

PUBLIC VERSION

**UNITED STATES OF AMERICA
BEFORE FEDERAL TRADE COMMISSION
OFFICE OF ADMINISTRATIVE LAW JUDGES**

DOCKET NO. 9310

**In the Matter of
ASPEN TECHNOLOGY, INC.**

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May 5, 2004

TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	STATEMENT OF FACTS	3
III.	ASPENTECH'S ACQUISITION OF HYPROTECH VIOLATES SECTION 7 OF THE CLAYTON ACT AND SECTION 5 OF THE FTC ACT	4
A.	Continuous Process Engineering Simulation Software (and Narrower Markets Contained Therein), Batch Process Engineering Simulation Software and Integrated Process Engineering Software are Properly Defined Relevant Markets.	7
1.	The Continuous Simulation Software Product Market.	7
2.	Narrower Markets Exist Within the Continuous Simulation Software Market.	14
a.	Continuous Simulation Software for Oil and Gas Customers. . .	15
b.	Continuous Simulation Software for Refining Customers.	16
c.	Continuous Simulation Software for Chemical Customers.	17
d.	Continuous Simulation Software for Air Separation Customers.	18
3.	The Batch Simulation Software Market.	19
4.	The Integrated Engineering Software Market.	20
B.	The Relevant Geographic Market is the World.	21
C.	The Acquisition Gave AspenTech a Very High Share in the Relevant Markets and Resulted in a Significant Increase in Concentration.	22
D.	The Relevant Markets are Insulated From New Entry	26
E.	The Acquisition is Likely to Substantially Lessen Competition and Result in Anticompetitive Price Increases, Reduced Discounting, Reduced Innovation and Less Customer Choice in the Relevant Markets.	27
1.	Effects in the Market for Continuous Simulation Software.	28
2.	Effects in the Narrower Markets Contained Within the Continuous Simulation Software Markets.	37
a.	Oil and Gas Customers	37
b.	Downstream Refining Customers.	38

c.	Chemical Customers.	38
d.	Air Separation Customers.	39
3.	Effects in the Market for Batch Simulation Software.	40
4.	Effects in the Market for Integrated Engineering Software.	40
5.	SimSci Is Unlikely to Constrain AspenTech Pricing in Any Market. . . .	41
6.	The Acquisition Has Already Resulted in Anticompetitive Effects. . . .	42
F.	AspenTech Cannot Meet its Burden of Establishing that the Acquisition Will Enhance Competition by Producing Cognizable Efficiencies.	46
G.	Divestiture and Other Relief Are Needed to Restore Competition That Would Have Occurred But For the Illegal Acquisition.	47
IV.	CONCLUSION	50

TABLE OF AUTHORITIES

CASES

<i>Atlantic Refining Co. v. FTC</i> , 381 U.S. 357 (1965)	47
<i>California v. American Stores Co.</i> , 495 U.S. 271 (1990)	5
<i>FTC v. Cardinal Health</i> , 12 F.Supp. 2d 34 (D.D.C. 1998)	7, 8, 9, 22, 26, 46
<i>FTC v. Coca-Cola Co.</i> , 641 F.Supp. 1128 (D.D.C. 1986); vacated as moot, 829 F.2d 191(D.C. Cir. 1987)	47
<i>FTC v. Consolidated Foods Corp.</i> , 380 U.S. 592 (1965)	5, 31
<i>FTC v. Food Town Stores</i> , 539 F.2d 1339 (4th Cir. 1976)	7
<i>FTC v. H.J. Heinz Co.</i> , 246 F.3d 708 (D.C. Cir. 2001)	1, 5, 6, 22, 46
<i>FTC v. Indiana Fed’n of Dentists</i> , 476 U.S. 447 (1986)	5
<i>FTC v. Libbey Foods, Inc.</i> , 211 F.Supp. 2d 34 (D.D.C. 2002)	5, 11, 27
<i>FTC v. PPG Indus. Inc.</i> , 798 F.2d 1500 (D.C. Cir. 1986)	22
<i>FTC v. PepsiCo, Inc.</i> , 477 F.2d 24, 28 n.6 (2d Cir. 1973)	1
<i>FTC v. Staples, Inc.</i> , 970 F.Supp. 1066 (D.D.C. 1997)	7, 8
<i>FTC v. Swedish Match</i> , 131 F.Supp.2d 151 (D.D.C. 2000)	7, 8, 11, 14
<i>FTC v. Toys ‘R’ Us, Inc.</i> 221 F.3d 924 (7 th Cir. 2000)	43
<i>FTC v. University Health, Inc.</i> , 938 F.2d 1206 (11 th Cir. 1991)	22
<i>Grumman Corp. v. LTV Corp.</i> , 665 F.2d 10 (2d Cir. 1981)	12
<i>Hospital Corp. of Am. v. FTC</i> , 807 F.2d 1381 (7 th Cir. 1986), <i>cert. denied</i> , 481 U.S. 1038 (1987)	5, 6, 22, 31, 42
<i>In re B.F. Goodrich Co.</i> , 110 F.T.C. 207 (1988)	6
<i>In re Coca-Cola Co.</i> , 117 F.T.C. 795 (1994)	8

<i>In re R.R. Donnelly & Sons</i> , 120 F.T.C. 36 (1995)	5
<i>In the Matter of Chicago Bridge & Iron Company N.V.</i> , D.9300, Initial Decision (June 12, 2003)	23
<i>Kaiser Aluminum & Chem. Corp. v. FTC</i> , 652 F.2d 1324 (7 th Cir. 1981)	4, 6
<i>Rothery Storage & Van Co. v. Atlas Van Lines, Inc.</i> , 792 F.2d 210 (D.C. Cir. 1986)	9
<i>Tampa Elec. Co. v. Nashville Coal Co.</i> , 365 U.S. 320 (1961)	21
<i>Times-Picayune Publishing Co. v. United States</i> , 345 U.S. 594 (1953)	8
<i>United States v. Baker Hughes, Inc.</i> , 908 F.2d 981 (D.C. Cir. 1990)	6
<i>United States v. Bethlehem Steel Corp.</i> , 168 F.Supp. 576 (S.D.N.Y. 1958)	7
<i>United States v. Citizens & Southern Nat'l Bank</i> , 422 U.S. 86 (1975)	6
<i>United States v. E.I. du Pont de Nemours & Co.</i> , 353 U.S. 586 (1957)	5, 7
<i>United States v. E.I. du Pont de Nemours & Co.</i> , 366 U.S. 316 (1961)	47
<i>United States v. Franklin Electric Co., Inc.</i> , 130 F.Supp 2d 1025 (W.D. Wisc. 2000)	22
<i>United States v. General Dynamics Corp.</i> , 415 U.S. 486 (1974)	5, 23, 30, 43
<i>United States v. Hammermill Paper Co.</i> , 429 F.Supp. 1271 (W.D. Pa. 1977)	33
<i>United States v. United Tote, Inc.</i> , 768 F.Supp. 1064 (D. Del. 1991)	47
<i>United States v. Waste Mgmt., Inc.</i> , 743 F.2d 976 (2d Cir. 1984)	6
<i>Utah Public Serv. Comm v. El Paso Natural Gas Co.</i> , 395 U.S. 464 (1969)	48

STATUTES

Clayton Act, Section 1, 15 U.S.C. § 12	5
Clayton Act, Section 7, 15 U.S.C. § 18	1
Clayton Act, Section 11(b), 15 U.S.C. § 21(b)	5

Federal Trade Commission Act, Section 4, 15 U.S.C. § 44 5

Federal Trade Commission Act, Section 5, 15 U.S.C. § 45 1, 4

OTHER AUTHORITIES

Dept. of Justice & Federal Trade Comm’n,
Horizontal Merger Guidelines (1992, rev’d 1997) passim

Von Kalinowski, J., ANTITRUST LAW & TRADE REGULATION (2d ed. 1996) 6

TABLE OF ABBREVIATIONS

CX	Complaint Counsel exhibit
RX	Respondent exhibit
IH	Investigational Hearing transcript
Dep.	Deposition transcript

References to investigational hearing or deposition transcripts that have been designated as potential exhibits include the witness name and page number: CX1002 at 035-36 (Sim IH at 137-38).

Pages of exhibits are referenced by exhibit page number: CX0262 at 004.

I. INTRODUCTION

“[Unless AspenTech thinks] that our technology is superior, . . . they only want us to create a monopoly. In this case, they will, most likely, sooner or later, rationalize us to the ground, toasting us all, freezing our products and milking all the customers for a while.

– CX0262 at 004 (Cesc Battle, Hyprotech President European Middle East and Africa Sales).

On August 6, 2003, the Commission issued its complaint (“Complaint”) against Aspen Technology, Inc. (“AspenTech”), alleging that AspenTech unlawfully acquired the assets of Hyprotech, Ltd. (“Hyprotech”), a group of subsidiary companies owned by AEA Technology, in violation of Section 7 of the Clayton Act, 15 U.S.C. § 18, and Section 5 of the FTC Act, 15 U.S.C. § 45. At trial, Complaint Counsel will offer substantial evidence that AspenTech’s acquisition of Hyprotech (“the Acquisition”) violates Section 7 of the Clayton Act¹ because it may substantially lessen competition in seven markets for process simulation and optimization software.² *FTC v. H.J. Heinz Co.*, 246 F.3d 708, 713 (D.C. Cir. 2001) (“Congress has empowered the FTC . . . to weed out those mergers whose effect ‘may be substantially to lessen competition’”).

At the time of the Acquisition, and over a period of many years, AspenTech and Hyprotech were each other’s closest competitor in a field of only three significant competitors. Immediately before the Acquisition, Hyprotech senior management estimated that, in a broadly defined market for process simulation software, AspenTech and Hyprotech combined held approximately [] share. AspenTech’s CEO similarly estimated the company’s combined market share at “80%+” after the Acquisition. Moreover, AspenTech’s post-merger dominance in the broader market arguably *understates* the effect of the Acquisition in the narrower markets

¹ An acquisition that violates Section 7 of the Clayton Act also violates Section 5 of the FTC Act. *FTC v. PepsiCo, Inc.*, 477 F.2d 24, 28 n.6 (2d Cir. 1973).

² Five of these markets encompass the same set of products, which consist generally of software used to model and simulate processes in various petrochemical and related industries. The broadest of these five markets comprises continuous process engineering simulation software for process industries (“continuous simulation software”). Within this market, at least four narrower markets may be defined, consisting of sales to end-users in four particular segments of the process industries: oil and gas, refining, chemical, and air separation. Two additional simulation software markets, batch process engineering simulation software (“batch simulation software”) and integrated process engineering software (“integrated engineering software”) also are likely to be adversely affected by the Acquisition.

for oil and gas, refining, chemicals, and air separation, where customers now face a choice of only one other supplier (SimSci-Esscor (“SimSci”), a division of Invensys), or, as in air separation, a merger to monopoly where there are no alternative suppliers at all. The Acquisition also is likely to harm competition significantly in the already-concentrated batch simulation and integrated engineering software markets, where AspenTech and Hyprotech were the only two significant competitors.

No elaborate market analysis is needed to show that the Acquisition is anticompetitive. Indeed, the parties’ own documents, as corroborated by the parties’ customers, will conclusively demonstrate, *first*, that Hyprotech was far and away AspenTech’s closest competitor, with the two firms competing head-to-head for many customers; *second*, that AspenTech executives fully expected that the elimination of Hyprotech as a rival would enable AspenTech to acquire dominance in its markets, and hence reduce price and innovation competition; and *third*, that a wide range of customers and other witnesses agree that the Acquisition reduced competition significantly in these markets, and thus is likely to lead (and, indeed, in some instances, already has led) to higher prices and reduced innovation.

Faced with this overwhelming evidence from its own documents, as confirmed by its own customers, AspenTech has had no alternative but to conjure up implausible explanations and develop post-litigation analyses that purport to show that all of this evidence simply is wrong. For example, the former CEO of Hyprotech, Wayne Sim, agreed during his investigational hearing that Hyprotech’s files show “a tremendous amount of information that identifies [AspenTech] as the number one competitor” of Hyprotech. Nonetheless, he testified that such information was simply a motivational tool, because “we needed to identify an external competitor.”

Mr. Sim’s explanation defies credulity. Even assuming that his employees could be motivated by fulminations against a supplier whom they never actually faced in the marketplace, the effect of Mr. Sim’s strategy would be to induce Hyprotech sales employees to offer lower prices and more favorable terms than necessary to respond to this (non-existent) competition. Unfortunately for Mr. Sim, the evidence that head-to-head competition between AspenTech and Hyprotech led to better price terms and enhanced innovation is overwhelming.

AspenTech must now be required to divest all of the assets it acquired from AEA Technology, and take any other steps, including those outlined in the Complaint, necessary to reestablish two distinct and separate, viable and competing businesses in the relevant markets. This relief will serve to reestablish the engineering simulation business of Hyprotech as it would have existed but for the Acquisition.

II. STATEMENT OF FACTS

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]

AspenTech is the largest supplier of process engineering simulation flowsheet software in the world. Its fiscal year 2003 annual worldwide revenues were approximately \$323 million. Resp. Answer to Complaint ¶ 2 (Sept. 2, 2003) (“Answer”). AspenTech has an estimated 1,750 employees located around the world. AspenTech is a publicly traded company, founded in 1981 to commercialize technology developed at the Massachusetts Institute of Technology with United States Department of Energy funding. The undertaking, known as the Advanced System for Process Engineering Project, was originally intended to design non-linear simulation software that could aid in the development of synthetic fuels.

Hyprotech was founded in 1976 and had revenues of \$68.5 million in fiscal year 2002. Answer ¶ 5. The only other competitor of any significance, SimSci, was formed in 1967. On or about May 31, 2002, Respondent acquired Hyprotech for \$106.1 million. CX0653 at 063 (AspenTech 10-K, Annual Report for FY 2002); *but see* Answer ¶ 6.

