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IN THE COURT OF CHANCERY OF THE STATE OF DELAWARE
IN AND FOR NEW CASTLE COUNTY

HONEYWELL INTERNATIONAL INC. and GEM MICROELECTRONIC MATERIALS, L.L.C.,	)	
Plaintiffs,	)	C.A. No. 20434
v.	)	
AIR PRODUCTS & CHEMICALS, INC.	)	
Defendants.	)	

OPINION

Date Submitted: May 28, 2004
Date Decided: August 6, 2004

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STRINE, Vice Chancellor

A few years ago, two businesses formed a strategic alliance by contract. One of the businesses, Air Products, was a supplier of many goods and services that semiconductor manufacturers needed to operate their facilities and a provider of so-called total management services to facilities. The other business, Honeywell, was a manufacturer of a key product that chip makers needed — wet process chemicals — to make chips. The idea was to exploit the relationship that Air Products, as a total services provider, had with manufacturers into a sales opportunity for the products of the wet process chemical producer, Honeywell. To that end, the parties undertook certain obligations, including an obligation on Air Products' part to fill any order for certain wet process chemicals placed by certain customers exclusively through Honeywell during the life of the alliance.

After a few years, the "Alliance" had failed to meet its original expectations, and the parties were haggling over the scope of the Alliance but were continuing to make sales. An opportunity arose to buy the nation's leading wet process chemical manufacturing business, operated by Ashland, which also made other products interesting to Air Products. Air Products pursued this opportunity after obliquely inquiring of Honeywell if it wished to pursue the opportunity jointly. Separately, Honeywell knew of the opportunity but failed to pursue it on its own.

Eventually, Air Products signed a contract to purchase Ashland and informed Honeywell that it wished to terminate the Alliance on mutually agreeable terms. Those terms were never reached and Honeywell sued.

After losing a motion to enjoin the Ashland sale, Honeywell set its sights on receiving contract damages and essentially dropped its specific performance claim seeking to compel Air Products to stay in the Alliance.

In this opinion, I conclude that Air Products has breached its contractual obligations to Honeywell by turning its back on its duty to buy all of its requirements for sales within the scope of the Alliance from Honeywell, a scope that was defined by the parties' actual performance rather than the written terms of the agreement. Moreover, under New York law, which governs the agreement, Air Products cannot now avoid contractual liability on the basis of Honeywell's alleged past breaches because Air Products both elected to continue performance with knowledge of those breaches and failed to provide Honeywell with its contractually secured opportunity to cure.

Contrary to Honeywell's wishes, however, I only award it damages that approximate the lost profits it would have earned if the contract had been performed as the parties reasonably contemplated. In this regard, I deny Honeywell's request for me to award it damages on the theory that but for Air Products' breach, Honeywell would have had the right to supply all the wet process chemicals that Air Products is now selling through the business purchased from Ashland. Based on my best reading of New York law, Honeywell is only fairly entitled to those profits it would have earned had the Alliance continued to operate in the manner the parties reasonably anticipated at the time of contracting. Those profits do not include sales made because Air Products decided to buy Ashland's wet process chemical business. But, the time period for which Honeywell

may claim damages is limited, because Air Products properly exercised its right to terminate the agreement on two years' notice.

I. Factual Background

A. The Strategic Alliance Agreement

In October 1998, plaintiff Honeywell International, Inc.'s predecessor and defendant Air Products & Chemicals, Inc., signed the Strategic Alliance Agreement (the "Agreement") that is at the heart of this dispute.[1] For purposes of simplicity, I will refer to both Honeywell International and its predecessor as "Honeywell." At that time, Honeywell manufactured and sold, among other things, wet process chemicals — chemicals used in the process of manufacturing semiconductors. Air Products was a leading seller of industrial gases to the semiconductor industry and also provided gas and chemical management services, known as "Megasys," to that industry. The parties to the Agreement hoped to capitalize on what they expected to be an increasing desire on the part of semiconductor manufacturers to purchase "bundles" of products and services — that is, to look to a single provider for all their gas, chemical and management services needs.

To that end, the parties structured the Agreement in such a manner as to exploit their strengths in the semiconductor market. The basic concept was that Air Products — which had relationships with several customers in that market due to its gas and services offerings — would sell chemicals manufactured by Honeywell — which had "know-how

[1] In November 1999, AlliedSignal, Inc., one of the original parties to the Agreement, acquired Honeywell, Inc. and changed its name to Honeywell International, Inc.

and capability"[2] to manufacture wet process chemicals — to the semiconductor industry under Air Products' labels, and the parties would share the profits from those sales after Honeywell was reimbursed for the costs of producing the chemicals. The hope was that semiconductor manufacturers would find value in the ability to purchase bundles of gases, chemicals and services, all from Air Products, which would increase sales of both Air Products' and Honeywell's offerings.

The scope of the relationship created by the Agreement was not unlimited, however. Rather, the parties identified the specific "Customers" and "Products" initially covered by the Agreement in exhibits to the Agreement, exhibits that were supposed to be revised annually in writing[3] as the relationship and market conditions developed:

> The purpose of the strategic alliance is to sell globally the high purity wet process chemicals identified in Exhibit A (the "Products") to the customers identified in Exhibit B (the "Customers"). Exhibits A and B may be changed from time to time by mutual agreement of the parties. No less than once per year the parties agree to review in good faith and to modify Exhibit A and as appropriate Exhibit B to reflect the parties' current assessment as to the focus of the efforts of the alliance.[4]

Within the scope of the so-called "Alliance," the parties undertook various obligations intended to commit them to that Alliance to a certain degree. Thus, § 1(b) provided:

> [Air Products] will purchase from [Honeywell] its total requirements of the Products to be sold by [Air Products] to Customers under any [Air

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[2] Agreement at 1.
[3] The Agreement provided that "[a]ny change in this Agreement shall not be binding unless approved in writing by authorized representatives of both parties." *Id.* § 23.
[4] *Id.* § 1(a). The Agreement further provided that a "joint" responsibility of the parties was to "[p]eriodically review, evaluate and modify the scope of Exhibits A and B to this Agreement." *Id.* Ex. D.

> Products] label. [Air Products] (i) will use reasonable efforts to promote the sale of the Products to the Customers, and (ii) will not actively promote the sale to the Customers of Products manufactured by [Air Products] or purchased from other suppliers excluding products that are manufactured at the Customer's site using Air Products' gas chemical generator. Further, [Air Products] will not enter into any strategic alliance or similar arrangement with any other manufacturer or seller of the Products for the purpose of selling the Products to the Customers.[5]

Under this provision, if Air Products sold a "Product" covered by the Agreement to a "Customer" covered by the Agreement, it was unconditionally required to obtain that Product from Honeywell.

But, the Agreement did not impose a parallel exclusivity obligation on Honeywell. That is, Honeywell was not completely prohibited from directly selling "Products" to "Customers" itself under its own labels and keeping the entire profit, although three separate provisions in the Agreement did limit its ability to conduct such direct selling. First, Honeywell and Air Products had the joint obligation to "[i]dentify [Air Products] as the primary distribution channel for wet chemicals to the Customers."[6] This helped ensure that Air Products would be the Alliance's "primary face to the market."

Second, Honeywell agreed in § 1(c) not to "actively promote the sale of Products under [Honeywell's] own labels to the Customers" or "enter into a strategic alliance or similar arrangement with any other industrial gas supplier or provider of total chemical management services for the purpose of selling the Products to the Customers."[7] But, unlike the obligations imposed on Air Products in § 1(b), Honeywell could be released

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[5] *Id.* § 1(b).
[6] *Id.* Ex. D.
[7] *Id.* § 1(c).

from the strictures of § 1(c) if certain contractually defined performance targets were not met. Specifically, Exhibit C of the Agreement set out sales targets for 2000, 2001, and 2002 of $25 million, $50 million, and $75 million, respectively, and provided that targets for later years would be "established by mutual agreement" after "good faith" negotiations.[8] Section 1(c) further provided that continued failure to meet these targets could result in a suspension of Honeywell's obligations under that provision:

> If during any two (2) consecutive calendar years beginning on or after January 1, 2000, sales to the Customers of Products supplied by [Honeywell] hereunder are less than 60% of the sales targets set forth in Exhibit C, or established pursuant to the mechanism set forth in Exhibit C, the provisions of this paragraph (c) shall no longer be applicable for the remainder of the term of this Agreement.[9]

Thus, if the Alliance's performance fell sufficiently short of the sales targets, § 1(c) by its terms released Honeywell from its obligation not to "actively promote" Products to Customers under its own labels. Indeed, if the Alliance's sales during any two consecutive years starting on January 1, 2000 did not meet 40% of the sales targets, Honeywell could terminate the Agreement on two years' notice.[10] But, the provision imposing a joint obligation on the parties to identify Air Products as the "primary distribution channel" for wet process chemicals, found in an exhibit to the Agreement, did not have any explicit language releasing the parties from that obligation in the event that sales targets were not met.

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[8] *Id.* Ex. C.
[9] *Id.* § 1(c).
[10] *Id.* § 2(b).

The third limitation on Honeywell's ability to sell directly to Customers was in the Agreement's termination provisions. The initial term of the Agreement was for 10 years expiring on September 30, 2008, "subject to earlier termination as expressly provided in this Agreement."[11] If Honeywell's direct sales to Customers who were not preexisting Honeywell customers exceeded a certain percentage of the Alliance's sales, Air Products had the right to terminate on two years' notice:

> If during any two (2) consecutive calendar years beginning on or after January 1, 2000, [Honeywell's] sales to the Customers (excluding Customers to which [Honeywell] has sold Products prior to the date of the Agreement) of Products under [Honeywell's] own labels represents more than 10% of the total amount of [Air Products'] sales of the Products to the Customers, [Air Products] shall have the right to give notice of termination of this Agreement to [Honeywell] at any time during the next calendar year, such termination to be effective no sooner than two (2) years after the date such notice is given, provided that in the event the limitations of Section 1(c) above no longer apply, either party may, after consultation with the other party, unilaterally increase the percentage to be used for purposes of this Section 2(c), to no more than 20%.[12]

Under this calculation, the only direct sales by Honeywell that factored into the numerator were sales to "Customers" who Honeywell had not sold to before the Agreement; if the direct sale was either to a manufacturer who was not a "Customer" under the Agreement, or even to a "Customer" to whom Honeywell had sold before the Agreement, then the sale did not figure into the § 2(c) calculation.

[11] *Id.* § 2(a).
[12] *Id.* § 2(c).

B. The Wet Process Chemical Market Tanks, The Parties Perform Under The Agreement In An Ad Hoc Fashion, And Honeywell Continues To Sell Direct On A Large Scale

Unfortunately, the Alliance was not nearly as successful as the parties hoped. The end of the dot.com boom and concomitant decrease in demand for semiconductors severely affected the wet process chemical industry. Although Alliance sales increased in each year from 2000 to 2002, total sales fell far short of the targets on Exhibit C, and never came close to even the 2000 target in any of those years. Although the parties dispute how much value semiconductor manufacturers placed on bundling at the turn of the century as compared to today, one thing is clear: Price competitiveness has become a much more important factor in semiconductor manufacturers' purchasing decisions regarding wet process chemicals.

Moreover, almost from the start, the parties did not conduct their relationship in the contractually contemplated manner. Rather than meet annually to revise the Customer and Product lists in writing as the terms of the Agreement demanded, the parties took an extremely informal, ad hoc approach. Indeed, Exhibits A and B were never amended in writing. Three important trends came to dominate the parties' dealings with each other.

First, the parties quickly abandoned any attempt to focus on Exhibits A and B in deciding whether to make a particular sale. Air Products would regularly take orders from customers not on Exhibit B and fill them through Honeywell. Through 2001, over 75% of Alliance sales in North America were to customers not listed on Exhibit B.[13] For

[13] JX 1138 at 0142156-157.

the most part, the parties shared the profits on these sales in accordance with the profit sharing mechanism in the Agreement and Air Products never — not on a single occasion before the Ashland acquisition described below — sought to fill purchase orders for wet process chemicals otherwise than through Honeywell, whether or not the product it was selling was listed on Exhibit A or the customer it was selling to was on Exhibit B.[14]

Second, starting in 2000, the parties engaged in repeated discussions regarding whether certain semiconductor manufacturers would be serviced by the Alliance or by Honeywell directly. Although in some cases Honeywell offered up certain of its direct customers to Air Products to be served through the Alliance,[15] in other cases Honeywell insisted that it be able to take some customers out of the Alliance and sell to them directly.[16] For later purposes, this fact deserves underscoring: Honeywell vigorously sought to remove certain key industry buyers of wet process chemicals — such as Intel, which was listed on Exhibit B but was purchasing directly from Honeywell — from the scope of the Alliance.[17] For its part, Air Products resisted Honeywell's attempts to take

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[14] *See* Trial Tr. at 985; Ermentrout Dep. of Aug. 5, 2003 at 51.

[15] For example, in summer 2001, GEM, the joint venture formed by Honeywell and Texas Ultra Pure which is described below, proposed that Atmel, which was a preexisting customer of Texas Ultra Pure, be served directly through the Alliance. JX 276. Air Products took over the Atmel account, and Atmel remains an Alliance customer today. *Id.*; Trial Tr. at 1201. Additionally, the parties agreed in 2001 that IBM, which had been serviced through GEM, would be an Alliance customer, but rather than use the contractual profit sharing formula the parties would make sales to IBM on a commission basis. JX 325.

[16] *E.g.*, JX 116 (August 24, 2000 letter from Honeywell's Jim Favier to Air Products' Patricia Mattimore breaking down Customers listed on Exhibit B into "Honeywell Assigned account list," "[Air Products] Assigned account list," and "[Air Products] list with Update required"); JX 236 (June 28, 2001 "Account Responsibility Review" with similar grouping); JX 327.

[17] *E.g.*, Favier Dep. of Aug. 7, 2003, at 148 (stating that because both Air Products and Honeywell did "significant business" with Intel, "we weren't really agreeing to either do it through Air Product or to do it through Intel").

some of the larger customers direct, as those were the most lucrative.[18] The parties also repeatedly recognized that the Alliance was not working as hoped and that contract renegotiation might be necessary, although no agreement was ever reached to replace the Agreement. Again, throughout these discussions, Exhibit B was of little relevance; the presence or absence of a manufacturer on that list had little impact on whether the parties thought it should or should not be serviced by the Alliance.[19] What resulted was a sort of muddling through, where the parties would negotiate over who would or could sell to specific manufacturers or groups of them, sometimes coming to specific agreement on who would sell to particular manufacturers while leaving important disagreements about other manufacturers unresolved, all the while continuing to make sales on a more or less impromptu basis.

