzo-O) 1116:14-24; Hr'g Tr. (Corson-O) 598:8-13, 671:10-672:10 (explaining that the formulation Evonik tried to avoid violating Solvay's patent clogs nozzles of customer's spray machines).

<sup>176</sup> Hr'g Tr. (Corson-C) 603:17-604:17, 629:25-631:11; *see also* Hr'g Tr. (Corson-O) 672:19-673:9 (explaining that Evonik also has a combination aseptic packaging but that it does not meet the requirements for either aseptic bath application or aseptic spray application).

<sup>177</sup> Hr'g Tr. (Corson-C) 609:4-13.

<sup>178</sup> Hr'g Tr. (Hamann-O) 1241:11-25.

<sup>179</sup> Hr'g Tr. (Hamann-O) 1242:1-1243:6; Hr'g Tr. (Corson-O) 664:2-14.

<sup>180</sup> Hr'g Tr. (Hamann-O) 1241:11-25.

regulators for real-world evidence of how the hydrogen peroxide industry works. In doing so, the FTC reads too much into each of the submissions.<sup>181</sup>

92. First, the FTC overlooks the context for the parties' submission to the European Commission in which they recognized "strong supply-side substitutability."<sup>182</sup> That statement described competitive conditions in Europe, which differ markedly from North America in terms of competitors,<sup>183</sup> their production capabilities,<sup>184</sup> regulatory requirements,<sup>185</sup> and other material market characteristics. Those differences have led Evonik to sell aseptic-packaging<sup>186</sup> and tin-free<sup>187</sup> products in Europe that they cannot sell in the United States and to sell significant volumes of pre-electronics grade in the United States but only de minimis volumes in Europe.<sup>188</sup> Dr. Rothman did not investigate any of these differences,<sup>189</sup> preferring to let the document "speak for itself."<sup>190</sup> Even on those terms, however, the FTC misses the mark because the document does not address supply-side substitution between pre-electronics and other grades and thus does not support the FTC's attempt to aggregate pre-electronics grades and other grades into a single relevant product market.<sup>191</sup>

93. Second, the FTC relies on a letter from the parties indicating that hydrogen peroxide

<sup>181</sup> Cf. *United States v. AT&T Inc.*, 310 F. Supp. 3d 161, 207 (D.D.C. 2018).

<sup>182</sup> PX1201-012 ¶¶ 47–48.

<sup>183</sup> PX1201-015 to -016 tbl.14.

<sup>184</sup> DX320, at 1 & 10; *see also, e.g.*, Hr'g Tr. (Hamann–O) 1243:7–1244:4.

<sup>185</sup> DX320, at 1 & 6.

<sup>186</sup> Hr'g Tr. (Hamann–O) 1240:1–23.

<sup>187</sup> Hr'g Tr. (Hamann–O) 1241:9–1243:6.

<sup>188</sup> PX1201-19 and -20 tbl.16 ( [REDACTED] ).

<sup>189</sup> Hr'g Tr. (Rothman–O) 872:19–25.

<sup>190</sup> Hr'g Tr. (Rothman–O) 734:2–13.

<sup>191</sup> *See* PX1201-012, Question 9 (asking for "arguments as to why the classifications of hydrogen peroxide into different end-use applications *as listed in the table above* would or would not be an appropriate segmentation of the product market") (emphasis added); PX1201-010 to 011 tbl.12 (not listing pre-electronics applications).

suppliers could readily [REDACTED]

[REDACTED]<sup>192</sup> But this statement recognizes only that [REDACTED]

[REDACTED] Further, the language on which the FTC relies says nothing about swinging between pre-electronics grade and other grades, so it fails to support the FTC's attempt to combine pre-electronics grade and other grades in one relevant product market.

94. Third, the FTC cites an Evonik estimate that all North American hydrogen peroxide suppliers are [REDACTED]

[REDACTED]<sup>193</sup> Evonik made that statement about other suppliers' theoretical capabilities in April 2019,<sup>194</sup> roughly four months before the FTC filed its complaint and before Evonik could obtain discovery about how difficult it would actually be for suppliers to begin producing pre-electronics grade. The evidence obtained in discovery and presented at the hearing shows that producing a product that meets MGC's requirements has proven more difficult for other suppliers than Evonik hypothesized last spring. [REDACTED]

[REDACTED]<sup>195</sup>

### **3. The FTC Cannot Presume that the Merger Harms Competition Based on Shares of an Improperly Defined Relevant Product Market.**

95. Absent a properly defined relevant product market, the FTC is not entitled to any presumption that the merger would substantially lessen competition. *See United States v. Baker*

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<sup>192</sup> PX0019-010; *see also* JX0075-033 ¶ 77.

<sup>193</sup> PX0002-031 (emphasis added).

<sup>194</sup> PX0002-001.

<sup>195</sup> *See supra* ¶¶ 76–78.

*Hughes*, 908 F.2d 981, 982 (D.C. Cir. 1990).

96. Dr. Hill concluded that the FTC had not defined an appropriate relevant product market because it grouped pre-electronics grade with other grades, despite the evidence that suppliers cannot easily, profitably, and nearly universally swing between them.<sup>196</sup> Accordingly, market shares from the FTC's proposed relevant product market are not useful for analyzing competition among hydrogen peroxide suppliers and should not be used as a basis for presuming that the merger harms competition.<sup>197</sup>

97. Simply excluding pre-electronics grade (without making any other adjustments to the FTC's proposed definition of the relevant product market) significantly changes suppliers' shares in the Western portion of the FTC's alleged Southern and Central United States market. For example, including pre-electronics, Dr. Rothman calculated shares in that area as ■■■ percent for Evonik, ■■■ percent for PeroxyChem, and ■■■ percent for Solvay.<sup>198</sup> When Dr. Hill excluded pre-electronics, shares in that area became ■■■ percent for Evonik, ■■■ percent for PeroxyChem, and ■■■ percent for Solvay.<sup>199</sup> These shares imply dramatically different competitive conditions and dramatically different effects from the merger. If pre-electronics is included, the merged firm's share of sales of sales in the Western region would approach ■■■ percent, and the next largest competitor would be less than half that size. But if pre-electronics is excluded, Solvay would remain the biggest supplier even after the merger.

98. Excluding pre-electronics also significantly affects Dr. Rothman's predictions about how the merger will affect pricing.<sup>200</sup> In the Southern and Central United States, Dr. Rothman's

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<sup>196</sup> Hr'g Tr. (Hill-O) 2021:10-14, 2083:22-2084:2.

<sup>197</sup> Hr'g Tr. (Hill-O) 2084:3-14.

<sup>198</sup> JX0075-170, Ex. 2-3.

<sup>199</sup> JX0066-051 fig.13.

<sup>200</sup> Hr'g Tr. (Hill-O) 2072:4-2073:14 (discussing DDX-14, at 35).

predicted price effects decline by more than half if pre-electronics is excluded.<sup>201</sup>

**C. The FTC’s Proposed Geographic Markets Are Flawed.**

99. “[T]he ‘relevant geographic market’ identifies the geographic area in which the defendants compete in marketing their products or services. The FTC bears the burden of proof and persuasion in defining the relevant market.” *FTC v. CCC Holdings, Inc.*, 605 F. Supp. 2d 26, 37 (D.D.C. 2009) (citing *FTC v. Arch Coal, Inc.*, 329 F. Supp. 2d 109, 119 (D.D.C. 2004)). The relevant geographic market must “correspond to the commercial realities of the industry and be economically significant.” *FTC v. Tronox Ltd.*, 332 F. Supp. 3d 197, 202 (D.D.C. 2018) (internal quotations and citations omitted); *see also Arch Coal*, 329 F. Supp. 2d at 123. A “failure to sufficiently define the relevant geographic market can be grounds to deny the requested injunction.” *FTC v. Cardinal Health, Inc.*, 12 F. Supp. 2d 34, 49 (D.D.C. 1998).

100. The FTC’s Complaint identifies two relevant geographic markets: (1) 35 states comprising the Southern and Central United States; and (2) five U.S. states and four Canadian provinces comprising the Pacific Northwest.<sup>202</sup> Dr. Rothman also defined only those two geographic markets.<sup>203</sup> While Dr. Rothman references and performs analysis for other regions, he has not attempted to establish that they are relevant geographic markets.<sup>204</sup>

101. The FTC’s two proposed relevant geographic markets fail to correspond with

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<sup>201</sup> Compare JX0075-193, Ex. 5–1 (predicting 13.2 percent effect from GUPPI model with pre-electronics) and JX0075-203, Ex. 6–1 (predicting 11.5 percent effect from second-score auction model with pre-electronics) with JX0066-093 fig.43 (predicting 5.5 percent effect from GUPPI model and 4.4 percent effect from second-score auction model, excluding pre-electronics).

<sup>202</sup> Compl. ¶¶ 28, 34–35.

<sup>203</sup> Hr’g Tr. (Rothman–O) 725:17–726:2; 737:22–738:2.

<sup>204</sup> Hr’g Tr. (Rothman–O) 927:15–928:7.

commercial realities.<sup>205</sup> The Southern and Central United States market inappropriately combines regions with dramatically different competitive conditions.<sup>206</sup> The Pacific Northwest market inappropriately combines one region in which the parties compete—the Canadian Pacific Northwest—with another region in which they rarely compete—the U.S. Pacific Northwest.<sup>207</sup>

**1. The Parties Agree that Relevant Geographic Markets May Be Defined Around Groups of Customers Facing Similar Competitive Conditions.**

102. The Guidelines offer two ways to define a geographic market: (1) based on the location of the competitors, or (2) based on the location of the customers.<sup>208</sup> The parties agree that it is appropriate to define geographic markets in the hydrogen peroxide industry based on customer location and that such markets could be defined as narrowly as individual customers.<sup>209</sup>

103. The FTC notes that its proposed relevant geographic markets pass the hypothetical monopolist test. However, that test “is designed to ensure that candidate markets are not overly narrow”<sup>210</sup> and provides no protection against overly broad markets. Both sides’ economists agree that overly broad market definitions can give the impression that a merger harms competition when it would not actually harm competition.<sup>211</sup>

104. When defining a relevant geographic market around customer locations, the parties’ economists agree that a proposed market would be too broad if the customers within that market

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<sup>205</sup> Hr’g Tr. (Costanzo–O) 1110:5–19. The FTC’s proposed geographic markets also are inconsistent with prior FTC allegations. In 1998, the FTC defined an all-North America market for hydrogen peroxide. DX268 ¶ 12.

<sup>206</sup> Hr’g Tr. (Hill–O) 2088:16–24.

<sup>207</sup> Hr’g Tr. (Hill–O) 2095:22–2096:10.

<sup>208</sup> JX0070-016 § 4.2.

<sup>209</sup> Hr’g Tr. (Rothman–O) 738:8–19, 928:8–11; JX0075-022 ¶¶ 54–55; Hr’g Tr. (Hill–O) 2087:12–16; JX0066-037 ¶ 66; *see also* JX0070-015 § 4.1.4.

<sup>210</sup> JX0070-011 § 4.

<sup>211</sup> Hr’g Tr. (Rothman–O) 929:20–930:1; Hr’g Tr. (Hill–O) 2086:16–2087:6.

do not face similar competitive conditions.<sup>212</sup> That is precisely the problem with the FTC's alleged geographic markets: they are overly broad, combine areas in which competitive conditions are markedly different, and therefore do not provide meaningful insight into the effects of the merger on competition.

**2. Competitive Conditions Vary Significantly Across the FTC's Proposed Southern and Central United States Market.**

105. The FTC's proposed Southern and Central United States market includes 35 states, ranging from California to Delaware and from Wisconsin to Alabama.<sup>213</sup> Dr. Rothman claims that all customers across all of these states may be grouped into a single relevant geographic market because they face similar competitive conditions.<sup>214</sup> While his expert report offered three bases for that opinion, none establishes that all customers throughout the Southern and Central United States belong in the same relevant geographic market.

106. First, Dr. Rothman observed that customers in the Southern and Central United States “purchase almost exclusively from one of the same five suppliers—Arkema, Evonik, Nouryon, PeroxyChem, and Solvay.”<sup>215</sup> As an initial matter, this observation proves nothing, as all customers in North America also purchase from one of the same five suppliers. At trial, Dr. Rothman reformulated this argument as identifying a “nexus of competition between all five hydrogen peroxide suppliers” because it is possible for the all of the suppliers to compete throughout the proposed market.<sup>216</sup>

107. Although Dr. Rothman described the “nexus of competition” theory as “entirely

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<sup>212</sup> JX0075-040 ¶ 94; Hr'g Tr. (Rothman–C) 932:10–14; Hr'g Tr. (Hill–O) 2087:7–11.

<sup>213</sup> See Compl. ¶ 35; JX0075-038 ¶ 87.

<sup>214</sup> JX0075-033, -036 ¶¶ 86, 94.

<sup>215</sup> JX0075-040 to -041 ¶ 95.

<sup>216</sup> Hr'g Tr. (Rothman–O) 739:2–17. Dr. Rothman did not use the phrase “nexus of competition” in either of his reports. See JX0075; PX7102.

consistent” with grouping customers together when they face similar competitive conditions,<sup>217</sup> Dr. Hill explained that the “nexus of competition” theory fails to identify an area where competitive conditions are similar.<sup>218</sup> That is because the “nexus of competition” theory assumes that all customers who have the ability to buy from a set of suppliers face similar competitive conditions, regardless of how closely each supplier constrains each alternative supplier at each customer. Dr. Hill demonstrated, however, that the strength of each supplier as a competitive constraint on other suppliers for a particular customer depends on the relative distances between the customer and each potential supplier.<sup>219</sup>

108. Second, in his report, Dr. Rothman stated that customers in the Southern and Central United States receive on average approximately █ percent of their shipments from plants in the that area.<sup>220</sup> Dr. Hill showed that this overall figure masks significant variation in how much hydrogen peroxide customers in different states buy from plants within the FTC’s proposed market.<sup>221</sup> For example, California customers source about █ percent of their hydrogen peroxide from plants *outside* of the proposed market, and that figure is over █ percent for Delaware customers and over █ percent for Wisconsin customers.<sup>222</sup> By contrast, Alabama customers buy none of their hydrogen peroxide from outside of the FTC’s proposed market.<sup>223</sup>

109. Third, Dr. Rothman stated that market shares are “informative about the suppliers’

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<sup>217</sup> Hr’g Tr. (Rothman–O) 928:12–929:19.

<sup>218</sup> Hr’g Tr. (Hill–O) 2087:23–2088:15.

<sup>219</sup> See Hr’g Tr. (Hill–O) 2033:17–2034:11; JX0066-067 to -070 ¶¶ 132–139; see also JX0066-072 to -073 ¶¶ 147–151; see *infra* ¶¶ 253–259.

<sup>220</sup> JX0075-040 to -041 ¶ 95.

<sup>221</sup> Hr’g Tr. (Hill–O) 2089:4–19 (discussing DDX-14, at 50).

<sup>222</sup> JX0066-052 fig.14.

<sup>223</sup> JX0066-052 fig.14.

competitive significance”<sup>224</sup> and described suppliers’ shares as “broadly the same for narrower groupings of . . . customers.”<sup>225</sup> Dr. Hill, however, showed that suppliers’ market shares vary significantly in different states within the FTC’s proposed market.<sup>226</sup> Solvay’s market share is more than █ percent in California, around █ percent in Delaware, and █ percent in Alabama; Arkema’s market share is over █ percent in Delaware and less than █ percent in Alabama; Evonik’s market share is more than █ percent in Alabama and about █ percent in Delaware; Nouryon’s market share is █ percent in California, but more than █ percent in Alabama; and PeroxyChem’s market share is roughly █ percent in California, and is █ in both Delaware and Alabama.<sup>227</sup> Though he performed no state-level share analysis, Dr. Rothman agreed that suppliers’ shares are different across states.<sup>228</sup> As Dr. Hill explained, the differences show that firms vary significantly in their ability to win business in different states and, thus, that competitive conditions vary substantially across the Southern and Central United States.<sup>229</sup>

110. In an attempt to salvage the FTC’s Southern and Central United States market, Dr. Rothman split that alleged market into broad Southern, Central, and Western regions and compared concentration levels in those regions.<sup>230</sup> But Dr. Rothman made his regional divisions based solely on geography, without any business documents or testimony supporting his approach.<sup>231</sup> Dr. Hill explained that it was “unorthodox” and “arbitrary” to treat customers in Oklahoma and Delaware as though they faced similar competitive conditions (as Dr. Rothman

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<sup>224</sup> JX0075-034 ¶ 78; Hr’g Tr. (Rothman–C) 939:1–13.

<sup>225</sup> JX0075-041 ¶ 96.

<sup>226</sup> Hr’g Tr. (Hill–O) 2089:20–2090:21 (discussing DDX-14, at 51).

<sup>227</sup> JX0066-050 fig.12.

<sup>228</sup> Hr’g Tr. (Rothman–C) 983:11–17, 984:18–22.

<sup>229</sup> Hr’g Tr. (Hill–O) 2089:20–2090:21.

<sup>230</sup> JX0075-041 ¶ 96; Hr’g Tr. (Rothman–O) 798:4–800:1.

<sup>231</sup> Hr’g Tr. (Rothman–C) 949:2–951:25.

did when he included them both in his Southern region<sup>232</sup>) and that, as a result, the FTC's regional comparisons fail to address whether customers throughout the entire Southern and Central United States actually face similar competitive conditions.<sup>233</sup>

111. In any event, suppliers' market shares vary significantly across Dr. Rothman's regions.<sup>234</sup> He agreed that Arkema's share is ■ percent larger in the Western region than the Southern region.<sup>235</sup> Evonik's share is ■ percent larger in the Western region than the Central region.<sup>236</sup> Nouryon's share is ■ times larger in the Southern region than the Western region.<sup>237</sup> PeroxyChem's share is ■ percent larger in the Central region than the Western or the Southern regions.<sup>238</sup> Solvay's share is ■ percent larger in the Central region than the Southern region.<sup>239</sup>

112. Regional market shares vary even more significantly when pre-electronics-grade hydrogen peroxide is excluded from the relevant market.<sup>240</sup> Excluding pre-electronics-grade sales, Arkema's share in the Southern region is ■ its share in the Western region; Evonik's share in the Southern region is ■ its share in the Western region; Nouryon's share in the Southern region is ■ its share in the Western region; PeroxyChem's share in the Western region is ■ its share in the Southern region; and Solvay's share in the Western region is ■ its share in the Southern region.<sup>241</sup> Even Dr. Rothman agrees that shares cannot be characterized as broadly the same when they vary by a

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<sup>232</sup> JX0075-041 ¶ 96.