Process industries process raw material inputs through equipment to create intermediate or end-use products. Answer ¶ 7. Process engineering simulation software flowsheets mathematically model (*i.e.*, simulate) all of the nonlinear relationships in the flow of input to, through and from units within a process plant. CX0055 at 049. Thus, the software simulates the complex physics of thermodynamics and the reactions of chemicals when heated or put under pressure. The glue holding the information together is the process engineering “flowsheet.” CX1013 at 019 (Forrest Dep. at 72-73). These computer simulations improve engineering design, reduce capital investment, lower the cost of inputs (including engineering), optimize production levels, and potentially, shorten the time to market for new products. CX0654 at 004.

At the time of the Acquisition, AspenTech and Hyprotech offered integrated suites of software products “designed specifically to promote best engineering practices and to optimize and automate the entire innovation and engineering workflow process throughout” the plant. CX0863 at 001.

For approximately 20 years prior to the Acquisition, there were three significant suppliers of process engineering software, AspenTech, Hyprotech and SimSci. By 1999, SimSci’s focus and competitive vigor had begun to decline. CX0072 at 006-07 (“Hyprotech gained the most market share between 1999 and 2000, . . . Simulation Sciences lost market share, as they could not keep pace.”). At the time of the Acquisition, AspenTech and Hyprotech sold the two most complete sets of flowsheet engineering products demanded by continuous process and batch process industry manufacturers.³

AspenTech and Hyprotech also were the principal competitors in two other overlapping software tools frequently bundled with the flowsheet. In particular, batch simulation software is used in process industries like specialty chemical or pharmaceutical production to model processes with a specified recipe-like beginning and end point in each segment of the production process. Integrated engineering software allows engineers to share simulation information throughout the plant (with manufacturing processes, for example) and may allow users to improve the efficiency of engineering workflow. Answer ¶ 13.

III. ASPENTECH’S ACQUISITION OF HYPROTECH VIOLATES SECTION 7 OF THE CLAYTON ACT AND SECTION 5 OF THE FTC ACT

Benefits: Dominate the entire simulation market space, and reduce competitive and pricing pressure.

– CX0203 at 004 (Willie Chan, Director Aspen Engineering Suite).

To establish a violation of Section 7 “in any line of commerce,”⁴ Complaint Counsel

³ AspenTech’s and Hyprotech’s steady state and dynamic simulation products included in Complaint Counsel’s continuous simulation software markets account for the bulk of their respective engineering software revenues.

⁴ Section 5(a)(2) of the FTC Act gives the Commission jurisdiction “to prevent persons, partnerships, or corporations . . . from using unfair methods of competition in or affecting commerce. . . .” 15 U.S.C. § 45(a)(2); *Kaiser Aluminum & Chem. Corp. v. FTC*, 652 F.2d 1324, at 1327 n.1(7th Cir. 1981). AspenTech has not contested the Commission’s jurisdiction and admits that it is a “for-profit corporation (continued...)”

“need only prove that the [acquisition’s] effect ‘**may be** substantially to lessen competition.’” *California v. American Stores Co.*, 495 U.S. 271, 284 (1990) (Emphasis in original) (citing 15 U.S.C. § 18). The law “does not require proof that a merger or other acquisition [will] cause higher prices in the affected market. Indeed, “Congress used the words ‘may be substantially to lessen competition’ . . . to indicate that its concern was with probabilities, not certainties.” *Heinz*, 246 F.3d at 713 (quoting *Brown Shoe Co. v. United States*, 370 U.S. 294, 323 (1962)). All that is necessary is that the merger create an appreciable danger of such consequences in the future.” *Hospital Corp. of America v. FTC*, 807 F.2d 1381, 1389 (7th Cir. 1986). Section 7 is designed “to arrest in their incipency restraints . . . in a relevant market which, as a reasonable probability, appear at the time of suit likely to result from the acquisition. . . . The section is violated whether or not actual restraints or monopolies, or the substantial lessening of competition, have occurred or are intended.” *United States v. E.I. du Pont de Nemours & Co.*, 353 U.S. 586, 589 (1956).

While evidence of post-merger anticompetitive effects – such as price increases or output reductions – can obviate extensive inquiry into market definition, *see FTC v. Indiana Fed’n of Dentists*, 476 U.S. 447, 460-61 (1986); *FTC v. Libbey Foods, Inc.*, 211 F.Supp. 2d 34, 49 (D.D.C. 2002) (“an inquiry into market power, is but a ‘surrogate for detrimental effects.’”) (citations omitted), such evidence is neither required nor generally to be expected, given its susceptibility to manipulation by the parties. *United States v. General Dynamics Corp.*, 415 U.S. 486, 505 (1974) (“[T]he mere nonoccurrence of a substantial lessening of competition in the interval between acquisition and trial does not mean that no substantial lessening of competition will develop thereafter; the essential question remains whether the probability of such future

⁴(...continued)

organized, existing and doing business under and by virtue of the laws of the State of Delaware.” Answer ¶ 1. Respondent also admits that it “is, and at all times relevant herein, has been, engaged in commerce” as defined in Section 1 of the Clayton Act, as amended, 15 U.S.C. § 12, and is a corporation whose business is in or affects commerce as defined in Section 4 of the Federal Trade Commission Act, as amended, 15 U.S.C. § 44; Answer ¶ 3. “Section 11(b) of the Clayton Act, 15 U.S.C. § 21(b), expressly vests the Commission with jurisdiction to determine the legality of a corporate acquisition under [Clayton] Section 7 and, if warranted, to order divestiture.” *In re R.R. Donnelly & Sons*, 120 F.T.C. 36 (1995); *see also Hospital Corp.*, 807 F.2d at 1386.

impact exists at the time of trial”); *FTC v. Consolidated Foods Corp.*, 380 U.S. 592, 598 (1965) (If “post-acquisition evidence were given conclusive weight or allowed to override all probabilities, then acquisitions would go forward willy-nilly, the parties biding their time.”); *Hospital Corp.*, 807 F.2d at 1384 (“Post-acquisition evidence that is subject to manipulation by the party seeking to use it is entitled to little or no weight.”).

Where evidence of post-merger effects *does* exist, as in the present matter, however, it proves the absence of constraints sufficient to prevent anticompetitive effects from the Acquisition and “cements” Complaint Counsel’s case. Von Kalinowski, J., *ANTITRUST LAW & TRADE REGULATION* (2d ed. 1996) at § 4.03[4]. As discussed below, anticompetitive effects have already occurred in this case. But this is rare, and in the absence of sufficient evidence of anticompetitive effects, one important determinant of the likely effect of a merger on competition in a market is the number of significant sellers and their market shares. When a merger combines two firms with large market shares and results in a significant increase in concentration and a high post-merger level of concentration, there is a legal presumption that the merger will reduce competition through unilateral and coordinated interaction. *See, e.g., Heinz*, 246 F.3d at 715 (explaining that high concentration “establishes a ‘presumption’ that the merger will substantially lessen competition); *Merger Guidelines* § 1.51 (mergers at high concentration levels are “presumed” to be “likely to create or enhance market power”).

Where, as here, an acquisition greatly increases concentration in already highly concentrated markets, Complaint Counsel has established a *prima facie* case. The burden of production then shifts to the Respondent to produce evidence that “show[s] that the market-share statistics [give] an inaccurate account of the acquisition [’s] probable effect[] on competition” in the relevant markets. *In re B.F. Goodrich Co.*, 110 F.T.C. 207, 305 (1988); *United States v. Citizens & Southern Nat’l Bank*, 422 U.S. 86, 120 (1975); *United States v. Waste Mgmt., Inc.*, 743 F.2d 976, 981 (2d Cir. 1984). “The more compelling the *prima facie* case, the more evidence the defendant must present to rebut it successfully.” *United States v. Baker Hughes, Inc.*, 908 F.2d 981, 991 (D.C. Cir. 1990).

Although Complaint Counsel retains the ultimate burden of persuasion, in this case the Respondent will be unable to show ease of entry or efficiencies that counter the likely

anticompetitive effects. *See Kaiser Aluminum*, 652 F.2d at 1341. Moreover, Complaint Counsel will have sustained its burden if it can show likely anticompetitive effects in *any* of the product markets at issue, even if they constitute a relatively small portion of the merging parties' business. *See FTC v. Food Town Stores*, 539 F.2d 1339, 1345 (4th Cir. 1976); *du Pont*, 353 U.S. at 594 n.13; *United States v. Bethlehem Steel Corp.*, 168 F.Supp. 576, 595 (S.D.N.Y. 1958). Nonetheless, as discussed below, the weight of the evidence will establish that anticompetitive effects are likely across a substantial portion of the “overlapping process simulation revenues of the parties and wide range of customers.

A. Continuous Process Engineering Simulation Software (and Narrower Markets Contained Therein), Batch Process Engineering Simulation Software and Integrated Process Engineering Software are Properly Defined Relevant Markets.

There is almost complete overlap between Hysis products and the entire AES suite [Aspen Engineering Suite]. . . . AspenTech can become a target for an antitrust lawsuit.

– CX0203 at 004-05 (Willie Chan, Director Aspen Engineering Suite).

To predict whether an acquisition may substantially lessen competition or tend to create a monopoly under Section 7 of the Clayton Act, and in the absence of actual anticompetitive effects, the Commission and courts consider (1) the relevant product and geographic markets in which to assess the transaction; and (2) the transaction's probable effect on competition in the product and geographic markets. *See FTC v. Swedish Match*, 131 F.Supp.2d 151, 156 (D.D.C. 2000); *FTC v. Staples, Inc.*, 970 F.Supp. 1066, 1072 (D.D.C. 1997). Thus, merger analysis typically begins by determining the relevant product market. *FTC v. Cardinal Health*, 12 F.Supp. 2d 34, 46 (D.D.C. 1998).

1. The Continuous Simulation Software Product Market.

I'm pleased to announce that Hyprotech will merge with Aspen Technology . . . I know this may be a shock to many of you, as AspenTech has been our most fierce competitors [sic], but Hyprotech and AspenTech chose one another for a variety of reasons, including . . . our similar history in similar industry segments . . .

– CX0311 at 002 (Wayne Sim, Hyprotech Founder and CEO).

The pivotal question in product market definition is whether an increase in price for a product or group of products would cause enough buyers to turn to other products so as to make the price increase unprofitable. If that question is answered in the affirmative, then the relevant

product market is broader than the product or group of products in question. *See Staples*, 970 F.Supp. at 1074. “In other words, when one product is a reasonable substitute for the other, it is to be included in the same relevant product market even though the products themselves are not the same.” *Cardinal*, 12 F.Supp. 2d at 46.⁵ The *Merger Guidelines* incorporate this analytical approach by generally taking as a relevant product market the smallest group of competing products within which a “hypothetical monopolist over that group of products could profitably impose at least a ‘small but significant and nontransitory’ increase in price.” *Merger Guidelines* § 1.11.

There is substantial evidence supporting the existence of a broad continuous simulation software market, because the Acquisition enables the merging party to increase prices (or reduce innovation) uniformly with respect to all of its customers. An across-the-board price increase, however, is not necessary in order for a merger to violate Section 7. The evidence also establishes that one or more narrower antitrust markets may be properly identified within the broader market. *See Merger Guidelines* § 1.12 (ability to price discriminate warrants consideration of additional, narrower product markets). If, as a result of the Acquisition, AspenTech is able profitably to identify and target certain customers or groups of customers for a price increase without other purchasers buying the product and reselling it to those customers (that is, it is able to “price discriminate”), the Acquisition may be illegal in the narrower market, separate and apart from the broad market. Furthermore, where the hypothetical monopolist is able to profitably impose even greater price increases than the uniform price increase used to define the broad product market, the merger would be anticompetitive in the broader market and in the narrower product market or markets contained within. Here, as a result of the Acquisition,

⁵ “The outer boundaries of a product market are determined by the reasonable interchangeability of use [by consumers] or the cross-elasticity of demand between the product itself and substitutes for it.” *Swedish Match*, 131 F.Supp.2d at 157 (quoting *Brown Shoe*, 370 U.S. at 325); *see In re Coca-Cola Co.*, 117 F.T.C. 795, 925 (1994). Interchangeability of use and cross-elasticity of demand concern (1) the availability of products that are similar in character or use to the product in question **and** (2) the degree to which buyers are willing to substitute one product for the other. *Swedish Match*, 131 F.Supp.2d at 157. The market “must be drawn narrowly to exclude any other product to which, within reasonable variations in price, only a limited number of buyers will turn.” *Times-Picayune Publishing Co. v. United States*, 345 U.S. 594, 612 n.31 (1953).

AspenTech is likely to be able to impose significant uniform price increases (or reduced innovation) to all customers, with incremental anticompetitive effects imposed on as many as four discrete categories of customers: air separation, refining, chemicals, and oil and gas.

The evidence likewise will establish cognizable antitrust product markets for batch simulation software and integrated engineering software. AspenTech's expert does not even address the integrated engineering software market, and his effort to broaden the market for batch simulation software is unpersuasive: as it seeks to include products that do not perform the same functions, for which there is no evidence of competition with AspenTech's and Hyprotech's products, and which customers do not consider to be ready substitutes.

In challenging Complaint Counsel's market definition for continuous simulation software, AspenTech does not contend that this product market is too narrow, and that other products should be included. Instead, AspenTech claims that a market for continuous simulation software is too *broad* (indeed, AspenTech claims that even Complaint Counsel's asserted narrower markets, for oil and gas, refining, chemical, and air separation, are too broad), because it contends that its products and Hyprotech's effectively did not compete for the same customers in any market segment prior to the Acquisition.