Third, Honeywell continued to sell a substantial amount of products directly, a significant portion of which were to Customers listed on Exhibit B. In large part, this was due to the formation of a joint venture with Texas Ultra Pure, Inc., a subsidiary of Mitsubishi Chemical America, Inc. Again, for purposes of simplicity, I will refer to both Honeywell and the joint venture, named GEM Microelectronic Materials, LLC, as Honeywell except where specific identification of GEM is necessary.

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[18] *E.g.*, JX 780 (internal Air Products email dated November 26, 2002 from Anthony Mattos "hi-lit[ing] those accounts which in my view are non-negotiable for AP ownership").

[19] *E.g.*, JX 493 (internal Honeywell email dated October 7, 2002 from Brian Larabee to Fred Lynch stating that "[w]e've conceptually agreed: 1) that we will negotiate 10-15 Accounts that Air Products will handle (Focused around where they have on-site strengths with Megasys)").

As part of the formation of GEM, Honeywell assigned the Agreement to GEM. On March 21, 2001, Air Products signed a letter agreement specifically acknowledging that "[a]s part of the [formation of GEM], the Strategic Alliance Agreement . . . between Honeywell and [Air Products] . . . will be assigned to GEM."[20] In that letter agreement, Air Products and Honeywell "agreed to clarify several items regarding the Strategic Alliance Agreement to be assumed by GEM," including the following:

> The provisions of Section 1(c) of the Agreement will not apply to GEM with respect to: (i) TXUP's existing customers (limited only to those products supplied to those customers), and (ii) potential customers of TXUP undergoing qualification programs prior to the date of this letter (limited only to those products being qualified[21] at such potential customers). Promptly after closing of the transaction, GEM will provide a list of such customers (and the stage of product qualification, as the case may be) to [Air Products].[22]

Notably, this letter agreement expressly releases GEM from the obligation in § 1(c) not to "actively promote" Honeywell products to those Customers who are preexisting Texas Ultra Pure customers but says nothing about how such sales would be treated under other provisions of the Agreement. Most critically, the letter agreement does not state that if a preexisting Texas Ultra Pure customer is a "Customer" listed on Exhibit B, then a sale by Honeywell to that customer would not count as a Honeywell direct sale under § 2(c), the provision allowing Air Products to terminate the Agreement on two years' notice if such sales exceed a certain percentage of Alliance sales over a

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[20] JX 197.

[21] The term "qualification" refers to the process that must be undertaken at a manufacturer site before a particular wet process chemical can be used at that site, a process that can take up to one year. The role of qualification is discussed in Part IV below, addressing damages.

[22] JX 197. Honeywell never provided the list called for by the letter agreement to Air Products.

two-year period. Indeed, an earlier version of the letter agreement — which was signed by a Honeywell executive but not an Air Products representative — did not specifically address § 1(c) but rather would have sought a blanket agreement from Air Products "that unless otherwise agreed existing accounts that TXUP currently sells to and potential accounts in which qualification programs of TXUP's existing products are ongoing are excluded from the Strategic Alliance Agreement, and will remain the on-going business of GEM."[23] Air Products did not sign that version of the letter.

Instead, Air Products agreed only that § 1(c)'s prohibitions would not apply to the business being acquired in the Texas Ultra Pure transaction. This fact is critical for two reasons. First, it demonstrates that the parties understood that a particular manufacturer could be a customer for some purposes under the Agreement but not necessarily for other purposes. Second, if Exhibit B provides the relevant "Customer" list for purposes of performing the calculation called for by § 2(c), and sales to preexisting Texas Ultra Pure customers are not excluded from that calculation, then Honeywell's direct sales to those Customers alone in 2001 and 2002 exceeded the threshold necessary to trigger Air Products' right to terminate the Agreement on two years' notice.

The Texas Ultra Pure transaction was not the only instance of Honeywell joining forces with other players in the market. In October 1998, shortly after the Agreement was signed, Honeywell acquired Southwest Microelectronics, Inc., a manufacturer of wet process chemicals. This transaction was intended, in part, to increase Honeywell's

[23] JX 191.

manufacturing capability so as to serve the Alliance.[24] Another of Honeywell's relationships was more focused on its own interests, however. When the Agreement was signed in 1998, Honeywell had been supplying some wet process chemicals to Texas Instruments through a company that was later acquired by Air Liquide, a competitor of Air Products that also provided gas and chemical management services. In its response to Air Products' later claim that Honeywell's relationship with Air Liquide was a strategic alliance prohibited by the Agreement, Honeywell stated that "Honeywell's contact with Air Liquide is by virtue of Honeywell's sales to Texas Instruments ('TI'). Air Liquide provides gas and chemical management services to TI, and TI has instructed Honeywell to invoice Air Liquide for the wet chemicals that TI purchases."[25] But, Honeywell's relationship with Air Liquide was not a surprise to Air Products that emerged after this lawsuit began; Pam Mattimore, President of Specialty Materials at Air Products, testified that she was aware before the Agreement was negotiated that Honeywell had been selling to Texas Instruments, and that "if you were going to sell product to . . . TI, you had to sell it through Air Liquide, because we ourselves did that."[26]

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[24] Air Products' Gerry Ermentrout stated that Air Products favored both the Southwest acquisition and the GEM joint venture, as they increased Honeywell's manufacturing capacity. Ermentrout Dep. of August 5, 2003 at 85-86. Honeywell's other capital expenditures in favor of the Alliance include the purchase of a new plant in Bryan, Texas in 2002 and a major expansion of its Chandler, Arizona facility that same year. The Chandler expansion is discussed in more detail in section IV below, dealing with the damages remedy.

[25] JX 859.

[26] Trial Tr. at 1062.

C. The Ashland Acquisition

At the end of 2002, both Air Products and Honeywell were contacted when the largest producer in the wet process chemical industry, Ashland Chemicals, put its electronic chemicals division ("Ashland ECD") on the market. That division included four business lines, the largest of which produced wet process chemicals.

Air Products decided to pursue the opportunity, and executed a confidentiality agreement with Ashland. In December 2002, Gerald Ermentrout, Vice President and General Manager of Air Products' Electronics Division since the beginning of the Alliance, contacted Dr. Nance Dicciani, President of Specialty Materials at Honeywell, to ask her whether she would be interested in making a "significant investment" in the wet process chemicals area,[27] although the confidentiality agreement prohibited him from mentioning Ashland by name. Dicciani indicated that Honeywell was not interested, and it is fair to infer that she realized that Ermentrout was referring to the same Ashland ECD opportunity that Honeywell itself was recently contacted about. In any event, Honeywell was certainly aware of the possibility of Air Products' interest in Ashland ECD by March 2002, when, at a meeting between Honeywell and Air Products personnel, Honeywell representatives specifically questioned Air Products about "what was going on with respect to Ashland"; Ermentrout's response was that he was under a confidentiality agreement that prevented him from discussing the matter.[28]

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[27] *Id.* at 1242.
[28] *Id.* at 1243-44.

In June 2003, Air Products was released from the confidentiality agreement and formally notified Honeywell of the acquisition. Ermentrout then contacted Dicciani to inform her of the acquisition and to discuss the "transfer" to Honeywell of accounts that Air Products had built up through the Alliance.[29] Dicciani, who was away from her office, wished Air Products well, but also told Ermentrout that she was not familiar with the Agreement and would have to talk to people at Honeywell about the offer to "transfer" before she could make any comment.[30]

Days later, on June 10, 2003, Dicciani sent a letter to Ermentrout outlining Honeywell's position that the acquisition was inconsistent with Air Products' obligations under the Agreement:

> Under [the] Agreement, Air Products must purchase its "total requirements" of identified products to listed customers from Honeywell. In addition, Air Products must "use reasonable efforts to promote the sale of the Products to the Customers." Nothing in the Agreement is affected by a transaction between Ashland and Air Products, and Air Products continues to be bound by the Agreement's terms. Of course, Air Products would violate the letter and spirit of the Agreement if it were to make any announcement, or take any other action, that would put the viability or effectiveness of the Agreement in question.[31]

On July 2, 2003, Ermentrout responded to Dicciani's letter, stating that Honeywell's direct sales had exceeded the threshold called for by § 2(c) and that Air Products had the right to terminate the Agreement.[32] He further stated that Air Products had signed an agreement to acquire Ashland ECD and that it was giving notice of "its

[29] *Id.* at 1245-48.
[30] Dicciani Dep. of August 8, 2003 at 151-53.
[31] JX 679.
[32] JX 723.

desire to terminate the Agreement" not in two years, but "effective upon the closing by Air Products of its acquisition of the Ashland Electronic Chemicals Division."[33] Again, Ermentrout offered to "transition" the Alliance's accounts to Honeywell, but did not outline what such a transition would entail.

In July 2003, Honeywell filed a suit in this court seeking, among other things, to enjoin Air Products' acquisition of Ashland ECD. In August 2003, I denied Honeywell's request for a preliminary injunction in a bench ruling. Although I concluded that Air Products was likely to breach the Agreement by deciding to purchase Ashland and thereafter not continue to purchase its total requirements of "Products" sold to "Customers" from Honeywell, I concluded — agreeing with a contention advanced by Air Products in opposition to the preliminary injunction — that a later monetary damages remedy would be calculable and would adequately compensate Honeywell.

Since the Ashland acquisition closed, Air Products has sold millions of dollars worth of chemicals manufactured by the Ashland ECD division it purchased, all the while continuing to reiterate its offer to "transition" Alliance accounts to Honeywell. Air Products has also continued to sell Honeywell products through the Alliance. On August 19 and August 26, 2003, Ermentrout sent two letters to Dicciani.[34] Each of those letters included on "Schedule 1" a list of what he described as the "currently existing Customer accounts under the Agreement" that he would be willing to "transfer." Schedule 2 to those letters included those customers that Air Products was willing to "treat . . . as the

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[33] *Id.*
[34] JX 788; JX 794.

revised Customer list under the Agreement." I will refer to the August 26 letter as the "Ermentrout Letter." Ermentrout explained how he created Schedule 2 to that letter:

> In previous discussions held last year between Air Products and HW, out of the total list of Customers contained on Exhibit B to the Agreement, the focus was on a much smaller subset as the "Customers" to which HW desired that Air Products would direct its efforts under the Agreement. In that regard, on a case by case basis, for the Customers listed on Schedule 2, HW either expressly agreed to, or did not object to, each name on Schedule 2.[35]

Ermentrout then stated that "until July 2, 2005, Air Products would not actively promote or solicit those Schedule 2 Customers with Product other than with HW-sourced product."[36]

As to Ermentrout's offer to "transition" certain accounts, the most detailed documentary evidence of the contours of that offer are set forth in a January 2004 letter from Air Products. That letter stated that Air Products proposed the following:

> - Air Products agrees to fully cooperate in joint efforts to smoothly transition the accounts identified in Mr. Ermentrout's letter dated August 26, 2003. By this we mean those customers and locations on Schedule 1 (the Accounts) attached hereto, with respect to the sales of GEM products that Air Products is currently selling.
> - The transfer would only be for the period ending with the Court's judgment in the pending litigation.
> - Air Products would be free to market and sell wet process chemicals to the transferred customers, including those chemicals listed on Exhibit A to the Alliance Agreement, consistent with any contract commitment being assigned.
>
> . . . .
>
> - Air Products would not transfer any of the sales currently made by the former Ashland business to the transferred customers.

[35] JX 788.

[36] *Id. See also* JX 794 (same).

- Air Products would reserve its right to claim its share of profits under the Alliance Agreement with respect to any sales by GEM to the transferred customers.[37]

Mattimore explained at trial that she understood this "offer" to mean that Air Products could immediately start competing with Honeywell through its new Ashland business and keep the entire profit for itself for any sales it could take away from Honeywell, but still receive a portion of the profits from any sale that Honeywell was able to make notwithstanding that competition.[38]

Like the earlier offers to transition accounts, Honeywell rejected this offer.

In late September 2003, Air Products sent another letter to Honeywell stating that it was invoking its right under § 2(d)(i) to terminate on 60 days' notice upon Honeywell's breach of the Agreement.[39] That letter was the first formal notice by Air Products that it believed Honeywell to be in breach of the Agreement, as the earlier letter of July 2 sought to terminate the Agreement solely on the basis of § 2(c). Honeywell responded several weeks later by itself invoking § 17 of the Agreement, which provides a dispute resolution mechanism that requires the parties to discuss and attempt to resolve disputes relating to the Agreement.[40] Rather than take Honeywell up on its offer to meet and discuss Air Products' allegations of breach and how Honeywell might cure them, Air Products indicated its belief that cure was impossible and that § 17 only required a

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[37] JX 984.
[38] Trial Tr. at 1077-78.
[39] JX 839.
[40] JX 859.

"discussion" and not a meeting.[41] Consistent with that belief, Air Products asked Honeywell to submit written "explanation and evidence" of its assertions.

The parties did not resolve their differences, and this trial ensued.

II. The Parties' Contentions

A five-day trial was held in April 2003 in which the parties presented numerous witnesses and over 1,000 exhibits. Initially, Honeywell sought both damages and specific performance of the Agreement from Air Products, but as trial and post-trial briefing progressed Honeywell all but dropped its specific performance claim, instead seeking to have the Alliance dissolved and primarily requesting a damage award for the profits it will lose as a result of Air Products' asserted failure to adhere to its contractual obligation to purchase from Honeywell its total requirements of "Products" sold to "Customers."[42] Honeywell contends that the original Exhibits A and B are irrelevant for purposes of determining the scope of the Agreement because, under New York law, which governs the Agreement,[43] the conduct of the parties has modified those exhibits. As a result of that modification, the "Products" covered by the Agreement are all those that the Alliance has actually sold and the "Customers" fall into three categories:

- Category 1: Those customers who have actually purchased Honeywell's products from Air Products;
- Category 2: Those customers listed on Schedule 2 to the Ermentrout Letter, other than those in Category 1; and

[41] JX 869.
[42] Honeywell also claims that Air Products breached its obligation not to "actively promote" products other than those manufactured by Honeywell.
[43] Agreement § 21.