<sup>233</sup> Hr'g Tr. (Hill-O) 2091:6-18.

<sup>234</sup> See JX0075-170, Ex. 2-3.

<sup>235</sup> Hr'g Tr. (Rothman-C) 975:1-12.

<sup>236</sup> Hr'g Tr. (Rothman-C) 975:13-22; see also JX0066-050 ¶ 96.

<sup>237</sup> Hr'g Tr. (Rothman-C) 975:23-976:3; see also JX0066-050 ¶ 96.

<sup>238</sup> Hr'g Tr. (Rothman-C) 976:5-12.

<sup>239</sup> Hr'g Tr. (Rothman-C) 976:13-19.

<sup>240</sup> Hr'g Tr. (Rothman-C) 978:17-980:3 (discussing DDX-03).

<sup>241</sup> JX0075-170, Ex. 2-3; PX7102-021 tbl.2; Hr'g Tr. (Rothman-C) 978:17-980:3.

factor of two or three,<sup>242</sup> effectively conceding that competitive conditions are not similar enough throughout the entire Southern and Central United States to justify grouping all customers in that area together in a single relevant geographic market.

### 3. Competitive Conditions Vary Significantly Across the FTC's Proposed Pacific Northwest Market.

113. The FTC purports to define a Pacific Northwest market that combines five U.S. states with four Canadian provinces.<sup>243</sup> Unlike for the FTC's proposed Southern and Central United States relevant market, Dr. Rothman did not perform any analysis of whether competitive conditions are similar throughout the Pacific Northwest.<sup>244</sup>

114. Dr. Hill investigated the U.S. Pacific Northwest separately from the Canadian Pacific Northwest and concluded that competitive conditions are significantly different in those two regions.<sup>245</sup> With a plant in Longview, Washington, Solvay accounts for █ percent of sales in the U.S. Pacific Northwest, while Evonik and PeroxyChem account for only █ percent and █ percent, respectively.<sup>246</sup> By contrast, in the Canadian Pacific Northwest, Solvay's share is only █ percent, while Evonik and PeroxyChem account for █ percent and █ percent of sales, respectively.<sup>247</sup>

115. Dr. Rothman conceded that Solvay, PeroxyChem, and Evonik have different market shares in the Canadian and U.S. portions of the FTC's proposed Pacific Northwest market.<sup>248</sup> Because there is no evidence that customers in the U.S. Pacific Northwest and the Canadian

<sup>242</sup> Hr'g Tr. (Rothman-C) 980:4-13.

<sup>243</sup> Compl. ¶ 34; JX0075-041 ¶ 98.

<sup>244</sup> Hr'g Tr. (Rothman-C) 985:19-23; Hr'g Tr. (Hill-O) 2095:9-15.

<sup>245</sup> Hr'g Tr. (Hill-O) 2095:22-2096:10 (discussing DDX-14, at 56).

<sup>246</sup> Hr'g Tr. (Suter-O) 404:17-20; JX0066-053 fig.15.

<sup>247</sup> JX0066-053 fig.15.

<sup>248</sup> Hr'g Tr. (Rothman-C) 986:11-987:4. Dr. Rothman also admitted that the merger would not be presumptively anticompetitive in a market defined around customers in the U.S. Pacific Northwest. Hr'g Tr. (Rothman-C) 987:9-12; *see also* Hr'g Tr. (Hill-O) 2096:18-2097:1.

Pacific Northwest face similar competitive conditions, those customers should not all be grouped together into a single relevant geographic market for the entire Pacific Northwest.<sup>249</sup>

**4. Ordinary Course Documents Do Not Support the FTC’s Proposed Geographic Markets.**

116. Facing real-world data demonstrating that competitive conditions are not the same throughout its relevant geographic markets, the FTC bases its proposed markets primarily on a single PeroxyChem map with ovals indicating “Regional Supply Dynamics.”<sup>250</sup> The map appears in a document dated January 2015, but it was used at PeroxyChem’s predecessor (FMC) before 2014.<sup>251</sup> Bruce Lerner, PeroxyChem’s Chief Executive Officer, testified that the map was always meant to represent competitive dynamics for standard-grade hydrogen peroxide sold to pulp and paper customers, which were the focus of FMC’s business when the document was created.<sup>252</sup> Now that PeroxyChem focuses more heavily on selling specialty grades, the map is “irrelevant” to its current strategic mission and what the company is “actually doing in the business today.”<sup>253</sup> For this reason, PeroxyChem has excised this map from its more recent strategic plans.<sup>254</sup> In addition, despite the ovals on the map, the table next to the map analyzes suppliers’ capacities and market shares for all of North America—not separately for the Pacific Northwest and the Southern and Central United States.<sup>255</sup>

117. The FTC also claims support for its proposed geographic markets from an Evonik

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<sup>249</sup> Hr’g Tr. (Hill–O) 2096:11–17.

<sup>250</sup> See PX2058-057; see also Hr’g Tr. (Rothman–O) 740:6–17.

<sup>251</sup> Hr’g Tr. (Lerner–O) 1378:9–1379:10.

<sup>252</sup> Hr’g Tr. (Lerner–O) 1379:11–1380:22.

<sup>253</sup> See Hr’g Tr. (Lerner–O) 1383:11–16.

<sup>254</sup> See JX0101; JX0097.

<sup>255</sup> PX2058-057.

map displaying its estimates of PeroxyChem's customer locations.<sup>256</sup> While the map shows that Evonik believes that PeroxyChem supplies customers in Nevada and California, as well as the Upper Midwest, from its Bayport plant,<sup>257</sup> the same document contains maps showing that Evonik, Arkema, and Nouryon serve very few customers outside of the Southeast from their plants near the Gulf Coast.<sup>258</sup> In addition, the maps suggest that there is no meaningful competition in the U.S. Pacific Northwest because Solvay is the only firm with customers in that region.<sup>259</sup> Finally, the same document presents market shares for North America as a whole,<sup>260</sup> further undermining the FTC's argument that the Pacific Northwest and Southern and Central United States should be analyzed as separate relevant geographic markets.

118. The FTC overlooks entirely evidence from Arkema that conflicts with its proposed markets. [REDACTED]

[REDACTED]<sup>261</sup> Linda Myrick, Arkema's General Manager for Oxygenates and Derivatives, explained that it makes sense to [REDACTED]

[REDACTED]<sup>262</sup> [REDACTED]  
[REDACTED]  
[REDACTED]<sup>263</sup> [REDACTED]

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<sup>256</sup> See JX0129-021; see also Hr'g Tr. (Rothman-O) 740:18-741:6.

<sup>257</sup> JX0129-021.

<sup>258</sup> See JX0129-018, -020, -022.

<sup>259</sup> See JX0129-018 to -022; Hr.'g Tr. (Costanzo-C) 1224:5-1225: 25 (referring to an earlier version of the slides in JX0129 and showing no significant Evonik or PeroxyChem customers in the five U.S. states shown in JX0083-017 and JX0083-020, respectively).

<sup>260</sup> JX0129-012.

<sup>261</sup> See JX0151-009.

<sup>262</sup> Hr'g Tr. (Myrick-C) 501:8-503:3.

<sup>263</sup> JX0151-024; Hr'g Tr. (Myrick-C) 504:4-505:4.

**5. The FTC Cannot Presume that the Merger Harms Competition Based on Shares of Improperly Defined Relevant Geographic Markets.**

119. Absent properly defined relevant geographic markets, the FTC is not entitled to any presumption that the merger would substantially lessen competition. *See United States v. Baker Hughes*, 908 F.2d 981, 982 (D.C. Cir. 1990).

120. Neither the Southern and Central United States nor the Pacific Northwest constitutes a relevant geographic market because the FTC inappropriately grouped together customers facing different competitive conditions.<sup>264</sup> Accordingly, market shares from the FTC's proposed relevant geographic markets are not useful for analyzing competition among hydrogen peroxide suppliers and cannot be used as a basis for presuming that the merger harms competition.<sup>265</sup>

**IV. THE PRINCE GEORGE DIVESTITURE WILL PRESERVE COMPETITION IN THE PACIFIC NORTHWEST.**

121. Evonik will divest the Prince George Business to United Initiators if Evonik is permitted to close its merger with PeroxyChem.<sup>266</sup> United Initiators is a multinational chemical company that is headquartered in Germany and will become a new entrant in the hydrogen peroxide industry in North America.<sup>267</sup> After the divestiture, the structure of competition in the Pacific Northwest will remain the same as before the merger, with three independent plants competing to serve customers.<sup>268</sup>

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<sup>264</sup> Hr'g Tr. (Hill-O) 2088:7-24, 2093:8-10, 2095:22-2096:17, 2098:4-5; JX0066-052, -054 ¶¶ 101, 106.

<sup>265</sup> Hr'g Tr. (Hill-O) 2093:11-20, 2098:6-13.

<sup>266</sup> JX0147.

<sup>267</sup> Hr'g Tr. (Cummins-O) 1728:17-18, 1729:13-19 (United Initiators operates nine chemical manufacturing plants globally with three of those locations in North America).

<sup>268</sup> Hr'g Tr. (Hill-O) 2093:23-2094:13.

122. Although the FTC asks the Court to disregard the divestiture altogether,<sup>269</sup> “determining the likelihood of the FTC’s success in showing that the challenged transaction may substantially lessen competition . . . requires the Court to review the *entire* transaction in question,” including the divestiture. *See FTC v. Arch Coal, Inc.*, No. 04-0534, slip op. at 7 (D.D.C. July 7, 2004) (ECF No. 67). Indeed, ignoring the divestiture “would be tantamount to turning a blind eye to the elephant in the room.” *Id.* at 7–8.

123. To evaluate the sufficiency of a divestiture, courts in this district have considered: (i) the certainty of the divestiture; (ii) the experience of the divestiture buyer; and (iii) the scope of the divestiture. *See United States v. Aetna Inc.*, 240 F. Supp. 3d 1, 60, 64 (D.D.C. 2017); *see also FTC v. Sysco Corp.*, 113 F. Supp. 3d 1, 72, 74 (D.D.C. 2015) (explaining that divestiture must “replac[e] the competitive intensity lost as a result of the merger,” but it “does not have to replicate pre-merger HHI levels”).

**A. The Divestiture Will Close if the Merger Is Approved.**

124. Defendants signed a binding contract with United Initiators to divest the Prince George Business conditioned upon the closing of Defendants’ merger.<sup>270</sup> The parties to the divestiture have an obligation to use all commercially reasonable efforts to ensure the conditions to closing are satisfied, and all remaining conditions to closing are within the parties’ control.<sup>271</sup>

125. United Initiators has the financial capability and intention to close the acquisition of the Prince George Business, is excited to get [REDACTED]<sup>272</sup>

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<sup>269</sup> FTC Br. 37; *see also* Hr’g Tr. (Rothman–O) 829:5–11 (confirming that he “did not take into account anything that had to do with United Initiators”).

<sup>270</sup> Hr’g Tr. (Cummins–C) 1762:13–19; JX0147-005, -066 to -068.

<sup>271</sup> JX0147-035, -038 to -041.

<sup>272</sup> Hr’g Tr. (Cummins–C) 1764:17–25, 1772:17–1773:17.

and is committed to completing the acquisition.<sup>273</sup>

126. The Canadian Competition Bureau is currently reviewing United Initiators' proposed acquisition of the Prince George Business, and United Initiators is cooperating with its review.<sup>274</sup>

**B. United Initiators Is an Experienced Global Chemicals Manufacturer Capable of Competing with Existing Hydrogen Peroxide Suppliers.**

127. United Initiators is a global supplier of organic peroxides and persulfates that operates multiple plants around the world.<sup>275</sup> In August 2019, United Initiators closed its purchase of a hydrogen peroxide plant in Turkey<sup>276</sup> that has a similar production capacity to the Prince George plant.<sup>277</sup> The Turkey plant has been operating since closing without any operational interruptions.<sup>278</sup> United Initiators believes that the two hydrogen peroxide acquisitions will allow it to expand its existing portfolio of products into new, complementary markets.<sup>279</sup>

128. United Initiators uses hydrogen peroxide as a key raw material in the production of complex organic peroxides and has served some of the same customers that hydrogen peroxide producers serve.<sup>280</sup> United Initiators' experience as a hydrogen peroxide customer will help it compete successfully as a hydrogen peroxide supplier in North America.<sup>281</sup>

129. United Initiators currently sells multiple chemicals that are manufactured at a single plant,<sup>282</sup> and it has the experience and ability to maintain security of supply for its customers,

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<sup>273</sup> Hr'g Tr. (Cummins-C) 1770:11-17.

<sup>274</sup> Hr'g Tr. (Cummins-C) 1769:16-1770:10.

<sup>275</sup> DX140; Hr'g Tr. (Cummins-O) 1729:8-12.

<sup>276</sup> Hr'g Tr. (Cummins-O) 1737:14-25; DX141.

<sup>277</sup> Hr'g Tr. (Cummins-O) 1738:18-24.

<sup>278</sup> Hr'g Tr. (Cummins-O) 1738:1-17.

<sup>279</sup> Hr'g Tr. (Cummins-O) 1740:13-1741:19.

<sup>280</sup> Hr'g Tr. (Cummins-O) 1732:9-11, 1734:5-1735:20, 1736:1-11.

<sup>281</sup> Hr'g Tr. (Cummins-O) 1736:12-23.

<sup>282</sup> Hr'g Tr. (Cummins-O) 1733:22-1734:4.

even when it supplies products from a single plant.<sup>283</sup> United Initiators knows how to manage inventory, maintain equipment, track products, and create order forecasts to ensure reliable supply.<sup>284</sup> United Initiators also will be able to leverage its existing distribution network in North America to ensure supply reliability for hydrogen peroxide customers.<sup>285</sup>

130. Nouryon competes successfully today with just one plant in North America.<sup>286</sup> Nouryon has been able to consistently meet customer demand from its single plant without supply interruptions,<sup>287</sup> and it has taken business from [REDACTED].<sup>288</sup>

131. In addition, United Initiators' current Vice President of Manufacturing served for seven years as the operations manager of the U.S. hydrogen peroxide business of Akzo Nobel (now Nouryon), and he will oversee the Prince George Business.<sup>289</sup> He has several years of experience managing security of supply for Akzo Nobel's hydrogen peroxide customers.<sup>290</sup>

132. The only trial witness that will be impacted by the divestiture, Canfor Pulp, is negotiating a new three-year contract with PeroxyChem, knowing that the Prince George Business is to be sold.<sup>291</sup> Canfor Pulp wants the new contract to transfer to United Initiators upon divestiture, and it is negotiating contract language to that effect.<sup>292</sup> Canfor Pulp is indifferent to how it is served during maintenance outages at Prince George as long as it continues to receive

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<sup>283</sup> Hr'g Tr. (Cummins-O) 1730:2-9, 1733:5-1734:4; Hr'g Tr. (Cummins-C) 1769:1-4.

<sup>284</sup> Hr'g Tr. (Cummins-C) 1769:1-15.

<sup>285</sup> Hr'g Tr. (Cummins-O) 1733:5-21.

<sup>286</sup> Hr'g Tr. (Radlinski-O) 537:25-5382:2.

<sup>287</sup> [REDACTED].

<sup>288</sup> [REDACTED].

<sup>289</sup> Hr'g Tr. (Cummins-O) 1725:7-1726:20, 1727:12-17; Hr'g Tr. (Cummins-C) 1765:1-21.

<sup>290</sup> Hr'g Tr. (Cummins-O) 1726:21-1727:11.

<sup>291</sup> Hr'g Tr. (Anderson-O) 210:19-21, 211:12-20.

<sup>292</sup> Hr'g Tr. (Anderson-O) 211:21-212:10.

product,<sup>293</sup> and it is aware that, between assets at the Prince George plant and Canfor Pulp’s own mills, there is significant storage capacity capable of enduring an outage lasting several weeks.<sup>294</sup>

**C. The Divestiture Includes the Entire Prince George Business.**

133. The divestiture of the Prince George Business will transfer an ongoing, standalone business.<sup>295</sup> In a recently completed study of merger remedies, the FTC found that “all of the divestitures involving an ongoing business succeeded” in “clear[ing] a high bar—maintaining or restoring competition in the relevant market.”<sup>296</sup>

134. Through the divestiture, United Initiators will receive all tangible and intangible assets (including key production, sales, marketing, and distribution assets, sales and marketing personnel, and intellectual property) that it needs to compete.<sup>297</sup> [REDACTED]

[REDACTED].<sup>298</sup>

135. Following the divestiture, the Prince George plant manager will report to [REDACTED]

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<sup>293</sup> Hr’g Tr. (Anderson–O) 207:5–15.

<sup>294</sup> Hr’g Tr. (Anderson–O) 205:10–206:12.

<sup>295</sup> [REDACTED]; Hr’g Tr. (Kramer–O) 1627:11–17 (PeroxyChem’s Prince George plant is designed to be run and maintained by people who work on site and does not rely on support from other PeroxyChem plants for day-to-day operations).

<sup>296</sup> See FTC, *The FTC’s Merger Remedies 2006–2012: A Report of the Bureaus of Competition and Economics*, at 1 (Jan. 2017), [https://www.ftc.gov/system/files/documents/reports/ftc-merger-remedies-2006-2012-report-bureaus-competition-economics/p143100\\_ftc\\_merger\\_remedies\\_2006-2012.pdf](https://www.ftc.gov/system/files/documents/reports/ftc-merger-remedies-2006-2012-report-bureaus-competition-economics/p143100_ftc_merger_remedies_2006-2012.pdf).

<sup>297</sup> [REDACTED]; Hr’g Tr. (Cummins–O) 1905:8–16.