The evidence is decisively to the contrary. The parties' own pre-merger perceptions, and the experience of their customers, strongly support the conclusion that AspenTech's and Hyprotech's continuous simulation software products were head-to-head competitors. Such evidence is far more probative than AspenTech's after-the-fact claims that all of the persons actually involved in the market simply got it wrong. *Rothery Storage & Van Co. v. Atlas Van Lines, Inc.*, 792 F.2d 210, 219 (D.C. Cir. 1986) ("The industry or public recognition of the submarket as a separate economic unit matters because we assume that economic actors usually have accurate perceptions of economic realities"); *Cardinal Health*, 12 F.Supp. 2d at 46 (*quoting* *FTC v. Coca-Cola Co.*, 641 F.Supp. 1128, 1132 (D.D.C. 1986); vacated as moot, 829 F.2d 191 (D.C. Cir. 1987)) ("[T]he determination of the relevant market in the end is 'a matter of business reality—[] of how the market is perceived by those who strive for profit in it.'").

AspenTech, Hyprotech and SimSci each began developing and selling continuous process simulation software that targeted separate categories of process industry customers – chemicals

for AspenTech, oil and gas for Hyprotech, and refining for SimSci. All three firms targeted engineering and construction (“E&C”) companies such as Bechtel or Fluor. While each firm initially focused on a specific customer segment, Hyprotech and AspenTech over the years offered successively broader sets of engineering products and increased functionality to existing products, ultimately seeking to displace each other and SimSci in the other firms’ traditional end-use markets. CX0155 at 019 [

].⁶ Customers noted the convergence as well: [].

While AspenTech’s and Hyprotech’s continuous simulation software products expanded and converged, SimSci weakened. CX1042 at 001 (BP) (investor analysis forwarded by Hyprotech) (“Hyprotech’s rapid ascension over the past couple of years clearly propels them into the number two position. In fact, Hyprotech gained the most market share between 1999 and 2000, capturing the number two spot from Invensys [SimSci] and gaining on AspenTech. . . . Simulation Sciences lost market share, as they could not keep pace with the rest of the market.”). SimSci’s loss of focus heightened the competition between AspenTech and Hyprotech, each innovating and dropping price to take each other’s and SimSci’s customers. *See infra* at 24, 41.

The relevant products encompassed within the continuous simulation software market include Aspen Plus, HYSYS and Pro/II steady state simulation software. To be conservative, Complaint Counsel include AspenTech’s and Hyprotech’s dynamics simulation software as well as several fringe products including Chemstations’ CHEMCAD and Bryan Research’s

⁶ *See also* CX0038 at 052 ([

]); CX0072 at 004 (“Simulation and optimization solutions have been around for over forty years. The traditional core markets for PSO [Process Simulation and Optimization] are showing signs of maturity as indicated by the small number of dominant suppliers battling for market share and profits . . . Convergence of performance, function, and features is occurring among the various simulation and optimization tools.”).

TSWEET.⁷ While customers conceivably could turn to one of the fringe products or use already internally developed software, the limited amount of such switching and the fact that it would impose higher costs and significant risk of business interruption on the customer ultimately make it likely that post-acquisition price increase imposed by Respondent alone or in combination with SimSci would be profitable.⁸ See *Libbey*, 211 F.Supp. 2d at 48; *Swedish Match*, 131 F.Supp.2d at 169.

Abundant evidence exists to support the continuous simulation software market. AspenTech, Hyprotech and SimSci recognized each other as offering competitive flowsheet software. For example, AspenTech's final pre-acquisition SEC filing for the quarter ended March 31, 2002 states: "Our asset optimization software competes with products of businesses such as Hyprotech, a division of AEA Technology, and Simulation Sciences, a division of Invensys." CX0652 at 036. AspenTech's first SEC filing immediately post-acquisition omits Hyprotech, stating that its "asset optimization software competes with products of businesses such as Simulation Sciences, a division of Invensys." CX0650 at 007; see also CX0137 at 005 (only Hyprotech and SimSci listed in "threat" category), 010 ("Hyprotech is most significant threat"). Notably, the business plan included in the offering memorandum sent to potential purchasers of the Hyprotech business similarly listed only two competitors, AspenTech and SimSci. CX0038 at 020, 048 ([

]). Similarly, SimSci competitive documents concentrate on AspenTech and Hyprotech in its competitive analysis. CX1357 at 002 (SimSci).

⁷ The AspenTech and Hyprotech dynamic options each require the purchase of the steady state flowsheet. Thus, including both dynamic and steady state products in the continuous simulation software market is both conservative and practical.

⁸ It is not enough that a customer could turn to an alternative at some price; the question is whether sufficient customers would switch away to make the price increase unprofitable. Where, as here, the switch is most likely to another product in AspenTech's offerings, the "lost" profit redounds to AspenTech and it is able to absorb many more customer defections. *Swedish Match*, 131 F.Supp. 2d at 161 n.8 (price increase profitable because "the [hypothetical] monopolist would only lose a small amount of business in general, and of the lost amount most of it would be coming back because consumers would be substituting one of the monopolist's products for another.").

The existence of a continuous simulation software market is further buttressed by AspenTech and Hyprotech pricing behavior and responses to each other, and to a lesser degree, to SimSci. For example, when ABB Lummus, a large engineering and construction company sought a replacement for SimSci, Hyprotech saw this as “our best shot . . . Aspen have offered access to all of their products for one year free of charge and then half price for the subsequent year to allow for the transition costs . . . clearly the big opportunity is to head off Aspen.” CX0284 at 002-4. Ultimately, AspenTech won this competition by dropping its prices. CX0270 at 002. Contemporaneous documents from both companies are replete with examples of the vigorous competition that existed between AspenTech and Hyprotech.⁹

AspenTech and Hyprotech recognized and responded to each other as competitors across a broad range of industry sectors and as each other’s closet competitor within individual customer accounts. AspenTech and Hyprotech made business decisions on the belief that customers would switch in response to quality adjusted price differences. For example, Hyprotech noted in a Board of Directors report that “[b]oth Aspen and Simsci are starting to reduce prices to maintain market share in both the software and applications market places.” CX0041 at 002.¹⁰

⁹ In markets like the continuous software market, where contract cycles are generally five years, there are fewer sales opportunities each year. Thus any competition is important, especially where the solutions are limited to a few players. *Grumman Corp. v. LTV Corp.*, 665 F.2d 10, 14 (2d Cir. 1981) (to presume that few competitive wins in thin market means no effect on the market “ignores the competitive effect they exert simply by being available to compete”). *See, e.g.*, CX0478 at 002 (“This leaves us [Hyprotech] with a good opportunity to push against an Aspen corporate agreement [with Valero] and leverage the sites currently using HYSYS . . .”); CX0439 at 002 (“I want a reverse MFN, that is they [Bechtel] will agree to terminate their Aspen and Simsci agreements as soon as possible . . .”); CX0441 at 003 (Hyprotech won a Saudi Aramco account by “absorb[ing] a huge Aspen attack on the account”); CX0422 at 001 (“Aspen has been making sales calls with the FW/BOC [Foster Wheeler/BOC] group . . . they have also been doing some visits with Air Products.”); CX0477 at 002 (Sunoco explaining to Hyprotech why it did not win Sunoco’s business against AspenTech: “I can tell you without question that Sunoco does not bid just to fulfill a bid requirement. We look at bidding as the best way for us to make sure we are getting the best price.”).

¹⁰ AspenTech similarly instructed the sales force on “[h]ow to respond to customers who are trying to use competition to get discounts?” CX0086 at 003. A Hyprotech salesman given access to “the prices charged by our competitors (ex Simsci and Aspen)” was surprised at the level of competition. CX0409 at 001 (“I did not know that they were going so low with their prices!”). As late as November 2001,

(continued...)

Customers clearly acknowledge only three plausible competitors in continuous simulation software: AspenTech, Hyprotech and SimSci. Of the three, SimSci is regarded as a weakened competitor by many customers. For example, [] identifies only AspenTech, Hyprotech and SimSci as offering continuous simulation software requested by its customers. [] indicates that SimSci is unlikely to constrain AspenTech's post-acquisition prices. []

Because customers view AspenTech's and Hyprotech's products as reasonable substitutes, the customers negotiated more favorable contracts and demanded more innovative features from their suppliers. For example, Flint Hills Resources, an important refining customer, wanted Hyprotech to equal an AspenTech discount given to one of its other refineries. CX1440 at 002 ("I would like to see a matching discount to the software as Aspentech is providing. I would like to see 15% off of both the purchase price and the annual MSU."). Similarly, Rohm and Haas conducted a detailed evaluation of the AspenTech and Hyprotech continuous process simulation flowsheet software, choosing Hyprotech on technical and cost based criterion. *See generally* CX1330.

AspenTech, Hyprotech, SimSci, small niche competitors, industry analysts and customers agree that the Acquisition eliminated intense rivalry between two long-standing continuous simulation software suppliers to the process industries. The last few years of competition between AspenTech and Hyprotech were especially fierce, driving each company to discount heavily and innovate to attract customers across industries.

¹⁰(...continued)

AspenTech summed up the state of its aggressive competition with its closest rival, "In Chemicals Europe, AT's stronghold, Hyprotech has caught up to AT. . . . [Hyprotech] Take over SimSci, don't even hide it 'eating alive SimSci' Want our chemicals mkt. share." CX0516 at 007. The report continues that []

[] CX0516 at 008. Meanwhile, AspenTech noted SimSci's decreasing significance: "Profitability falling in every business area . . . bleeding cash flow." CX0516 at 010.

2. Narrower Markets Exist Within the Continuous Simulation Software Market.

As discussed above, antitrust product markets are generally defined by asking whether a hypothetical monopolist of a group of products could profitably impose a small but significant and nontransitory price increase. *Merger Guidelines* § 1.11. Where the “hypothetical monopolist can identify and price differently to those buyers (‘targeted buyers’) who would not defeat the targeted price increase by substituting to other products,” separate relevant product markets may be delineated for different groups of buyers. *Merger Guidelines* § 1.12.¹¹

Consistent with Respondent’s insistence that markets for process simulation software are no broader than the industry “vertical” sector of the buyer, there is ample evidence that narrower markets may well coexist within the broad continuous simulation software market. Prior to the Acquisition, the parties’ documents show each company’s belief that it could charge higher prices in the end-use markets that it initially dominated. In particular, Hyprotech and AspenTech offered higher discounts to customers in those areas where the other was relatively strong.

CX0271 at 001 [

].

The parties’ ability to engage in such price discrimination warrants the delineation of narrower markets. Although customization may occur through the purchase of add-on modules, there is effectively only one basic version of HYSYS and only one basic version of Aspen Plus. CX1008 at 019 (Sim Dep. at 71); CX1009 at 006 (Kotzabasakis Dep. at 018). No matter who the customer may be, it will receive the same software, with the same functionality, that any other customer receives. In order to price discriminate, Hyprotech or AspenTech would have to be

¹¹ In order for narrower markets to exist, the seller must believe it can charge different prices to different customers; that different customers have varied ability to substitute the currently provided by the sellers. *Swedish Match*, 131 F.Supp. 2d. at 164 (“Another factor for consideration in determining whether a submarket exists is industry or public recognition of the submarket as a separate economic entity.”) (citations omitted)).

able to prevent extensive arbitrage. The parties' practical ability to do so is reflected, for example, in Hyprotech's pre-acquisition plans. To limit arbitrage by users with more than one type of plant (e.g., oil and gas plus refining), for example, Hyprotech planned to break HYSYS into separate products for oil and gas, refining, and chemicals. The point of the exercise was to "segment[] our market in a manner that prohibits users from crossing over, and we can price discriminate more effectively." CX0742 at 001.

a. Continuous Simulation Software for Oil and Gas Customers.

Aspen have started to attack us hard in Gas Processing and put much more emphasis back on simulation, . . . Now would be a very good time to talk to your gas processing and upstream customers to protect them from an Aspen attack and position the forthcoming HYSYS 3.0.

– CX0508 at 003 (Andy Howell, Hyprotech Project Manager for Oil & Gas Vertical).

Hyprotech and AspenTech recognized Hyprotech's dominant share in continuous simulation software licensed to the oil and gas processing sector. CX0031 at 015; CX0123 at 008; []; CX0028 at 005. At the same time, AspenTech recognized in 2001 that there was an opportunity for AspenTech to penetrate the \$35 million oil and gas market, CX0025 at 224, and enhanced its products and took steps to interface Aspen Plus with a niche oil and gas product, TSWEET. CX0750 at 001 (Press Release "AspenTech Collaborates with BR&E To Upgrade Engineering Solutions for Refining and Gas Processing Industries"). Hyprotech's response to the competitive threat from AspenTech was immediate: "We believe our friends at Aspen are planning a 'Flank' attack on our gas processing customers. This is an area that we have left somewhat unprotected for a while. The best way to counter a flank attack is a preemptive counter strike." CX0376 at 002 ("targeted at O&G market"). Although AspenTech now denies it competed for oil and gas customers, Hyprotech was concerned that the AspenTech/BR&E alliance would help AspenTech to further penetrate the gas processing industry. CX0050 at 031; CX1057 at 002. Consequently, the mere threat of AspenTech seeking oil and gas customers evoked a strong competitive response and caused Hyprotech to expedite the release of a new HYSYS version with enhanced capabilities. CX0014 at 039.

The Acquisition has directly and adversely affected competition in the oil and gas market. As discussed below, far from engaging in the innovation competition seen pre-acquisition, AspenTech has now removed Aspen Plus from oil and gas sales efforts. See, RX-0090 at 055.

b. Continuous Simulation Software for Refining Customers.

[Can we get Conoco] over to Aspen before the [Conoco/Phillips] merger? . . . w.r.t. Conoco and Phillips, what can we do to support you to exploit this open window to promote the Aspen cause? Obviously Phillips has made a pretty strong commitment to the AES suite . . .

– CX0212 at 003 (AspenTech Sales Person).

Given the agreement we [Hyprotech] have with Conoco, this [Conoco/Phillips merger] should allow us to move Aspen out of Philips [sic].

– CX0272 at 001 (Wayne Sim).