- Category 3: Those customers who have been the “target” of alliance sales attempts or promotional activity, but who have not actually purchased Honeywell chemicals through Air Products.

Further, Honeywell argues that in calculating the profits that it will lose as a result of Air Products’ failure to purchase its “total requirements” from Honeywell, the “but-for” world that the court must consider includes all sales that Air Products will make only because of its acquisition of Ashland. That is supposedly so because, as I noted when I denied to issue a preliminary injunction against the acquisition of Ashland, that acquisition itself was not necessarily a breach of the Agreement; rather, the “breach” which must be remedied is Air Products’ future failure to purchase all the “Products” it will sell to “Customers” from Honeywell during the contractual term, even if a majority of those sales will arise only because Air Products has purchased the largest supplier of wet process chemicals and the business relationships that came along with it.

For its part, Air Products contends that the Agreement is unenforceable under New York law for two related reasons. First, because the provisions of the Agreement not only permitted but required the parties to modify two of its most material terms in writing on at least an annual basis, i.e., the lists of “Customers” and “Products” that would be covered by the Agreement, the Agreement was an indefinite “agreement to agree” from the start. Second, because the parties abandoned the original lists and never in fact came to mutual agreement on any modifications, instead proceeding on an ad hoc basis, the parties’ failure to have a meeting of the minds about the scope of the Alliance or its intended customers rendered the Agreement unenforceable. Even if the Agreement is valid, however, Air Products claims that Honeywell can collect only minimal damages

because Honeywell's breaches of the Agreement gave Air Products the right to terminate the Agreement on 60 days' notice. At the very least, Air Products says it can terminate on two years' notice under § 2(c) because the relevant "Customer" list for applying that provision is the original Exhibit B, as any modification by conduct would not extend to Air Products' contractually secured termination rights.

I now address those contentions. I first conclude that the Agreement is enforceable and then explain why the relevant "Customer" and "Product" lists have been modified by the parties' conduct for purposes of determining the scope of Air Products' total requirements obligation, but not for purposes of applying § 2(c). Because the relevant "Customer" list for § 2(c) is still the original Exhibit B, Air Products had the right to terminate the Agreement on two years' notice. But, Air Products cannot invoke its right to terminate the Agreement on 60 days' notice under § 2(d)(i) upon Honeywell's alleged breaches, as it both elected to continue performance after learning of those breaches and did not comply with the Agreement's termination provisions. Finally, I will discuss the damages remedy.

III. Legal Analysis

A. The Agreement Is Not Unenforceable

Air Products contends that the Agreement is unenforceable for two related reasons. First, because the Agreement required that the parties meet at least every year and agree on revised Customer and Product lists in writing, it is assertedly a mere "agreement to agree" that is so lacking certainty in its material terms as to be no agreement at all and was unenforceable from the get-go under the doctrine of

indefiniteness. Second, because the parties never in fact reached any explicit, comprehensive agreement on which Customers or Products would be included within the Alliance — that is, because there was no mutual assent to any modification — the parties' material deviation from the Agreement's written terms makes it impossible for Honeywell to prove the central terms of the Agreement.

I first address Air Products' contention that the Agreement was never an enforceable one because its very terms required future negotiation over Customers and Products. At bottom, that argument rests on the assumption that parties cannot design a long-term contractual relationship with the flexibility necessary to adjust to evolving market conditions. New York courts apply the doctrine of indefiniteness in a much more pragmatic manner, however, and under New York law the simple fact that a material term was not specifically agreed to at the time of contracting does not render the entire agreement unenforceable.[44] The standard of definiteness is a "necessarily flexible"[45] one that is guided by several core principles. Courts must be particularly mindful not only of the two objectives of that doctrine — to ensure that courts can determine whether a contract has been breached and fashion a proper remedy, and to avoid the imposition of contractual obligations when the parties "did not intend to conclude a binding agreement"[46] — but also that "[t]he conclusion that a party's promise should be ignored

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[44] *May Metro. Corp. v. May Oil Burner Corp.*, 290 N.Y. 260, 264 (N.Y. 1943) ("[A] contract is not necessarily lacking in all effect merely because it expresses the idea that something is left to future agreement.").
[45] *Cobble Hill Nursing Home, Inc. v. Henry & Warren Corp.*, 548 N.E.2d 203, 206 (N.Y. 1989).
[46] *Id.*

as meaningless 'is at best a last resort.'"[47] "Before rejecting an agreement as indefinite, a court must be satisfied that the agreement cannot be rendered reasonably certain by reference to an extrinsic standard that makes its meaning clear."[48] By using the doctrine of indefiniteness only sparingly, contracting parties' reasonable expectations are protected.

Applying these standards, it is plain that the Agreement does not fail for lack of definiteness. First, there can be no question that Honeywell and Air Products intended to be bound. The question in this regard is whether "it fairly appears that what the parties intended was that the treaty should be binding only if the parties did thereafter in fact arrive at a mutually satisfactory agreement as to" the term that is left for future agreement.[49] In other words, did the parties intend that, had they sat down on the first anniversary of the Alliance and failed to come to agreement on revised Customer and Product lists, the Agreement would thereupon terminate? The very terms of the Agreement and the conduct of the parties in performing under it make clear why that question must be answered no. No provision states that failure to come to agreement on revisions to Exhibits A and B would bring the Agreement to an end before its contemplated 10-year term. Nor did the parties ever act as if disputes over the scope of the Agreement released them from their obligations under it; even when negotiations over

[47] *Id.* (quoting *Cohen & Sons v. Lurie Woolen Co.*, 133 N.E. 370 (N.Y. 1921) (Cardozo, J.)).
[48] *Id.*
[49] *May Metro. Corp.*, 290 N.Y. at 264.

who would serve some of the larger semiconductor manufacturers failed, Air Products continued to source all the wet process chemicals it sold through Honeywell.

Second, the parties contemplated that any future discussions regarding Products and Customers would be undertaken not in the abstract, but against the backdrop of the parties' actual commercial activities. The Agreement itself expressly listed the Customers and Products to which its terms would initially apply, and provided that one party could unilaterally remove a Customer from Exhibit B only when no sales had been made to that Customer for three years and other conditions were met.[50] More importantly, the parties agreed that the good faith review and modification of the exhibits was "to reflect the parties' current assessment as to the focus of the efforts of the alliance."[51] That is, the parties' conduct would provide the baseline for future negotiations. Thus, those negotiations, rather than beginning from a blank slate and depending on nothing other than the parties' own good faith and luck for their success, would be heavily informed both by the original exhibits themselves and the parties' own behavior in performing under the Agreement. In this manner, the parties defined, at the

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[50] The cover page to Exhibit B provides:

> If there have been no significant sales to a Customer on the list for a period of three consecutive calendar years, either party may by written notice request to the other party to consent to removal of such Customer from the list set fort in this Exhibit B. Such consent will not be withheld unless it can be reasonably established that (i) significant sales of Products to such Customer will commence within the next twelve (12) months, or (ii) [Air Products] has a continuing contractual obligation to supply Products to such Customer, provided that with respect to item (ii) the limitations of Section 1(c) shall no longer apply with respect to such Customer.

Agreement Ex. B.

[51] *Id.* § 1(a).

time of contracting, an objective, extrinsic standard by which the Agreement's open terms would be defined.

New York case law is consistent with this analysis. Those cases cited by Air Products in which contracts have been voided for indefiniteness involve, for the most part, contracts in which the parties' "agreement to agree" on a key term in the future was utterly unconstrained by any objective standard outside the parties' control.[52] There was no expression of an intent that the actual content of the term be supplied by an "objective extrinsic event, condition or standard"[53] or fixed by a third party in the event the parties failed to agree. By contrast, the New York Court of Appeals has held that evidence of contracting parties' course of dealing can supply the meaning of an otherwise uncertain term.

In *May Metropolitan Corp. v. May Oil Burner Corp.*,[54] the plaintiff sold the defendant's oil burner equipment under a series of annually renewed franchise agreements between 1929 and 1937 which prohibited the plaintiff from selling any other manufacturer's oil burners. Each agreement provided the plaintiff the option to renew the agreement, and starting in 1932 the agreements contained a clause providing that he "shall automatically have the right of renewing this contract from year to year —

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[52] *E.g., Joseph Martin Delicatessen, Inc. v. Schumacher*, 417 N.E.2d 541 (N.Y. 1981) (provision in lease allowing tenant to renew "at annual rentals to be agreed upon"); *Del Castillo v. Bayley Seton Hosp.*, 649 N.Y.S.2d 41 (N.Y. App. Div. 1996) (provision granting anesthesiology services corporation a "first opportunity to negotiate a renewal or modification" and warranting that hospital will "confer and negotiate in good faith").
[53] *Joseph Martin Delicatessen, Inc.*, 417 N.E.2d at 544.
[54] 290 N.Y. 260 (N.Y. 1943).

providing he shall sign a new quota agreement for each year which shall be in excess of the previous year's quota and to be mutually agreed upon."[55] In 1937, the parties failed to agree to a quota, with the defendant asking for a 150% increase over the previous year's quota and the plaintiff unwilling to consent to an increase of greater than 50%.

The New York Court of Appeals held that the plaintiff had the right to submit evidence to a jury that because of the parties' course of dealing over the previous eight years, the defendant could not demand greater than a 10% increase in quota as a condition of allowing the plaintiff to renew the contract. Although the contract itself made no reference to such a 10% figure — and did not indicate that the quota would be defined by reference to the parties' conduct — the plaintiff was permitted to argue to a jury that the parties' dealings with each other had engrafted an obligation of reasonableness on the defendant in demanding increased quotas. This course of dealing potentially provided sufficient content to the open quota term "to be mutually agreed upon" as to allow the agreement to be enforced.

The *May* case demonstrates that New York courts are not as insensitive to actual commercial practices as Air Products suggests.[56] Parties can leave terms in a contract

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[55] *Id.* at 263.

[56] Indeed, one of the very cases that Air Products relies upon for its argument that the Agreement is unenforceable recognized the continued vitality of the *May* case. In *Joseph Martin Delicatessen*, the Court of Appeals described *May* as indicating that "the plaintiff should be given an opportunity to establish that a series of annual renewals had ripened into a course of dealing from which it might be possible to give meaning to an otherwise uncertain term." *Joseph Martin Delicatessen*, 417 N.E.2d at 544. The court did not overrule or call *May* into question, but distinguished it: Because *May* involved the "fluid sales setting" in which a contract for the sale of goods was performed, while the contract at issue in *Joseph Martin Delicatessen* involved a real estate contract, *May* was held inapplicable.

open for future negotiation in order to respond to changing circumstances without rendering the entire agreement unenforceable, because their very course of performance under that agreement will provide an objective baseline by which the meaning of those terms can be ascertained should they fail to agree. Indeed, in this case, the parties specified in the Agreement itself that the open terms would be modified "to reflect the parties' current assessment as to the focus of the efforts of the alliance." In such circumstances, the words of then-Judge Kaye of the New York Court of Appeals are particularly apt:

> Bearing in mind the two objectives served by the definiteness requirement in contract law, there is no legal justification for voiding this agreement. The terms of agreement and the appropriate remedy can be readily determined, and it is plain that the parties intended this to be a complete and binding contract. Far from being a necessary "last resort," to declare this defendant's promise legally meaningless — thus allowing it to walk away with its property after enjoying the benefits of the bargain — defeats the reasonable expectations of the parties in entering into the contract and is a misuse of the definiteness doctrine.[57]

Next, I address Air Products' claim that the Agreement is unenforceable because the parties performed under it without reference to Exhibits A and B and never in fact mutually assented to any modification of the Customer or Product lists. The problem with that argument is that it assumes that parties who have crafted a long-term written contract and then deviate from that writing through improvisational business activity in the face of evolving market conditions should be lightly considered to have converted their relationship from a binding one having contractual dignity to an unenforceable,

[57] *Cobble Hill Nursing Home, Inc. v. Henry & Warren Corp.*, 548 N.E.2d 203, 208 (N.Y. 1989).

temporary alliance that can be terminated at will without consequence. As will be discussed in more detail below in connection with the question of whether the Agreement has been modified by conduct, the parties' course of performance provides a basis for determining with adequate certainty the scope of the Alliance and what the parties in fact agreed to. For now, it suffices to note that Air Products never treated the Agreement as an illusory one and that unlike most of the cases upon which Air Products relies, this case does not involve a situation in which a party is arguing that the parties' actions were sufficient to amend a contract even without the knowledge or consent of the other party.[58] Put simply, Air Products knew that it was deviating materially from the terms of the Agreement and cannot now claim that it did not consent to the inclusion of customers and products within the Alliance when by its own business conduct it clearly treated them as such.[59]

The Agreement is valid, and may be enforced by Honeywell.[60] That said, this does not mean, as shall be seen, that the informality of the parties' dealings and the

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[58] *Cf. Beacon Terminal Corp. v. Chemprene, Inc.*, 429 N.Y.S.2d 715 (N.Y. App. Div. 1980) (where lessor changed method of billing tenant for steam used on premises mid-lease and charged tenant at rates higher than those called for by terms of lease, the fact that the tenant paid the higher rates did not effect a modification of the lease that would bar tenant's later claim for refund of the overpayment; tenant never realized that the method of billing had been changed and therefore there was no mutual assent to the purported modification).

[59] *See, e.g.*, III E. Allan Farnsworth, *Farnsworth on Contracts* § 3.6 (3d ed. 2004) ("[A]s long as one intended to engage in those actions, there is no further requirement that the actions were done with the intention of assenting to an agreement.")

[60] I also conclude that Honeywell is not estopped from enforcing the Agreement, for two reasons. First, the factual premise of this argument — that Honeywell led Air Products to believe that it did not object to the Ashland acquisition — is without merit. Air Products did not formally inform Honeywell of the acquisition until early June 2003, at which point Dicciani told Ermentrout that she would get back to him shortly after discussing the matter with other Honeywell people. Within days, she sent a formal letter indicating Honeywell's view that the

uncertainty that eventuated is not relevant. That uncertainty necessarily counsels caution on the court's part in determining the scope of the Alliance and informs any remedial discretion this court must exercise.