<sup>298</sup> Hr’g Tr. (Cummins–C) 1766:25–1768:1. [REDACTED]. Hr’g Tr. (Cummins–C) 1864:19–1869:5 (discussing JX0147-057). However, identical [REDACTED] provisions appear in FTC consent decrees to protect the divestiture purchaser. See, e.g., Decision and Order, *In re Linde AG*, FTC Docket No. C-4660, at 15 (Feb. 26, 2019), [https://www.ftc.gov/system/files/documents/cases/c4660\\_decision\\_and\\_ordermodified\\_593725\\_public\\_redacted.pdf](https://www.ftc.gov/system/files/documents/cases/c4660_decision_and_ordermodified_593725_public_redacted.pdf).

[REDACTED]

[REDACTED]<sup>299</sup> The Prince George Business will continue to operate as a successful hydrogen peroxide producer because those on-site employees who today are “solely responsible for the day-to-day operations” of the plant will continue to do so after the divestiture.<sup>300</sup>

**D. United Initiators Sees Growth Opportunities and Has Viable Business Plans to Compete Aggressively.**

136. United Initiators plans to use Prince George’s location and cost advantages in the Pacific Northwest to compete to replace volume that PeroxyChem recently lost at Suncor, lowering its prices and directly benefiting customers in the region.<sup>301</sup> Roughly half of the volume that Prince George lost at Suncor has already been replaced through new contracts.<sup>302</sup> Prince George has enough volume to continue to thrive.<sup>303</sup>

137. United Initiators expects to invest in improving the Prince George plant’s efficiency, including plans to expand the plant’s output.<sup>304</sup> United Initiators may explore expanding into the production of specialty grades, which could include investments into the plant.<sup>305</sup> United Initiators [REDACTED]

[REDACTED]<sup>306</sup>

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<sup>299</sup> Hr’g Tr. (Cummins–C) 1765:1–15, 1832:1–13.

<sup>300</sup> Hr’g Tr. (Kramer–O) 1627:11–17; Hr’g Tr. (Montag–C) 1552:21–1553:7 ([REDACTED])

<sup>301</sup> *See, e.g.*, [REDACTED]; JX0141-004, -055.

<sup>302</sup> Hr’g Tr. (Lerner–O) 1394:21–25.

<sup>303</sup> Hr’g Tr. (Lerner–O) 1395:1–3.

<sup>304</sup> Hr’g Tr. (Cummins–O) 1739:4–1740:6; Hr’g Tr. (Kramer–O) 1627:18–25.

<sup>305</sup> Hr’g Tr. (Cummins–O) 1901:24–1902:24.

<sup>306</sup> Hr’g Tr. (Cummins–C) 1753:5–21, 1771:24–1772:16; JX0141-013.

**E. The Purchase Price for Prince George Reflects Leverage United Initiators Had Over Evonik in the Sales Process.**

138. The FTC has criticized the [REDACTED] purchase price<sup>307</sup> for being too low, implying that United Initiators is not invested in the success of the Prince George plant.<sup>308</sup>

139. United Initiators wanted to pay as little as it could for the Prince George Business.<sup>309</sup> United Initiators performed extensive due diligence on the Prince George Business.<sup>310</sup> The agreement between United Initiators, Evonik, and PeroxyChem was negotiated on an arm's length basis.<sup>311</sup> One significant reason for the purchase price is that a buyer of assets sold as part of an antitrust review typically has enormous leverage over the seller because it knows that the seller must complete the divestiture in order to go forward with its underlying merger.<sup>312</sup>

**V. THE MERGER WILL NOT SUBSTANTIALLY LESSEN COMPETITION.**

140. "Evidence of market concentration simply provides a convenient starting point for a broader inquiry into future competitiveness" and "[i]t is a foundation of section 7 doctrine . . . that evidence on a variety of factors can rebut a prima facie case." *Baker Hughes*, 908 F.2d at 984. Accordingly, even if the FTC were entitled to a presumption based on market concentration (which it is not), "[e]vidence of market concentration simply provides a convenient starting point for a broader inquiry into future competitiveness," and Defendants can rebut that presumption by showing that the FTC's "prima facie case inaccurately predicts the relevant transaction's probable effect on future competition." *Id.* at 984, 991. A "multiplicity of relevant factors" can be relevant to the inquiry. *See id.* at 984-986 (collecting examples).

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<sup>307</sup> JX0147-017.

<sup>308</sup> FTC Br. 38; FTC Reply Br. 17-18; *see* Hr'g Tr. (Cummins-C) 1771:16-23.

<sup>309</sup> Hr'g Tr. (Cummins-O) 1900:16-1901:10.

<sup>310</sup> JX0141; JX0146; [REDACTED]; Hr'g Tr. (Cummins-O) 1902:25-1903:12.

<sup>311</sup> Hr'g Tr. (Cummins-O) 1742:1-1743:7; 1901:16-23.

<sup>312</sup> *See* [REDACTED].

141. Upon rebuttal, “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.” *Heinz*, 246 F.3d at 715 (quoting *Baker Hughes*, 908 F.2d at 983).

142. Ultimately, the plaintiff must prove that “there is a ‘reasonable probability’ that the Acquisition may substantially lessen competition” *Arch Coal*, 329 F. Supp. 2d at 116 (citing *Staples*, 970 F. Supp. At 1073). Because the plaintiff bears the burden “on every element of [its] Section 7 challenge, . . . a failure of proof in any respect will mean the transaction should not be enjoined.” *Id.* at 116 (citing *Heinz*, 246 F.3d at 719).

**A. The Hydrogen Peroxide Marketplace is Competitive Today.**

**1. Customers Benefit from Competition Among Suppliers.**

143. Evonik, PeroxyChem, Arkema, Nouryon, and Solvay all compete aggressively to win business from each other.<sup>313</sup> In recent bid cycles, the five hydrogen peroxide suppliers repeatedly lowered prices to win new customers or maintain existing customers. Some examples, including from the customers that appeared on the FTC’s witness list or provided it declarations, are:

- (a) [REDACTED] offered lower prices to secure more volumes at [REDACTED]<sup>314</sup>
- (b) In 2019, [REDACTED] offered lower prices to gain volume at [REDACTED]<sup>315</sup>
- (c) [REDACTED] achieved 7.4% savings based on the lowest bidders of a 2016 RFP.<sup>316</sup>
- (d) In a 2018 RFP, [REDACTED] successfully pitted suppliers against each other

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313 [REDACTED]; [REDACTED]; see also Hr’g Tr. (Montag–C) 1539:10–14, 1550:4–1551:9; Hr’g Tr. (Costanzo–C) 1133:2–22 (discussing DX385, at 7).

314 [REDACTED].

315 Hr’g Tr. (Montag–C) 1536:18–1537:14.

316 [REDACTED]

to obtain lower prices.<sup>317</sup>

(e) [REDACTED] offered a lower price to [REDACTED] for 2020 than what it is paying in 2019.<sup>318</sup>

(f) Over the past few years, [REDACTED] have both had to lower prices to retain business.<sup>319</sup>

144. Customers often invite Evonik, PeroxyChem, Arkema, Nouryon, and Solvay to all bid on their contracts. For example, [REDACTED] reached out to all five suppliers during its 2019 RFP and received bids from four of the five suppliers.<sup>320</sup> In 2016 and 2017, all five suppliers participated in [REDACTED]<sup>321</sup> All five suppliers participated in the 2017 and 2018 RFPs for [REDACTED] and all five suppliers were invited to respond to the 2019 RFP.<sup>322</sup> Hydrogen peroxide suppliers do not know which competitors will ultimately participate in a particular RFP, so they bid aggressively to win all-or-nothing contracts to serve customers.<sup>323</sup>

145. Dr. Hill analyzed recent real-world bidding competition and found that customers saved approximately 14.5% by pitting rival suppliers against each other.<sup>324</sup> Dr. Hill's analysis

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317 [REDACTED]  
318 [REDACTED]

319 Hr'g Tr. (Dumas-O) 300:23-303:2 (discussing examples of PeroxyChem lowering price in response to competition from Solvay, Nouryon, and Arkema); Hr'g Tr. (Costanzo-C) 1133:9-22 (discussing DX385, at 7); Hr'g Tr. (Montag-C) 1536:18-1537:14, 1547:12-25 (discussing JX0101-007).

320 See [REDACTED].  
321 [REDACTED].  
322 [REDACTED].

323 [REDACTED]; Hr'g Tr. (Montag-C) 1538:21-1539:14.

324 JX0066 ¶ 218 & fig.46; Hr'g Tr. (Hill-O) 2023:17-2024:12 (discussing DDX-14, at 5).

showed that customers obtained significant savings from those bidding events,<sup>325</sup> and he concluded that both qualitative and quantitative evidence of the hydrogen peroxide industry show that “[c]ustomers are able to play suppliers off against one another to get lower prices.”<sup>326</sup>

146. Based on supplier sales data, Dr. Hill also found that, consistent with a competitive industry, hydrogen peroxide prices decreased significantly in 2018.<sup>327</sup>

147. The recent expansion at Solvay’s Longview plant provides additional evidence of vigorous competition among North American hydrogen peroxide suppliers. The Longview plant is located in the FTC’s alleged Pacific Northwest market, a region with only two other hydrogen peroxide suppliers. In 2017, Solvay expanded capacity at its Longview plant by about [REDACTED] million pounds [REDACTED].<sup>328</sup> [REDACTED]

[REDACTED] Solvay was left with excess capacity and competed aggressively with low prices to win new business not just in the Pacific Northwest, but throughout the United States.<sup>329</sup> Competitors responded by lowering prices and aggressively bidding to retain their customers across North America.<sup>330</sup> These actions are inconsistent with coordinated conduct.<sup>331</sup> Indeed, Dr. Hill found that, despite expanding in the Pacific Northwest, Solvay’s average price in the FTC’s alleged Southern and Central United States market was [REDACTED], and

<sup>325</sup> Hr’g Tr. (Hill–O) 2023:17–2024:3.

<sup>326</sup> Hr’g Tr. (Hill–O) 2025:8–14.

<sup>327</sup> Hr’g Tr. (Hill–O) 2022:22–2023:12; *see also* Hr’g Tr. (Lerner–O) 1389:2–9, 1390:6–8.

<sup>328</sup> Hr’g Tr. (Suter–C) 442:9–443:3.

<sup>329</sup> DX411; [REDACTED]; [REDACTED]; JX0092.

<sup>330</sup> *See, e.g.*, [REDACTED]; [REDACTED]; (Costanzo–C) 1134:16–1135:9; Hr’g Tr. (Lerner–O) 1385:12–25.

<sup>331</sup> JX0066-099 to -100 ¶ 220.

Solvay's volume [REDACTED]<sup>332</sup>

## 2. Customers Can and Do Switch Suppliers Without Substantial Costs

148. The record shows that hydrogen peroxide customers can and do switch suppliers with ease, and there are minimal costs to switching again in the future.<sup>333</sup> Recent examples of switching include:

- (a) [REDACTED] bid aggressively in the 2018 tender for [REDACTED] [REDACTED] and won half of that mill's volume from [REDACTED].<sup>334</sup>
- (b) In 2019, [REDACTED] won a [REDACTED] site from [REDACTED].<sup>335</sup>
- (c) [REDACTED] won [REDACTED] business from [REDACTED] during its 2018 bid process.<sup>336</sup>
- (d) Evonik lost and gained top 10 customers to Solvay and PeroxyChem in western Canada, and to Arkema and Nouryon in the southeast in the last few years.<sup>337</sup>
- (e) PeroxyChem lost business with USP, Univar, and Brenntag to Solvay.<sup>338</sup>
- (f) PeroxyChem lost Boise PCA and Harcros business to Nouryon.<sup>339</sup>
- (g) PeroxyChem lost New Indy, Boise PCA, Graphic Packaging, Harcros and Ideal Chemical business to Arkema.<sup>340</sup>
- (h) [REDACTED] lost an incumbent position to [REDACTED] at [REDACTED] site

<sup>332</sup> JX0066-100 to -101 ¶ 221 & fig.47.

<sup>333</sup> [REDACTED] Hr'g Tr. (Engram-O) 325:7-10 (discussing PX1503); Hr'g Tr. (Niessner-O) 1010:13-17.

<sup>334</sup> [REDACTED]

<sup>335</sup> [REDACTED]

<sup>336</sup> Hr'g Tr. (Costanzo-C) 1145:14-1146:20.

<sup>337</sup> Hr'g Tr. (Corson-O) 648:2-649:5.

<sup>338</sup> Hr'g Tr. (Dumas-O) 300:17-22.

<sup>339</sup> Hr'g Tr. (Dumas-O) 301:17-20.

<sup>340</sup> Hr'g Tr. (Dumas-O) 302:8-21.

in [REDACTED] in a 2019 RFP.<sup>341</sup>

**B. The FTC Failed To Provide Customer Testimony or Documentary Evidence that the Merger Is Likely To Substantially Lessen Competition.**

149. The FTC failed to provide customer testimony or documentary evidence demonstrating that the merger is likely to substantially lessen competition. No customer offered specific concerns about the merger beyond observing that it will reduce the number of suppliers. To the contrary, customers testified that they are regularly able to leverage suppliers against one another and obtain competitive pricing even when only some suppliers bid for a contract. The FTC also did not present documentary evidence from Evonik, PeroxyChem, or any other supplier showing that the merger will increase prices or otherwise harm competition.

**1. Customers Testimony Does Not Show that the Merger Will Harm Competition.**

150. The FTC collected declarations from 12 hydrogen peroxide customers.<sup>342</sup>

151. Three of the declarations were from customers that have mills only in Canada: Canfor Pulp, Alberta-Pacific Forest Industries, and Paper Excellence Group.<sup>343</sup> Dr. Hill and Dr. Rothman agree that the merger would not substantially lessen competition in the Pacific Northwest following the divestiture of the Prince George plant to United Initiators,<sup>344</sup> so none of these Canadian customers will likely be substantially affected by the merger following the divestiture.

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<sup>341</sup> Hr'g Tr. (Costanzo-C) 1149:16-22.

<sup>342</sup> JX0001 (MGC); JX0002 (Rayonier); JX0003 (WestRock); JX0004 (Resolute); JX0006 (CHS); JX0007 (Canfor); JX0008 (Alberta-Pacific); JX00010 (Verso); JX00012, JX0016, JX0017 (Paper Excellence); JX00013 (Graphic Packaging); JX00014 (Procter & Gamble); JX00015 (Georgia-Pacific).

<sup>343</sup> JX0007 ¶ 2; JX0008 ¶ 2; JX0012 ¶ 2. [REDACTED]

[REDACTED] JX0016 ¶ 4.

<sup>344</sup> JX0075-104 n.351; Hr'g Tr. (Rothman-O) 831:5-11; Hr'g Tr. (Hill-O) 2093:23-2094:8.

152. Of the nine remaining customer declarations, two declarants— [REDACTED] [REDACTED]—did not identify any concerns whatsoever with the merger.<sup>345</sup>

153. The remaining seven declarations did not provide any specific concerns about the merger, other than to offer the general observation that the merger will reduce the number of suppliers.<sup>346</sup> As Judge Bates explained, customers’ mere recognition that a decrease in the number of suppliers *can* lead to a decrease in the level of competition is not persuasive evidence, because customers do not have the expertise to speculate about the likely future effects of a merger. *FTC v. Arch Coal, Inc.*, 329 F. Supp. 2d 109, 145 (D.D.C. 2004); *see also United States v. Bazaarvoice*, 2014 WL 203966, at \*61 (N.D. Cal. 2014) (finding that customer “testimony on the impact and likely effect of the merger was speculative at best and is entitled to virtually no weight”); *United States v. Oracle*, 331 F. Supp. 2d 1098, 1125 (N.D. Cal. 2004) (finding that “unsubstantiated customer apprehensions do not substitute for hard evidence”). Instead, “[t]he predictive power of economics far outreaches the similar power of any individual in the industry, no matter how intelligent or experienced that individual may be.”<sup>347</sup>

154. In addition, eight customers testified at the preliminary injunction hearing.

155. *Canfor Pulp*: Canfor is located in Canada and purchases hydrogen peroxide exclusively in Canada. The merger will have no effect on Canfor following the divestiture of the Prince George Business. Clarke Anderson, Canfor’s Purchasing and Inventory Team Lead for Hydrogen Peroxide Procurement, testified that, [REDACTED]

<sup>345</sup> [REDACTED].

<sup>346</sup> [REDACTED]

[REDACTED] JX0001 ¶ 27–28. The FTC did not allege any vertical theory of harm in its Complaint.

<sup>347</sup> John D. Bates, *Customer Testimony of Anticompetitive Effects in Merger Litigation*, 2 Colum. Bus. L. Rev. 279, 287 (2005).

[REDACTED]

[REDACTED]<sup>348</sup> Mr. Anderson

testified [REDACTED]

[REDACTED]<sup>349</sup>

156. *Graphic Packaging*: The Director of Procurement for Raw Materials at Graphic Packaging, David Niessner, confirmed that [REDACTED]

[REDACTED]

[REDACTED]<sup>350</sup> [REDACTED]<sup>351</sup>

In addition, Mr. Niessner testified that [REDACTED]

[REDACTED]

[REDACTED]<sup>352</sup>

157. *Verso Corporation*: The Raw Materials Manager at Verso Corporation, Michael Maeder, testified that [REDACTED]

[REDACTED]<sup>353</sup> In fact,

[REDACTED]<sup>354</sup> Mr. Maeder also

testified that [REDACTED]

[REDACTED]<sup>355</sup> In Verso's 2016 RFP, [REDACTED]

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<sup>348</sup> Hr'g Tr. (Anderson-C) 211:21-212:10.

<sup>349</sup> Hr'g Tr. (Anderson-C) 204:15-19, 205:6-9.

<sup>350</sup> Hr'g Tr. (Niessner-C) 1032:10-20.

<sup>351</sup> Hr'g Tr. (Niessner-C) 1031:16-1032:9.

<sup>352</sup> Hr'g Tr. (Niessner-C) 1024:6-12; 1035:7-21.

<sup>353</sup> Hr'g Tr. (Maeder-C) 171:20-172:5.

<sup>354</sup> Hr'g Tr. (Maeder-C) 178:4-8.

<sup>355</sup> Hr'g Tr. (Maeder-C) 153:14-20, 178:22-24.