AspenTech and Hyprotech competed with each other to take SimSci's disaffected customers and thus focused on the refining industry for sales growth. Each company attempted in the years prior to the Acquisition to broaden the use of simulation tools within refineries and innovated to gain a toe-hold against each other and SimSci, especially as SimSci lost its focus after Invensys purchased the company in 1998.¹² Both AspenTech and Hyprotech saw SimSci's lost momentum and product failures as an opportunity to steal its customers. CX0092 at 012 ("Winning the Race after SimSci's market with AES"); CX0803 at 028 ("Aggressively market HYSYS.Process and HYSYS.Plant oil and gas production market . . . competitor (SimSci) vulnerable.").

To distinguish HYSYS for refinery customers from SimSci (and ultimately from HYSYS for any other customer), Hyprotech designed a product that integrated HYSYS and refining reactor models, HYSYS.Refinery. Hyprotech was thus able to demand a higher price from refinery customers, even though the product's simulation aspect was identical to HYSYS.¹³

¹² See, e.g., CX0803 at 038 ("Invensys purchase has deemphasized simulation development to focus simulation development to focus on services solution via Foxboro"); CX0031 at 014 ("Lack of focus in marketplace. . . Last few releases have been failures. Financial situation looks precarious."); CX0194 at 038 ("SimSci is loosing [sic] ground" "Battle for market share is in Oil & Gas and Refining"); CX0038 at 049 []].

¹³ Pre-merger, AspenTech focused its efforts on meeting Hyprotech innovation, not SimSci. See, e.g., (continued...)

AspenTech responded to Hyprotech with a similar targeted offering, Rxfinery, that combined services with Aspen Plus and AspenTech refinery reactor models. CX0183 at 023 (“Both Aspen Plus and Aspen Rxfinery are selling in Refining. . . . HYSYS.Refinery is our **main competition** for the off-line market. They are starting to impact Aspen Plus sales.”) (Emphasis added).

Both AspenTech and Hyprotech fiercely competed on price and innovation to win refinery customers from each other and from SimSci. CX0031 at 014 (SimSci “weakness[] – Normally a higher price.”). The head-to-head competition for SimSci’s customers made AspenTech and Hyprotech continuous simulation software the next best substitute for the other.¹⁴ The competition to take SimSci’s share of market extended to price concessions and promised innovation. A refining customer concerned with SimSci’s loss of focus and longevity had only two realistic choices: AspenTech and Hyprotech.

c. Continuous Simulation Software for Chemical Customers.

Hyprotech is growing with a flanking strategy in AspenTech’s Chemicals Market
– CX0079 at 011 (“Winning Business Against Hyprotech with AES 11.1”).

If we can penetrate these clients [AspenTech’s chemical customers] today with our niche technology, we can create opportunities to leverage our beachhead for growth of HYSYS.Process and HYSYS.Plant usage in these accounts in the next 2-3 years as these capabilities are integrated into HYSYS.

– CX0803 at 034 (Hyprotech Consolidated Operating Plan Americas).

¹³(...continued)

CX0183 at 032 (improve Rxfinery’s speed and robustness, because “[v]ery important in competitive situations (e.g. vs Hyprotech.)”); CX0183 at 033 (“Create a competitor to HYSYS.Refinery. . . . This gets us into the game for the \$80MM /yr refining market.”). Post-merger, Respondent introduced RefSYS, also demanding higher prices, even though the simulation aspect is identical to HYSYS. CX1008 at 031 (Sim Dep. at 121) (“RefSYS is a repackaging of the HYSYS technology.”). Respondent touts this “repackaging” as an innovation and an efficiency purportedly justifying the Acquisition.

¹⁴ See, e.g., CX0013 at 033 [

CX0027 at 030-31 (AspenTech “FY02-03 Business Themes • Capture Refining Market . . . • Target SimSci’s Refining Market and expand it”). Post-merger, AspenTech repositioned itself, no longer marketing Aspen Plus steady-state simulation sales to refiners. CX0718 at 019 (“Aspen Petroleum – Engineering . . . • Simulation & Optimization (HYSYS)”); CX1008 at 023 (Sim Dep. at 87) (“I have heard instance of salespeople making that claim.”).

Prior to the Acquisition, Hyprotech estimated AspenTech supplied 85% of the process simulation software sold to chemical customers. CX0123 at 009. AspenTech touted the “*unique* application expertise” of its “Chemicals solution” and cited its “large advantage in applications and capabilities in Chemicals” as a reason for customers to purchase AspenTech’s chemicals solution. CX0028 at 027 (Emphasis in original). Hyprotech, however, also looked to bring simulation software to the chemicals market and developed HYSYS 3.0 [] to the chemical market. CX0013 at 020. Hyprotech’s goal was to sell customers ‘Solutions’ To Targeted Vertical Markets,” including a solution for the chemicals industry. CX0058 at 008. Hyprotech continually sought to “take away some of Aspen’s business” by improving the capability of its software for use in the chemical industry. CX0029 at 014.

The increased competition from Hyprotech into AspenTech’s traditional chemical stronghold has startling similarities to AspenTech’s competition with Hyprotech for oil and gas customers. At times, AspenTech offered discounts only to new customers or customers up for contract renewal in its core market segment in order to protect its market share within that segment from Hyprotech. CX0028 at 10 (responding to increased penetration of HYSYS with “[f]lexible/lower pricing on our core products.”). Hyprotech also offered lower prices only to certain customers by keeping [

] CX0271 at 001. Hyprotech realized that “pricing which is appropriate for our core market of oil and gas may not be appropriate in our non-core markets (fuel cells, **chemicals**, etc.)” CX0298 at 002 (Emphasis added). Thus, it is clear that prior to the Acquisition, AspenTech’s pricing in chemicals was constrained by Hyprotech’s aggressive discounting and product innovation activity in that market.

d. Continuous Simulation Software for Air Separation Customers.

Own . . . Air Separation marketplace.

– CX0031 at 015 (“HYSYS.Process Level I Sales Kit”).

At the time of the Acquisition, AspenTech and Hyprotech were the only active suppliers of simulation software to the air separation industry, making this a merger to monopoly. CX1053 at 002 (BP). Moreover, SimSci believed that supplying simulation software to air separation customers “would be a difficult undertaking” and that SimSci lacked the “process

expertise” and resources to enter this market. CX1339 at 002 (SimSci) (“[W]e lack the key element here – process expertise . . . I think this would be a difficult undertaking at the moment.”) Similar to the other narrow markets, the Acquisition eliminates the competition previously faced by AspenTech from Hyprotech and will enable it to increase prices to air separation customers. CX0058 at 008 (“Targeted Vertical Markets . . . • Air Separation”).

3. The Batch Simulation Software Market.

Batch simulation software is used primarily in the pharmaceutical and fine chemical process industries, and provides a consistent, standardized environment to develop, model and test batch-recipe-based processes. Unlike the relatively mature continuous simulation software markets, batch simulation is a new, growth market. Hyprotech and AspenTech each sought to develop and take this new market and viewed each other as the only significant competitors in the batch simulation software market. CX0008 at 008, 019 (Hyprotech describing the batch software market as having “only one major competitor (Aspen Technology’s Batch Plus)”); CX0025 at 219; CX0533 at 011. AspenTech recognized Hyprotech’s aggressive competition [] CX0799 at 006. Indeed, after the Acquisition, AspenTech Vice President of Engineering Manolis Kotzabasakis testified that AspenTech stopped developing BDK “Because it has a lot of overlapping functionality with Batch Plus.” CX1009 at 026 (Kotzabasakis Dep. 99); *see also* CX0146 at 053; CX0105 at 003.

Further, the two companies focused almost exclusively on each other’s market position and products during development of their respective batch software. Hyprotech characterized its batch software, BDK, as the “market aggressor” competing with “market leader” Batch Plus (AspenTech’s product). CX0008 at 019; CX0533 at 011. Hyprotech planned to improve BDK in order to “Bury Aspen BatchPlus” and worked to expand sales of BDK at AspenTech’s expense. CX0401 at 020. [

]. CX0008 at 027.¹⁵ Similarly, AspenTech offered BatchPlus software to UOP

¹⁵ Hyprotech’s competitive strategy against AspenTech’s Batch Plus product proved successful.

[

];
(continued...)

at no cost so that UOP would not license Hyprotech's competing batch software. CX0126 at 003; []

AspenTech was the dominant supplier of batch simulation software. CX0078 at 003 (AspenTech estimated it controlled "90% of the dollar market share for this type of simulation software"). []

[]. Thus AspenTech's 2002 marketing strategy stated: "Do not give any chance to Hyprotech's BDK." CX0092 at 019.¹⁶

4. The Integrated Engineering Software Market.

Integrated engineering software allows engineers to share simulation information throughout the plant (with manufacturing processes, for example) and may allow users to improve the efficiency of engineering workflow. Answer ¶ 13. There are no substitutes for integrated engineering software in the event of a small but significant and nontransitory increase in price. AspenTech and Hyprotech, as well as their customers, viewed AspenTech's Zygad software and Hyprotech's AXSYS software as competitive products, and as the only significant integrated process engineering products. Hyprotech described the technology: "These products are direct competitors so obviously they will have features in common as well as some distinguishing features." CX0163 at 002; CX0080 at 002 (AspenTech wrote: "AXSYS is an

¹⁵(...continued)

CX0640 at 001 (noting that the Bristol Meyers Squibb and Pfizer deals were partly a result of the "dissatisfaction" with AspenTech). Hyprotech was also actively trying to displace Batch Plus with BDK as a part of a larger deal with Rohm and Haas. *See generally* CX0541. Hyprotech also targeted operating companies such as [] Solutia, [] and Monsanto for its batch products. CX0038 at 064-5; CX0640 at 001; CX0056 at 011.

¹⁶ A third product from Intelligen has some biotechnology application and has been successful in that niche. Intelligen's product has no thermodynamic capability, however, and is an unlikely price constraining substitute to batch processes that involve heat reactions. *See, e.g.*, Expert Report of Professor Robert D. Willig (April 23, 2004) ("Willig Report") []. To be conservative, Complaint Counsel include Intelligen's product in this relevant market.

integrated engineering database, similar in nature to Aspen Zydad.”). Respondent’s expert chose not to offer any expert opinion on the integrated engineering software market. *See Willig Report ¶ 7.*

Hyprotech categorized Zydad as the “Market Leader” and “Market Aggressor” and identified Zydad as AXSYS’s only major collaborative engineering software competitor. CX0017 at 014; CX0533 at 014. Hyprotech developed and improved AXSYS’s capability and functionality specifically to “Exceed Zydad’s Capabilities.” CX0017 at 018; CX0051 at 017. Hyprotech considered AXSYS as the market “challenger” and “innovator” and determined that AXSYS would compete against Zydad on price. CX0017 at 013 (Stating that “Zydad too expensive to implement” at mid-size companies and that companies had “Bad experiences with Zydad” based on implementation time and cost.); CX0533 at 013-14.

While AspenTech acknowledged itself as the “proven and chosen market leader,” it recognized Hyprotech’s AXSYS as its primary competitor and conducted detailed comparisons between the two products for the purpose of developing a sales strategy against AXSYS. CX0080 at 003 (AspenTech discussing that Hyprotech was positioning AXSYS as a “lower cost” alternative to Zydad and that AXSYS had more “out-of-the-box functionality.”); *see generally* CX0163. AspenTech reported that it had observed “increased competitive account activity in the past few months,” and in response, formalized a strategic message detailing why Zydad was a better product than AXSYS, CX0080 at 002, and noted that Hyprotech was conducting a “Strong attack on to [sic] Zydad.” CX0516 at 007.

B. The Relevant Geographic Market is the World.

The relevant geographic market is the “area of effective competition . . . in which the seller operates, and to which the purchaser can practicably turn for supplies.” *Tampa Elec. Co. v. Nashville Coal Co.*, 365 U.S. 320, 327 (1961). Respondent agrees that “the relevant geographic market is worldwide for purposes of analyzing the effects” of this Acquisition. Resp. Obj. and Responses to CC First Set of Interrogatories at 5 (Jan. 8, 2004).

C. The Acquisition Gave AspenTech a Very High Share in the Relevant Markets and Resulted in a Significant Increase in Concentration.

[]

[]

– CX0038 at 048 (Hyprotech Offering Memorandum).

Mergers that significantly increase market concentration to high concentration levels are presumptively unlawful because the fewer the competitors and the bigger their respective market shares, the greater the likelihood that a single firm, or a group of firms, could raise prices above competitive levels. *See Hospital Corp.*, 807 F.2d at 1389. After relevant markets have been delineated, the antitrust analysis of a merger proceeds to determining the market shares of the merging firms and the level of concentration in the relevant market. “[A] merger which significantly increases the share and concentration of firms in the relevant market is ‘so inherently likely to lessen competition’ that it must be considered presumptively invalid and enjoined in the absence of clear evidence to the contrary.” *Cardinal*, 12 F.Supp. 2d at 52 (quoting *Phila. Nat’l Bank*, 374 U.S. at 363).

Market concentration may be measured by combining the market shares of the largest firms or by the Herfindahl-Hirschman Index (“HHI”). *Heinz*, 246 F.3d at 716; *FTC v. PPG Indus. Inc.*, 798 F.2d 1500, 1503 (D.C. Cir. 1986); *FTC v. University Health, Inc.*, 938 F.2d 1206, 1211 n.12 (11th Cir. 1991) (HHI, which is calculated by summing the squares of the market shares of all firms in the market, is “most prominent method” of measuring market concentration); *Merger Guidelines* §§ 1.5, 1.51. Nonetheless, there is no requirement that market concentration be measured by HHIs. *See, e.g., United States v. Franklin Electric Co., Inc.*, 130 F.Supp 2d 1025, 1033-35 (W.D. Wisc. 2000) (HHIs never mentioned). As Judge Chappell held in his Initial Decision in the Chicago Bridge and Iron matter, “where, as in the instant case, the two largest competitors in thin product markets merge, the increase in market concentration and substantial lessening of competition are merely common sense conclusions.”