B. The Parties Modified The Customer And Product Lists By Their Conduct For Purposes Of The Total Requirements Obligation But Not For Purposes Of Termination

Because the Agreement is enforceable, I must next determine the scope of Air Products' obligation to purchase its "total requirements" of "Products" that it sells to "Customers." I conclude that under New York law, the scope of Air Products' total requirements obligation is defined not by Exhibits A and B, but was modified by the parties' conduct, and — with the exception of those sales that will arise solely because of

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acquisition would be inconsistent with the Agreement. If Air Products believed that Honeywell had no objection to the transaction because some of Honeywell's officers had refused to question Air Products more aggressively after being told that Air Products could not comment on Ashland due to a confidentiality agreement, that belief was plainly unreasonable, and any action taken by Air Products in reliance on that belief does not estop Honeywell from enforcing the Agreement. *See Nassau Trust Co. v. Montrose Concrete Prods. Corp.*, 436 N.E.2d 1265, 1269 (N.Y. 1982) ("An estoppel rests upon the word or deed of one party upon which another *rightfully relies* and so relying changes his position to his injury." (emphasis added) (citations and internal quotations omitted)).

Second, in this litigation, Honeywell challenges Air Products' post-acquisition conduct, not simply its acquisition of Ashland (an earlier challenge it has now abandoned). Nothing Honeywell ever said or did could reasonably be interpreted as a release of Air Products from its obligation to purchase its total requirements from Honeywell.

Finally, I reject another Air Products argument. In a belated motion filed just before trial, Air Products argued that Honeywell has no standing to assert a claim under the Agreement because it assigned all its rights under it to GEM in 2001 — even though Air Products acknowledged that very assignment in the March 21, 2001 letter "clarify[ing] several items regarding the Strategic Alliance Agreement to be assumed by GEM," even though that letter "confirm[ed] [the parties'] understanding [that] [a]ssignment of the Agreement to GEM will not affect the availability to [Air Products] of the products manufactured by [Texas Ultra Pure] and supplied by Honeywell to [Air Products] under the Agreement prior to the date of this letter," JX 197, and even though Air Products is fully aware that Honeywell, and not GEM, has been supplying products to the Alliance in Europe and Asia since that time. In any event, GEM is a plaintiff in this action and so even if Honeywell had no standing that would not preclude GEM from suing and obtaining identical relief under the Agreement.

the Ashland ECD acquisition — any future sale during the remaining contract term by Air Products of internally produced chemicals that the Alliance has actually sold in the past, to manufacturers who have actually purchased Honeywell chemicals from Air Products in the past, will be a remediable breach of § 1(b).

But, the parties' conduct did not effectively modify Air Products' contractual right to have the calculation in § 2(c) performed by reference to those Exhibits, and because Honeywell's direct sales were far greater than 10% and even 20% of the Alliance's sales for two consecutive years, the remaining contractual term for which Honeywell may claim damages is only two years.

Air Products contends that the Product and Customer lists have not been effectively modified, noting that the Agreement provides that it can be changed only in writing and that no written modification to Exhibits A and B was ever made. Air Products also relies on § 15-301 of the New York General Obligations Law, which provides:

> A written agreement or other written instrument which contains a provision to the effect that it cannot be changed orally, cannot be changed by an executory agreement unless such executory agreement is in writing and signed by the party against whom enforcement of the change is sought or by his agent.[61]

For its part, Honeywell relies on cases holding that even a provision prohibiting non-written modification of an agreement will not prevent a party from showing that an agreement has been modified by conduct. Certain of those cases state that an oral

[61] N.Y. GEN. OBLIG. LAW § 15-301(1).

modification is enforceable notwithstanding § 15-301 where the oral modification has been partially performed or where a party is estopped from asserting the statute as a defense to the oral modification.[62] Other cases hold more generally that such an agreement may be modified by conduct even where there is no explicit oral agreement to modify.[63] In any event, the conduct claimed to modify the agreement must be inconsistent with the written agreement, in the sense that the only explanation for the parties' conduct is an understanding, explicit or implicit, that the parties will deviate from the terms of the written agreement.[64] Often, this is referred to as a requirement that the conduct be "unequivocally referable" to the modification and not the written agreement.[65]

Here, the parties effectively modified the Customer and Product lists by their conduct notwithstanding the absence of a written modification of Exhibits A and B.

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[62] In *Rose v. Spa Realty Assocs.*, 366 N.E.2d 1279 (N.Y. 1977), the New York Court of Appeals described the exceptions of partial performance and estoppel as follows:

> Partial performance of an oral agreement to modify a written contract, if unequivocally referable to the modification, avoids the statutory requirement of a writing. Moreover, when a party's conduct induces another's significant and substantial reliance on the agreement to modify, albeit oral, that party may be estopped from disputing the modification notwithstanding the statute.

Id. at 1281.

[63] *See Puma Indus. Consulting, Inc. v. Daal Assocs., Inc.*, 1986 WL 10281, at *3-*4 (S.D.N.Y. Sept. 9, 1986) (section 15-301(1) of New York General Obligations Law does not preclude modification of an agreement by a course of conduct, even where agreement by its own terms requires written modification), *aff'd as modified*, 808 F.2d 982 (2d Cir. 1987); *Rosen Trust v. Rosen*, 53 A.D.2d 342, 352 (N.Y. App. Div. 1976) ("[A]ny written agreement, even one which provides that it cannot be modified except by a writing signed by the parties, can be effectively modified by a course of actual performance."), *aff'd*, 371 N.E.2d 828 (N.Y. 1977) (Mem.).

[64] For example, where an agreement calls for a 5% fee but the party receiving the fee regularly received and accepted without objection a fee of less than 5%, then that course of dealing will modify the fee required by the contract. *See Puma Indus. Consulting, Inc.*, 1986 WL 10281.

[65] *Rose*, 366 N.E.2d at 1283.

In performing under the Agreement, Air Products regularly received orders for wet process chemicals that were not listed on Exhibit A from customers not listed on Exhibit B. When it received such orders, what did it do? It did not seek to fill those orders elsewhere, contending that they were not covered by the Agreement and that Air Products was therefore not obligated to obtain products from Honeywell. Not on a single occasion did Air Products fill a purchase order other than through Honeywell; as Air Products employees Michael Thompson and Anthony Mattos testified, Exhibits A and B were not consulted in determining how it would fill a purchase order,[66] and through 2001 over 75% of Air Products' sales of Honeywell products were to customers not listed on Exhibit B. And, with one exception in which sales were made on a commission basis, the parties never deviated from the profit-sharing mechanism called for in the Agreement; Air Products never sought to keep a greater share of the profit than was provided for in the Agreement or attempted to purchase the product from Honeywell at wholesale prices for resale.

Plainly, this course of performance is "unequivocally referable" to the non-written modification of the Agreement. Unlike those cases in which the conduct of the party claiming that a written agreement was orally modified was "equally consistent" with both

[66] Trial Tr. at 1165-66, 1211 (testimony of Thompson); Mattos Dep. at 48, 55.

the written agreement itself and the alleged non-written modification,[67] here there is no explanation for Air Products' conduct other than that it effectively consented to the inclusion of those products that it sold and customers to whom it sold within the scope of the Alliance. Why would Air Products fill an order with Honeywell products and share the profit in accordance with the Agreement's terms if it did not understand that customer and that product to be covered by the Alliance? The only explanation is that the parties implicitly agreed that the Customer and Product lists would be defined by their course of performance.

For similar reasons, Air Products is estopped from relying on § 15-301 to preclude Honeywell from proving the non-written modification of the Agreement.[68] Had Air Products refused to fill its purchase orders with Honeywell products, or to share profits with Honeywell, on the grounds that the particular product or customer involved in the order was not listed in the relevant exhibit, Honeywell would have understood that Air Products was acting not as its Alliance partner but as its competitor, and would have adjusted its own behavior accordingly. For example, Honeywell could have sent its own people to the customer site and attempted to sell directly, cutting out its middleman Air Products and keeping the entire profit for itself. But Air Products acted as if those

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[67] *See, e.g., Tierney v. Capricorn Investors, L.P.*, 592 N.Y.S.2d 700, 703 (N.Y. App. Div. 1993) (plaintiff investment banker's performance at defendant company was equally consistent both with his "desire to continue to earn his compensation under the written Employment Agreement" and with the alleged oral agreement to pay him sums not specified in that Agreement; oral modification was therefore precluded by provision in Agreement requiring amendments to be in writing).
[68] *See Puma Indus. Consulting, Inc.*, 1986 WL 10281, at *3 (holding that company was estopped from seeking to collect fee greater than that which it had actually accepted in the past, notwithstanding contractual term calling for higher fee).

customers and products were within the scope of the Alliance, action that was not "compatible with the agreement as written"[69] and on which Honeywell relied. Air Products is therefore estopped from contending that the customers to whom Air Products actually sold Honeywell products are not "Customers" under the Agreement.[70]

Moreover, the parties' conduct made clear that the "Products" covered by the Agreement include all those that the Alliance actually sold. Air Products' Michael Thompson testified that his understanding of Exhibit A was that it encompassed all the chemicals that Honeywell was capable of producing at its German plant in 1998, when the Agreement was signed; that the parties never referred to Exhibit A during their day-to-day dealings; and that Air Products has "repeatedly" sold Honeywell chemicals not listed on Exhibit A.[71] Moreover, Sharon Kelly, who reported to Michael Thompson at Air Products, testified that she never once told a customer that she could not supply a particular chemical because it was not on Exhibit A.[72] And, again with only one exception, the profits from sales of any chemical sold by the Alliance were split according to the Agreement's profit-sharing mechanism, whether or not it was on Exhibit

[69] *Rose*, 366 N.E.2d at 1283.
[70] Admittedly, Honeywell was not as magnanimous towards the Alliance as Air Products, as it repeatedly tried to keep sales opportunities for itself rather than bring them into the Alliance. That behavior is taken into account in shaping Honeywell's damages remedy.
[71] Trial Tr. at 1210-12.
[72] Kelly Dep. at 47-48. In September 2003, Kelly was asked to produce a list of all the products covered by the Agreement, a list that was forwarded to Thompson and Mattos. Trial Tr. at 1215-16. The list she produced made no reference to Exhibit A. JX 827.

A.[73] This establishes that the products currently covered by the Alliance are all those that Honeywell has actually sold.[74]

Finally, although the Alliance's actual sales defined the scope of Air Products' total requirements obligation, Honeywell has not shown that those sales also modified the "Customers" to whom § 2(c) applies. That is, although Exhibits A and B quickly became irrelevant for determining which products and customers were within the scope of the Alliance when it came to deciding how the parties would conduct their commercial activities, that does not imply that those Exhibits have no salience with respect to the important contractual protections that Air Products secured for itself in the Agreement's termination provisions.

Honeywell strongly contests this line of reasoning, arguing that a "Customer" is a "Customer" and that if a manufacturer has actually purchased Honeywell products through Air Products, then any such sales are Alliance sales that must be factored into the § 2(c) calculation governing Air Products' termination rights regardless of whether the manufacturer is listed on Exhibit B. Conversely, if a particular manufacturer has not

[73] Trial Tr. at 1212-13.

[74] One debate among the parties is whether the list of "Products" is even broader, encompassing all those that Honeywell is capable of supplying. In this connection, Air Products points to evidence suggesting that Honeywell itself has acted as if some of the products it manufactures are not "Products" under the Agreement. The primary reason for that debate, however, is that Honeywell seeks damages related not only the sales that the Alliance would have made had the Ashland ECD acquisition never occurred, but also for sales that Air Products will make in the future solely because it has purchased Ashland ECD — some of which will be of chemicals that Ashland formerly supplied but that the Alliance never sold. Because the damages I award are ultimately tied to sales that the Alliance has actually made, and I award no damages based on sales that Air Products will make in the future as a consequence of its purchase of Ashland ECD, I need not decide this issue.

purchased through the Alliance for a sufficiently long period in the past, then it is not a "Customer" under the Agreement for any purpose and any direct sales by Honeywell to that manufacturer do not count in Air Products' favor under § 2(c).

The problem with that argument is that it reads much more into the parties' conduct than is warranted. Again, under New York law an agreement may be modified by conduct only where the conduct claimed to effect a modification is inconsistent with the agreement as written. Here, the parties' conduct is explainable in terms other than those that Honeywell suggests, terms that preserve Air Products' termination rights as spelled out in the Agreement.

As discussed above, Air Products always filled its orders with Honeywell products and shared the profits with Honeywell. The clear implication of this conduct is that Air Products understood that its obligation to purchase its "total requirements" from Honeywell would be defined by the actual sales the Alliance made rather than the Agreement's exhibits. But what Honeywell has not shown is that, in engaging in this course of conduct, the parties also intended to modify the Agreement in such a way as to effectively eviscerate Air Products' termination rights. I say "eviscerate" because there is a curious and serious consequence of Honeywell's argument that a particular manufacturer is a "Category 1 Customer" under the Agreement only if it actually purchased Honeywell's products from Air Products. Under that reasoning, if Air Products actually sold Honeywell products to any manufacturer, then those sales would be "Alliance sales" which factor into the denominator of the § 2(c) calculation. But once Honeywell — which aggressively attempted to control which manufacturers would be

served by the Alliance and which it would sell to directly — "gave" a customer to the Alliance, it likely wouldn't make any direct sales to that customer, thus ensuring that the § 2(c) numerator did not increase. Similarly, if Honeywell precluded the Alliance from selling to a manufacturer for a sufficiently long time, then that customer would not be an Alliance customer at all and any Honeywell direct sales to that customer also would not count under § 2(c). That is, under Honeywell's logic, Air Products' rights under § 2(c) were virtually meaningless because only Honeywell's direct sales to manufacturers who it also allowed to be serviced through the Alliance would tend to increase the likelihood that those rights would be triggered. Such sales would be unlikely to occur, however, unless Honeywell had a change of heart about who should be included in the Alliance or simply was mistaken about which manufacturers were included. This fact is supported by Honeywell's own evidence, which shows that the calculation called for by § 2(c) in 2003 using its conduct-defined categories yields a result of *zero percent* notwithstanding its significant direct sales in that year.[75]

Plainly, Honeywell has not shown that the parties' conduct was intended to effect a revolutionary modification of this sort. The individuals responsible for the Alliance's day-to-day activities were operational employees, not lawyers, many of whom were unfamiliar with the Agreement's specific terms, especially those regarding termination. It simply is not reasonable to assume that Air Products would have been willing to forego its important contractual termination rights without a comparable concession from Honeywell — the commercial equivalent of unilateral disarmament. At the very least,

[75] JX 1139 at Ex. III; JX 1140 at 16.