[REDACTED]<sup>356</sup> [REDACTED]<sup>357</sup>

Verso [REDACTED]

[REDACTED]<sup>358</sup> In Verso's 2017 RFP (for its 2018 and 2019 supply), [REDACTED]

[REDACTED]<sup>359</sup> [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

158. *USP Technologies*: Michael Engram, the Manager of Supply Chain and Quality at USP Technologies (a distributor) testified that [REDACTED]

[REDACTED]

[REDACTED]<sup>360</sup> Mr. Engram also confirmed [REDACTED]

[REDACTED]<sup>361</sup> and [REDACTED]<sup>362</sup>

159. *International Paper*: Noelle Shirley, the Senior Buyer in the Raw Materials Group at International Paper (a large hydrogen peroxide customer with 20 mills in North America), testified that she invites all five suppliers to participate in RFPs<sup>363</sup> and sources hydrogen peroxide [REDACTED]<sup>364</sup> [REDACTED]

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<sup>356</sup> Hr'g Tr. (Maeder-C) 177:5-8.

<sup>357</sup> Hr'g Tr. (Maeder-C) 177:5-21.

<sup>358</sup> See Hr'g Tr. (Maeder-C) 177:13-178:3.

<sup>359</sup> Hr'g Tr. (Maeder-C) 172:12-173:9.

<sup>360</sup> Hr'g Tr. (Engram-C) 374:5-23.

<sup>361</sup> Hr'g Tr. (Engram-C) 368:1-7 (discussing JX0149-020).

<sup>362</sup> Hr'g Tr. (Engram-C) 375:1-13 (discussing JX0149-020).

<sup>363</sup> Hr'g Tr. (Shirley-O) 1914:2-6, 1918:17-21.

<sup>364</sup> JX0089.

[REDACTED]<sup>365</sup> She also testified [REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

[REDACTED]<sup>366</sup> Overall, International Paper [REDACTED]

[REDACTED]<sup>367</sup> The 2018 RFP [REDACTED]<sup>368</sup> and Ms. Shirley did not express any concerns regarding the transaction or provide any analysis suggesting that the merger would lessen competition or harm International Paper.<sup>369</sup>

160. *Steris Corporation and Jasper Products*: Defendants called witnesses from Steris and Jasper to testify about product differentiation. Neither of those witnesses expressed concerns about the merger.<sup>370</sup> Christopher Ewolski, the Director of Strategic Sourcing for Steris Corporation, testified that [REDACTED]<sup>371</sup> and that [REDACTED]

[REDACTED]<sup>372</sup> The Vice President of Operations at Jasper, Joel Hockenbury, testified that the company purchases all of its hydrogen peroxide from PeroxyChem,<sup>373</sup> and that he did not know if Jasper had ever purchased from Evonik.<sup>374</sup>

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<sup>365</sup> Hr’g Tr. (Shirley–C) 1969:23–1970:12. [REDACTED]  
[REDACTED] Hr’g Tr. (Shirley–O) 1920:19–21.

<sup>366</sup> Hr’g Tr. (Shirley–C) 1949:19–1952:3 (discussing JX0089).

<sup>367</sup> Hr’g Tr. (Shirley–C) 1954:11–15 (discussing JX0089).

<sup>368</sup> *See generally* Hr’g Tr. (Shirley–C) 1954:21–1969:18 (discussing JX0094).

<sup>369</sup> *See generally* Hr’g Tr. (Shirley–O/C) 1909:10–1975:25.

<sup>370</sup> Hr’g Tr. (Ewolski–O/C) 1999:6–2015:14; Hockenbury Dep. (JX0055).

<sup>371</sup> Hr’g Tr. (Ewolski–C) 2003:10–14.

<sup>372</sup> Hr’g Tr. (Ewolski–C) 2006:8–20.

<sup>373</sup> Hockenbury Dep. (JX0055) 35:8–18.

<sup>374</sup> Hockenbury Dep. (JX0055) 35:19–23.

161. *Harcros Chemicals*: The FTC called Steve Gripp, the Director of Materials Management for Harcros, to testify about the effect of the merger on hydrogen peroxide competition. However, Mr. Gripp [REDACTED]

[REDACTED]<sup>375</sup> Unsurprisingly, Mr. Gripp's hearing testimony did not offer any specific concerns or analysis about how the merger would harm Harcros.<sup>376</sup>

## 2. Documents Do Not Show that the Merger Will Harm Competition.

162. No Evonik or PeroxyChem documents predict or even suggest that the merged firm will raise prices or otherwise harm competition for the sale of hydrogen peroxide. In analyzing the benefits of the merger, Evonik did not assume any increases in price or reductions in output. Instead, Evonik's analysis focused on logistics and other cost savings.<sup>377</sup>

163. At the hearing, the FTC questioned only one witness about [REDACTED]  
[REDACTED]<sup>378</sup> Although Solvay produced that document in discovery, [REDACTED]

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<sup>375</sup> Hr'g Tr. (Gripp-C) 1717:5-13.

<sup>376</sup> Hr'g Tr. (Gripp-O/C) 1704:14-1719:24.

<sup>377</sup> Hr'g Tr. (Rettig-O) 1055:21-1057:1; JX0068-001.

<sup>378</sup> Hr'g Tr. (Suter-C) 423:14-426:14 (discussing JX140). The FTC may also attempt to rely on two documents that were produced by Arkema, but that the FTC did not use at the hearing or any deposition. *See* PX3000; PX3020. Defendants have maintained hearsay objections to those documents, Hr'g Tr. 156:2-20, which contain [REDACTED]

[REDACTED] Contrary to what the FTC appears to infer from these documents, Linda Myrick, Arkema's General Manager for Oxygenates and Derivatives, testified at her deposition that [REDACTED]

[REDACTED] Myrick Dep. (JX0046) 195:2-7, 195:15-19, 196:11-17. At the hearing, Ms. Myrick confirmed that [REDACTED]

[REDACTED] Hr'g Tr. (Myrick-C) 508:22-509:11. By choosing not to ask Ms. Myrick about the two documents at her deposition or at trial, the FTC has deprived the Court of the ability to put the documents into their proper context, so they should not be admitted into evidence or accorded any weight.

[REDACTED]<sup>379</sup> [REDACTED]

[REDACTED]

[REDACTED]<sup>380</sup> Moreover, [REDACTED]

[REDACTED]<sup>381</sup>

Solvay [REDACTED]

[REDACTED]

[REDACTED]<sup>382</sup>

**C. The Merger Will Not Have Coordinated Effects.**

164. Coordination requires firms to reach a common understanding about how they “will compete or refrain from competing” in an industry to increase their joint profits.<sup>383</sup> And “successful coordination requires two factors: (1) reaching terms of coordination that are profitable to the firms involved and (2) an ability to detect and punish deviations that would undermine the coordinated interaction.” *FTC v. Arch Coal, Inc.*, 329 F. Supp. 2d 109, 131 (D.D.C. 2004) (citing U.S. Dep’t of Justice & Fed’l Trade Comm’n, *Horizontal Merger Guidelines* (1997) [hereinafter 1997 Guidelines]); *see also* *FTC v. CCC Holdings, Inc.*, 605 F. Supp. 2d 26, 60 (D.D.C. 2009).

165. The Guidelines state that a merger creates a risk of coordinated effects only if: (1) the merger would significantly increase concentration in the relevant market; (2) the industry is already vulnerable to coordination; and (3) the merger would enhance that vulnerability.<sup>384</sup>

166. The first condition is not met here because the FTC has failed to define any

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<sup>379</sup> Hr’g Tr. (Suter–C) 447:24–448:7.

<sup>380</sup> Hr’g Tr. (Suter–C) 422:16–23; 448:8–20.

<sup>381</sup> Hr’g Tr. (Suter–C) 451:8–452:2.

<sup>382</sup> Hr’g Tr. (Suter–C) 448:21–450:8.

<sup>383</sup> JX0070-027 to -030 § 7.

<sup>384</sup> JX0070-028 § 7.1.

appropriate relevant product or geographic market.<sup>385</sup> And regardless of how the relevant market is defined, the FTC has not proven that the second or third conditions are met. The hydrogen peroxide industry is highly competitive today<sup>386</sup>—including in the FTC’s alleged Pacific Northwest market, which has three hydrogen peroxide suppliers—and it is characterized by industry features that would frustrate coordination. The merger will not affect these industry characteristics, so it is unlikely to increase the industry’s vulnerability to coordination.

### 1. The Hydrogen Peroxide Market Is Not Vulnerable to Coordination.

167. The FTC has not put forward any evidence showing how coordination would occur in the hydrogen peroxide industry. *See FTC v. Arch Coal, Inc.*, 329 F. Supp. 2d 109, 131–32 (D.D.C. 2004) (requiring the FTC to “show a developing *propensity* towards” a particular form of alleged tacit coordination). Indeed, the FTC cannot explain to the Court whether the hydrogen peroxide industry is susceptible to express or tacit coordination, which suppliers are likely to be involved in any coordination, or which products are likely to be the subject of any coordination.<sup>387</sup>

168. The FTC’s lack of specificity is not surprising. The relevant case law and the FTC’s own Guidelines identify features that can make an industry more vulnerable to coordination,<sup>388</sup> and virtually none of those features are present in the hydrogen peroxide industry.<sup>389</sup>

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<sup>385</sup> *Supra* Section III.B–C.

<sup>386</sup> *Infra* Section V.A.

<sup>387</sup> Hr’g Tr. (Rothman–O) 904:19–908:2.

<sup>388</sup> *See* JX0070-028 to -030 §§ 7.2, 8.

<sup>389</sup> One industry feature—low elasticity of demand—could, all else being equal, suggest vulnerability to coordination. But when some evidence suggests that an industry might be vulnerable to coordination, and other evidence indicates that it is not, reaching an overall conclusion about the industry’s vulnerability requires consideration of the industry as a whole in the context of the three conditions for successful coordination: (1) reaching a common understanding between suppliers; (2) monitoring adherence to that understanding; and (3) ability to punish deviations from the agreement. Hr’g Tr. (Hill–C) 2220:19–2221:12.

**a) Hydrogen Peroxide Products are Differentiated.**

169. When the relevant products are homogenous, prices tend to be more uniform, and it may be easier for firms to reach a common understanding not to compete. But a marketplace is less vulnerable to coordination when products are differentiated and sold at different prices.<sup>390</sup> See *CCC Holdings*, 605 F. Supp. 2d at 61 (“In addition to product heterogeneity, coordination may be impeded by a lack of ‘standardization of pricing or product variables on which firms could compete.’”) (quoting 1997 Guidelines); see also *Arch Coal*, 329 F. Supp. 2d at 140 (“heterogeneity of products . . . limit[s] or impede[s] the ability of firms to reach terms of coordination”) (citation omitted).

170. In the hydrogen peroxide industry, different products are sold at different prices, and those prices vary widely.<sup>391</sup> This differentiation makes the hydrogen peroxide industry less vulnerable to coordination, not only because reaching a common understanding between suppliers is more difficult when suppliers have a broad range of products, but also because monitoring adherence to any coordination is more difficult when prices vary.<sup>392</sup>

171. While some customers consider standard-grade hydrogen peroxide to be a “commodity,”<sup>393</sup> the FTC’s alleged product market spans a wide variety of hydrogen peroxide

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In light of the numerous hydrogen peroxide industry characteristics that suggest coordination would be difficult, discussed in detail below, low elasticity of demand does not suggest that hydrogen peroxide suppliers would be able reach, monitor, or punish deviations from any agreement. See Hr’g Tr. (Hill–C) 2220:5–2221:12; see also Hr’g Tr. (Rothman–O) 908:13–17 (testifying that there is no “magic number” of factors to find vulnerability to coordination).

<sup>390</sup> Hr’g Tr. (Hill–O) 2056:9–12; JX0070-029 § 7.2; Hr’g Tr. (Rothman–O) 911:10–12.

<sup>391</sup> Hr’g Tr. (Hill–O) 2056:13–2057:1 (discussing DDX-14, at 25); JX0066-024 to -025 figs.2 & 3.

<sup>392</sup> Hr’g Tr. (Hill–O) 2057:2–11.

<sup>393</sup> [REDACTED]; Hr’g Tr. (Anderson–O) 210:2–5.

products with distinct features tailored to particular end-uses that are sold at different prices.<sup>394</sup> Even Dr. Rothman concedes that all non-electronics-grade hydrogen peroxide products are not a single commodity.<sup>395</sup> This differentiation makes the industry less vulnerable to coordination.

**b) Blind Bidding Impedes Transparency.**

172. This court has concluded that “sealed bids and confidentiality is an important aspect of market structure and dynamics that would frustrate coordination among producers.” *Arch Coal*, 329 F. Supp. 2d at 144; *see also id.* at 145 (“Due to the nature of the confidential bidding and contracting process that gives producers incentives to submit aggressive bids to capture long term contracts, cheating would not be detected until well after the fact, if ever, and any punishment would come well after the fact as well.”). The Guidelines also recognize that the “nature of the procurement process” can hinder firms’ ability to coordinate.<sup>396</sup> In addition, a marketplace is less vulnerable to coordination when suppliers lack transparency into prices and quantities, as transparency allows suppliers to monitor each other effectively.<sup>397</sup>

173. In North America, hydrogen peroxide buyers run blind bidding contests for high-volume, long-term supply contracts.<sup>398</sup> Customers achieve savings by leveraging competing bids against each other to obtain more favorable terms.<sup>399</sup> However, customers generally do not disclose the identity of other bidders, prices, and other competitive terms to competing

<sup>394</sup> *Supra* Section III.B.; Hr’g Tr. (Montag–O) 1512:14–1513:2, 1513:18–1514:5.

<sup>395</sup> Hr’g Tr. (Rothman–O) 922:2–4.

<sup>396</sup> JX0070-030 § 7.2.

<sup>397</sup> Hr’g Tr. (Hill–O) 2059:21–24. *Cf.* JX0070-029 § 7.2.

<sup>398</sup> *See, e.g.*, Hr’g Tr. (Shirley–O) 1921:2–1922:8, 1923:10–14; [REDACTED]

<sup>399</sup> [REDACTED]; Hr’g Tr. (Shirley–O) 1924:18–25; *see also* [REDACTED].

bidders.<sup>400</sup> Even when leveraging competing bids to prompt a better offer, customers generally will not reveal how far off the original bid was.<sup>401</sup> Moreover, if customers do reveal information about a competing bid, suppliers have no way to know whether the customer is providing a competitor's true bid.<sup>402</sup> Nor can they know the extent to which the bid reflects different contract terms in the competing offer.<sup>403</sup>

174. Suppliers consistently testified that they generally [REDACTED]

[REDACTED]<sup>404</sup> There is no publicly published list price for hydrogen peroxide.<sup>405</sup> Indeed, bids for hydrogen peroxide are RFP-specific, and even in the same RFP, vary by customer location.<sup>406</sup>

175. Due to this lack of transparency, the blind bidding process ensures robust competition regardless of the number of bids.<sup>407</sup> Suppliers bid [REDACTED]

[REDACTED]<sup>408</sup> For example, as Dr. Rothman acknowledges in his report, competition is fierce in the FTC's alleged Pacific Northwest market, despite the presence of just

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400 [REDACTED]; Hr'g Tr. (Shirley-O) 1922:9-1924:17; [REDACTED]

401 [REDACTED]; Hr'g Tr. (Shirley-O) 1923:16-1924:17; [REDACTED]

402 [REDACTED]

403 *See* [REDACTED]

404 Hr'g Tr. (Radlinski-C) 575:1-17; Hr'g Tr. (Suter-C) 440:14-25; Hr'g Tr. (Dumas-O) 306:9-309:14; Hr'g Tr. (Myrick-C) 510:11-20.

405 Hr'g Tr. (Corson-C) 656:5-10; *see also* Hr'g Tr. (Montag-C) 1535:3-9.

406 *See, e.g.*, JX0094; JX0089.

407 [REDACTED]

[REDACTED] *see also* [REDACTED]

408 Hr'g Tr. (Suter-C) 439:10-21; Hr'g Tr. (Myrick-C) 507:17-508:6; Hr'g Tr. (Radlinski-C) 574:18-25; Hr'g Tr. (Montag-C) 1538:21-1539:14.

three hydrogen peroxide suppliers.<sup>409</sup>

176. As in any competitive industry, hydrogen peroxide suppliers seek to gather market information from customers and third-party data providers in order to compete more effectively.<sup>410</sup> Evonik maintains an internal database collecting information from public sources and that customers provide through their RFP process.<sup>411</sup> That internal database is no longer used to track estimated pricing, and other fields in the database, such as product grade information, are not regularly maintained.<sup>412</sup>

177. The information that competitors *are* able to collect is often incomplete and inaccurate.<sup>413</sup> When Dr. Hill analyzed Evonik's competitive intelligence database and compared it against the sales data collected from all five suppliers, Dr. Hill determined that, even when Evonik correctly identifies the supplier serving a customer, its price and quantity estimates are nearly always inaccurate.<sup>414</sup> Indeed, Evonik no longer bothers trying to track prices because its efforts have proven so unsuccessful.<sup>415</sup>

**c) Hydrogen Peroxide Is Sold Under Large and Long-Term Contracts.**

178. A marketplace is less vulnerable to coordination when customers use large and long-term contracts. *CCC Holdings*, 605 F. Supp. 2d at 64 (“[W]here large buyers likely would engage in long-term contracting, so that the sale covered by such contracts can be large relative to the total output of a firm in the market, firms may have the incentive to deviate’ from the

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<sup>409</sup> JX0075-084 to -085; *see also* Hr’g Tr. (Lerner–O) 1386:11–17; Hr’g Tr. (Anderson–O) 200:5–12.

<sup>410</sup> *See* Hr’g Tr. (Corson–O) 657:6–658:23; *see also* Hr’g Tr. (Rothman–O) 915:4–11.

<sup>411</sup> Hr’g Tr. (Corson–O) 654:9–655:1; *see also* Hr’g Tr. (Corson–O) 655:2–656:1.

<sup>412</sup> Hr’g Tr. (Corson–O) 657:24–658:11.

<sup>413</sup> Hr’g Tr. (Montag–C) 1539:15–1540:3.

<sup>414</sup> JX0066-103 to -104 ¶ 228, fig.48.