In the Matter of Chicago Bridge & Iron Company N.V., D.9300, Initial Decision at 89 (June 12, 2003). Prior to the Acquisition, AspenTech and Hyprotech were each other’s largest and closest competitors. With significant competition limited to AspenTech and a weakened SimSci following the Acquisition, the “common sense conclusion” is clear – the merger is illegal.

There is no requirement of pinpoint accuracy in the delineation of market shares or industry concentration. *See General Dynamics*, 415 U.S. at 521 (dissent) (“the Government is not required to delineate Section 7 markets by ‘metes and bounds.’”) (quoting *United States v. Pabst Brewing Co.*, 384 U.S. 546, 549 (1966)). There are only two public data sources that attempt to track market shares in the process simulation area, ARC Advisory Group and Daratech – both market research and advisory service companies. Both data sources are inherently unreliable.¹⁷ Where reliable data is lacking, the case for using the companies’ internal estimates is compelling. The best contemporaneous pre-investigation information compiled by AspenTech indicates that Respondent would control between [] percent of the continuous simulation software market. CX0246 at 003 []; CX0038 at 048 []; CX0296 at 002 (“... defining the market – process simulation – significant 70-75% of market share.”). AspenTech has revised its market share estimates post-FTC investigation [] to approximately 67%. CX1002 at 037 (Sim IH at 144); *but see* CX0189 at 009 (AspenTech alone has “more than 50% market share with our engineering solutions.”).

Although market share data are imperfect, the documentary record is consistent with Hyprotech and AspenTech management estimates. Customers describe a pre-acquisition market for continuous simulation software with only three competitors – AspenTech, Hyprotech and SimSci.¹⁸ Customers recognize that the Acquisition reduced the number of competitors from

¹⁷ *See, e.g.*, CX1000 at 035 (Evans IH at 137); CX1002 at 035-36 (Sim IH at 137-38); []; CX0079 at 007 (“**ARC’s Numbers are very underestimated**” for AspenTech) (Emphasis in original); CX1012 at 028 (Muller Dep. at 107) (Daratech data “not . . . reliable. . . . I don’t trust Daratech.”).

¹⁸ *See, e.g.*, []; CX1126 (Citgo); CX1153 at 002 (Cytec); CX1156 at 001 (Cytec); CX1330 at 016 (Rohm and Haas); CX1400 at 001 (Jacobs).

three players to two, giving AspenTech a 75-80% market share.¹⁹ More tellingly, shortly before the Acquisition was consummated, AspenTech published on its Internet site a third-party analysis of the Acquisition that AspenTech edited before publication: “The combination promises to create a behemoth in process simulation. . . . Together, the two companies accounted for more than two-thirds of the market.” CX0842 at 001; CX0168 at 003; CX0114 at 001.

In a highly concentrated market, one with HHIs over 1,800 points, any change in HHI exceeding 50 points is “likely to create or enhance market power or facilitate its exercise.” *Merger Guidelines* § 1.51(c). Concentration figures [], demonstrate a post-merger HHI of 7,048 points, with an increase of 3,360 points as a result of the Acquisition. The Acquisition also significantly increased concentration in the narrower markets contained within the continuous simulation software market, with post-acquisition concentration increasing significantly and resulting in HHIs of greater than 4,500 points in oil and gas and in refining, greater than 5,000 points for chemicals, and 10,000 points (a monopoly) for air separation. *See* CX0123 at 008-09. The Acquisition similarly significantly increased concentration in the batch simulation and integrated engineering software markets, resulting in HHI estimates approaching monopoly levels.

Calculating HHIs with SimSci at its historic market share is likely to overstate the competitive significance of the company. In recent years, both AspenTech and Hyprotech recognized SimSci as a weaker competitor. CX0450 at 002 (“keep in mind 24 months from now ProII will only be a memory”); CX0073 at 053 (“SimSci is struggling”). SimSci also viewed itself as a weakened competitor. CX1366 at 001 (“I believe we need to convince companies operating in this sector that SIMSCI is a worthwhile, reliable alternative.”). All three firms reported that SimSci fell behind in developing and updating its continuous simulation software

¹⁹ *See, e.g.*, []; CX1046 at 003 (BP) (BP response to AspenTech threat of price increases due to “80%+” market share: “and Manolis [Kotzabasakis at AspenTech] said they didn’t have a monopoly position! I wonder what would happen if we showed this to the competition authorities?”); CX1126 at 001 (Citgo) (As a result of the Acquisition, AspenTech “becomes the proverbial 500 pound gorilla in the simulation market. I think their share of the steady state flow sheet simulation market in the HPI would be over 80%. In dynamic simulation it would be even larger.”).

after it was acquired by Invensys. CX0137 at 091 (“Lack of recent investment into application[s]”); CX0029 at 014 (“[T]hey have no product offerings to compete with HYSYS.Refinery and HYSYS.Plant. . . .”); CX1348 at 003 (SimSci) (“Our once competitive edge in the areas of robust, rigorous, and effective software are no longer valid.”). Hyprotech’s offering memorandum includes several observations from customers regarding the weakening of SimSci in recent years. CX0038 at 005 ([redacted]), at 049 ([redacted]).²⁰

Nor is it likely niche players will be able to effectively respond to AspenTech’s efforts to raise prices or engage in any anticompetitive conduct post-acquisition. Associating market share to these companies for the purpose of HHI calculation for an overly-conservative market analysis, the niche players’ significance is also likely overstated. Thus ARC Advisory mentions the “large number of . . . suppliers with market shares less than 2 percent . . . [including] niche players such as Chemstations and Bryan Research & Engineering. . . . Although their solutions are limited in scope and lack complementary products, they tend not to compete directly with the big three.” CX0055 at 049. Chemstations’ product, ChemCAD, according to Hyprotech, “lack[s] the resources to compete head to head.” CX0030 at 019; CX0029 at 015 (company lacks resources); CX0137 at 005 (ChemCAD as a niche product). Hyprotech’s strategic business planning documents concluded that software providers such as WinSim, BRE and Chemstations were “minor competitors” that could sell software only to “single user shops,” and that these companies lacked the resources necessary to develop software for larger companies. CX0029 at 015; CX0030 at 019; *see also* CX0103 at 022 (Chemstations, BRE and WinSim as low cost providers).

²⁰ As will be discussed below, AspenTech and Hyprotech anticipated that it would be easier for them to take business from SimSci as a result of SimSci’s weakened condition. CX0029 at 014; *see also* CX0120 at 001-01; CX0387 at 002; CX0450 at 002-04; CX0295 at 002-03. Further, AspenTech concluded that if SimSci can make a comeback, it is expected to take several years. CX0103 at 022. AspenTech’s Strategic Account Manager stated that he did not believe that SimSci has “kept up with the technological advances in software,” that it was a “good company going bad” because it was not “keeping up with changing technology,” and that people at AspenTech wondered if SimSci still existed. CX1014 at 15 (Anand Dep. at 56). Customers also viewed SimSci as a distant competitor, notwithstanding its market share. *See, e.g.*, Section III.E.5.

D. The Relevant Markets are Insulated From New Entry

To rebut the presumption of likely anticompetitive effects arising from the highly concentrated post-acquisition markets, Respondent must demonstrate that entry will be timely (*i.e.*, occur within two years); likely to be profitable at pre-merger prices; and sufficient to deter the possible anticompetitive effects of the Acquisition. “Ease of entry is the ability of other firms to respond to collusive pricing practices by entering to compete in the market.” *Cardinal*, 12 F.Supp. 2d at 54-55. Entry into the relevant markets adversely affected by this Acquisition is unlikely because (1) the costs and time necessary to develop, validate and establish a reputation for reliability are substantial and unrecoverable if the entry is unsuccessful, and (2) customers will be reluctant to engage the services of a new entrant because of the potential economic loss associated with new software.

New entry sufficient to defeat the exercise of market power is unlikely because the cost and time for entry is prohibitive. Even Respondent’s economic expert sees “no compelling evidence that entry sufficient to affect future license prices is likely in the foreseeable future.” Willig Report ¶ 55. A new entrant would need to write a substantial volume of complex computer code, validate the new software, establish a reputation for reliability, and build a distribution and support organization. For example, although development of the current Microsoft Windows-based version of HYSYS began in 1989, it was not commercially released until 1995. CX0142 at 003. In its current state, HYSYS includes approximately “300 man years of effort” and “~2.0 million lines of code” CX0142 at 008. In fact, it took both AspenTech and Hyprotech nearly [] years to develop a critical mass of software to fully support their customers. CX1011 at 019 (Chan Dep. at 72-73). Additionally, according to AspenTech, the market is not attractive for entry because, among other things, customers require integrated offerings and require more scale than any existing niche players can bring to bear. CX0103 at 023 (“Competitive Barriers to Entry . . . Demands for complex, integrated software will make it very difficult for a new player”).

Customers also consider supplier reputation key to purchase decisions. According to Hyprotech, “Because of the nature of engineering software, users need extreme confidence in the calculations. A new player would have a huge hurdle to overcome in establishing itself as one of

the ‘standard’ providers of simulation software.” CX0029 at 016; CX1225 at 002 (“First and foremost, the program must be accurate. If you can’t get good results, then a simulator serves no purpose.”); CX1369 at 001 (SimSci) (“They ****DO NOT**** want to use a less expensive alternative, because they have to put a ‘Guarantee’ on the work they do.”). The same software design costs and reputation impediments that constrain entry also limit the likelihood of growth by the niche players.²¹ The fringe competitors, whether foreign or domestic companies, are unlikely, any time in the near future, to replace Hyprotech as a competitor to AspenTech across a significant number of markets and a broad range of customers. Hyprotech stated: “There are no signs that these companies [the niche players] will be able to acquire the resources necessary to be providers to major corporations. . . . All of these companies lack the development, marketing, and sales resources to compete heavily with us.” CX0029 at 015.

E. The Acquisition is Likely to Substantially Lessen Competition and Result in Anticompetitive Price Increases, Reduced Discounting, Reduced Innovation and Less Customer Choice in the Relevant Markets.

Customers realized substantial benefits (including lower prices and more innovative products) from aggressive pre-merger competition between AspenTech and Hyprotech. “[O]ne factor that is ‘an important consideration when analyzing possible anti-competitive effects’ is whether an acquisition ‘would result in the elimination of a particularly aggressive competitor in a highly concentrated market.’” *Libbey Foods*, 211 F.Supp. 2d at 47 (quoting *Staples*, 970 F.Supp. at 1083). Hyprotech was just such a competitor.²² The merger increased concentration in numerous already highly concentrated markets, substantially increasing AspenTech’s market

²¹ Only a few remaining companies have an internally developed and currently supported product. *See, e.g.*, CX0803 at 019 (“15 year trend of reducing in-house technology capabilities continues”); CX0304 at 001 (“They [Linde] also use OPTISIM, their internal simulator, but they are phasing it out”); CX0767 at 013 (post-acquisition, AspenTech intended to displace BASF’s in-house simulator); CX1238 at 002 (in-house development by Praxair was considered too costly).

²² *See, e.g.*, CX0028 at 009 (Hyprotech “[p]rice to ‘flood’ the desktop with core Hyprotech products”), 011 (Hyprotech “Responsive to customers’ customization requests”); CX0146 at 023 (Hyprotech redesigned its software to make it easier to use; “In 80% of the cases Ease of Use is more important than [sic] engineering capabilities and solving power.”); CX1340 at 001 (“I remember reading an article about the disruptive technologies a while back, and thinking similarities with Hyprotech and SIMSCI.”) (SimSci).

share and making it more profitable for AspenTech to raise prices unilaterally therein. Also, a reduction in the number of potentially significant competitors from three to two in every market but air separation and batch simulation software increased the likelihood of substantial harm to competition through tacit or explicit coordination between AspenTech and SimSci. With only two firms in the relevant markets, the obstacles to reaching a consensus on the terms of coordination, monitoring compliance, and punishing deviations are greatly diminished.

1. Effects in the Market for Continuous Simulation Software.

***Goal** Simply, give Aspen a swift kick (or make them bleed, whichever makes you happier). Heck, if we're lucky, kill 'em.*

– CX0061 at 001 (Emphasis in original) (Hyprotech Marketing Department).

Both companies' business documents and day-to-day activities confirm that Hyprotech and AspenTech were each other's closest competitor. *See, e.g.*, CX0092 at 011-13 ("AES 11.1 changes the tide . . . AES as a suite beats SimSci and Hyprotech . . . Derail Hyprotech's attempts in chemicals"); CX0070 at 002 ("**How can AspenTech grow?** Take market share . . . [or] Buy market share in existing businesses – Buy competitors") (Emphasis in original). This intense rivalry drove prices and margins down. [

] CX0519 at 008, 013 (Emphasis in original); CX0025 at 176 ("Excessive discounting" one of the biggest risks to AspenTech's engineering software business).

In the years leading up to the Acquisition, competition between AspenTech and Hyprotech broadened and intensified. First, both firms discovered that they had increased opportunities to displace SimSci, primarily in refining applications, because SimSci was falling behind in its product development.²³ Second, AspenTech was expanding its efforts to gain refinery customers (from both SimSci and Hyprotech) while Hyprotech was expanding efforts to sell its software to chemical industry customers, which historically had accounted for the bulk of AspenTech's software application revenue. Clearly, the two firms were invading each other's

²³ *See, e.g.*, CX1348 at 003 (SimSci) ("Our [SimSci's] customers frequently ask us about future development and capabilities similar to our competitors [AspenTech and Hyprotech]. . . . Our once competitive edge in the areas of robust, rigorous, and effective software are no longer valid. Our competitors have made major strides in these areas.").

traditional customer base.²⁴ But for the Acquisition, they would have continued to be fierce competitors in continuous process software applications.²⁵ Third, mergers between customers created increased opportunities to compete where one customer had a relationship primarily with AspenTech and the other with Hyprotech. These situations created an opportunity for one incumbent to partially or fully displace the other. *See, e.g.*, CX0212 at 002-04. Fourth, until AspenTech and Hyprotech reached a pre-acquisition agreement not to support CAPE-OPEN standards, *infra* page 36, the customer demand for open software interfaces led to increasing competition among continuous simulation software vendors.²⁶

Competitive discounting between AspenTech and Hyprotech reached remarkable levels, and included the provision of free software so that the customer “would not go with the competitor[’]s product.” CX0126 at 003.²⁷ There is also substantial evidence of discounting that occurred, in large part, because of competition between AspenTech and Hyprotech. *See, e.g.*, CX0443 at 002-03 (Hyprotech offered large discounts as part of an effort to switch additional

²⁴ *See, e.g.*, CX0167 at 004 (“We [AspenTech] are trying to penetrate the Oil & Gas / Refining market – the core of Hyprotech’s users.”); CX0038 at 049 [

].”); CX0029 at 014 (Hyprotech sought to “take away some of Aspen’s business” by improving the chemical capability of its software.).