Air Products would have demanded that the relevant sales targets for purposes of § 2(b), which allowed Honeywell to terminate the Agreement on two years' notice when the Alliance's sales are less than 40% of sales targets for two consecutive years, would not be the unrealistic ones listed on Exhibit C but more attainable ones also defined by reference to the parties' reasonable expectations.

Moreover, Honeywell itself has acted in ways that undermine its argument that a "Customer" is a "Customer." As discussed above, when GEM was formed, Honeywell appears to have first sought a blanket agreement excluding sales to preexisting Texas Ultra Pure customers from the Agreement. What Air Products ultimately agreed to, however, was a more limited waiver that exempted such customers from § 1(c), but made no reference to § 2(c). That is, while a Texas Ultra Pure customer may not have been a "Customer" for purposes of Honeywell's obligation in § 1(c) not to "actively promote" its own products to Customers, it remained a "Customer" in the sense that Air Products did not agree that direct Honeywell sales to that Customer would also not count for purposes of § 2(c).

Further, New York courts do not take such a formalistic approach in interpreting the extent to which a contract has been modified by conduct, but rather permit deviation from the written agreement only to the extent that the conduct was "unequivocally

referable" to that modification.[76] There is absolutely no basis to believe Air Products agreed to fundamentally alter its termination rights. Indeed, it is commercially sensible for the parties to have agreed to modify the definition of Customers only for the limited purpose of targeting their marketing efforts. By these means, they could take adaptive measures to see if the Alliance could succeed, albeit with a different scope than first intended. But, because the Alliance did not achieve its original objectives, permitting each party to exercise its termination rights in accordance with the original Exhibits A, B and C lowered the risk to the parties of their improvisational approach because each party was still free to terminate — if the original Agreement allowed — on only two years' notice. By contrast, it is implausible that Air Products implicitly assented — by shaping

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[76] In *All-Year Golf, Inc. v. Prods. Investors Corp.*, 34 A.D.2d 246 (N.Y. App. Div. 1970), a sales contract contained a provision stating that "[t]his agreement is subject to obtaining a suitable lease at Camillus, New York." When no such suitable lease in Camillus could be obtained, the parties looked elsewhere. But at no point did the parties act as if the sales contract was not at the very least subject to the condition that a suitable lease be obtained somewhere. The court stated:

> Their conduct with respect to the negotiations on the airport lease is unequivocally referable to their understanding not to limit the site location to the . . . Town of Camillus. No conduct, however, on the part of either party unequivocally refers to a decision to waive the condition precedent to plaintiff's obligation to accept the 20 units that a suitable lease be actually obtained before delivery and obligation to accept and pay for such units took place. Modification by performance was effective only to eliminate the Town of Camillus from the condition and was not effective to eliminate the condition that a suitable lease be obtained.

Id. at 250-51. Thus, while the "Camillus" aspect of that provision was modified by the parties' conduct, the "suitable lease" condition was not. *All-Year Golf* therefore rejects the formalistic approach that Honeywell advocates. If formalism is what it likes, however, then there is a formalistic way to reject its contention. Here, it can be said that Exhibit B and the provisions which refer to it were modified, such that there were in fact two Customer lists: one that would be defined by conduct and would apply for purposes of the provisions in the Agreement governing the manner in which the parties would make sales, such as the requirements obligation in § 1(b); and one that contained the Customers listed on the original Exhibit B and would apply for purposes of the provisions governing termination, such as § 2(c).

the Alliance's focus through real-time responses to market demand — to a deal in which Honeywell had the choice of either exiting early (because the Alliance's actual sales had not met 40% of what turned out to be unrealistic sales targets listed on Exhibit C for two consecutive years) or staying the course, and in which if Honeywell chose the latter it would have the right to market to Alliance customers directly, refuse to concede that original Exhibit B customers — like key industry buyer Intel — were in the Alliance, and demand that Air Products remain in the Alliance until 2008. Nothing in the record suggests that Air Products would have agreed to such a sucker deal or that Honeywell ever fairly bargained to achieve that one-sided outcome.

Honeywell concedes that using Exhibit B as the baseline, its direct sales in 2001 and 2002 far exceeded the threshold required to trigger Air Products' termination rights under § 2(c)[77] Air Products' termination notice on July 2, 2003 was therefore effective to terminate the Agreement on August 29, 2005, two years after the acquisition of Ashland ECD closed.[78]

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[77] *See* JX 1139 Ex. III. This is true regardless of whether the threshold for the § 2(c) calculation is 10% or 20%, and I therefore do not reach the question of whether Honeywell's attempt to retroactively raise that threshold in letters sent to Air Products on July 31, 2003 was effective. Moreover, Air Products has the right to terminate under § 2(c) regardless of whether only direct sales to preexisting AlliedSignal customers are excluded from the calculation or whether direct sales to preexisting Southwest and/or preexisting Honeywell customers are also excluded.

[78] Air Products contends that the appropriate termination date, should the court conclude that the July 2, 2003 letter was effective to terminate the Agreement on two years' notice, is July 2, 2005, two years after the date of that letter. What the July 2, 2003 letter states is that "Air Products is hereby giving notice of its *desire to terminate the Agreement [under § 2(c)] effective upon the closing by Air Products of its acquisition of the Ashland Electronic Chemical Division*." JX 723 (emphasis added). The letter goes on to recognize that § 2(c) "requires a two-year period before termination would be effective," but offers to "transition" existing Alliance business to Honeywell "in lieu of waiting two years for termination." *Id.* This cannot reasonably be interpreted as sufficient to give the notice required under § 2(c) to terminate two years from July

C. Air Products Has No Right To Terminate The Agreement Under § 2(d)(i)

Even more aggressively, Air Products contends that it has the right, under § 2(d)(i), to terminate the Agreement on 60 days' notice because Honeywell has itself breached the Agreement.[79] Under New York law, Air Products has the burden of demonstrating that all contractual conditions precedent to enforcement of the right to terminate have been satisfied.[80] Section 2(d)(i) provides:

> If either party is in breach of this Agreement, a party may give written notice thereof to the breaching party, and if the breach is not cured within sixty (60) after the date such notice is given, the non-breaching party may terminate this Agreement immediately by giving a second written notice to the breaching party. In the event the parties in good faith dispute whether such a breach has occurred, termination shall not be effective until the expiration of thirty (30) days after expiration of the sixty (60) day period for discussion by senior management pursuant to Section 17 below. Termination pursuant to this provision shall be in addition to, not in lieu of any and all remedies otherwise available to such party at law or in equity.[81]

2, 2003. The letter discusses only Air Products' "desire" to terminate "upon the closing" of the Ashland ECD acquisition, and then goes on to offer further negotiation with an eye towards wrapping up the Alliance at that time rather than waiting another two years, which Air Products concedes is the contractually contemplated period that must pass before the Agreement is effectively terminated following proper notice under § 2(c).

For these reasons, Honeywell's damages expert assumed as part of his analysis that if the notice given on July 2, 2003 to terminate under § 2(c) was effective, the termination date would be August 29, 2005, two years following the date that the Ashland ECD acquisition closed. Because this gives effect to Air Products' stated "desire" to terminate upon closing of the Ashland ECD acquisition, I find Honeywell's expert's selection of August 29, 2005 as the termination date to be reasonable.

[79] Initially, Air Products also sought damages for Honeywell's alleged breaches. But, it provided no expert testimony on the extent of damages and appears not to have even mentioned any request for damages in its post-trial brief.

[80] *See, e.g., Northeast Sort & Fulfillment Corp. v. Reader's Digest Ass'n*, 2001 WL 1568336 (N.Y. Sup. Ct. Aug. 30, 2001).

[81] Agreement § 2(d)(i).

Under this provision, Air Products was obligated to give Honeywell notice and an opportunity to cure any claim of breach. If Honeywell had a good faith dispute as to whether any breach had occurred, the parties were obligated to follow the terms of § 17 of the Agreement, which provides:

> Dispute Resolution. Any dispute between the parties relating to this Agreement which cannot be resolved with reasonable promptness shall be referred to senior officers of [Honeywell] and [Air Products] for discussion and resolution. In the event a dispute is so referred, each of [Honeywell] and [Air Products] shall cause such senior managers to act with respect to such dispute with reasonable promptness. Neither party will commence any action against the other until the expiration of 60 days from the date of referral to such senior officers, provided that this provision shall not prevent a party from instituting an action seeking injunctive relief to prevent irreparable damage to such party.[82]

Air Products concedes that it first gave notice of its belief that Honeywell had breached the Agreement in September 2003, after this litigation started and the acquisition of Ashland was completed. That notice was provided in a letter from Mattimore alleging that Honeywell, among other things:

- Failed to review in good faith and modify Exhibit A and B in violation of § 1(a);
- Entered "into a strategic alliance or similar arrangement" with Air Liquide in violation of § 1(c);
- Failed to have GEM service the Alliance outside of North America, although GEM was the assignee of all Honeywell's obligations under the Agreement; and
- Failed to "[i]dentify [Air Products] as the primary distribution channel for wet process chemicals to the Customers."[83]

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[82] *Id.* § 17.
[83] JX 839.

Honeywell responded to Mattimore's letter on October 9, 2003, invoking § 17 of the Agreement and requesting that the parties meet and discuss Air Products claims of breach. Honeywell also offered some preliminary responses to Mattimore's claims, including the following:

- The obligation to review and modify Exhibits A and B in § 1(a) was a joint obligation of "the parties" and while those exhibits were never amended, Honeywell never declined a good faith review[84];

- Honeywell's relationship with Air Liquide was not in violation of § 1(c);

- Although GEM did not operate in Europe and Asia, Honeywell itself had been selling its products to Air Products on those continents in support of the Alliance; and

- Honeywell had not violated the obligation, which it held jointly with Air Products, to identify Air Products as the primary distribution channel for wet chemicals to the Customers.[85]

Mattimore then sent another letter to Honeywell on October 17, 2003 contesting its responses to Air Products' claims of breach. But, she did not accept Honeywell's invitation to schedule a meeting to discuss those claims. Rather, she asserted that §§ 2(d)(i) and 17 did not require any meeting, but only a "discussion" among senior management, a discussion that could occur in writing. She therefore requested that "explanation and evidence in support of your assertions that there has been no breach be submitted to us in writing," and stated that Air Products would be "pleased to review this

[84] Honeywell provided similar responses to Air Products' other claims alleging that Honeywell breached a joint obligation of the parties to negotiate sales targets for 2003 and develop marketing plans.
[85] JX 859.

information in good faith."[86] Moreover, Mattimore frankly expressed her view that the breaches she had alleged were incurable, stating that "[w]e do not see how the bell rung by the breaches identified in our notice can now be unrung."[87]

For a number of reasons, Air Products cannot now terminate the Agreement under § 2(d)(i), regardless of the merits of its claims of breach. First, under New York law, a party cannot terminate a contract based on a claim of breach where that party fails to provide the contractually required opportunity to cure.[88] Moreover, where a contract requires parties to attempt to agree on a resolution addressing the circumstances giving rise to a right to terminate before that right is exercised, a party's exercise of that right without engaging in good faith negotiations will not be effective.[89]

Here, Air Products may have believed that it would be futile to allow Honeywell the chance to alleviate any purported breaches, but that belief did not excuse it from its contractual obligations to provide Honeywell with the opportunity to cure and to engage

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[86] JX 869.
[87] *Id.*
[88] *See Filmline (Cross-Country) Productions., Inc. v. United Artists Corp.*, 865 F.2d 513, 516, 518 (2d Cir. 1989) (holding that defendant's contractual termination was ineffective due to its failure to give the breaching party its contractually secured opportunity to cure).
[89] In *Consumers Power Co. v. Nuclear Fuel Servs., Inc.*, 509 F. Supp. 201 (W.D.N.Y. 1981), the court interpreted a provision in a contract between a fuel services company, NFS, and a utility, Consumers Power, allowing either party to terminate when NFS's costs of performance rose as a result of regulatory changes. That provision stated that the parties "shall attempt to agree on an equitable adjustment in the charges" and that "[i]f within 60 days after NFS shall notify Consumers Power of an increase in charges under this Contract the parties are unable to agree on same, either party may thereupon terminate this contract." *Id.* at 205 n.3. The court interpreted this provision as requiring the parties to attempt to agree on an equitable price adjustment before the right to termination could be invoked, and held that NFS could not terminate the contract under this provision because the court could not "find any 'attempt to agree' on the part of Nuclear Fuel Services on this record." *Id.* at 211.

in the discussions called for by § 17. Air Products' assertion that it was permitted to refuse a meeting with Honeywell and instead demand that Honeywell submit written "explanation and evidence" is based on an unreasonable interpretation of that provision, which plainly calls for "discussion" with an eye towards resolution and not for the equivalent of discovery requests geared towards producing a litigation record. Having failed to itself comply with §§ 2(d)(i) and 17, Air Products cannot now assert its right to terminate the Agreement on the basis of Honeywell's alleged breaches.

Second, because most of Air Products' claims of breach involve ongoing conduct of which it was aware well before September 2003, its election to continue to perform under the Agreement rather than provide timely notice of its objection to the alleged breaches is binding.[90] Where a party has actual knowledge of its contract partner's

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[90] Air Products' claim that Honeywell's relationship with Air Liquide violated § 1(c) was primarily based on the sales that Honeywell made to Texas Instruments through Air Liquide. As noted above, Air Products was aware that Honeywell had been selling chemicals to Texas Instruments through Air Liquide since before the Agreement was signed. It was also aware that Honeywell had been selling significant amounts of its products directly, particularly as a result of the GEM joint venture, and had been promoting that joint venture. *See* Trial Tr. at 1036 (Mattimore testifying that in 2001 "[w]e were also having continuing issues where the GEM and Honeywell folks were going in directly to the customers that were listed on Exhibit B to sell the products"); *id.* at 1033 (Mattimore testifying that she was "angry" that the Honeywell press release announcing the formation of GEM, *see* JX 206, made it appear that Honeywell's relationship with Air Products was an "afterthought"). Mattimore also complained that at an industry conference in summer 2001 at which Honeywell again announced the formation of GEM, Air Products again took the back seat. She stated:

> I was very concerned. It was clear at this point that — that GEM had the capabilities to go direct. They were no longer identifying us or talking publicly about this being a manufacturing capability that was being brought to bear for the — for the alliance but talked a great deal about their ability to supply these products directly to the customers.