<sup>415</sup> Hr’g Tr. (Corson–O) 658:4–11.

terms of coordination.”) (quoting 1997 Guidelines).<sup>416</sup>

179. Large contracts create an incentive for firms to deviate from any common understanding.<sup>417</sup> Long-term contracts make the hydrogen peroxide industry less vulnerable to coordination because they result in fewer opportunities for suppliers to punish and retaliate against each other.<sup>418</sup> Customers in the hydrogen peroxide industry solicit bids for large contracts.<sup>419</sup> A representative from one large customer testified that her company leverages its volumes by requesting quotes for multi-year contracts for the supply of multiple mills.<sup>420</sup>

180. Almost all of Evonik’s hydrogen peroxide sales are done under contract, not through small spot purchases.<sup>421</sup> These contracts tend to be for large volumes and therefore are extremely valuable.<sup>422</sup> For example, Evonik’s top 20 customers account for nearly [REDACTED] percent of its revenue in the United States.<sup>423</sup> PeroxyChem also makes most of its sales under long-term contracts, with its top 20 customers representing over [REDACTED] percent of its revenue in the United States.<sup>424</sup> Arkema’s 20 largest customers account for [REDACTED] of its hydrogen peroxide sales.<sup>425</sup>

181. Hydrogen peroxide customers award long-term contracts in order to have a secure source of supply.<sup>426</sup> The vast majority of hydrogen peroxide contracts have [REDACTED]

<sup>416</sup> Hr’g Tr. (Hill–O) 2057:16–19, 2058:18–21; JX0070-029 § 7.2; Hr’g Tr. (Rothman–O) 909:10–16.

<sup>417</sup> Hr’g Tr. (Hill–O) 2058:8–17.

<sup>418</sup> Hr’g Tr. (Hill–O) 2059:11–20.

<sup>419</sup> Hr’g Tr. (Hill–O) 2057:20–2058:7 (discussing DDX-14, at 26).

<sup>420</sup> Hr’g Tr. (Shirley–O) 1921:2–15, 1925:7–17; [REDACTED]

<sup>421</sup> Hr’g Tr. (Corson–O) 650:10–14; Hr’g Tr. (Costanzo–O) 1117:20–1118:7.

<sup>422</sup> Hr’g Tr. (Corson–O) 649:11–650:1; [REDACTED]

<sup>423</sup> JX0066-109 ¶ 240; *see* DX303, at 21.

<sup>424</sup> JX0066-109 ¶ 240.

<sup>425</sup> Hr’g Tr. (Myrick–C) 507:14–16.

<sup>426</sup> *See, e.g.*, Hr’g Tr. (Shirley–O) 1921:16–23; JX0089-003 to -004; Hr’g Tr. (Maeder–O) 142:14–25; Hr’g Tr. (Anderson–O) 198:4–11; [REDACTED].

██████████<sup>427</sup> The average length of Evonik’s top 20 contracts is █████ months, and the average length of PeroxyChem’s top 20 contracts is █████ months.<sup>428</sup> Given their long-term nature, contracts typically come up for bid only every other year or even less frequently.<sup>429</sup> That makes the stakes for each customer contract high, as winning or losing one contract could make or break a supplier’s year.

**d) Customers Are Large, Sophisticated, and Powerful Buyers**

182. A marketplace is less vulnerable to coordination when customers are powerful buyers.<sup>430</sup> *CCC Holdings*, 605 F. Supp. 2d at 64 (noting that “[a] sophisticated customer base makes price coordination more difficult”) (citations omitted). The Guidelines appreciate that “a large buyer may be able to strategically undermine coordinated conduct . . . by choosing to put up for bid a few large contracts rather than many smaller ones.”<sup>431</sup>

183. Hydrogen peroxide suppliers predominantly serve large, sophisticated customers,<sup>432</sup> such as International Paper and █████,<sup>433</sup> which have substantial negotiating leverage vis-à-vis suppliers.<sup>434</sup> These customers are capable of navigating supply dynamics to achieve the best terms and frustrating attempts at coordination. In particular, these large buyers have dedicated procurement personnel who are experienced at running bid processes geared toward minimizing

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<sup>427</sup> Hr’g Tr. (Hill–O) 2058:18–2059:10 (discussing DDX-14, at 27); *see, e.g.*, Hr’g Tr. (Maeder–O) 141:17–20; █████; █████; █████; Hr’g Tr. (Shirley–O) 1918:1–7; Hr’g Tr. (Costanzo–O) 1117:20–1118:7; █████.

<sup>428</sup> JX0066-109 to -110 ¶ 241; *see also* Hr’g Tr. (Corson–O) 650:15–23.

<sup>429</sup> Hr’g Tr. (Corson–O) 647:22–648:4, 649:11–16.

<sup>430</sup> Hr’g Tr. (Hill–O) 2057:16–19; JX0070-030 § 7.2; Hr’g Tr. (Rothman–O) 908:20–909:1.

<sup>431</sup> JX0070-030 § 7.2.

<sup>432</sup> *See, e.g.*, █████.

<sup>433</sup> Hr’g Tr. (Shirley–O) 1925:7–17; █████

<sup>434</sup> █████; Hr’g Tr. (Shirley–O) 1925:7–17.

costs,<sup>435</sup> and deft at leveraging competing bids to extract the best possible terms.<sup>436</sup>

184. Large customers have bargaining leverage vis-à-vis suppliers because suppliers need to ensure they can come close to selling their potential volume each year in order to be able to run facilities efficiently and profitably.<sup>437</sup> As a result, losing any large volume would expose the company to significant risk.<sup>438</sup> To mitigate that risk, Evonik has offered lower pricing or additional services to its key existing customers like [REDACTED], prior to the expiration of their current contracts in order to avoid having one of those customers issue an RFP.<sup>439</sup>

185. Customers send RFPs to all five suppliers and conduct multi-stage procurement processes in which suppliers provide revised bids.<sup>440</sup> Leveraging the RFP process, one customer was able to achieve savings even when [REDACTED] was the sole bidder for two of its mills.<sup>441</sup> Another customer testified that in response to a bid from a supplier “we responded to them and told them that their initial offer was not going to be acceptable” and “[t]hey came back to us with a lower number.”<sup>442</sup>

**e) Nouryon Is Positioned To Be a Disruptive Firm.**

186. A marketplace is less vulnerable to coordination when a competitor could be

<sup>435</sup> [REDACTED]; Hr’g Tr. (Costanzo–O) 1151:4–15; Hr’g Tr. (Dumas–O) 298:18–20.

<sup>436</sup> Hr’g Tr. (Maeder–O) 140:7–17 (testifying that the RFP process allows the company to obtain “the most competitive pricing possible”); [REDACTED]; [REDACTED].

<sup>437</sup> Hr’g Tr. (Costanzo–C) 1126:21–1128:14; Hr’g Tr. (Hamann–O) 1245:23–1247:5; Hr’g Tr. (Kramer–C) 1642:6–1643:4; *see also* [REDACTED].

<sup>438</sup> Hr’g Tr. (Corson–O) 652:10–19.

<sup>439</sup> Hr’g Tr. (Corson–O) 653:3–22; DX303, at 22.

<sup>440</sup> [REDACTED]; [REDACTED]; *see* [REDACTED]; Hr’g Tr. (Montag–C) 1536:18–1537:14.

<sup>441</sup> [REDACTED] (testifying that [REDACTED] achieved savings even where only [REDACTED] bid for the [REDACTED]).

<sup>442</sup> [REDACTED].

disruptive to potential coordination.<sup>443</sup> In the hydrogen peroxide industry, Nouryon is positioned to be a disruptive firm because of its small size and ability to rapidly increase sales given its excess capacity.<sup>444</sup> Nouryon is already an important competitive constraint today. Customers have benefitted from price competition from Nouryon.<sup>445</sup>

187. As a new entrant with excess capacity—and an express strategy to bid low to gain volume—United Initiators is similarly poised to be a disruptive firm in Western Canada.<sup>446</sup>

**f) Marketplace Conditions Have Changed Since a Single Episode of Collusion Twenty Years Ago, and Factors that Facilitated that Episode Are Rare in the Market Today.**

188. The Guidelines state that past collusion can indicate that an industry is vulnerable to coordination, *unless* conditions in the marketplace have significantly changed.<sup>447</sup> What the FTC refers to as an “extensive history of collusion”<sup>448</sup> was in fact a single episode that ended in 2001.<sup>449</sup> The conduct did not involve PeroxyChem (or its predecessor, FMC), and Evonik’s predecessor (Degussa), reported the conduct to the DOJ.<sup>450</sup>

<sup>443</sup> Hr’g Tr. (Hill–O) 2062:9–2063:1; JX0070-029 § 7.2 (“[C]ollective market power is diminished by the presence of other market participants with small market shares and little stake in the outcome resulting from the coordinated conduct, if these firms can rapidly expand their sales in the relevant market.”).

<sup>444</sup> Hr’g Tr. (Hill–O) 2063:2–13 (discussing DDX-14, at 30). In contrast, [REDACTED] Hr’g Tr. (Hill–C) 2224:2–17; JX0151-014.

<sup>445</sup> [REDACTED]

<sup>446</sup> See Hr’g Tr. (Cummins–C) 1757:22–1758:19. In contrast, in *Tronox*, the smallest firm in the titanium dioxide industry was unable to meaningfully vary its output to disrupt coordination. Hr’g Tr. (Hill–O) 2070:12–18; JX0066-116 ¶ 259.

<sup>447</sup> Hr’g Tr. (Hill–O) 2063:21–25; JX0070-028 § 7.2.

<sup>448</sup> FTC Br. 1, 7, 24, 25.

<sup>449</sup> In the nearly two decades that have since passed, there has been no recurrence. This stands in contrast to *Tronox*, in which the FTC relied on recent history of overt collusion in the titanium dioxide industry, with allegations of price fixing and corresponding litigation taking place within the five years preceding the merger. *FTC v. Tronox Ltd.*, 322 F. Supp. 3d 197, 209 n.12 (D.D.C. 2018).

<sup>450</sup> See Hr’g Tr. (Rothman–O) 911:13–912:20; DX262, at 1.

189. In any event, marketplace conditions have changed in the two decades since that conduct occurred, and the factors that facilitated collusion 20 years ago are now rare.<sup>451</sup>

190. *Public Price Announcements Ceased.* Participants in the prior collusion used public price announcements about future price increases to reach common understandings about price levels.<sup>452</sup> That practice has all but disappeared from the market: while 26 public price increase announcements were made between 1998 and 2001, there has been only one since 2016.<sup>453</sup> The FTC concedes that the practice of issuing public price announcements is no longer frequent in the hydrogen peroxide market.<sup>454</sup>

191. *Swap Agreements Are Rare.* During the prior collusion, swap agreements between suppliers reduced the incentive to compete for customers benefiting from the swap.<sup>455</sup> While five of the six suppliers had swap agreements between 1998 and 2001, only one swap agreement exists today.<sup>456</sup> The FTC concedes that the practice is no longer frequent.<sup>457</sup>

192. *Meet-or-Release Clauses are Rare.* Meet-or-release clauses facilitated the prior collusion by (1) allowing for easy detection of deviations and (2) lowering the incentive to engage in aggressive competition in the first place.<sup>458</sup> At the time of the prior collusion, many large customers had meet-or-release clauses in their contracts; today, these clauses are rare.<sup>459</sup>

193. *Product Differentiation Increased.* As demand for specialty products for new

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<sup>451</sup> Hr'g Tr. (Hill-O) 2064:1-2067:8.

<sup>452</sup> Hr'g Tr. (Hill-O) 2064:23-2065:15.

<sup>453</sup> Hr'g Tr. (Hill-O) 2064:23-2065:15; JX0066-106 ¶ 232.

<sup>454</sup> FTC Br. 7, 8; *see also* Hr'g Tr. (Rothman-O) 913:9-12.

<sup>455</sup> Hr'g Tr. (Hill-O) 2066:17-2067:8.

<sup>456</sup> Hr'g Tr. (Hill-O) 2067:2-8; JX0066-107 ¶ 235.

<sup>457</sup> FTC Br. 7, 8; *see also* Hr'g Tr. (Rothman-O) 914:19-22.

<sup>458</sup> Hr'g Tr. (Hill-O) 2065:16-2066:7.

<sup>459</sup> Hr'g Tr. (Hill-O) 2066:8-16; JX0066-106 to -107 ¶ 234; [REDACTED]; Hr'g Tr. (Costanzo-O) 1120:1-13.

applications has grown over the past twenty years,<sup>460</sup> there is now a greater variety of hydrogen peroxide products.<sup>461</sup> A marketplace is less vulnerable to coordination when products and prices are differentiated.<sup>462</sup> See *CCC Holdings*, 605 F. Supp. 2d at 61 (“In addition to product heterogeneity, coordination may be impeded by a lack of ‘standardization of pricing or product variables on which firms could compete.’”) (quoting 1997 Guidelines).

194. The FTC frequently reminds that the Seventh Circuit has stated that “an acquisition which reduces the number of significant sellers in a market already highly concentrated and prone to collusion by reason of its history and circumstances is unlawful in the absence of special circumstances.” *FTC v. Elders Grain, Inc.*, 868 F.2d 901, 906 (7th Cir. 1989). But the very next sentence of that opinion recognizes that “all this assumes a properly defined market,” which the FTC has failed to prove here.<sup>463</sup> And the FTC’s Guidelines recognize that industry changes of the sort just discussed are special circumstances that sap evidence of long-ceased collusion of any probative power about whether an industry is vulnerable to collusion today.

**g) Internal Company Documents Do Not Show Vulnerability to Coordination.**

195. The FTC tries to make up for the lack of evidence of vulnerability to coordination with statements taken out of context from internal company documents.<sup>464</sup>

196. Dr. Rothman claims that two documents suggest that the hydrogen peroxide industry is vulnerable to coordination. First, he relies on part of one sentence in a PeroxyChem pricing

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<sup>460</sup> Hr’g Tr. (Hill–O) 2064:1–15; JX0066-106 ¶ 233; Hr’g Tr. (Rothman–O) 914:23–915:3.

<sup>461</sup> See *supra* ¶¶ 9–11.

<sup>462</sup> Hr’g Tr. (Hill–O) 2056:9–12; JX0070-029 § 7.2.

<sup>463</sup> See *supra* Section III.

<sup>464</sup> Hr’g Tr. (Hill–O) 2126:20–2127:13 (explaining no evidence has been presented showing suppliers recognizing their mutual interdependence from not competing aggressively).

overview recognizing that pricing can depend on the “number of viable competitors,”<sup>465</sup> but he ignores all of the other factors that the document identifies as playing more important roles in pricing.<sup>466</sup> Second, Dr. Rothman cites an Evonik document discussing its acquisition of the Maitland plant in Eastern Canada nearly a decade ago.<sup>467</sup> But he fails to recognize that Evonik’s Maitland acquisition did not lessen competitive intensity. After the acquisition, Evonik *increased* capacity at the Maitland plant by approximately 20 percent.<sup>468</sup> It realized logistics and production efficiencies from the acquisition.<sup>469</sup> And when Evonik tried to raise some customers’ prices, those customers took their business to competitors, and Evonik ended up losing money.<sup>470</sup>

197. Documents that the FTC showed to Evonik and PeroxyChem witnesses likewise fail to prove that the hydrogen peroxide industry is vulnerable to coordination. For example, the FTC misreads references in internal company documents to terms like “discipline” as suggestive of vulnerability to coordination,<sup>471</sup> despite testimony that Evonik uses that term to refer to its commitment to obtaining the pricing needed to support its investments in service and reliability to ensure long-term success and to be more competitive.<sup>472</sup> *See FTC v. Arch Coal, Inc.*, 329 F. Supp. 2d 109, 138, 146 (D.D.C. 2004) (finding that “the structure and dynamics of the . . . market are not conducive to an increased likelihood of tacit coordination as a result of the

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<sup>465</sup> Hr’g Tr. (Rothman–O) 915:19–916:5 (discussing an excerpt from PX2484).

<sup>466</sup> Hr’g Tr. (Rothman–O) 916:6–917:19 (discussing that PX2484  ).

<sup>467</sup> Hr’g Tr. (Rothman–O) 759:4–15 (discussing an excerpt from PX1488).

<sup>468</sup> Hr’g Tr. (Hamann–O) 1248:14–1249:10.

<sup>469</sup> Hr’g Tr. (Hamann–O) 1249:11–20.

<sup>470</sup> *See* Hr’g Tr. (Hamann–O) 1247:6–1248:5 (explaining that Evonik adjusted pricing to invest in reliability and shift away from prior owner’s strategy of selling hydrogen peroxide in a bundle with other chemicals).

<sup>471</sup> *See* Hr’g Tr. (Costanzo–C) 1207:2–1208:12.

<sup>472</sup> Hr’g Tr. (Costanzo–C) 1207:2–16, 1208:9–13 (discussing JX0083-029), 1126:21–1128:3.

proposed transaction,” despite “a stated interest by some . . . producers in production discipline.”).

198. The FTC also cites to fears of “price wars” or “price spirals,”<sup>473</sup> but any business would prefer to charge higher prices.<sup>474</sup> If anything, the documents cited by the FTC confirm that hydrogen peroxide suppliers face significant pricing pressure and regularly bid aggressively to steal business from one another.<sup>475</sup> Testimony from hydrogen peroxide suppliers and customers confirms this competitive dynamic.<sup>476</sup> And, if a supplier does decline to bid, it is a unilateral business decision based on a number of factors, not forbearance from competition.<sup>477</sup>

199. The FTC cites a document in which [REDACTED]  
[REDACTED]<sup>478</sup> But a decision not to offer a lower price is a unilateral business decision, not evidence of vulnerability to coordination.

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<sup>473</sup> Hr’g Tr. (Montag–C) 1578:25–1580:14 (discussing PX2326), 1574:14–1576:5 (discussing PX2190). The FTC similarly questioned Evonik about [REDACTED]

[REDACTED] Hr’g Tr. (Costanzo–C) 1208:14–1211:8 (discussing JX0114), 1211:9–1213:7 (discussing PX1211).

<sup>474</sup> [REDACTED] *See, e.g.*, Hr’g Tr. (Montag–C) 1537:15–25, 1533:18–1535:2; Hr’g Tr. (Costanzo–C) 1126:21–1128:3.

<sup>475</sup> *See* JX0114-001 ([REDACTED]); JX0112-001 ([REDACTED]); PX1027-008 ([REDACTED]).

<sup>476</sup> [REDACTED] Hr’g Tr. (Costanzo–C) 1199:9–14. *See, e.g.*, [REDACTED]

<sup>477</sup> [REDACTED]

<sup>478</sup> PX2119-001.