²⁵ *See also* CX0445 at 002-03 [

]; CX0129 at 002 (Hyprotech noted “Threats to value pricing . . . BPA [BP America] Use SimSci and Aspen as competition.”); CX0300 at 002-03 (Hyprotech offered 50% discount to Toyo Engineering to win business away from SimSci and AspenTech); CX0410 at 001 (Sim instructed sales person to “feel free to match the Aspen price” at Sincor (PdVSA)).

²⁶ CX0264 at 002 (“Operating companies have realized that there is little value in using isolated, stand-alone tools and models. . . . The CAPE software tools supplier that is able to provide a framework that can embed these third-party solutions will easily gain a wider market share.”); *see also* CX0092 at 010 (CO-LaN to “[c]reate and promote competition among vendors”).

²⁷ For example, Hyprotech observed that “both Aspen and Simsci [sic] are starting to reduce prices to maintain market share . . .,” CX0041 at 002, “SimSci and Aspen are dropping prices in some situations,” CX0383 at 002, or “are having to defend their position by heavy discounting.” CX0129 at 002.

AspenTech users to Hyprotech). Customers also sought to use knowledge of discounts in one transaction to exert pressure for discounts in other sales.²⁸

Prior to the Acquisition, customers benefitted from innovation competition between AspenTech and Hyprotech. Hyprotech's competitive impact strengthened, forcing AspenTech to compete more vigorously. For example, AspenTech recognized that it should "re-visit our differentiation message" because it was "seeing a more aggressive campaign by [Hyprotech's] Hysys.refinery [sic] folks." CX0181 at 004. In November 2001, only six months prior to the Acquisition, AspenTech assembled its views of Hyprotech's plans to attack AspenTech and SimSci's traditional markets over the coming years. This analysis contemplated that there would be further switching of SimSci customers and AspenTech chemical customers to Hyprotech, starting in Europe. CX0516 at 007 (Hyprotech "want[s] our chemicals market share, starting with Europe.").

AspenTech and Hyprotech engaged in software development efforts to take customers from each other and from SimSci, particularly in refining and chemicals. Technical competition between AspenTech and Hyprotech increased in the three years before the merger and likely would have led to more rapid software enhancements and lower prices absent the merger. The loss of innovation competition between AspenTech and Hyprotech is likely to harm customers of all types because some of the technical innovations engendered by this competition would have likely benefitted affect all continuous simulation software customers (as well as batch simulation and integrated engineering software customers).

The merging companies' contemporaneous documents regarding the motivations behind, and the likely effects arising from, an acquisition provide strong evidence on likely effects.²⁹

²⁸ See, e.g., CX0353 at 002 (Flint Hills Resources, while evaluating Hyprotech's software, relayed: "Since they [the Corpus Christi refinery] have decided to go with the AspenTech software we will need to explain why we went a different route. I can explain that you have better software (more value returned) but I would like to see a matching discount to the software as Aspen is providing. I would like to see 15% off of both the purchase price and the annual MSU.").

²⁹ Post-acquisition evidence can be manipulated by the respondent and thus, must be viewed with suspicion. See, e.g., *General Dynamics*, 415 U.S. at 504-05 ("If a demonstration that no anticompetitive effects had occurred at the time of trial or of judgment constituted a permissible defense to a § 7
(continued...)

These statements (which were made before the government’s investigation) provide the candid business judgment of the market participants. AspenTech Board minutes reflect that [

] CX0089 at 001.³⁰ [

]. Surprisingly, even in the face of the FTC investigation, AspenTech evidenced an intent to increase prices in various markets post-acquisition. CX0246 at 003 [

];³¹ CX0108 at 001 (“The more I think about it the more I believe we should stick to 19% SMS [service/software maintenance fee] just to make sure Customers can’t tell AT [AspenTech] is increasing prices.”).

Hyprotech senior management predicted the direct anticompetitive effects of the merger. Hyprotech’s Chief Operating Officer wrote in May 2001 that the merger “will create a market

²⁹(...continued)

divestiture suit, violators could stave off such actions merely by refraining from aggressive or anticompetitive behavior when such a suit was threatened or pending.”) (footnote omitted); *Consolidated Foods*, 380 U.S. at 598 (If “post-acquisition evidence were given conclusive weight or allowed to override all probabilities, then acquisitions would go forward willy-nilly, the parties biding their time.”); *Hospital Corp.*, 807 F.2d at 1384 (“Post-acquisition evidence that is subject to manipulation by the party seeking to use it is entitled to little or no weight.”). However, as we highlight below, there is evidence of post-acquisition price increases and output restriction that proves the broad continuous simulation software market.

³⁰ See also CX0134 at 001 [

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³¹ [

CX0525.

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monopoly . . . Market dominance and technology lead will continue in mid-term for the combined company . . . Conclusion: Very positive short term for the combined entity . . . Positive mid term.” CX0273 at 002.³² Cesc Batlle, Hyprotech’s President of European, African and Middle East Sales, similarly commented on the Acquisition to Hyprotech’s management team: “[Unless AspenTech thinks] that our technology is superior, . . . they only want us to create a monopoly. . . . In this case, they will, most likely, sooner or later, rationalize us to the ground, toasting us all, freezing our products and milking all the customers for a while.”³³ AspenTech identified an immediate benefit of the merger was the “[e]limination of developments aimed at meeting the competition features.” CX0185 at 004.³⁴ Similarly, Hyprotech saw a possible acquisition of AspenTech as “tactical.” acquisition.” CX0499 at 089 (“Synergies from a merger amount to US\$40-million per year from **loss of competition**, rationalization of R&D efforts.”) (Emphasis added).

AspenTech also targeted Hyprotech for acquisition to prevent it from being acquired by software vendors who could use Hyprotech to expand into the continuous simulation software market. AspenTech was worried that absent the Acquisition, Hyprotech would become an even more vigorous competitor. For example, AspenTech declared that the Acquisition would be “a blocking maneuver so that our largest competitor does not get acquired by a well-funded competitor to Aspen Tech, such as ABB, Siemens, etc. Such an acquisition . . . could seriously jeopardize the long-term value of the AES franchise[.]” CX0207 at 002-03. Similarly, in response to Steve Doyle and Manolis Kotzabasakis, two of AspenTech’s senior executives,

³² Salva Clave testified in his investigational hearing that the monopoly would be created “[i]n the process simulation in the general terms,” [sic] across the verticals of oil and gas, refining, and chemicals. CX1003 at 037 (Clave IH at 144-45). Attempting to back-pedal from his statement, Clave (a native Spanish speaker) eventually stated, “Probably my English was not good enough to qualify this correctly.” CX1003 at 038 (Clave IH at 149).

³³ CX0262 at 004. Wayne Sim, Senior Vice President of Sales for AspenTech, explained that “milking” the customers was most likely a reference to reduced innovation. CX1002 at 057 (Sim IH at 222-23).

³⁴ AspenTech’s financial situation and the government’s investigation likely have diluted the immediate price impact of the merger. The evidence of ongoing price effects are discussed *infra* Section III.E.6.

reporting that SAP was bidding for Hyprotech, AspenTech’s Director of Mergers and Acquisitions advised “we should bid for Hermes [Hyprotech] even if it is only to disturb that process.” CX0196 at 002.³⁵ AspenTech explained to its employees: “A company may make an acquisition for different reasons. One is certainly to fill gaps in their offerings. However, another is to build **dominance in an existing area of strength**. With the Hyprotech acquisition, AspenTech will be the premier provider of simulation, engineering, economic evaluation and optimization solutions.” CX0310 at 002 (Emphasis added).

There is no question that AspenTech viewed the Acquisition as a means to eliminate competition.³⁶ Willie Chan, chief product architect for AspenTech’s continuous simulation software suite, analyzed the Acquisition’s potential to allow AspenTech to: “Dominate the entire simulation market space, and reduce competitive and pricing pressure.” CX0203 at 004. An AspenTech Strategic Planning document dated in 2001 noted: “Customers communicate about Pricing and are likely to find out about excessive discounts, deals with unlimited numbers of users, and 99 year licenses if we fail to stop these practices very soon.” CX0025 at 263.

AspenTech framed the competitive challenges to their business simply, [

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CX0516 at 029.

Contemporaneous expressions of customer concerns, which are present here, may also be a good indicator of likely future impact, especially as they came from large, sophisticated customers. For example:

³⁵ See also CX0516 at 030 [

]; CX0193 at 002 (“this acquisition would be a unique opportunity for AspenTech’s [sic] to take control of its core market. In contrast, if they were sold to ABB or Honeywell this work [sic] create a formidable competitor.”); CX0205 at 002 (“if they [Hyprotech] are sold to Honeywell they could become a formidable competitor – do you think we could participate in the negotiation to drive up the price to Honeywell and / or adopt other tactics that would make the acquisition less appealing for them?”).

³⁶ AspenTech’s pre-acquisition intent is highly probative of the likely effects of the Acquisition. See *United States v. Hammernill Paper Co.*, 429 F.Supp. 1271, 1287 n. 48 (W.D. Pa. 1977) (“evidence indicating the purpose of the merging parties, where available, is an aid in predicting the probable future conduct of the parties and thus the probable effect of the merger”).

- BP upon hearing of Hyprotech’s potential sale: “We certainly need to try to get some protection if [AspenTech] are the purchaser. [AspenTech] would have the whip hand if they had all our business, and no real competitor in sight. Would there be any scope for an appeal to the EC on competition grounds? Presumably it is too small an issue for US anti-trust to be raised.” CX1038 at 001;³⁷
- According to AspenTech documents, Technip, one of the world’s ten largest E&C firms, CX0038 at 019, “saw the AT news with horror. Their concern[s]: a company with a monopoly[;] a potential loss of technology” CX0343 at 001;³⁸
- DSM expressed “[s]ome concerns because of lack of competition as competition generally pushes vendors to make better products.” CX0535 at 006.

Eliminating a company’s closest competitor, as happened here, often enhances the prospects for unilateral anticompetitive effects – those that do not require the support of the remaining competitors in a market. AspenTech executives and employees acknowledge that the Acquisition will lead to price increases. Wayne Sim, Hyprotech founder and CEO, now AspenTech Senior Vice President told BP: “The only risk I see which has been brought about by this merger is price escalation and our people are putting something on the table to help avoid this.” CX1035 at 001. David McQuillin, then AspenTech CEO-elect told BP that that “[w]e are going to raise prices . . .” []; CX1046.

Respondent’s employees, at least until shortly after the Commission investigation was announced, focused on pursuing license renewal business by intimidation. BP was not the only customer threatened with a price increase. Respondent reported that Genesis, a wholly owned subsidiary of Technip-Coflexip, “complained that Aspen/HyproTech, now [a] monopolist, [was]

³⁷ Respondent’s documents prove BP’s fear of AspenTech post-acquisition market power was well-founded. [

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³⁸ See also CX0218 at 002 (Dow wrote to AspenTech: “For Engineering Heat and Material balances, who else are you going to recommend? Two years ago I would have highly recommended Hyprotech to anyone who asked. Now you own them as well. There is no one else.”); CX0535 at 006 (Dow also expressed “worries about AspenTech’s control of the market place.”).

threatening to increase the price if he wouldn't sign by a certain date . . . He felt he needs the software to run his business, so he didn't see any other option than sign, although he does not feel comfortable about it." CX0339 at 002. Another AspenTech document states that members of the Foster Wheeler account team would "steer this one forward using an eventual price increase threat." CX0517 at 001.³⁹

In a merger resulting in a reduction of competitors from three to two in markets, as here, and where the demand for the relevant products is relatively inelastic, increased likelihood of anticompetitive coordination by the remaining two firms may be presumed. Even though SimSci has some remaining market presence, it is nonetheless likely to support and profit from AspenTech's highly probable across-the-board prices increases (or reduced discounts). With AspenTech the dominant market leader and its only competitor of any significance, SimSci has strong incentives to follow AspenTech's pricing, *i.e.*, the markets under examination are more conducive to tacit coordination post-acquisition. Further, documentary evidence suggests that tacit coordination is possible. The threat of this type of coordinated interaction is highlighted by examples of contacts between Hyprotech and SimSci management and between AspenTech and Hyprotech management.⁴⁰

For example, Hyprotech prepared in September 2000 an offer to reduce competition by Hyprotech selling SimSci products or linking SimSci products to HYSYS.Refinery. CX0436 at 002-03; CX0468 at 002-03 ("We need to become a technology provider to Simsci not take over their customers, we provide them with a product which they rebrand ProIII and we continue to compete with them."). Hyprotech approached SimSci on several occasions regarding similar offers, such as providing the dynamic simulation capability that SimSci lacked. CX1002 at 011-

³⁹ See also, CX0331 at 001 (Foster Wheeler) ("Please call URGENTLY FW Reading and advise them that closing a contract before June 15 and for five years may protect them from any eventual price increase or price policy change once the merger with Aspen is finalised . . . Please let them know that we may have our commercial department constrained by a number of companies in the same situation as they are."); CX0340 at 001 (SARAS); CX0347 at 002-3 (Colt Engineering); CX0348 at 001 (SNC-Lavalin); CX0492 at 003 (Petrobras); CX0800 at 001 [].