Trial Tr. at 1037. Finally, Air Products was also obviously aware that the Alliance sales it made in Europe were of Honeywell rather than GEM products, and that both it and Honeywell had jointly failed to amend Exhibits A and B, set new sales targets and develop marketing plans. Yet

breach but continues to perform under the contract or accept the performance of the breaching party, the continuing performance constitutes an election of remedies that precludes it under New York law from later asserting that the contract is terminable because of the prior breaches.[91] Air Products argues that the "no waiver" provision in the Agreement[92] preserves its right to terminate based on past breaches, but under the election of remedies doctrine even the presence of such a provision in a contract does not alter the rule that "[a] party cannot elect to continue with the contract, continue to receive benefits from it, and thereafter bring an action for rescission or total breach."[93]

For these reasons, Air Products has no right to terminate under § 2(d)(i).

IV. The Remedy

Finally, I will discuss the appropriate remedy. As noted, Honeywell essentially dropped its specific performance claim and did not fairly present arguments in favor of it. Given the parties' tendentious history, the malleable nature of the Alliance and the fact that the Ashland acquisition cannot now be rescinded, it is obvious that even if an order of specific performance or other injunctive relief could be crafted that would protect

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Air Products' first formal notice of its view that all of these actions and inactions were in breach of the Agreement did not come until September 2003.

[91] *ESPN, Inc. v. Office of Comm'r of Baseball*, 76 F. Supp. 2d 383, 387-88 (S.D.N.Y. 1999).

[92] Section 19 of the Agreement provides:

> Any party's failure to enforce any provision of this Agreement, shall not be construed as a waiver of such party's right to enforce such provision, and any waiver of a provision shall not in any way affect such party's right to enforce such provision at a later date.

Agreement § 19.

[93] *ESPN, Inc.*, 76 F. Supp. 2d at 392 (internal quotations and citation omitted). *See also Bigda v. Fischbach Corp.*, 849 F. Supp. 895, 901 n.2 (S.D.N.Y. 1994) ("[T]he decision of a non-breaching party to continue to perform is not a 'waiver' of that party's right to terminate the contract, but an election, and so the clause is irrelevant to this dispute." (citation omitted)).

Honeywell's rights under § 1(b) through the end of the contractual term of the Agreement, such an order would entail significant judicial oversight and a high likelihood of future disputes and litigation. The most practicable remedy is therefore to release the parties from their respective obligations under the Agreement altogether, and to award Honeywell damages.

In that regard, Honeywell's primary damages claim is for breach of § 1(b) of the Agreement, which provides in relevant part:

> [Air Products] will purchase from [Honeywell] its total requirements of the Products to be sold by [Air Products] to Customers under any [Air Products] label.[94]

Under this requirements obligation, if Air Products sells a "Product" to a "Customer," it must obtain that Product from Honeywell.[95]

Under New York law, "[i]n fixing damages for breach of contract, the intent is to put the plaintiff in as good a position as he would have been in had the defendant abided by his agreement, i.e., to award plaintiff the value to him of the defendant's performance."[96] Honeywell contends that, in the context of a requirements contract, when the buyer obtains some or all of its requirements from an alternate source in breach of that contract, the proper measure of damages is the profits that the seller would have

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[94] Agreement § 1(b). Honeywell also claims that Air Products has breached § 1(b) by actively promoting Products "manufactured by [Air Products] or purchased from other suppliers" for sale to Customers. Honeywell does not claim any damages above and beyond those claimed for breach of the requirements obligation, however.

[95] *See Pulaski Materials Co. v. Milestone Materials, Inc.*, 35 F. Supp. 2d 279, 286 n.2 (W.D.N.Y. 1998) ("A 'requirements contract' is a contract which calls for one party to furnish materials or goods to another party to the extent of the latter's requirements in business." (citation omitted)).

[96] *Wallace Steel, Inc. v. Ingersoll-Rand Co.*, 739 F.2d 112, 115 (2d Cir. 1984) (citations omitted).

made from supplying to the buyer all of the units that the buyer actually obtains from another source.[97] Under New York law, Honeywell must prove that Air Products' breach caused the lost profits and, importantly, that the lost profits were reasonably within the contemplation of the parties at the time of contracting; but, while the "alleged loss must be capable of proof with reasonable certainty,"[98] the lost profits need not be proved with "absolute certainty."[99]

A. Honeywell Cannot Claim Damages For Requirements That Will Arise Solely Because Of The Ashland ECD Acquisition

Honeywell does not merely seek lost profits on those sales that the Alliance would have made had Air Products never purchased Ashland ECD and simply continued to perform under the Alliance until the end of the Agreement's term ("Future Alliance Sales"). Rather, Honeywell contends that *every* future sale of "Products" to "Customers" that will be sourced through Air Products' newly purchased Ashland ECD business, rather than Honeywell, will constitute a breach of § 1(b) — even those sales that will arise solely because of the Ashland ECD purchase itself ("Ashland Sales"). The reason why this is so is that, as I noted when I declined to issue a preliminary injunction against

[97] In *Agfa-Gevaert, A.G. v. A.B. Dick Co.*, 879 F.2d 1518 (7th Cir. 1989), Judge Posner wrote: "when [the buyer] agrees merely to take his requirements of a particular product from the seller, and breaks his contract by satisfying those requirements elsewhere, the question is how much he bought from his alternative supplier(s)." *Id.* at 1524. Although Judge Posner was interpreting a contract governed by New York law, he cited as support for that proposition a decision of the United States Court of Appeals for the Eighth Circuit, applying Missouri law, which awarded lost profits to a seller based on the profits the it would have made had the buyer purchased its actual requirements from the seller. *See Universal Power Sys., Inc. v. Godfather's Pizza, Inc.*, 818 F.2d 667, 672-75 (8th Cir. 1987).
[98] *Kenford Co. v. Erie County*, 493 N.E.2d 234, 235 (N.Y. 1986).
[99] *R&I Elecs., Inc. v. Neuman*, 411 N.Y.S.2d 401, 404 (N.Y. App. Div. 1978).

the Ashland acquisition in August 2003, the acquisition itself was not necessarily a breach of the Agreement's prohibition against Air Products entering into another "strategic alliance or similar arrangement."[100] Rather, the clear and indisputable breach is in Air Products' post-acquisition conduct, to wit, its failure to comply with its obligation to purchase its "total requirements" from Honeywell. Honeywell thus asserts that in determining what profits it would have made "but-for" the breach, the "but-for world" must assume that Air Products purchased Ashland ECD and then sourced all of its requirements, including those arising from the Ashland Sales, through Honeywell. As Honeywell concedes, awarding this measure of damages would make it significantly better off than it would have been had the Ashland ECD acquisition never occurred.

Unfortunately for Honeywell, New York law does not permit such an award of damages, for two reasons. First, Honeywell contends, and Air Products does not seriously dispute, that the Agreement is a contract for the sale of goods covered by Article 2 of New York's Uniform Commercial Code.[101] Output and requirements contracts are addressed in the U.C.C. in § 2-306(1), which provides in general that such contracts are enforceable but that the parties' obligations are circumscribed, to simplify, by an obligation of good faith.[102] Official Comment 4 to that section expressly addresses

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[100] Agreement § 1(b).
[101] *See* N.Y. U.C.C. LAW § 2-102 (stating that Article 2 "applies to transactions in goods").
[102] Section 2-306(1) of New York's U.C.C. provides:

> A term which measures the quantity by the output of the seller or the requirements of the buyer means such actual output or requirements as may occur in good faith, except that no quantity unreasonably disproportionate to any stated estimate or in the absence of a stated estimate to any normal or otherwise comparable prior output or requirements may be tendered or demanded.

N.Y. U.C.C. LAW § 2-306(1).

the situation where a buyer in a requirements contract is sold:

> When an enterprise is sold, the question may arise whether the buyer is bound by an existing output or requirements contract. . . . . Assuming that the contract continues, *the output or requirements in the hands of the new owner continue to be measured by the actual good faith output or requirements under the normal operation of the enterprise prior to sale. The sale itself is not grounds for sudden expansion or decrease*.[103]

Of course, in this case the increase in requirements is due to the purchase by a buyer subject to a requirements contract of another entity that also buys wet process chemicals, rather than the sale by that buyer to that other entity. But the underlying rationale would seem to be applicable. When an increase in requirements is due to the combination of two entities that both have "requirements" for a particular product, an earlier agreement by one of those entities to fill those requirements exclusively from one supplier does not obligate the combined entity to purchase all of its requirements from that supplier, but only the "actual good faith . . . requirements under the normal operation of the enterprise prior to sale. The sale itself is not grounds for sudden expansion . . . ."[104]

Second, even if Air Products was obligated to purchase all the wet process chemicals it sells from Honeywell, Honeywell is not entitled under New York law to collect lost profits damages on the Ashland Sales. Although Honeywell is correct that

[103] *Id.* cmt. 4 (emphasis added).
[104] *Id.*

§ 2-708(2) of the U.C.C.[105] has been interpreted to provide that "[i]f the buyer [in a requirements contract] breaches the contract by purchasing the product elsewhere, the seller can recover lost profits on the lost sales,"[106] that does not override the "long-established and precise rules of law" under which damages for loss of future profits may be awarded in New York, which require, among other things, that there be "a showing that the particular damages were fairly within the contemplation of the parties to the contract at the time it was made."[107] Here, Honeywell has failed to show that it was "fairly within the contemplation of the parties to the contract at the time it was made" that if Air Products purchased the largest wet process chemical seller in the industry, Air Products would be liable for the "lost profits" caused by failure to fill all the requirements

[105] New York's version of Section 2-708, entitled "Seller's Damages for Non-Acceptance or Repudiation," provides:

> (1) Subject to subsection (2) and to the provisions of this Article with respect to proof of market price (Section 2-723), the measure of damages for non-acceptance or repudiation by the buyer is the difference between the market price at the time and place for tender and the unpaid contract price together with any incidental damages provided in this Article (Section 2-710), but less expenses saved in consequence of the buyer's breach.
>
> (2) If the measure of damages provided in subsection (1) is inadequate to put the seller in as good a position as performance would have done then the measure of damages is the profit (including reasonable overhead) which the seller would have made from full performance by the buyer, together with any incidental damages provided in this Article (Section 2-710), due allowance for costs reasonably incurred and due credit for payments or proceeds of resale.

N.Y. U.C.C. LAW § 2-708.

[106] 1 Robert L. Dunn, *Recovery for Damages for Lost Profits* § 2.14(3) (5th ed. 1998).

[107] *Kenford Co. v. Erie County*, 493 N.E.2d 234, 235 (N.Y. 1986).

that arose from that sale through Honeywell.[108] Having failed to make such a showing, Honeywell cannot collect lost profits damages for such sales.

Finally, I pause to note the windfall that would result if Honeywell could collect damages for Ashland Sales. Honeywell's expert calculated damages for both lost Future Alliance Sales as well as lost Ashland Sales. The expert determined that, assuming Air Products' termination under § 2(c) of the Agreement was effective and the only "Customers" under the Agreement were those in "Category 1," i.e., those who had actually purchased through the Alliance in the past, the damages for lost Future Alliance Sales were approximately $10.8 million while damages for lost Ashland Sales are

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[108] Honeywell contends that the *Kenford* rule does not apply when an aggrieved seller seeks lost profits under N.Y. U.C.C. LAW § 2-708(2). It cites no authority for that counterintuitive proposition, and this court is aware of none. On the contrary, courts applying New York law have discussed the requirements of *Kenford* in the context of cases governed by N.Y. U.C.C. LAW § 2-713, the counterpart to § 2-708 which governs "Buyer's Damages for Non-Delivery or Repudiation," undermining the argument that basic common law rules of contract damages have no application in situations governed by the U.C.C. *See Canusa Corp. v. A&R Lobosco, Inc.*, 986 F. Supp. 723, 731-32 (E.D.N.Y. 1997) (discussing *Kenford* and N.Y. U.C.C. LAW § 2-713).

Honeywell also seizes on other language in *Kenford*, in which the New York Court of Appeals held that lost profits were not available because, among other things, the plaintiff had not shown that "liability for loss of profits . . . was in the contemplation of the parties at the time of the execution of the basic contract *or at the time of its breach*," *Kenford*, 493 N.E.2d at 235 (emphasis added), and argues that this case is different because Air Products knew that Honeywell intended to seek damages for Ashland Sales at the time of the preliminary injunction hearing in August 2003. The quoted language, however, is at odds both with the New York Court of Appeals' initial statement of the rule in *Kenford*, which focuses solely on the parties' understanding at the time of contracting, and with that very Court's discussion of the *Kenford* decision in a later opinion. *See Am. List Corp. v. U.S. News & World Report, Inc.*, 549 N.E.2d 1161, 1164 (N.Y. 1989) ("[In *Kenford*,] [w]e concluded that the claimed lost future profits could not be recovered because [among other things] it had not been proven that those damages were within the contemplation of the parties at the time the contract was made."). I therefore decline to adopt Honeywell's curious interpretation of New York law, which would allow a party to claim even the most unforeseeable form of "lost profits" so long as it notified the breaching party of its intention to do so at the time of breach.

approximately $11 million.[109] If customers in "Category 2," i.e., those listed on the Ermentrout Letter (other than those in Category 1), and "Category 3," i.e., those that the Alliance had targeted but had not actually made any sales to in the past, are included, that does almost nothing to affect damages for lost Future Alliance Sales but results in damages for Ashland Sales of nearly $26 million.[110]

Putting aside the inappropriateness of awarding damages for sales that would have been made to Category 2 Customers,[111] consider the implication of allowing Honeywell to claim damages for Ashland Sales to Category 3 Customers. Included in Category 3 are

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[109] JX 1139 Ex. XIV. The figure for Ashland Sales includes damages for actual Ashland Sales made in the period from August 29, 2003 until March 31, 3004.