200. The FTC additionally questioned Stephen Costanzo, Vice President and General Manager of the Active Oxygens business line for the Americas, about [REDACTED]

[REDACTED]<sup>479</sup> Mr. Costanzo explained that [REDACTED]

[REDACTED]<sup>480</sup> [REDACTED]

[REDACTED]<sup>481</sup> and it has nothing to do with the merger.

201. Finally, the FTC questioned Evonik witnesses about documents that seek to track information about competitors.<sup>482</sup> But Evonik tracks this information to be *more competitive*,<sup>483</sup> which Dr. Rothman confirmed to be common practice in competitive industries.<sup>484</sup> Moreover, the assumptions used to compile the information,<sup>485</sup> and the inaccuracies in the information that

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<sup>479</sup> Hr'g Tr. (Costanzo-C) 1213:8-1217:16 (discussing JX0129-037 to -038).

<sup>480</sup> Hr'g Tr. (Costanzo-C) 1128:24-1131:16 (discussing JX0129-037).

<sup>481</sup> Hr'g Tr. (Costanzo-C) 1131:7-16 (discussing JX0129-037).

<sup>482</sup> See Hr'g Tr. (Hamann-C) 1304:18-1310:17 (discussing PX1228A-010 to -011); Hr'g Tr. (Corson-C) 617:1-627:23 (discussing JX0110 and JX0111); Hr'g Tr. (Costanzo-O) 1156:4-1164:23 (discussing JX0083-003, -008, -017, -018, -020, -021).

<sup>483</sup> Hr'g Tr. (Hamann-C) 1331:16-1332:6 ([REDACTED]); Hr'g Tr. (Corson-C) 623:2-17, 657:6-23 ([REDACTED])

[REDACTED] Hr'g Tr. (Costanzo-C) 1203:2-1205:19 (discussing JX0083-029).

<sup>484</sup> Hr'g Tr. (Rothman-O) 915:4-11.

<sup>485</sup> Hr'g Tr. (Hamann-C) 1307:11-21, 1308:14-1309:15, 1310:4-11, 1332:9-1333:4 ([REDACTED])

[REDACTED]).

Evonik collects,<sup>486</sup> serve only to confirm that the hydrogen peroxide industry is not transparent.

## 2. The Merger is Not Likely to Increase Vulnerability to Coordination

202. In addition to proving that the hydrogen peroxide industry is already vulnerable to coordination, the FTC, under the Guidelines, must supply a “credible basis on which to conclude that the merger may enhance that vulnerability.”<sup>487</sup> The FTC failed to supply such proof.

203. The transaction will not change any of the defining characteristics of the industry that render it robustly competitive and not vulnerable to coordination today. Hydrogen peroxide products will still be highly differentiated.<sup>488</sup> Large and powerful customers will still pit suppliers against each other in procurement auctions.<sup>489</sup> Hydrogen peroxide will still be sold under long-term contracts.<sup>490</sup> Suppliers will still not know how much product each customer is buying from a rival or what price the rival is charging.

204. There is no evidence that the merger would increase transparency in the hydrogen peroxide industry. Unlike *Tronox*, where a private company would have been acquired by a public company that made frequent announcements about its plans and publicly recognized the value in competitors working together to withhold output to support high prices,<sup>491</sup> Evonik rarely makes *any* public announcements relating to hydrogen peroxide and none related to pricing.<sup>492</sup>

205. Dr. Rothman asserted that the merger would make the hydrogen peroxide industry

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<sup>486</sup> Hr’g Tr. (Hill–O) 2060:3–2061:6 (discussing DDX-14, at 28, and testifying that Evonik rarely estimated correctly the quantities or prices at which competitors supply customers); *see also* Hr’g Tr. (Corson–C) 658:4–11; *see supra* ¶ 177.

<sup>487</sup> JX0070-028 § 7.1.

<sup>488</sup> [REDACTED]; *see* Hr’g Tr. (Rothman–O) 917:22–918:1.

<sup>489</sup> [REDACTED]; *see* Hr’g Tr. (Rothman–O) 918:2–4.

<sup>490</sup> *See* Hr’g Tr. (Rothman–O) 918:5–11.

<sup>491</sup> Hr’g Tr. (Hill–O) 2069:12–2070:1; JX0066-114 to -115 ¶¶ 254–257; *see FTC v. Tronox Ltd.*, 332 F. Supp. 3d 187, 198 (D.D.C. 2018).

<sup>492</sup> Hr’g Tr. (Hill–O) 2069:12–2070:1.

more vulnerable to coordination for three reasons. First, he noted that the merger would reduce the number of competitors and increase market concentration,<sup>493</sup> but the Guidelines require proof that a merger would enhance a market’s vulnerability to coordinated conduct separate from and in addition to proof of its effect on market concentration.<sup>494</sup>

206. Second, Dr. Rothman observed that the merger would position Evonik as a “market leader.”<sup>495</sup> While the merger will make Evonik larger than other suppliers, Dr. Hill explained that it is easier for firms to reach a common understanding (a necessary predicate to coordination) if they are similarly sized.<sup>496</sup> *Cf. Tronox*, 332 F. Supp. 3d at 195 (post-merger, Chemours would have 37% share, and Tronox would have 36% share). Conversely, reducing industry symmetry—as would Evonik’s acquisition of PeroxyChem—renders coordination more difficult.<sup>497</sup>

207. Third, Dr. Rothman claimed that the merger will give Evonik a “greater ability to enforce discipline.”<sup>498</sup> But his explanation of this idea—that “Evonik getting bigger . . . means Evonik will . . . be able to compete head-to-head on more opportunities with the other players in the market”<sup>499</sup>—demonstrates both that this third point is only rehashing his “market leader” argument and, more importantly, that the merger will lead to greater competition.

#### **D. The Merger Will Not Have Unilateral Effects.**

208. A merger may have unilateral effects if it allows the acquiring firm to increase prices or reduce quality by eliminating important head-to-head competition between the two merging

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<sup>493</sup> Hr’g Tr. (Rothman–O) 756:14–757:1.

<sup>494</sup> See JX0070-028 § 7.1 (separating analysis of (1) the merger’s effect on concentration from (3) its likelihood of enhancing a market’s vulnerability to coordinated conduct).

<sup>495</sup> Hr’g Tr. (Rothman–O) 756:19–757:5, 759:16–24.

<sup>496</sup> Hr’g Tr. (Hill–O) 2070:5–11; JX0066-110 to -111 ¶¶ 242–46.

<sup>497</sup> Hr’g Tr. (Hill–O) 2070:10–11.

<sup>498</sup> Hr’g Tr. (Rothman–O) 759:16–760:14.

<sup>499</sup> Hr’g Tr. (Rothman–O) 760:7–9.

firms. *See United States v. H&R Block, Inc.*, 833 F. Supp. 2d 36, 81, 88 (D.D.C. 2011) (finding unilateral effects likely where merger would combine two of three online tax services); *FTC v. CCC Holdings Inc.*, 605 F. Supp. 2d 26, 67–72 (D.D.C. 2009) (rejecting unilateral effects theory where evidence failed to show merging firms were customers’ first and second choices for automotive repair cost estimation software); *FTC v. Swedish Match*, 131 F. Supp. 2d 151, 169 (D.D.C. 2000) (finding unilateral effects likely where merger would eliminate a “primary” and “direct” competitor); *FTC v. Staples, Inc.*, 970 F. Supp. 1066, 1083 (D.D.C. 1997) (finding unilateral effects likely where “merger would eliminate significant head-to-head competition between the two lowest cost and lowest priced firms”); *United States v. Oracle Corp.*, 331 F. Supp. 2d 1098, 1172 (N.D. Cal. 2004) (rejecting unilateral effects theory where evidence failed to show merging firms were customers’ first and second choices for enterprise software).

**1. The Merger Will Not Have Substantial Unilateral Effects in the Pacific Northwest.**

**a) The FTC Concedes That the Merger Will Not Have Substantial Unilateral Effects in the Pacific Northwest Post-Divestiture.**

209. Evonik and PeroxyChem have agreed to divest the Prince George Business to United Initiators to resolve any potential competitive issues in Western Canada. The divestiture will allow United Initiators to enter as a new hydrogen peroxide competitor in North America.<sup>500</sup>

210. The divestiture of the Prince George Business to United Initiators will preserve the current market structure in the FTC’s alleged Pacific Northwest market.<sup>501</sup> Today there are three hydrogen peroxide suppliers in the Pacific Northwest: Solvay, Evonik, and PeroxyChem. Following the divestiture, there will continue to be three hydrogen peroxide suppliers in the

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<sup>500</sup> *See supra* Section IV.

<sup>501</sup> Hr’g Tr. (Hill–O) 2094:14–20.

Pacific Northwest, with United Initiators replacing PeroxyChem. Customers therefore will have the same number of supply options in the Pacific Northwest after the merger as they do today.

211. There is no evidence that the merger will have a substantial unilateral effect in the Pacific Northwest following the divestiture of the Prince George plant to United Initiators. Dr. Rothman conceded that there will be no substantial unilateral effect in the Pacific Northwest if the Prince George plant is divested to a new competitor,<sup>502</sup> such as United Initiators.

**b) Even Ignoring the Divestiture, the Merger Will Not Have Substantial Unilateral Effects in the U.S. Portion of the Pacific Northwest.**

212. Dr. Hill and Dr. Rothman agree that, even absent the divestiture of the Prince George plant, any unilateral effects from the merger in the Pacific Northwest would occur overwhelmingly in the Canadian portion of the Pacific Northwest and that the unilateral effects on customers in the U.S. portion of the Pacific Northwest would be significantly smaller.<sup>503</sup>

213. Dr. Hill found that Evonik and PeroxyChem have a combined market share of less than ■ percent in the U.S. portion of the Pacific Northwest.<sup>504</sup> Dr. Hill concluded that the merger would not be presumptively anticompetitive in the U.S. Pacific Northwest because it would increase concentration only by a modest amount, well below the thresholds required to receive a presumption of anticompetitive harm under the Guidelines.<sup>505</sup> Dr. Hill used Dr. Rothman's economic models and found that they predict that the merger will not have any substantial effect on customers in the U.S. Pacific Northwest.<sup>506</sup>

214. Dr. Rothman's GUPPI model predicts a 10 percent price effect in the Pacific

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<sup>502</sup> Hr'g Tr. (Rothman-O) 830:14-831:11.

<sup>503</sup> Hr'g Tr. (Hill-O) 2097:18-2098:3; Hr'g Tr. (Rothman-O) 989:13-24.

<sup>504</sup> Hr'g Tr. (Hill-O) 2095:22-2096:10 (discussing DDX-14, at 56); JX0066-053 fig.15.

<sup>505</sup> Hr'g Tr. (Hill-O) 2096:11-2097:1 (discussing DDX-14, at 56); JX0066-053 fig.15; *see also* JX0070-022 § 5.3; Hr'g Tr. (Rothman-C) 987:9-12.

<sup>506</sup> *See* Hr'g Tr. (Hill-O) 2097:18-2098:3 (discussing DDX-14, at 57).

Northwest but only a 0.1 percent price effect to customers in the United States.<sup>507</sup> Similarly, Dr. Rothman’s second-score auction model predicts a 10 percent price effect in the Pacific Northwest, but no harm to customers in the United States.<sup>508</sup> Dr. Hill concluded that the merger is unlikely to have a substantial unilateral effect on U.S. customers in the Pacific Northwest.<sup>509</sup>

215. The absence of substantial unilateral effects on hydrogen peroxide customers in the U.S. portion of the Pacific Northwest is confirmed by the absence of any qualitative evidence showing competition between Evonik and PeroxyChem for U.S. customers in the Pacific Northwest. Dr. Rothman cited to evidence of competition between the parties in Canada, but he did not present similar evidence—in either his initial report or his rebuttal report—of direct competition between Evonik and PeroxyChem for customers in the U.S. Pacific Northwest.<sup>510</sup>

**c) The FTC Cannot Challenge a Merger Based on Effects Outside of the United States.**

216. The FTC has no jurisdiction to block a merger based on effects outside of the United States. *See* 15 U.S.C. § 18 (Clayton Act prohibits mergers that substantially lessen competition “in any line of commerce or in any activity affecting commerce in any section of *the country*”) (emphasis added); 15 U.S.C. § 45(a) (FTC Act prohibits “[u]nfair methods of competition in or affecting commerce”); 15 U.S.C. § 44 (defining “commerce” to involve the United States).

217. The FTC has failed to provide evidence that the merger is likely to create substantial unilateral effects on hydrogen peroxide consumers in the U.S. portion of the Pacific Northwest. To the extent that the FTC has shown substantial unilateral effects are likely on customers in the Canadian Pacific Northwest, such effects are beyond the FTC’s jurisdiction.

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<sup>507</sup> JX0066-123 fig.54.

<sup>508</sup> JX0066-123 fig.55.

<sup>509</sup> Hr’g Tr. (Hill–O) 2097:18–2098:3.

<sup>510</sup> Hr’g Tr. (Hill–O) 2097:2–12; *see also* JX0075-086 to -087 ¶ 187.

218. The effect of the merger on customers in the Canadian Pacific Northwest should be addressed by the competent local regulatory agency. The Canadian Competition Bureau (“CCB”) is far better positioned than the FTC to evaluate the viability of the Prince George divestiture and the likely effect of the merger on Canadian customers. Indeed, the CCB currently is reviewing the divestiture and whether United Initiators is an acceptable buyer.<sup>511</sup>

219. If the CCB is not satisfied with the divestiture or with United Initiators as the buyer, it can reject the divestiture and block the merger. Likewise, if the CCB is satisfied that the divestiture of a Canadian asset fully addresses any potential competitive harm to Canadian customers in the Pacific Northwest, the FTC should not be allowed to disrupt that decision and to substitute its own judgment for that of the competent local regulator.

**d) The FTC Failed to Define Any Downstream Markets and Failed To Prove Any Harm in Them.**

220. The FTC did not define any downstream product markets (i.e., products for which hydrogen peroxide is an input) in which the merger would substantially harm competition.<sup>512</sup> Dr. Rothman also did not define any downstream product markets.<sup>513</sup>

221. The FTC did not present any evidence that hydrogen peroxide customers could or would pass on an increase in the price of hydrogen peroxide to customers of any downstream products. Dr. Rothman also did not analyze harm to downstream customers.

222. Only one customer located in the Pacific Northwest, Canfor Pulp, testified at the hearing. Canfor Pulp operates four pulp mills located in Canada.<sup>514</sup> Canfor Pulp is served by

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<sup>511</sup> [REDACTED].

<sup>512</sup> See Compl. ¶¶ 23–24.

<sup>513</sup> See Hr’g Tr. (Rothman–O) 737:22–738:2, 831:21–832:1; JX0155-047.

<sup>514</sup> Hr’g Tr. (Anderson–O) 190:8–13.

PeroxyChem’s Prince George plant and does not buy hydrogen peroxide in the United States.<sup>515</sup> Canfor Pulp sells approximately 30 percent of its pulp production into the United States.<sup>516</sup>

223. However, there is no evidence that Canfor Pulp could or would pass on an increase in the price of hydrogen peroxide to downstream customers in the United States. The Canfor Pulp witness has no responsibility for either the sale or pricing of pulp,<sup>517</sup> and has no knowledge of whether Canfor Pulp could or would pass on an increase in the price of hydrogen peroxide to customers in the United States.<sup>518</sup>

## **2. The Merger Will Not Have Substantial Unilateral Effects in the Southern and Central United States.**

224. Unilateral effects are unlikely if either the products sold by the merging firms are not particularly close substitutes or customers can turn to alternative suppliers in response to a price increase. *See FTC v. CCC Holdings*, 605 F. Supp. 2d 26, 68 (D.D.C. 2009) (citing *United States v. Oracle Corp.*, 331 F Supp. 2d 1098, 1117–18 (N.D. Cal 2004)). In particular, the Guidelines recognize that “[a] merger is unlikely to generate substantial unilateral price increases if non-merging parties offer very close substitutes for the products offered by the merging firms.”<sup>519</sup>

225. The Guidelines also recognize that the appropriate analysis for evaluating whether a merger is likely to create substantial unilateral effects also will depend on how the relevant product is sold to customers. In industries where customers solicit bids, negotiate bilaterally with suppliers, and seek to play sellers against one another, unilateral effects are likely “in proportion to the frequency or probability with which, prior to the merger, one of the merging sellers had

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<sup>515</sup> Hr’g Tr. (Anderson–O) 203:17–24.

<sup>516</sup> Hr’g Tr. (Anderson–O) 190:23–25.

<sup>517</sup> Hr’g Tr. (Anderson–O) 208:19–209:4.

<sup>518</sup> Hr’g Tr. (Anderson–O) 209:5–13.

<sup>519</sup> JX0070-025 § 6.1.

been the runner-up when the other won the business.”<sup>520</sup> *See also CCC Holdings*, 605 F. Supp. at 67–72 (rejecting unilateral effects theory because bidding analysis did not show merging firms often were the first and second most attractive bidders).

226. And even if two suppliers historically have competed closely in bid processes, substantial unilateral effects will be unlikely if there are other equally placed bidders.<sup>521</sup>

**a) Evonik and PeroxyChem Are Not Close Competitors.**

227. Both quantitative and qualitative evidence demonstrate that Evonik and PeroxyChem are not each other’s closest competitors in the Southern and Central United States.

228. Evonik and PeroxyChem have developed different business strategies over the last 10 years and today primarily focus on different types of hydrogen peroxide products, different sets of customers, and different geographic areas.<sup>522</sup> Evonik and PeroxyChem compete more closely against other hydrogen peroxide competitors than each other,<sup>523</sup> and those other competitors will continue to constrain the merged firm after the merger.

229. Evonik primarily focuses on the reliable supply of standard-grade hydrogen peroxide to the pulp and paper industry.<sup>524</sup> Today, the vast majority of Evonik’s top customers are pulp and paper manufacturers.<sup>525</sup> Approximately █ percent of Evonik’s production at its Mobile plant

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<sup>520</sup> JX0070-025 § 6.2.

<sup>521</sup> JX0070-025 § 6.2 (“All of these factors [suggesting bidders are close competitors] are likely to be small if there are many equally placed bidders.”).

<sup>522</sup> Hr’g Tr. (Montag–C) 1550:10–1551:3.