⁴⁰ Respondent's expert trivializes the likelihood of coordinated effects arising from this transaction, [].

12 (Sim IH at 40-6). Had SimSci been more enthusiastic about entering into such an agreement, Hyprotech planned to suggest that Hyprotech would take over product development, “gradually cease support for ProII and substitute Hysys. . . . As an agent for Hyprotech Simsci would have to agree [on] accounts, pricing strategies etc.” CX0587 at 001.

Actual coordination pre-merger strongly suggests an industry conducive to coordination. Starting in 1995, customers made efforts to establish standards for compatibility between products of the significant continuous simulation software vendors. These efforts included organizations such as CAPE-OPEN, Global CAPE-OPEN, and CO-LaN.⁴¹ AspenTech believed CAPE-OPEN removed “some entry barriers.” []; CX0025 at 262. Pre-acquisition discussions between AspenTech and Hyprotech culminated in an agreement in late 2001 not to support continued open interface development through the structure favored by CAPE-OPEN participants.⁴² The episode demonstrates that pre-acquisition, AspenTech and Hyprotech could and would work together outside the public standard-setting arena. It also demonstrates the Acquisition’s effect; AspenTech now has the option to make “CAPE-OPEN happen in a very short period of time . . . killing CAPE-OPEN and establishing a [de]-facto new standard, . . .” CX0466 at 002.⁴³

⁴¹ CX0055 at 027-28. CAPE-OPEN was the original, European-funded organization to set standard interfaces for simulation software among other types. Global CAPE-OPEN was the follow-on organization to CAPE-OPEN. CO-LaN is the private-funded continuation for Global CAPE-OPEN.

⁴² An e-mail exchange between Hyprotech CEO Sim and AspenTech Senior Vice President Kotzabasakis lays out the agreement: AspenTech told Sim that they would not join the follow-on organization “even though we get a lot of complaints: we do not plan to join CO-LaN as it stands currently.” CX0426 at 002. Sim replies: “We have discussed Co_lan internally and will not join if Aspen maintains its stance of not joining as there is little point in trying to achieve a standard as a lone vendor, please let us know if the Aspen position changes.” CX0426 at 002. AspenTech responds: “We really appreciate your taking this position and let in [sic] us know in advance. Many thanks. Our position is the same, we will not join.” CX0426 at 001. Although Respondent says there was nothing untoward to the exchange, Sim deleted the language: “We really appreciate your taking this position . . . [o]ur position is the same, we will not join” from the message when he forwarded the agreement to his staff. CX0427 at 002; CX1008 at 48 (Sim Dep. at 186).

⁴³ It is interesting to note that Respondent is asking to make this entire subject *in camera* describing it as “corporate development.”

2. Effects in the Narrower Markets Contained Within the Continuous Simulation Software Markets.

AspenTech and Hyprotech were active competitors in each of the narrower customer group markets within the continuous simulation software market, namely oil and gas, refining, chemicals, and air separation. The other supplier in oil and gas, refining and chemicals is SimSci, whose competitive position weakened in the years leading up to the merger. The merger significantly increased concentration in these narrower markets, each of which has substantial entry impediments for firms outside of the broader relevant market. For many customers, AspenTech and Hyprotech were the closest competitors, and AspenTech emerged as the largest supplier in each of these potential narrower markets. Consequently, the merger is likely to substantially reduce competition in these narrower markets both through unilateral effects and coordinated interaction.

a. Oil and Gas Customers

Oil and gas customers benefitted from competition. For example, AspenTech and Hyprotech competed for Norsk Hydro's business based between AspenTech and Hyprotech on functionality and price. CX0232 at 003 (“[Norsk Hydro] has everything in place to make AspenTech and Hyprotech compete for providing the best service.”). AspenTech also provided an alternative to Hyprotech at Chiyoda: “I think Chiyoda are considering introducing either A+ or Hysys. They have a lot of work in the Oil & Gas area. We should work with them to show the benefits of A+ ASAP over Hysys and emphasize our relationship with BRE (TSWEET).” CX0219 at 003.

Although Hyprotech had the dominant market share in oil and gas simulation software licenses prior to the Acquisition, AspenTech had improved its simulation software capability to attract oil and gas processing industry customers. CX0073 at 038; CX0077 at 003; CX0750 at 001. The Acquisition eliminates the competitive vigor that caused Hyprotech to plan “a campaign of defence [sic] to give Aspen a bloody nose.” CX0014 at 039. For example, to better serve oil and gas customers' needs and in response to AspenTech, Hyprotech linked HYSYS 3.0 with an add-on module produced by another company to give “Hyprotech customers the ability to model the complete Gas Plant or Refinery. This is an equal if not better offering compared to

Aspen + TSWEET.” CX0494 at 002. Hyprotech aimed to garner a “premium” for these kinds of “vertical market solutions.” CX0058 at 007. Now Respondent is free to segment oil and gas customers from other customer groups: “By focussing [sic] on industry verticals, we have segmented our market in a manner that prohibits users from crossing over, and we can price discriminate more effectively.” CX0742 at 001 (Hyprotech, pre-acquisition). [

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b. Downstream Refining Customers.

Customers benefitted from AspenTech and Hyprotech competition to take market share in refining. CX0092 at 012 (“Winning the Race after SimSci’s market with AES”); CX0803 at 030 (“Aggressive sales and services campaign to establish HYSYS.Refinery as the simulation platform market leader . . . [SimSci] is very vulnerable”). The competition between AspenTech and Hyprotech to take SimSci’s customers led to lower prices and increased innovation. CX0031 at 014 (SimSci “weakness” “Normally a higher price.”). For example, when Tesoro felt that it was not getting the best deal for its simulation software, it solicited AspenTech for a bid on Aspen Plus, Aspen Dynamics and TSWEET. CX0233 at 002 (“Hyprotech is pursuing a corporate license with Tesoro, but so far we’ve rejected it over individual site licenses based on total cost.”). Similarly, both AspenTech and Hyprotech sought to take all of the Phillips (standardized on Aspen Plus) and Conoco (standardized on HYSYS) refining business from the other when those companies merged. *See generally* CX0150 (Hyprotech); CX0212 at 003 (AspenTech).

c. Chemical Customers.

Chemical customers, but for the merger, would have continued to enjoy the benefits of aggressive competition between AspenTech and Hyprotech. *See, e.g.*, CX0455 at 002 (“quite a lot of people in Sasol would be pleased with a bigger share of Hyprotech products . . . finishing with years of Aspentech ‘monopoly.’”). For example, Hyprotech in a strategy session to deal with AspenTech’s inroads into Hyprotech’s customer base, recommended: “Predatory pricing of HYSYS (with electrolytes) in the Bulk Chemicals market.” CX0063 at 005. After the Acquisition, AspenTech’s planning documents expressly outlined a narrow market strategy

where it sold customers “Business Process Suites for vertical industries.” CX0718 at 012. HYSYS would serve as the simulation and optimization engine behind “Aspen Petroleum,” while Aspen Plus’s “vertical focus” would be in the chemicals vertical. CX0718 at 019; CX0848 at 003. AspenTech has already repositioned Aspen Plus as its only offering for chemical industry simulation. [

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d. Air Separation Customers.

AspenTech can now raise prices discriminate to air separation companies because it no longer faces competition from Hyprotech, its only competitor to air separation companies. CX0028 at 10 (AspenTech noting that they were facing “growing HYSYS usage in all of our markets, e.g., 85 users at Linde”). Pre-merger, for example, Hyprotech noted that Air Products, even after standardizing on AspenTech simulation products, “left the door open” to Hyprotech “in an effort to hedge against sole supplier issues.” CX0386 at 002. Because only AspenTech and Hyprotech supplied continuous simulation software with the necessary tool-set for air separation, the ability to price discriminate to these customers was only limited by the customers’ ability to “arbitrage” by using a broader competitor set for the air processing companies’ E&C business. Now that AspenTech controls both possible continuous simulation software products, customers’ ability to arbitrage is largely if not totally lost. Thus, after the acquisition, several air separation companies realized that they no longer had any alternative to AspenTech for continuous simulation software and raised concerns about decreased competition.⁴⁵

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⁴⁵ CX0392 at 003 (“There is a lot of concern at [Praxair] right now about Aspen having monopoly pricing power.”); CX0535 at 007 (Air Products expressed “concern about lack of competition”); CX0535 at 035 (For Linde, “pricing still a concern. Perceived lack of competition is a topic that is present.”).

3. Effects in the Market for Batch Simulation Software.

Prior to the acquisition, AspenTech and Hyprotech were the only two significant suppliers in the emerging market for batch simulation software. AspenTech was the leader in the market and recognized Hyprotech as its only challenger. As a result, both companies were actively developing better batch simulation software and engaging in aggressive sales activities in trying to win over the market. *See* Section III.A.3. Customers clearly benefitted from this competition by receiving more innovative products at lower prices. Post-acquisition, AspenTech concluded that either Batch Plus or BDK would be able to [] CX0102 at 006. With ownership of both product lines, however, AspenTech no longer needs to compete with Hyprotech to produce a competitively priced, innovative product to capture the market. Instead, AspenTech has put Hyprotech's BDK into "maintenance mode", ceasing to actively innovate and market the product because of its overlap in functionality with Batch Plus. CX1009 at 022, 026 (Kotzabasakis Dep. 82, 98); []. Consequently, the combination of AspenTech and Hyprotech has eliminated the pre-merger competition that resulted in lower prices, enhanced products and reduced actual customer choice in the market for batch simulation software.

4. Effects in the Market for Integrated Engineering Software.

AspenTech has already placed AXSYS in "maintenance mode," meaning that it is neither actively innovated nor sold. []; CX1009 at 022 (Kotzabasakis Dep. at 82-3); []. Prior to the Acquisition, AspenTech and Hyprotech competed in the market for integrated engineering software and AspenTech's contemporaneous business documents show that AspenTech and Hyprotech viewed each other as the only competition in this market. The incumbent (AspenTech) and the challenger (Hyprotech) both were actively developing and selling their software to gain market share in a developing product market. *See* Section III.A.4. As a result, customers benefitted by receiving greater innovation at lower prices. With the integrated engineering products of AspenTech and Hyprotech under one roof, it eliminated competition and customer choice for integrated engineering software.

As early as the first attempt to buy Hyprotech in 2001, AspenTech planned to [] in the event of an acquisition of Hyprotech. CX0194 at 054. Soon after the acquisition occurred, AspenTech recommended [] . CX0156 at 003 ([] CX0695 at 001.

5. SimSci Is Unlikely to Constrain AspenTech Pricing in Any Market.

About SIMSCI I agree with you on the two possible approaches, and I fully agree that we don't need to go down the price war road. Right vision is the way to go. We are playing on [sic] a different league here.

– CX0295 at 002 (Cesc Batlle, Hyprotech President European Middle East and Africa Sales).

Post-acquisition, SimSci is a weak second in engineering simulation software.⁴⁶ Pre-acquisition, SimSci “acknowledge[d] Hyprotech in 2nd position after AspenTech. They acknowledge as well that they need to ‘regain’ market share. They acknowledge that Hyprotech’s and AspenTech’s products are far more superior. They see that the times when . . . their science and technology was the best has gone. The [sic] recognise [sic] that both Hyprotech and Aspen science and engineering technology are at the same level or superior in the [sic] SimSci’s core markets.” CX0360 at 001. SimSci, suffering from years of market share erosion due to its failure to follow AspenTech’s and Hyprotech’s commitments to technical innovation and product development, is unable to competitively constrain AspenTech on pricing or potential

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innovation decreases. Hyprotech succinctly dismissed SimSci’s impact on the combined AspenTech and Hyprotech: “On the subject of clients buying SIMSCI because of the dominant position of ‘New Aspen’ I have two thoughts: We can destroy SIMSCI if we compete with them on price . . . My preferred strategy is to say that we don’t view SIMSCI as a competitor.” CX0295 at 002.

Consistent with Hyprotech’s pre-acquisition offers to SimSci (CX0436; CX0468 at 002-3, CX0587 at 001), AspenTech might simply allow SimSci to retain its existing customer base, ignoring the company, as suggested by Cesc Batlle immediately prior to the merger. CX0295 at 002 (“About SIMSCI . . . I fully agree that we don't need to go down the price war road. . . . We are playing on [sic] a different league here.”).

Customers may decide to support SimSci with some business to “represent at least a modicum of competition for AspenTech.” []. Nonetheless, this would be a higher cost option if SimSci’s technology is behind that of AspenTech and Hyprotech. []

one of Respondent’s witnesses, described the competitive landscape: []).⁴⁷ Similarly, []

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6. The Acquisition Has Already Resulted in Anticompetitive Effects.

Complaint Counsel are not required to demonstrate that the Acquisition has already led to actual anticompetitive conduct or post-acquisition price increases to sustain a Section 7 challenge to this Acquisition. *Hospital Corp.*, 807 F.2d at 1389. Nonetheless, proof of actual

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⁴⁸ See also CX1126 at 002 (Citgo); CX1156 at 001 (Cytec); CX1330 at 016 (Rohm and Haas).

anticompetitive effects is sufficient to establish that the Acquisition is likely to lessen competition. *General Dynamics*, 415 U.S. at 505, n.13 (“[P]ost merger evidence showing a lessening of competition may constitute an ‘incipiency’ on which to base a divestiture suit . . .”); *FTC v. Toys “R” Us Inc.*, 221 F.3d 924, 937 (7th Cir. 2000). Nonetheless, as predicted by Respondent in contemporaneous pre-acquisition business documents and substantiated by economic theory, the elimination of AspenTech’s closest competitor already has resulted in likely anticompetitive effects.