[110] *Id*. The addition of Categories 2 and 3 does not affect damages for Future Alliance Sales because of the methodology employed by Honeywell's expert, which involved a projection of the sales that the Alliance would have made on a customer-by-customer basis, in both the scenarios where the Alliance continued as the parties originally contemplated and where Ashland Sales were made through the Alliance. He first analyzed the Alliance's total sales, by category, in 2003. Then, he divided the sales by category into the total sales for that period to determine the percentage of sales by category. Next, he applied those percentages to the annual future sales that he projected, assuming that the mix of customers by category remained consistent.

In the scenario where the Ashland acquisition never occurred, the Alliance developed no new customers in the future and sold only to those customers to which it had sold in the past, the application of Category 1 by definition captures virtually 100% of the Alliance's future sales. The addition of Categories 2 and 3 in that scenario does virtually nothing to increase damages, because those categories, by definition, involve customers to whom the Alliance did not sell in the past and therefore the Alliance would not be projected to sell to the future. But, the addition of Categories 2 and 3 in the scenario where sales made by the former Ashland ECD business are included does increase damages, because Ashland ECD did sell to some of those customers and is projected to do so in the future.

[111] The Ermentrout Letter must be seen for what it was: a pragmatic attempt at compromise during negotiations that was not intended to be a binding concession that Air Products would fill all purchase orders from those customers with Honeywell products. Although the Ermentrout Letter states that Air Products would "treat Schedule 2 as the revised Customer list under the Agreement," it also states that "Air Products intends to act on this course of conduct under the Agreement *unless the parties reach an alternative resolution of our dispute*." JX 794 (emphasis added). Honeywell never accepted this offer and instead chose to press its case in court. That choice has consequences, including the consequence that it cannot now use Ermentrout's good faith attempt at dispute resolution as a "gotcha."

customers, such as Intel, that were the target of Alliance sales attempts but that Honeywell itself repeatedly tried to take out of the Alliance. Yet, even though the Alliance never made a single sale to Intel; even though Honeywell itself made direct sales to Intel while bargaining hard to take it out of the Alliance, notwithstanding its presence on the original Exhibit B; even though the only reason Air Products will be able to sell to Intel in the future is that it paid hundreds of millions of dollars to purchase the Ashland ECD business; and even though Honeywell declined the opportunity to invest in a wet chemicals business purchase (which turned out to be Ashland ECD) side-by-side with Air Products, Honeywell claims "lost profits" from Ashland Sales to Intel. The logic and equity of such a claim escapes me, as it seems to impede economic efficiency by overcompensating victims of contractual breaches with windfall profits that they never reasonably anticipated.

B. The Parties' Experts

I now turn to the evidence regarding damages presented at trial. Each of the parties put forth an expert to quantify damages. Because Honeywell is not entitled to lost profits on Ashland Sales, I will focus on the experts' analysis of the profits that Honeywell would have earned from Future Alliance Sales. Similarly, because Air Products' had the right under § 2(c) to terminate the Agreement on two years' notice, I will focus on their analysis of what damages are due assuming a two-year contract term ending in 2005, rather than a five-year term ending in 2008.

Each expert attempted to determine the profits that Honeywell will lose as a result of the termination of the Alliance. In general, that involves projecting the revenues that

Honeywell would have made but for the breach and subtracting the variable costs associated with generating those revenues that would have been expended in the but-for world. A key aspect of a lost profits analysis is to determine what portion of total costs are fixed — i.e., will be expanded regardless of sales volume — and what costs are variable — i.e., will be spent only to generate additional sales volume. Only the latter are required to be subtracted from lost revenues in determining lost profits, because only the latter are saved as a result of the breach.

Both experts therefore first attempted to determine the total revenues that Honeywell will lose as a result of the fact that Air Products will not purchase its total requirements of Products sold to Customers from Honeywell until the end of the contractual term. They then attempted to determine Honeywell's "incremental profit rate" — that is, the percentage of each dollar of additional revenues that results in net profit to Honeywell, after variable costs associated with generating that dollar of revenues are subtracted. Thus, for example, if it costs Honeywell 60 cents to make one additional dollar of sales, then the incremental profit rate is 40%. The experts then multiplied their estimate of lost revenues by their estimate of the incremental profit rate to determine Honeywell's lost profits, and discounted the result back to present value. In applying this methodology, however, the experts took very different approaches.

Honeywell's expert was Louis Dudney, a principal at AlixPartners, LLC who was formerly a partner with PricewaterhouseCoopers in its Financial Advisory Services Group. He has testified in numerous proceedings as a financial and accounting expert on a variety of matters, such as the valuation of corporate assets and future lost profits.

Dudney began by assuming that the parties would perform in accordance with the Agreement between the time the Ashland ECD acquisition closed, August 29, 2003, and the day after the (then-estimated) date of this court's judgment, March 31, 2004.[112] He therefore claimed no damages arising from lost Alliance sales during that period. He then estimated the sales that the Alliance would make from April 1, 2004 until August 29, 2005, the date on which Air Products could have properly terminated the Agreement. To determine sales in 2004, he took the Alliance's actual total sales for 2003 of approximately $15 million and grew them by 13.25%, a figure he obtained by calculating the percentage change between projected 2003 and 2004 Alliance revenues in Honeywell's 2004 North American sales projection for the Alliance, a document presented to the Honeywell board in November 2003.[113] For 2005 sales, he assumed 3% growth over 2004 sales, a figure he considered conservative in comparison to recent industry analyst projections and other growth estimates.

Next, Dudney attempted to calculate the incremental profit rate that Honeywell earned through its Alliance operations, using Honeywell's sales and cost data for 2003.[114]

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[112] This assumption is consistent with the record, insofar as Honeywell did not put on any evidence that it has lost a single Alliance sale since the closing of the acquisition.

[113] JX 987 at 10-12; JX 1139 at 4.

[114] In actuality, what Dudney was calculating was the "contribution margin," a percentage that he functionally treated as identical to the incremental profit rate in his analysis, although Air Products' expert, John Jarosz, suggested at trial that they are not identical. Frankly, neither of the experts did a particularly effective job of explaining their technical analyses in terms straightforward enough to evaluate debates such as these or even to compare the analyses to each other in more general terms. My best guess is that Jarosz's criticism was simply that a line-by-line analysis of costs such as that involved in calculating "contribution margin" is not the best way of determining the incremental profit rate. Rather than confuse the reader with technical terminology and the intricacies of this battle of the experts, I will attempt to set forth their

Basically, he examined that data line by line to determine which costs were variable and which were fixed, subtracted the variable costs from revenues, and divided the result by revenues. Further, based on conversations with a Honeywell employee, Dudney understood that there were some costs that were identified as fixed in the data but that would actually have to increase in order for Honeywell to meet the sales forecasts, making some of those fixed costs themselves somewhat variable. He factored these variable costs, to the extent attributable to projected Alliance rather than direct sales, into his calculation as well. Dudney further adjusted that calculation over time, resulting in an incremental profit rate of 48.5% for 2004 and 47.0% for 2005.[115] He also checked his results against certain of Honeywell's business records.

Dudney then multiplied the sales forecasts determined above by Honeywell's incremental profit rate, in each year, to determine the total dollars that Honeywell would receive, after accounting for the profit it would share with Air Products and the additional variable costs it would incur. Finally, he discounted the future profits at a rate of 9%, to determine the net present value to Honeywell of the profits lost due to the termination of the Alliance. Dudney concluded that total damages for the period April 1, 2004 to August 29, 2005 would be $10,838,843.[116]

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analyses and criticisms and my ultimate conclusions in a more manageable format than that provided by the experts themselves.

[115] JX 1139 Ex. XV-A.

[116] This number reflects damages after application of a "locational cut" to the data. On Exhibit B to the Agreement, some of the Customers were listed by "fab" (i.e., factory), city, or state, and so Air Products argued that Dudney's initial analysis was improper because it did not take location into account. In his supplemental report, Dudney noted the many difficulties of incorporating location into his analysis, including the fact that sales data produced by the parties does not consistently and reliably provide location data for customers. Nonetheless, in his supplemental

For its part, Air Products put on John C. Jarosz, a managing principal of Analysis Group, Inc., an economist whose specialty is intellectual property valuation and monetary relief assessment. He has been involved in more than 150 such engagements in a broad range of industries.

The bulk of Jarosz's report was spent criticizing Dudney's analysis. Some of his more salient objections involved Dudney's assumption that once this court terminates the Agreement, Honeywell will not be able to capture any of the sales that would have been made through the Alliance, had it continued. Honeywell argues that that assumption was reasonable because:

- Air Products is plotting to seize all current Alliance business once this case comes to an end;

- Honeywell will not have the benefit of bundling its products with Air Products' services; and

- If the Alliance had continued until 2005, Honeywell would have enjoyed a wind-down period after that time during which customers would continue to purchase Honeywell products even though Air Products was free to compete directly with Honeywell, and because Dudney did not credit Honeywell for sales that would have been made during that wind-down period in his lost profits analysis, it was appropriate not to penalize Honeywell by assuming that Honeywell would continue to make some level of sales following this court's termination of the Agreement.

While Honeywell's explanation is not without some force, the fact remains, as Jarosz points out, that Dudney's analysis did not explicitly account for several factors making it likely that Honeywell will be able to compete effectively in the wet process

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report, Dudney made what I find to be a reasonable attempt to factor location into his analysis by, among other things, adjusting the "Category 1 Customers" to incorporate only sales to Customers delineated by state.

chemical marketplace even without Air Products' aid, thus minimizing the harm caused by Air Products' breach of the Agreement, factors including the following:

- Honeywell has demonstrated its ability to effectively sell directly to semiconductor manufacturers, and its staff had actually complained repeatedly about Air Products being a hindrance to sales efforts throughout the Alliance's term;
- Customers cannot simply switch to new chemical manufacturers, because the "qualification" process for a particular chemical can take up to one year, giving Honeywell an incumbency advantage at those customers currently using Honeywell products;
- Many customers use dual suppliers, in part to ensure continuity of supply, and so if a particular Alliance customer was using both Ashland and Honeywell chemicals, it might continue to do so even after the Agreement is terminated;
- Many of the Alliance's customers did not purchase any gas or chemical management services from Air Products, and so Honeywell's inability to "bundle" its chemicals with such services following termination of the Agreement will not necessarily impede its ability to sell those chemicals;
- Because of the general trend towards price becoming paramount in the wet process chemicals industry,[117] the fact that Honeywell will lose access to Air Products' relationships with semiconductor manufacturers will not necessarily affect its ability to compete along that parameter; and
- Even if strategic relationships still have value in today's competitive market, Honeywell has not made any attempt to mitigate damages by creating a new strategic alliance with another industry player.[118]

On the other hand, some of Jarosz's complaints were either trivial or altogether irrelevant. I will focus on just one such criticism, which was Jarosz's constant refrain that the Alliance historically had been unprofitable. Both his expert report and his trial testimony demonstratives made numerous references to Honeywell's historically negative operating profits and compared those to Dudney's calculation of the incremental profit

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[117] An example of this trend is the rise of reverse online auctions of wet process chemicals, in which chemical manufacturers bid each other down in an attempt to sell their products to semiconductor manufacturers, and the lowest price wins.

[118] Air Products also contends that Honeywell's failure to accept the purported "offers" to "transition" Alliance accounts was a failure to mitigate.

rate, which was obviously intended to suggest that Dudney's analysis was overly optimistic. Yet Jarosz stated in his own report that "[a] lost profits analysis is an *incremental profit* analysis, in which one must deduct from incremental sales all incremental (or variable) costs that [Honeywell] would have incurred in the 'but-for' world."[119] In other words, operating profit rates and incremental profit rates are not comparable because the former are calculated by subtracting both fixed and variable costs from revenues while the latter are calculated by subtracting only variable costs. Honeywell's historically negative operating profit is due, in large part, to its relatively high fixed costs. It is therefore entirely possible for Honeywell to enjoy a healthy incremental profit rate while nonetheless being unprofitable overall. If each dollar of additional sales revenue would have brought, say, 40 cents to Honeywell's bottom-line profits after variable costs were subtracted, then that 40 cents represents recoverable "lost profits" even if all it did was offset some fixed costs and make Honeywell less unprofitable overall. Jarosz's confusion of this issue did little to inspire confidence in his analysis.

In any event, Jarosz provided his own analysis, which started with his calculation of Honeywell's incremental profit rate. Rather than do a line-by-line accounting approach like Dudney, Jarosz performed statistical analyses of how total costs vary with total revenues to determine what percentage of total costs are variable. Jarosz applied four methods, the first three of which involved Honeywell data for the range between

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[119] JX 1025 at 31-32.

June 2001 and December 2003, and a final method using data from other manufacturers in Honeywell's industry:

- The regression method, which involves a linear regression analysis of Honeywell's total costs against its total sales, indicates that each additional dollar in sales is associated with $0.23 in profits, suggesting an incremental profit rate of 23%[120];

- The high-low method takes the month with the highest sales and the month with the lowest sales, and divides the change in costs between those two months by the change in sales, a measure that suggests an incremental profit rate of 5%;

- The increment method takes each set of succeeding months, divides the incremental change in costs between those months by the incremental change in sales to obtain a percentage, and takes the median such percentage, a measure which suggests an overall incremental profit rate of 9%; and

- The pooled regression method involves a linear regression of the historical relationship between costs and sales in Honeywell's peer group, defined as those companies with the same Standard Industrial Classification ("SIC") Code as Honeywell, a measure producing an incremental profit rate of 13%.

Taking the median of these four methods, Jarosz determined that the appropriate incremental profit rate for Honeywell is 11%.[121]

To determine the lost sales to which he would apply that incremental profit rate, Jarosz posed three alternative scenarios.[122] "Scenario 1" was based on information in a draft Honeywell presentation, prepared by a Honeywell employee after the Ashland acquisition was announced but before litigation commenced, called the "Electronic

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[120] Technically, for each of these four methods, Jarosz was determining the incremental cost rate, which is the amount of costs that must be expended to generate an additional dollar of revenues. The incremental profit rate is simply 100% minus the incremental cost rate.
[121] JX 1025 at 34-36; *id.* at Tabs 10-14.
[122] JX 1025 at 68-72; *id.* at Tabs 3-6.