<sup>523</sup> Hr’g Tr. (Montag–C) 1550:10–1551:3; JX0101-007 (█); JX0097-008 (█).  
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<sup>524</sup> Hr’g Tr. (Costanzo–O) 1115:2–8 (discussing JX0129-014), 1117:11–15; Hr’g Tr. (Corson–O) 637:23–638:19; DX303, at 12 (Evonik sold █ percent of its volume to pulp and paper).

<sup>525</sup> Hr’g Tr. (Corson–O) 651:8–12.

is standard-grade hydrogen peroxide sold to pulp and paper customers in the southeast.<sup>526</sup>

230. Evonik has developed strong relationships with pulp and paper customers, including by investing in applied technologies services to help pulp and paper mills use hydrogen peroxide more effectively and in logistics operations that ensure Evonik does not miss deliveries.<sup>527</sup>

231. Evonik also has invested heavily in developing a pre-electronics-grade hydrogen peroxide product sold almost exclusively to one customer, MGC.<sup>528</sup> Pre-electronics-grade hydrogen peroxide accounts for nearly [REDACTED] percent of Evonik's production at its Mobile plant,<sup>529</sup> and [REDACTED]

[REDACTED].<sup>530</sup> Together, the pulp and paper and pre-electronics segments are nearly [REDACTED] percent of Evonik's volume at Mobile.<sup>531</sup>

232. In contrast, PeroxyChem has differentiated away from the traditional pulp and paper segment by focusing on the sale of high-value, specialty-grade hydrogen peroxide into new and growing end-use applications.<sup>532</sup> PeroxyChem recognized that its Bayport plant was poorly situated to compete for sales of standard-grade hydrogen peroxide to pulp and paper customers in the Southeast United States and reinvented itself with a focus on specialty-grade products.<sup>533</sup>

233. PeroxyChem has made significant investments to develop specialty grade products

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<sup>526</sup> JX0066-064 fig.22.

<sup>527</sup> Hr'g Tr. (Corson-O) 641:3-17, 642:11-20; Hr'g Tr. (Costanzo-C) 1123:18-25.

<sup>528</sup> Hr'g Tr. (Costanzo-C) 1136:5-1137:3; Hr'g Tr. (Hamann-O) 1239:3-6.

<sup>529</sup> JX0066-064 fig.22.

<sup>530</sup> Hr'g Tr. (Hamann-C) 1293:1-22.

<sup>531</sup> JX0066-064 fig.22.

<sup>532</sup> Hr'g Tr. (Montag-O) 1524:8-18; Hr'g Tr. (Lerner-O) 1363:24-1364:7, 1364:8-1366:13 (explaining PeroxyChem's focus on specialty grade).

<sup>533</sup> Hr'g Tr. (Lerner-O) 1371:6-1374:23.

over the last five years.<sup>534</sup> PeroxyChem also [REDACTED].<sup>535</sup> Although production constraints require that PeroxyChem make some amount of standard-grade hydrogen peroxide, PeroxyChem increasingly produces more specialty-grade hydrogen peroxide and less standard-grade hydrogen peroxide as it continues its strategic shift to focus on specialty hydrogen peroxide applications.<sup>536</sup>

234. Only a portion of PeroxyChem's sales from its Bayport plant overlap with Evonik's sales from its Mobile plant. First, PeroxyChem produces several specialty-grade products for applications for which Evonik cannot offer a competing product, including aseptic food packaging, tin-free applications, medical sterilization, contact lens solution production, rocket propulsion, and electronics.<sup>537</sup> Second, PeroxyChem uses a significant portion of its Bayport production to manufacture PAA,<sup>538</sup> and it expects that demand for PAA will grow.<sup>539</sup> Third, a significant portion of PeroxyChem's Bayport volume—approximately [REDACTED] percent—is exported to Mexico and not sold in the United States.<sup>540</sup> Fourth, PeroxyChem does not sell a pre-

<sup>534</sup> Hr'g Tr. (Kramer-C) 1643:11-22 ([REDACTED]).

<sup>535</sup> Hr'g Tr. (Montag-C) 1609:9-25.

<sup>536</sup> Hr'g Tr. (Montag-O) 1524:8-18; Hr'g Tr. (Kramer-C) 1638:25-1639:5.

<sup>537</sup> Compare Hr'g Tr. (Corson-O) 671:10-21, 672:11-16, 672:19-673:9 (aseptic); Hr'g Tr. (Hamann-O) 1239:16-1240:21 (aseptic); Hr'g Tr. (Corson-O) 664:2-14 (tin-free); Hr'g Tr. (Hamann-O) 1241:9-16 (tin-free); Hr'g Tr. (Corson-O) 668:7-10 (contact lens solution); Hr'g Tr. (Hamann-O) 1243:7-9, 1243:24-1244:4 (propulsion); Hr'g Tr. (Corson-O) 664:24-665:1 (electronics); Hr'g Tr. (Hamann-O) 1244:15-25 (electronics); Hr'g Tr. (Corson-O) 667:2-10 (soil remediation); with Hr'g Tr. (Montag-O) 1516:20-1517:19 (aseptic); Hr'g Tr. (Montag-O) 1522:9-25 (tin-free); Hr'g Tr. (Montag-O) 1511:3-5 (contact lens solution); Hr'g Tr. (Kramer-C) 1636:8-14 ([REDACTED] Hr'g Tr. (Montag-C) 1528:6-8 ([REDACTED] DX636 (listing a sampling of PeroxyChem end-use products). See also Hr'g Tr. (Montag-O) 1519:15-25 (medical sterilization); [REDACTED] (medical sterilization).

<sup>538</sup> Hr'g Tr. (Lerner-O) 1369:20-1370:22.

<sup>539</sup> Hr'g Tr. (Lerner-O) 1370:9-19.

<sup>540</sup> JX0066-064 fig.22; see JX0066-032 fig.7.

electronics-grade product that competes with Evonik’s pre-electronics product.<sup>541</sup>

235. PeroxyChem competes most directly with Evonik for sales to pulp and paper customers, but those sales represent only about [REDACTED] percent of Bayport’s production.<sup>542</sup> In addition, Bayport’s sales to pulp and paper customers have been declining since it began its shift in strategy to focus more on specialty grades, and today Bayport serves only four pulp and paper customers.<sup>543</sup> PeroxyChem’s strategic planning documents show that it does not consider Evonik to be its closest competitor in the United States.<sup>544</sup>

236. Another reason that Evonik and PeroxyChem are not close competitors is that they focus on selling into different geographic areas. Evonik’s Mobile plant and PeroxyChem’s Bayport plant are more than 450 miles apart, and each is more proximate to other hydrogen peroxide competitors than to each other.<sup>545</sup> The distance between Mobile and Bayport is significant because transportation costs comprise a substantial part of hydrogen peroxide pricing and proximity to customers plays an important role in determining which plant can most competitively serve a customer.<sup>546</sup>

237. Evonik and PeroxyChem’s geographic differentiation is confirmed by their sales data. Dr. Hill analyzed that data and found that Evonik and PeroxyChem primarily serve customers in

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<sup>541</sup> See *supra* ¶ 77.

<sup>542</sup> JX0066-064 fig.22.

<sup>543</sup> Hr’g Tr. (Montag–O) 1523:6–10 (“I think we only have like four customers in pulp and paper right now in Bayport. Our focus in the Bayport plant has been, and really is today, the—diversifying into different applications and more specialty products and customers.”).

<sup>544</sup> JX0101-007 ([REDACTED]); JX0097-008 ([REDACTED]); Hr’g Tr. (Montag–C) 1550:10–21 ([REDACTED]).

<sup>545</sup> Hr’g Tr. (Hill–O) 2027:13–19, 2029:8–14.

<sup>546</sup> Hr’g Tr. (Anderson–O) 199:17–25; [REDACTED]; Hr’g Tr. (Myrick–O) 476:18–21; Hr’g Tr. (Hill–O) 2038:13–18; Hr’g Tr. (Montag–C) 1539:5–8.

different geographic regions.<sup>547</sup>

238. Evonik primarily sells hydrogen peroxide products to customers in [REDACTED] [REDACTED].<sup>548</sup> This area is home to the pulp and paper industry that comprises Evonik's core customer base in the United States.<sup>549</sup> Evonik has a competitive advantage serving these customers because they are close and the cost to supply hydrogen peroxide from Evonik's Mobile plant is relatively low.<sup>550</sup>

239. PeroxyChem primarily sells hydrogen peroxide products from its Bayport plant into [REDACTED] states, only [REDACTED] of which overlap with Evonik's primary service area ([REDACTED] [REDACTED]).<sup>551</sup> Bayport faces a disadvantage in serving pulp and paper customers because of its location in Texas,<sup>552</sup> but it is better positioned to serve the western United States and to export hydrogen peroxide to Mexico. Furthermore, PeroxyChem is able to [REDACTED]

[REDACTED]<sup>553</sup>

240. The closest rivals to Evonik's Mobile plant are Nouryon's plant in Columbus, Mississippi, and Arkema's plant in Memphis, Tennessee.<sup>554</sup> The closest rival to PeroxyChem's

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<sup>547</sup> Hr'g Tr. (Hill-O) 2027:22-2028:10 (discussing DDX-14, at 10). Dr. Hill's analysis excludes pre-electronics-grade hydrogen peroxide, which Evonik sells to MGC in Arizona. Hr'g Tr. (Costanzo-C) 1161:6-10.

<sup>548</sup> JX0066-061 fig.19.

<sup>549</sup> Hr'g Tr. (Corson-O) 637:23-25 (discussing DX303, at 12), 638:20-24.

<sup>550</sup> Hr'g Tr. (Corson-O) 638:3-19.

<sup>551</sup> JX0066-062 fig.20.

<sup>552</sup> Hr'g Tr. (Hill-O) 2028:6-10.

<sup>553</sup> Hr'g Tr. (Lerner-C) 1459:18-1460:1.

<sup>554</sup> See JX0066-034 fig.8.

Bayport plant is Solvay's plant in Deer Park, Texas—located less than 10 miles away.<sup>555</sup>

241. In light of the locations of the Mobile and Bayport plants, Evonik and PeroxyChem are rarely the two most freight logical (i.e., closest) suppliers for any particular customer.<sup>556</sup> Evonik customers almost always can purchase hydrogen peroxide more cost effectively from Arkema or Nouryon than from PeroxyChem, and PeroxyChem customers almost always can purchase hydrogen peroxide more cost effectively from Solvay than from Evonik.<sup>557</sup>

242. Dr. Hill's analysis shows that, within Mobile's primary service area, [REDACTED] [REDACTED]. Dr. Hill's analysis further shows that, within Bayport's primary service area, [REDACTED] [REDACTED].<sup>558</sup>

243. Dr. Hill also analyzed industry sales data to determine to which competitors Evonik and PeroxyChem typically lose customers. Dr. Hill found that [REDACTED] [REDACTED] and to [REDACTED].<sup>559</sup> Evonik primarily lost business to [REDACTED],<sup>560</sup> [REDACTED] [REDACTED].<sup>561</sup>

244. Dr. Hill's switching analysis shows that Evonik and PeroxyChem rarely are

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<sup>555</sup> Hr'g Tr. (Montag-C) 1550:22-1551:3.

<sup>556</sup> See, e.g., [REDACTED] ([REDACTED] [REDACTED]); Hr'g Tr. (Hill-O) 2029:8-14 (explaining that Evonik's Mobile plant and PeroxyChem's Bayport plant compete more with competitors than with each other).

<sup>557</sup> See Hr'g Tr. (Hill-O) 2029:8-14 (discussing DDX-14, at 11).

<sup>558</sup> Hr'g Tr. (Hill-O) 2029:8-14 (discussing DDX-14, at 11); JX0066-063 fig.21.

<sup>559</sup> Hr'g Tr. (Hill-O) 2030:2-10 (discussing DDX-14, at 12); JX0066-66 fig.23.

<sup>560</sup> Hr'g Tr. (Hill-O) 2030:11-14 (discussing DDX-14, at 12); JX0066-66 fig.23.

<sup>561</sup> JX0151-011. Dr. Hill's analysis understates the losses by Evonik and PeroxyChem to Nouryon because only three years of sales data was available for Nouryon whereas seven years of data was available for other suppliers. [REDACTED] [REDACTED]

customers' first and second alternatives in the Southern and Central United States.<sup>562</sup>

**b) After the Merger, Four Strong Suppliers Will Continue To Compete Aggressively in the Southern and Central United States.**

245. After the merger, customers will continue to have at least four competing options for hydrogen peroxide in the Southern and Central United States. The presence of three rival suppliers post-merger makes it unlikely that the merger will have substantial unilateral effects.

246. The Southern and Central United States will continue to have more hydrogen peroxide suppliers after the merger than the Pacific Northwest has today. Although only three suppliers have plants in the Pacific Northwest, competition for Canfor Pulp's business forces suppliers to put their best foot forward.<sup>563</sup>

247. Throughout the hearing, customers consistently testified that competitive bidding allows them to achieve savings even when fewer than all of the hydrogen peroxide suppliers submit bids. For instance, Mr. Maeder, a raw materials manager at Verso, testified that [REDACTED]

[REDACTED]<sup>564</sup> Mr. Anderson, Purchasing and Inventory Team Leader at Canfor Pulp, testified that [REDACTED]

[REDACTED]<sup>565</sup> Mr. Niessner, Director of Procurement for Raw Materials at Graphic Packaging, explained that [REDACTED]

[REDACTED]<sup>566</sup> And Ms. Shirley, a senior buyer at International Paper, testified that [REDACTED]

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<sup>562</sup> See Hr'g Tr. (Hill-O) 2029:19-2030:14 (discussing DDX-14, at 12); JX0066-065 to -066 ¶¶ 129-131.

<sup>563</sup> Hr'g Tr (Anderson-O) 200:5-12; JX0086.

<sup>564</sup> See, e.g., Hr'g Tr. (Maeder-C) 160:17-23, 161:25-162:15.

<sup>565</sup> Hr'g Tr. (Anderson-O/C) 195:20-196:5, 211:2-5.

<sup>566</sup> Hr'g Tr. (Niessner-C) 1019:6-1020:19.

[REDACTED]<sup>567</sup> She also testified that [REDACTED]

[REDACTED]<sup>568</sup> [REDACTED]

[REDACTED]

248. Hydrogen peroxide suppliers consistently testified that they compete aggressively to win customer contracts irrespective of how many rivals are also submitting bids. Nouryon’s General Manager for Bleaching Chemicals for North America, Europe, and Asia testified that

[REDACTED]

[REDACTED]

[REDACTED]<sup>569</sup> Solvay’s National Sales Leader for its Peroxide Business testified that [REDACTED]

[REDACTED]

[REDACTED]<sup>570</sup> Similarly, Arkema’s General Manager for its Oxygenates and Derivatives Business testified that [REDACTED]

<sup>567</sup> See, e.g., Hr’g Tr. (Shirley-C) 1949:12-1953:23 (discussing JX0089). [REDACTED]

[REDACTED] Hr’g Tr. (Shirley-C) 1974:13-19.

[REDACTED] Hr’g Tr. (Shirley-C) 1934:22-1935:3, 1935:14-21.

[REDACTED] Hr’g Tr. (Shirley-C) 1953:6-9; Hr’g Tr. (Shirley-O) 1922:13-1923:9.

[REDACTED] See, e.g., Hr’g Tr. (Montag-C) 1538:21-1539:14; Hr’g Tr. (Radlinski-C) 574:18-25, 587:6-589:12.

[REDACTED] Hr’g Tr. (Shirley-C) 1949:19-1952:3.

<sup>568</sup> Hr’g Tr. (Shirley-O) 1918:17-23; Hr’g Tr. (Shirley-C) 1969:19-1970:12 ([REDACTED]).

<sup>569</sup> Hr’g Tr. (Radlinski-C) 574:18-21, 587:6-589:12.

<sup>570</sup> Hr’g Tr. (Suter-C) 439:10-17.

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**c) Dr. Hill's Analysis of Bidding Data Demonstrates That the Merger Is Unlikely To Harm Competition.**

249. Dr. Hill evaluated whether the merger is likely to have substantial unilateral effects by analyzing data about real-world bidding events collected from hydrogen peroxide customers.<sup>572</sup> Dr. Hill identified those bidding events in which Evonik and PeroxyChem competitively constrained one another as the two lowest bidders.<sup>573</sup> Dr. Hill then estimated the likely price effect of the merger for each of those bidding events by calculating the difference in price between the second lowest bid and third lowest bid (i.e., what the second lowest bid would be post-merger).<sup>574</sup> Dr. Hill aggregated the harm calculated for each of those bidding events and compared it to the total value of the hydrogen peroxide purchased across all bidding events.<sup>575</sup>

250. Based on the bidding data, Dr. Hill concluded that the merger likely would increase prices by a mere 0.4 percent (absent any logistics or other cost savings).<sup>576</sup> The small price effect is consistent with the evidence that customers rarely view Evonik and PeroxyChem as their first- and second-best supply options. Dr. Hill's bidding analysis likely is conservative and biased in favor of finding unilateral effects because the data was collected primarily from those customers that the FTC selected for declarations or depositions.<sup>577</sup> Dr. Hill's bidding analysis shows that the merger is unlikely to result in substantial unilateral effects, even when using the FTC's best evidence of unilateral effects and even without taking logistics or other savings into account.

<sup>571</sup> Hr'g Tr. (Myrick-C) 507:21-508:6.

<sup>572</sup> Hr'g Tr. (Hill-O) 2030:24-2032:11.

<sup>573</sup> Hr'g Tr. (Hill-O) 2031:9-15 (discussing DDX-14, at 13).

<sup>574</sup> Hr'g Tr. (Hill-O) 2031:16-25.

<sup>575</sup> Hr'g Tr. (Hill-O) 2032:8-11.

<sup>576</sup> Hr'g Tr. (Hill-O) 2032:11-16 (discussing DDX-14, at 13); JX0066-081 ¶ 170 & fig.32.

<sup>577</sup> Hr'g Tr. (Hill-C) 2231:10-2232:15; JX0066-079 ¶ 163.