One might expect that a company is unlikely to engage in illegal behavior while under investigation. Indeed there is evidence that AspenTech employees specifically attempted to delay such behavior in the short term. Because AspenTech knew of the many customer concerns over the exercise of monopoly power, especially prevalent just after the announcement of the Acquisition, AspenTech has tried to hide such behavior. For example, an AspenTech document post-merger notes: “We don’t want the perception we would be increasing our prices . . . SMS increase from 19% to 20% moderate.” CX0108 at 020. Another document indicates that management specifically forbade post-merger fee changes or mentioning fee changes to customers without the approval of management. CX0151 at 002.⁴⁹

The announcement of the Acquisition caused Hyprotech and AspenTech employees to question the prices of competing offers from Hyprotech and AspenTech that were still pending at some customers. After the merger, the combined firm’s sales personnel were directed to “coordinat[e] closely to make sure that the customer doesn’t use our offers against each other to minimize the \$\$.” CX0243 at 002. “Obviously, if we finally leave the two options on the table, we should make a point of the strategy to win the projects, to ban discounts from any of the two sides, such that we don’t diminish the company’s \$\$.” CX0244 at 003. Absent the merger, the

⁴⁹ Efforts to avoid the appearance of post-merger anticompetitive effects during the FTC investigation of the merger have extended beyond pricing issues. For example, in April 2003, AspenTech staff questioned whether software development decisions should be modified because of the FTC investigation. CX0688 at 010. [] CX0604 at 001.

customer likely would have benefitted through price discounts or other concessions that AspenTech and Hyprotech would have offered in competition with each other.⁵⁰

A focus of AspenTech’s post-merger pricing policy was to [] CX0184 at 015 (Emphasis in original). AspenTech’s approach to discounting shifted after the merger. “We implemented discipline in the organization. We adopted the Hyprotech discounting process, which is a well-disciplined process.” CX1008 at 049-50 (Sim Dep. at 193-94). SimSci documents also report that AspenTech likely increased the prices for Hyprotech products after the merger.⁵¹ One such document states: “Significant pricing change for Hyprotech clients ~ 100-300% increases reported by clients.” CX1342 at 007 (SimSci). This is consistent with the experience of one small refiner, NCRA, which faced a 218% price increase by the sixth year of a renewal contract offer. CX1230.

As discussed above, AspenTech used the threat of post-acquisition price increases to get customers to sign early renewal contracts. *See supra* page 34. There is no way to determine just how many of these threats were delivered and how many were successful. The evidence does show, however, that Respondent used a new licensing mechanism (“token licensing”) to offer customers the “benefit” of licensing both companies’ products, but only with the expectation of raising prices down the road. *See, e.g.*, CX0628 at 001 []].

AspenTech planned to have customers []].

⁵⁰ For example, discussing the Phillips Petroleum contract, Hyprotech noted “[t]he consequence of not acting [pre-acquisition] could result in a complete re-negotiation of an ASPEN contract with Phillips. I would not envision that this would be completed at more favourable [sic] pricing for Phillips Petroleum Company.” CX0496 at 010.

⁵¹ CX1335 at 002 (SimSci) (“I would note that Hyprotech was always lower priced than [AspenTech] and us . . . [t]hat lower pricing is being removed by” AspenTech.); CX1347 at 004 (SimSci) (“Hyprotech’s increased pricing”), 007 (“With the acquisition by Aspen, . . . Aspen management is forcing increases in net prices for the Hyprotech prices.”); CX1342 at 005 (SimSci) (Hyprotech “[u]sed to be low price alternative, now part of [AspenTech] higher pricing.”).

AspenTech increased prices for continuous simulation software by applying whichever of the two companies' pricing was higher. For example, Respondent planned to apply AspenTech's standard pricing for on-site Hyprotech training programs in December 2002. This increase was greater than the difference in list prices because "under the old Hyprotech model this training was often given away as a sales incentive to drive license revenue." CX0197 at 002. Similarly, documents as recent as [

] RX-0182 at 023; CX0214 at 035-36. AspenTech also proposed [] CX0214 at 022 ([]).

There is ample evidence of actual or likely price increases post-acquisition. For example:

- *Repsol*: "Raising MSU to Repsol (or any other customer) can be done and doesn't have repercussions anywhere else. Let's move ahead." CX0325 at 001 (6/13/02);
- *Kvaerner*: "Their existing deals have been hugely discounted — between 50% and 90% discount. What we propose is the removal of this discount and a token mechanism to dictate the number of licenses available." CX0334 at 001. Salva Clave, Chief Operating Officer at Hyprotech wrote: "If they don't want to sign now . . . they can wait and face the new company after [the acquisition] . . . Let's NOT give a discount." CX0329 at 001 (5/17/02);
- []
- *SNC-Lavalin*: "I [a representative of SNC-Lavalin] hereby acknowledge having received verbal notice that as of June 1st 2002 our maintenance and support fee (MSU) will be increased . . . in about 28 months, you unilaterally increased our MSU by a factor of 3.1. This was done without our consent and without providing us with any additional value." CX0348 at 001; CX0349 (5/31/02);
- []: After the merger, AspenTech notified [] that the price for its annual maintenance contract on its existing 20-year license for HYSYS.Process would increase by 79%. CX0493 at 002, 005 (10/1/02);
- []

]

- *NCRA*: Proposed software package price increased by 63% in year one following the merger and by 218% in year six following the merger. CX1230 (NCRA) (10/21/02).

F. AspenTech Cannot Meet its Burden of Establishing that the Acquisition Will Enhance Competition by Producing Cognizable Efficiencies.

The Commission considers appropriate efficiencies in evaluating a merger's likely competitive effect. *Merger Guidelines* § 4.0. Efficiencies must be merger-specific and cognizable. Merger-specific efficiencies are those "likely to be accomplished with the proposed merger and unlikely to be accomplished in the absence of either the proposed merger or another [practical] means having comparable anticompetitive effects." *Id.* § 4.0. Cognizable efficiencies are those that have "been verified and do not arise from anticompetitive reductions in output or service." *Id.* "[G]iven the high concentration levels, the court must undertake a rigorous analysis of the kinds of efficiencies being urged by the parties in order to ensure that those 'efficiencies' represent more than mere speculation and promises about post-merger behavior." *Heinz*, 246 F.3d at 721. Moreover, "[e]fficiencies almost never justify a merger to monopoly or near-monopoly." *Merger Guidelines* § 4.0.

Respondent flatly denied the allegations contained in the Complaint, and never offered any comprehensive efficiency claim. *See generally* Answer. Based on its expert report, Respondent's purported efficiencies appear to fall into three broad categories: headcount reductions, real estate savings, and new product development. The evidence will show that the claimed efficiencies are not likely to benefit consumers, are speculative,⁵² and can be achieved through means with fewer anticompetitive effects than the Acquisition. Therefore, efficiencies are not a defense to the anticompetitive effects likely to result from the Acquisition. *See Cardinal*, 12 F.Supp. 2d at 62.

⁵² Speculative claims are not countenanced. *Merger Guidelines* § 4.0. AspenTech identified as one of its "Risk Factors" in SEC filings that "[w]e have experienced in the past, and may experience again in the future, problems integrating the operations of a newly acquired company with our own operations." *See, e.g.*, CX0652 at 038. Similarly, AspenTech identified one of the "Characteristics of Successful Acquisitions" as "Little Product Overlap," suggesting any efficiencies here are unlikely, not just speculative. CX0528 at 009.

Respondent's purported cost savings cannot be credited for at least two reasons.⁵³ First, they will not overcome the injury to competition resulting from the Acquisition. The Acquisition is a near merger to monopoly in numerous relevant markets in which substantial unilateral anticompetitive effects are likely. Without Hyprotech's competitive rivalry, the forces that have driven price competition and spurred innovation are impermissibly diminished. lost. *See United States v. United Tote, Inc.*, 768 F.Supp. 1064, 1084-85 (D. Del. 1991) (rejecting efficiency defense in merger to duopoly; efficiencies insufficient to outweigh loss of competition since "even if the merger resulted in efficiency gains, there are no guarantees that these savings would be passed on to the consuming public."); *Merger Guidelines* § 4.0.

Second, Respondent must also show that the efficiencies are specific to the Acquisition. Respondent's efficiency claims fail because any of the cost savings they attribute to the acquisition could have equally been achieved by cost cutting measures that do not adversely affect competition. Although mergers "have the potential to generate significant efficiencies," the *Guidelines* specifically caution against efficiencies "such as those relating to research and development, . . . generally less susceptible to verification and may be the result of anticompetitive output reductions." *Merger Guidelines* § 4.0; *see also FTC v. Coca-Cola Co.*, 641 F.Supp. 1128, 1141 (D.D.C. 1986); vacated as moot, 829 F.2d 191 (D.C. Cir. 1987) (efficiencies, insofar as they benefit customers, were to be "developed by dominant concerns using their brains, not their money by buying out troubling competitors.").

G. Divestiture and Other Relief Are Needed to Restore Competition That Would Have Occurred But For the Illegal Acquisition.

The purpose of an antitrust remedy is to restore competition. The Commission has "wide discretion" in its choice of remedy, *see Atlantic Refining Co. v. FTC*, 381 U.S. 357, 376 (1965), with all doubts resolved in the government's favor. *United States v. E.I. du Pont de Nemours & Co.*, 366 U.S. 316, 334 (1961). For violations of Section 7 of the Clayton Act, divestiture is favored – it "is simple, relatively easy to administer, and sure." *Id.* at 329-31. Divestiture of assets and intellectual property beyond what was acquired is appropriate if necessary to put the

⁵³ Respondent's efficiency claims also cannot be credited where the purported cost savings comes from reductions in competition, *e.g.*, no longer innovating against one other or reducing the sales force.

new competitor “in the same *relative* competitive position” as the acquired firm when it was independent, *Utah Public Serv. Comm v. El Paso Natural Gas Co.*, 395 U.S. 464, 470 (1969) (Emphasis added).

The appropriate remedy to AspenTech’s illegal Acquisition is divestiture of a free-standing business that will replace the relative competitive position of Hyprotech but for the merger. Such a divestiture would include Hyprotech and all related assets and intellectual property (as constituted at the time of divestiture) necessary to restore competition lost as the time of the acquisition and that likely would have developed absent the acquisition. A divestiture of Hyprotech (rather than a clone of the combined AspenTech/Hyprotech engineering products) is feasible and preferable. The most significant AspenTech and Hyprotech pre-acquisition products in the relevant markets have been maintained and supported (and in some instances, improved) since the Acquisition. Divestiture is preferable because it creates an independent competitor rather than a licensee of an existing firm.

Certain minimum elements are needed for an effective divestiture. For example, the acquirer should be offered exclusive rights to the former Hyprotech intellectual property and a perpetual, non-exclusive right to all post-merger improvements of such products. This is necessary to ensure that the divested business is viable and to preserve incentives to improve the Hyprotech products post-divestiture.⁵⁴ The divestiture must also include the customer contracts (license and maintenance) for former Hyprotech products since these customers and revenue streams are needed to make the new company viable. Also, the remedy may need to include for a transition period a requirement that AspenTech maintain existing interfaces. Otherwise, AspenTech could threaten the viability of the divested business by diminishing its ability to bring the acquired software up to the current commercial standards that Hyprotech likely would have attained but for the Acquisition.

⁵⁴ For any Hyprotech product that was discontinued or not updated post-acquisition, the acquirer should receive a choice between the AspenTech intellectual property sufficient to update the Hyprotech product or a perpetual, no-cost license to use and further develop the AspenTech product (as it exists at the time of divestiture) that replaced the discontinued or outdated Hyprotech product. The acquirer would then be free to enhance, further develop and introduce a viable replacement for the discontinued Hyprotech product if there is demand for the product.

To ensure the new Hyprotech will be a viable competitor, additional provisions may be needed to allow the acquirer to recruit and hire existing AspenTech employees, particularly former Hyprotech managers and AspenTech employees who have been working on customer service, quality control, sales, software updates, and software improvements.⁵⁵ In addition, the divestiture order should also allow customers of pre-merger AspenTech products to switch to the acquirer without financial penalty or disincentives during a specified transition period. This includes eliminating restrictions or disincentives to terminate or rescind contracts between AspenTech and customers wishing to switch to the acquirer. All payments received by AspenTech for long-term licenses for divested products should be treated as pre-paid consideration and returned to customers wishing to switch.

Additionally, in order to prevent additional risk of coordinated interaction between AspenTech, the acquirer and SimSci, correspondence or meetings between AspenTech, the acquirer and SimSci should not be allowed without prior notice to the FTC. Further, no AspenTech discussions or offers of co-marketing, joint ventures or mergers should take place involving any of the above-mentioned firms without the prior approval of the FTC. Finally, AspenTech should be required to cease and desist from any horizontal agreements with competitors to prevent or deter standards-setting organizations from adopting standards that benefit consumers.

⁵⁵ This is especially necessary because AspenTech has purged its sales and engineering staff and thus potentially reserved the best engineers and sales force for itself.

IV. CONCLUSION

[T]here is a substantial probability that the FTC will prevail in its challenge to our acquisition of Hyprotech.

– Aspen Technology, Inc. SEC 10Q filing for the quarter ended December 31, 2003 at 10.

AspenTech's acquisition of Hyprotech may substantially lessen competition or tend to create a monopoly in violation of Section 7 of the Clayton Act and Section 5 of the FTC Act. Remedying these violations by restoring the level of competition that would have occurred but for the illegal Acquisition requires that AspenTech (1) divest all of the acquired Hyprotech assets and intellectual property, all newly developed intellectual property related to the Hyprotech assets and intellectual property and any other intellectual property necessary to remedy the halt of product development and product withdrawal from the market that occurred; (2) allow customers to rescind existing contracts and allow employees freely to join the acquirer of the divested business; and (3) adhere to reasonable constraints and reporting requirements on communications and horizontal agreements with competitors.

Respectfully submitted,

/s/

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Bureau of Competition
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Dated: May 5, 2004

CERTIFICATE OF SERVICE

I, Evelyn J. Boynton, hereby certify that I caused a copy of the public version of the attached Complaint Counsel's Unopposed Application Motion for the Issuance of Subpoenas *Ad Testificandum* to be delivered this day:

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