251. Dr. Hill’s analysis of real-world bidding data also demonstrates that Dr. Rothman’s predictions from his second-score auction model are implausibly high.<sup>578</sup> Dr. Rothman’s analysis consistently predicts significant price increases even when Evonik and PeroxyChem did not compete for a customer or were not the two lowest bidders.<sup>579</sup> For example, Dr. Rothman’s second-score auction model predicts that the merger would result in prices at [REDACTED] mill rising roughly [REDACTED] percent to [REDACTED], even though [REDACTED] constrained [REDACTED] pre-merger with a bid of [REDACTED] and the merger would not remove or weaken [REDACTED] as a constraint.<sup>580</sup>

252. Even where Evonik and PeroxyChem were the lowest bidders, Dr. Rothman’s analysis predicts price increases significantly above the price at which the third-lowest bidder would be willing to supply the customer. For example, Dr. Rothman’s analysis predicts that the merger would result in a [REDACTED] percent price increase at [REDACTED] mill to [REDACTED], despite [REDACTED] being willing to supply the customer for [REDACTED].<sup>581</sup>

**d) Dr. Hill’s Relative Distance Model Demonstrates That the Merger Is Unlikely To Harm Competition.**

253. In addition to the bidding analysis based on customer data, Dr. Hill evaluated whether the merger is likely to have substantial unilateral effects by analyzing sales data from each of the North American hydrogen peroxide suppliers using a “relative distance model.”<sup>582</sup>

254. Dr. Hill first employed a standard regression analysis to analyze what factors influence the price of hydrogen peroxide.<sup>583</sup> Dr. Hill found that the distance between a customer

<sup>578</sup> Hr’g Tr. (Hill–O) 2052:9–2053:13 (discussing DDX-14, at 21); JX0066-091 fig.41.

<sup>579</sup> Hr’g Tr. (Hill–O) 2052:18–2053:13 (discussing DDX-14, at 21); JX0066-092 fig.42.

<sup>580</sup> Hr’g Tr. (Hill–O) 2052:18–2053:9 (discussing DDX-14, at 21); JX0066-092 fig.42.

<sup>581</sup> JX0066-092 fig.42.

<sup>582</sup> Hr’g Tr. (Hill–O) 2033:6–13.

<sup>583</sup> Hr’g Tr. (Hill–O) 2036:9–16 (discussing DDX-14, at 14).

and its current supplier and the distance between a customer and its closest alternative supplier significantly influences prices.<sup>584</sup> That distance has a significant effect on price is consistent with testimony from several customers and suppliers who observed that transportation costs are a significant part of hydrogen peroxide pricing and therefore that distance is a key factor of hydrogen peroxide competition.<sup>585</sup> In contrast to the customer and supplier testimony supporting Dr. Hill's conclusion that distance has a significant effect on prices, Dr. Rothman stated that distance has only a modest influence on hydrogen peroxide prices.<sup>586</sup>

255. Dr. Hill used the relative distance model to determine how the merger would affect hydrogen peroxide prices by measuring how the distances between each customer and its current and alternative suppliers would change following the merger.<sup>587</sup> The relative distance model predicts that the merger would increase prices for customers in the Southern and Central United States by a mere 0.4 percent, before accounting for any logistics savings.<sup>588</sup>

256. Dr. Rothman criticized Dr. Hill for assuming that distance is the only factor that

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<sup>584</sup> Hr'g Tr. (Hill-O) 2036:17-2037:7; JX0066-154 fig.59. Dr. Hill also found that other factors (such as the product being sold) influence hydrogen peroxide prices. These variables are included as part of the relative distance model but are not altered by the merger. For instance, the merger would not change whether a customer requires food grade hydrogen peroxide. Hr'g Tr. (Hill-O) 2037:8-20, 2038:23-2039:16.

<sup>585</sup>   
Hr'g Tr. (Hill-O) 2037:1-7, 2038:14-18.

<sup>586</sup> Hr'g Tr. (Hill-O) 2038:9-18; Hr'g Tr. (Rothman-O) 773:19-774:4.

<sup>587</sup> The merger can change the relative distances in two ways. First, the distance between a customer and its current supplier could change if the customer is being supplied by one of the merging parties' plants and the other merging party's plant is closer. In that case, the distance between the customer and its supplier will become shorter as a result of the merger. Second, the distance between a customer and its closest alternative supplier could change if that customer is being served by one of the merging parties and the other merging party is the closest alternative supplier. In that case a different, more distant plant would become the closest alternative supplier after the merger. Hr'g Tr. (Hill-O) 2038:23-2039:16.

<sup>588</sup> Hr'g Tr. (Hill-O) 2039:25-2040:2 (discussing DDX-14, at 15); JX0066-075 ¶¶ 154-155. The relative distance model does not depend on how the relevant market is defined. Dr. Hill applied the relative distance model to customers in the Southern and Central United States market to ease comparison with Dr. Rothman's predictions. Hr'g Tr. (Hill-O) 2040:19-25.

matters in hydrogen peroxide pricing.<sup>589</sup> Dr. Hill, however, made no such assumption.<sup>590</sup> Instead, Dr. Hill analyzed thousands of real-world sales transactions to learn what factors influence hydrogen peroxide pricing, and he found that several factors affect price.<sup>591</sup> Dr. Hill allowed the data to explain which factors are relevant.<sup>592</sup>

257. The prediction from Dr. Hill's relative distance model is consistent with his bidding analysis.<sup>593</sup> Both the relative distance model and the bidding analysis predict that the merger is likely to result in only a small price increase of 0.4 percent (before logistics cost savings) and thus that the merger would not result in substantial unilateral effects.<sup>594</sup> The similarity between the results from the relative distance model and the bidding analysis confirm that the relative distance model is accurately predicting what factors influence hydrogen peroxide prices.<sup>595</sup>

258. The relative distance model also predicts that the merger will result in logistics savings that may reduce the price of hydrogen peroxide.<sup>596</sup> Dr. Hill explained that the merger may cause prices to fall because the merged firm will be able to serve some customers from a closer plant.<sup>597</sup> Even if only 25 percent of the logistics savings are realized, they would fully offset the 0.4 percent price effect predicted by the relative distance model, and the merger would

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<sup>589</sup> Hr'g Tr. (Rothman-O) 773:10-18.

<sup>590</sup> Hr'g Tr. (Hill-O) 2037:21-2038:8.

<sup>591</sup> Hr'g Tr. (Hill-O) 2037:25-2038:8.

<sup>592</sup> Hr'g Tr. (Hill-O) 2037:25-2038:8.

<sup>593</sup> Hr'g Tr. (Hill-O) 2045:1-2045:10.

<sup>594</sup> Hr'g Tr. (Hill-O) 2044:7-9, 2045:1-10 (discussing DDX-14, at 16).

<sup>595</sup> Hr'g Tr. (Hill-O) 2045:11-2045:19.

<sup>596</sup> Hr'g Tr. (Hill-O) 2040:3-10.

<sup>597</sup> Hr'g Tr. (Hill-O) 2040:3-10 (discussing DDX-14, at 15); JX0066-076 to -079 ¶¶ 156-162. Dr. Hill's observation that the merger is likely to result in logistics savings is consistent with pre-signing efficiencies analysis Evonik prepared when evaluating the merger. [REDACTED]

have no effect on hydrogen peroxide prices.<sup>598</sup> If all of the logistics costs savings are realized, the merger likely would *reduce* prices by 1.4 percent.<sup>599</sup>

259. Dr. Hill explained that such savings are precisely the type that the Guidelines allow to offset a price effect because they are verifiable, merger-specific, and not the result of an anticompetitive reduction in competition.<sup>600</sup> Dr. Rothman did not attempt to verify Dr. Hill's calculations, and he did not analyze whether the logistics savings were merger-specific or the result of an anticompetitive reduction in competition.<sup>601</sup>

**e) Dr. Rothman's Economic Models Ignore Key Data, Rely on Unsupported Assumptions about Hydrogen Peroxide Competition, and Are Inconsistent With Real-World Evidence.**

260. Dr. Rothman used a GUPPI model to evaluate the merger. A GUPPI model cannot predict how a merger is likely to affect prices.<sup>602</sup> A GUPPI model instead measures the upward pricing pressure created by a merger,<sup>603</sup> and it predicts that every horizontal merger will generate upward pricing pressure.<sup>604</sup> There is no consensus among economists about how much upward pricing pressure is required to find that a merger will substantially lessen competition.<sup>605</sup>

261. Economists use a pass-through rate to translate the results from a GUPPI model into a prediction about a merger's likely effect on prices.<sup>606</sup> Dr. Rothman assumed an 80 percent pass-

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<sup>598</sup> Hr'g Tr. (Hill-O) 2044:10-17 (discussing DDX-14, at 15); JX0066-078 to -079 ¶ 162.

<sup>599</sup> Hr'g Tr. (Hill-O) 2044:18-25 (discussing DDX-14, at 15); JX0066-078 to -079 ¶ 162.

<sup>600</sup> Hr'g Tr. (Hill-O) 2042:15-2043:10; *see* JX0070-32 to -34 § 10.

<sup>601</sup> Hr'g Tr. (Rothman-O) 897:14-898:2; Hr'g Tr. (Hill-O) 2042:22-2049:25.

<sup>602</sup> Hr'g Tr. (Hill-O) 2048:20-2049:1.

<sup>603</sup> Hr'g Tr. (Hill-O) 2048:20-2049:1.

<sup>604</sup> Hr'g Tr. (Hill-O) 2049:2-4.

<sup>605</sup> Hr'g Tr. (Hill-O) 2049:5-17.

<sup>606</sup> Hr'g Tr. (Hill-O) 2049:14-17.

through rate based on a theoretical academic paper.<sup>607</sup> The paper does not use data from the hydrogen peroxide industry or any other industry.<sup>608</sup> Instead, the paper uses simulated data.<sup>609</sup>

262. The academic paper upon which Dr. Rothman relies for his pass-through rate explicitly states that, to accurately translate a GUPPI into a meaningful price prediction, it is necessary to have “precise” information about the pass-through rate for the specific industry at issue.<sup>610</sup> Dr. Rothman never explains why the 80 percent pass-through rate is accurate for the hydrogen peroxide industry.<sup>611</sup>

263. Another flaw in Dr. Rothman’s GUPPI model was reliance on inflated diversion ratios. Diversion ratios are a key input into a GUPPI model.<sup>612</sup> Diversion ratios describe how many of a supplier’s customers will divert to a specific competitor if the supplier raises prices.<sup>613</sup> The larger the diversion ratio, the larger will be the upward pricing pressure.<sup>614</sup>

264. Dr. Rothman estimated that, if faced with price increases, 28.4 percent of Evonik customers would switch to PeroxyChem and that 31.5 percent of PeroxyChem customers would switch to Evonik.<sup>615</sup> Dr. Hill found that Dr. Rothman’s diversion ratio estimates are inconsistent with real-world evidence about actual switching patterns. Dr. Hill analyzed each hydrogen peroxide supplier’s sales data and found that only 10.8 percent of Evonik customers have

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<sup>607</sup> Hr’g Tr. (Hill–O) 2049:18–25 (discussing DDX-14, at 19); Hr’g Tr. (Rothman–O) 898:22–25, 899:20–23; *see also* DX253.

<sup>608</sup> Hr’g Tr. (Hill–O) 2049: 25–2050:4; DX253, at 8–11.

<sup>609</sup> Hr’g Tr. (Hill–O) 2050:2–4; DX253, at 8–11.

<sup>610</sup> Hr’g Tr. (Hill–O) 2050:5–17 (discussing DDX-14, at 19); DX253, at 3.

<sup>611</sup> *See* JX0075-094 ¶ 211. Dr. Rothman testified that Dr. Hill’s relative distance model assumes a 100 percent pass-through rate so as to justify his own 80 percent pass-through. But Dr. Hill’s model does not make any assumptions about pass-through and instead directly measures the effect of distance on price. Hr’g Tr. (Hill–O) 2043:11–2044:1.

<sup>612</sup> Hr’g Tr. (Rothman–O) 763:12–15.

<sup>613</sup> Hr’g Tr. (Hill–O) 2051:4–8.

<sup>614</sup> JX0066-089 ¶ 197.

<sup>615</sup> Hr’g Tr. (Hill–O) 2051:4–2051:22 (discussing DDX-14, at 20); JX0075-173, Ex. 3–1.

switched to PeroxyChem and only 15.8 percent of PeroxyChem customers have switched to Evonik.<sup>616</sup> Dr. Hill concluded that Dr. Rothman's GUPPI model significantly overstated how closely Evonik and PeroxyChem compete and therefore made inflated price predictions.<sup>617</sup>

265. Dr. Rothman also used a second-score auction model to evaluate the merger, but the results from that model are inconsistent with real-world evidence from customers about bidding events.<sup>618</sup> Dr. Hill found that Dr. Rothman's second-score auction model predicted significantly higher prices than indicated in the actual bidding data.<sup>619</sup>

266. In contrast, Dr. Hill validated the results of his relative distance model using the actual bidding data from customers. Both the relative distance model and the bidding analysis predict that the merger is unlikely to have a substantial unilateral effect.<sup>620</sup>

267. Dr. Rothman used a multinomial logit model as an input into both his GUPPI and second-score auction models. But Dr. Rothman's multinomial logit model relied on only a limited portion of the available sales data.<sup>621</sup> Most significantly, Dr. Rothman ignored transaction-level information about actual prices paid by hydrogen peroxide customers.<sup>622</sup> Dr. Rothman did not use any price information for customers of Arkema, Nouryon, and Solvay.<sup>623</sup> For Evonik and PeroxyChem, Dr. Rothman aggregated the prices paid by all customers across all

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<sup>616</sup> Hr'g Tr. (Hill-O) 2051:4 – 2051:22 (discussing DDX-14, at 20); JX0066-090 fig.40.

<sup>617</sup> Hr'g Tr. (Hill-O) 2051:23–2052:4.

<sup>618</sup> *See supra* ¶¶ 251–252.

<sup>619</sup> Hr'g Tr. (Hill-O) 2053:19–2054:4 (discussing DDX-14, at 22); JX0066-091 fig.41.

<sup>620</sup> Hr'g Tr. (Hill-O) 2045:1–23 (discussing DDX-14, at 16).

<sup>621</sup> Hr'g Tr. (Hill-O) 2047:2–18 (discussing DDX-14, at 18). Dr. Rothman's multinomial logit model examined only three variables: distance between customer and supplier, identity of supplier, and volume purchased. Hr'g Tr. (Hill-O) 2047:2–13 (discussing DDX-14, at 18).

<sup>622</sup> Hr'g Tr. (Hill-O) 2047:14–18 (discussing DDX-14, at 18); Hr'g Tr. (Rothman-O) 889:25–890:3.

<sup>623</sup> Hr'g Tr. (Hill-O) 2047:14–18 (discussing DDX-14, at 18); Hr'g Tr. (Rothman-O) 881:14–17.

grades of hydrogen peroxide into a single average price for each of Evonik and PeroxyChem.<sup>624</sup>

268. In contrast, Dr. Hill's relative distance model analyzes transaction-level pricing information for thousands of individual sales from all hydrogen peroxide suppliers to predict how the merger would affect price.<sup>625</sup> Customers repeatedly testified that price is an important factor in deciding from which supplier to purchase hydrogen peroxide.<sup>626</sup> By ignoring price information for some suppliers, and aggregating prices for products sold at vastly different prices into a single average price for Evonik and PeroxyChem, Dr. Rothman's multinomial logit model fails to account for a key feature of hydrogen peroxide competition.

## **VI. THE EQUITIES WEIGH AGAINST ENTRY OF A PRELIMINARY INJUNCTION.**

269. "[A]bsent a likelihood of success on the merits, equities alone will not justify an injunction." *FTC v. Arch Coal, Inc.*, 329 F. Supp. 2d 109, 116 (D.D.C. 2004) (citing *FTC v. PPG Indus., Inc.*, 798 F.2d 1500, 1508 (D.C. Cir. 1986)). Here, the public has no interest in the Court preliminarily enjoining this merger merely to protect the FTC's ability to bring a case in which it has no reasonable likelihood of success or to preserve its ability to conduct an agency proceeding that has no reasonable likelihood of taking place. The equities therefore favor denying the FTC's motion for a preliminary injunction.

### **CONCLUSION**

For the foregoing reasons, Defendants respectfully request that the Court deny the FTC's motion for a preliminary injunction.

Dated: December 4, 2019

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<sup>624</sup> Hr'g Tr. (Hill-O) 2047:19-2048:1.

<sup>625</sup> Hr'g Tr. (Hill-O) 2045:24-2046:9.

<sup>626</sup> [REDACTED] Hr'g Tr. (Anderson-O) 198:9-11; [REDACTED]

Respectfully submitted,

By: /s/ Eric Mahr

Eric Mahr (D.C. Bar No. 459350)  
Andrew J. Ewalt (D.C. Bar No. 493433)

FRESHFIELDS BRUCKHAUS  
DERINGER US LLP  
700 13th Street, NW, 10th Fl.  
Washington, DC 20005  
Tel: (202) 777-4500  
Fax: (202) 777-4555  
E-mail: [eric.mahr@freshfields.com](mailto:eric.mahr@freshfields.com)  
E-mail: [andrew.ewalt@freshfields.com](mailto:andrew.ewalt@freshfields.com)

*Attorneys of Record for Defendants  
RAG-Stiftung, Evonik Industries AG,  
Evonik Corporation, and  
Evonik International Holding B.V.*

By: /s/ Mike G. Cowie

Mike G. Cowie (D.C. Bar No. 432338)  
James A. Fishkin (D.C. Bar No. 478958)  
Shari Ross Lahlou (D.C. Bar No. 476630)

DECHERT LLP  
1900 K Street, NW  
Washington, DC 20006  
Tel: (202) 261-3300  
Fax: (202) 261-3333  
E-mail: [mike.cowie@dechert.com](mailto:mike.cowie@dechert.com)  
E-mail: [james.fishkin@dechert.com](mailto:james.fishkin@dechert.com)  
E-mail: [shari.lahlou@dechert.com](mailto:shari.lahlou@dechert.com)

*Attorneys of Record for Defendants One  
Equity Partners Secondary Fund, L.P., One  
Equity Partners V, L.P., Lexington Capital  
Partners VII (AIV I), L.P., PeroxyChem  
Holding Company LLC, PeroxyChem  
Holdings L.P., PeroxyChem Holdings LLC,  
PeroxyChem LLC, and PeroxyChem  
Cooperatief U.A.*