Chemicals Strategic Plan 2003-2007."[123] One slide in that presentation, labeled "Ashland Acquisition Response Strategy," states that one of the "[t]hreats" posed by the acquisition was "$3-4MM Dollars at risk out of $10+MM."[124] Jarosz accepted Honeywell's claim that this number represented the annual costs of producing those products which would have been sold through the Alliance had it continued and for which Honeywell would have been reimbursed under the agreement ("revenues from reimbursable costs"), and did not include Honeywell's share of the profits, over and above those costs, made from the sale of those products ("revenues from profit sharing").[125] He then used historical data from 1999 to 2003 to calculate the ratio of Honeywell's revenues from profit sharing to revenues from reimbursable costs, which he determined to be 22.4%. Multiplying that figure by $4 million of lost revenues from reimbursable costs produces projected lost revenues from profit sharing of approximately $900,000. Adding that to $4 million results in total projected lost revenues to Honeywell for 2004 of $4.9 million. Jarosz projected 2005 sales by assuming a growth rate of 3%.

"Scenario 2" was based on another Honeywell document, labeled the "Electronic Materials 2004 Annual Operating Plan," which was prepared after litigation commenced.[126] That document contains a page entitled "Risk/Opportunities and

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[123] JX 680.
[124] *Id.* at PLTFS 014709.
[125] As will be discussed in more detail below, the Agreement is structured to provide Honeywell not only with a share of the profit, over and above cost, from every Alliance sale (so-called "revenues from profit sharing"), but also to reimburse Honeywell for certain costs (so-called "revenues from reimbursable costs") associated with producing the products that are sold.
[126] JX 534.

Mitigation Strategy," which contains a table listing various items, including one entry for "Loss of sales from [Air Products]."[127] The table indicates that the revenue associated with this risk — which is listed as having a "medium" probability — amounts to $6.0 million. Honeywell executive Paul Raymond testified that this meant that, assuming Honeywell had an unfavorable ruling in this court, there was a "medium" likelihood that Honeywell would lose $6 million in sales.[128] Jarosz took this figure to represent the expected lost revenues to Honeywell in 2004 and applied the same 3% growth rate assumed in Scenario 1 to determine lost sales for the year 2005.

Finally, in "Scenario 3," Jarosz determined Air Products' total revenues from sales of chemicals to customers who also purchased chemical and/or gas management services from Air Products, which amounted to $9.2 million, a figure to which Jarosz applied several adjustments. The assumption here was that Honeywell's loss of its relationship with Air Products will result in the loss of only those sales of chemicals to customers who find value in bundling.

For each of the three Scenarios, Jarosz prorated 2004 and 2005 sales to adjust for the fact that Honeywell is claiming damages for only part of each of those years; multiplied those sales by the incremental profit rate of 11%, derived above; and applied a 9% discount rate to obtain the present value of the lost profits. Jarosz concluded that

[127] *Id*. at PLTFS 0140355.
[128] Trial Tr. at 87-89.

total damages for each of Scenarios 1, 2 and 3 were $660,000, $810,000 and $1.11 million, respectively.[129]

Honeywell raises several objections to Jarosz's analysis. I will note just a few of them. As to his calculation of the incremental profit rate, the application of one of Jarosz's own methods, the monthly increment method, to 2003 data resulted in an incremental profit rate of 36%. Indeed, applying the monthly increment method to each of the years between 2001 and 2003 individually seemed to suggest that Honeywell's incremental profit rate was drastically improving over that period.[130] Only by applying the monthly increment method to the entire period of June 2001 to December 2003 did Jarosz come up with an incremental profit rate of 9%. And since the entire purpose of determining the incremental profit rate is to determine how much profit Honeywell would have made in the future, focusing on the year-by-year changes in the incremental profit rate using that method suggested that Honeywell's future incremental profit rate was higher than Jarosz suggested.[131]

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[129] JX 1025 at 72; *id.* at Tab 3.

[130] Applying the monthly increment method to 2001 data suggests that Honeywell's incremental cost rate during that year (over the seven months for which data was available) was 211%, implying that every additional dollar of sales revenue was associated with an increase of more than two dollars in costs. For 2002, the monthly increment method produced an incremental cost rate of 119%, implying that Honeywell was still losing money on every sale. But by 2003, the rate was down to 64%, meaning that Honeywell's incremental profit rate for that year was 36%. *See* JX 1025 at Tab 13.

[131] In its post-trial brief, Air Products presents an analysis by Jarosz applying his four methods solely to 2003 data. Def.'s Post-Trial Br. Ex. 5. As noted, focusing on 2003 results in a much higher incremental profit rate under the monthly increment method. But, because the incremental profit rates obtained from the regression and high-low methods actually decrease when focusing solely on 2003, the net result obtained by taking the median of all four methods was actually a decrease in the incremental profit rate to 10%. *Compare id. with* JX 1025 at Tab 10.

Honeywell also challenges the manner in which Jarosz developed Scenario 2. The document that Jarosz relied upon for that Scenario, which he understood as projecting $6 million in lost revenues in 2004, indicated that that loss would result in a hit to operating income of $2.7 million, suggesting an incremental profit rate of 45%. Yet Jarosz nonetheless applied the 11% incremental profit rate he determined through his four methods, rather than that 45% rate, to determine the lost profits.

Moreover, Honeywell's Raymond testified that the $6 million figure was not an estimate of the entire amount of lost sales for 2004 at all, but only a half-year estimate, and so the actual expected lost sales for 2004 were more on the order of $10.5 to $11 million, although the document itself does not explicitly indicate this.[132] Air Products challenges the credibility of that testimony, but it does not support that challenge with citation to record evidence directly relevant to the specific issue of whether the $6 million figure in that document is for half or all of 2004. Frankly, I am not sure what to make of this estimate and am not sure of what time period it refers to. The record simply does not convince me either way. Therefore, I am disinclined to give it much weight.

In noting how a change of focus from 2001-2003 to solely 2003 affects the application of Jarosz's methods, I do not mean to imply that I accept Honeywell's characterization of GEM in 2001 as a "startup" whose cost structure would necessarily improve over time, since the formation of GEM in 2001 merely involved the contribution of assets by Honeywell and Texas Ultra Pure that had already been operating for some time. My point is that the curious results obtained by such a shift in focus — one method producing a significantly higher profit rate, two others decreasing, and therefore a lower median profit rate overall — raise questions about the reliability of Jarosz's methods. Moreover, this analysis was not disclosed to Honeywell's counsel before trial and was therefore not subject to cross-examination.

[132] Trial Tr. at 87-89.

C. The Court's Calculation Of Damages

On balance, I find Dudney's analysis to be the more credible one. In addition to the criticisms of Jarosz's approach already outlined at length, I note just a few more. First, I believe that his selective use of information in Honeywell's business records finds little basis in the record or in common sense. For example, Air Products makes much of the fact that Jarosz relied on Honeywell's own business documents in calculating the expected lost revenues in Scenarios 1 and 2 but it fails to grapple with the fact that there is little record evidence explaining why the estimates in those documents are particularly reliable ones. Those documents seem more akin to guesstimates by businesspeople who have some but not all relevant information, rather than rigorously derived analyses of the real harm that Honeywell faced. The document supporting Scenario 1 itself states that it is in draft form. It is unclear whether the document supporting Scenario 2 is intended to project lost sales for the entire year of 2004 or only the second half. And I fail to see why it is appropriate to use the estimate of lost sales in the latter document without also taking into account the fact that that document suggests a 45% incremental profit rate.

Moreover, Jarosz's use of a 3% growth rate to project future sales is contrary to the Alliance's experience, which had growth well in the double-digits in every year since 2000.[133]

Finally, I am dubious about the reliability of Jarosz's calculations of the incremental profit rate. One of his methods, when applied to 2003 data, results in an

[133] JX 1140 at 27.

incremental profit rate of 36%. Frankly, the logic behind one of his other methods, the high-low method, is not apparent to me. It compares the sales and cost data for the month in the data period with the highest sales to that with the lowest sales. How a focus on the most extreme data points relates to the incremental profit rate realistically expected in the future is not obvious to me. Indeed, although that method produced an incremental profit rate of 5% when applied to the period June 2001 to December 2003, narrowing the data range to 2003 — when the monthly increment method suggested that Honeywell's cost structure was improving — actually produces a result of negative 3%, suggesting that the Alliance lost money in 2003.[134]

On balance, I therefore find Dudney's analysis to be the sounder one. His projection of future sales based on the Alliance's actual 2003 sales was reasonable. His use of a 13.25% growth rate to project 2004 sales and a 3% rate for 2005 was fair, given that the Alliance has exceeded those growth rates by far for the past several years. And his attempt to determine the incremental profit rate by "drilling down" to determine which costs were fixed and which were variable seemed a more reliable method of determining how much costs would vary with sales volume than Jarosz's method of examining how the relationship between total costs and revenues varied over time. As Honeywell notes, Jarosz's method fails to exclude several types of costs which are unquestionably fixed.

On the other hand, Dudney's analysis of the incremental profit rate appeared overly optimistic. Jarosz's pooled regression analysis of other wet process chemical

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[134] Def.'s Post-Trial Br. Ex. 5.

manufacturers suggested that even a mature company that has made most of the necessary fixed cost investments and therefore is operating in a scenario in which a relatively larger portion of costs are variable costs will still likely not be quite the cash-cow that Dudney projected the Alliance would be in the future.[135] Moreover, Dudney's calculation of the incremental profit rate was not based on the most reliable of methods. In distinguishing fixed from variable costs, he relied primarily on Honeywell's cost accounting system and discussions with a Honeywell employee, which made his analysis subject to human error. He did not perform any rigorous statistical analyses to verify his account-based approach.

More importantly, his assumption that Honeywell would not capture a single sale once the Agreement was terminated was vastly pessimistic, given the numerous factors already discussed which make it likely that Honeywell will in fact continue to make significant sales. And, one of Dudney's explanations for that assumption — that he did not credit Honeywell for the "wind-down" that would have occurred in the but-for world following proper termination of the Agreement in 2005 and therefore it was appropriate not to penalize it for sales it might still be able to make now — assumes that Honeywell would have been legally entitled to damages for sales made after the Agreement was properly terminated in 2005. That legal proposition — which was not addressed by

[135] At trial, I was, however, surprised that Jarosz blinded himself to the incremental profits of the leading industry player, Ashland, whose costs were well known to its owner, and Jarosz's client, Air Products. Air Products presented a new pooled regression analysis along with its post-trial brief, but that analysis and the data on which it was based was not subject to cross-examination.

either party — is not a self-evident one. Dudney therefore overestimated the sales that Honeywell will likely lose as a result of Air Products' breach.

Given all these factors, I will award damages based on Dudney's analysis,[136] with the following adjustments. To deal with the likelihood that Honeywell will likely not lose 100% of its Alliance sales, I will cut the forecasted total sales for 2004 to 75% of the figure that Dudney uses, resulting in forecast sales of $12,599,501 in 2004 and $12,977,486 in 2005. I will also address my concern that Dudney may be optimistic about Honeywell's incremental profit rate. Thus, after prorating each year's sales to reflect the fact that the damage period begins on April 1, 2004 and ends on August 30, 2005, I will apply an incremental profit rate that is 75% of the rates that Dudney calculated. Thus, the incremental profit rate is 36.4% in 2004, and 35.2% in 2005. Applying these incremental profit rates and bringing back the results to present value using a 9% discount rate — a rate that both experts used — results in total lost profits of $3,336,753 in the relevant portion of 2004, and $2,760,096 in the relevant portion of 2005. The total damage award for lost profits is therefore $6,096,849.

This, of course, is not a "scientific" remedy that has the pretense of precision. It is instead an effort to fairly quantify the losses Honeywell will proximately suffer as a result of Air Products' breach.

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[136] I will use his "locational cut." *See* JX 1139 Ex. XV-A

D. Chandler Expansion

Finally, I come to the last aspect of the damage award, related to costs associated with expansion of the Chandler facility. In 2002, Honeywell decided to expand that facility, partly in anticipation of increased Alliance sales, an expansion that will cost approximately $4.9 million. Honeywell contends that had the Alliance continued, it would have been reimbursed for the portion of those costs associated with Alliance sales pursuant to the profit-sharing mechanism in § 5 of the Agreement. As noted above, that is because the Agreement not only provides Honeywell with "revenues from profit sharing" (i.e., a share of the profit made on each sale) but also with "revenues from reimbursable costs" (i.e., certain costs associated with producing the products). Honeywell contends that certain costs associated with the Chandler expansion are reimbursable costs under the Agreement. This damages claim, which amounts to approximately $4.4 million on the assumption that only sales to Category 1 customers are included, is separate and distinct from the claim for damages related to the lost profits discussed in detail above. That is, Dudney ensured that in calculating the damages sought for lost revenues from reimbursable costs, he was not double counting and including any damages for lost revenues from profit sharing, since this latter category was taken care of in his lost profits analysis.

In fairness, I will quote the paragraph of Air Products' post-trial brief addressing this issue:

> Honeywell's position is fundamentally misguided. A liability judgment necessarily implies a finding that the Alliance is dissolved. In the absence of Alliance business, Air Products has no obligation to fund Honeywell's

> future business; it would not share the benefits of that business. Furthermore, Honeywell's choice to continue investing in Chandler, in the context of this litigation, shows that Honeywell's decision to go forward has been, for nearly a year, designed to enhance its ability to sell directly. In essence, Honeywell has requested that Air Products fund its non-Alliance business. This is unfair and wrong, as Mr. Jarosz testified at trial.[137]

The testimony of Jarosz to which this paragraph refers basically repeated this same argument, with the following additional claim:

> If that plant generates additional income, then that — that it otherwise wouldn't have, that should be reduced, a deduction from the damages award, canceling out the 4.6 million.
> If, on the other hand, it's really meant to maintain direct business and help grow Honeywell/GEM's direct business, then there's no compensation that's due under the SAA.[138]

If the reader finds these arguments hard to follow, she is not alone. Put bluntly, I simply do not see how they respond to Honeywell's claim at all.[139] Honeywell says, quite plainly, that in the but-for world in which the Alliance continued to make sales, Air Products would have been obligated not only to share the profits from those sales with Honeywell but also to compensate it for costs incurred in manufacturing the products, including costs associated with the Chandler expansion. Critically, what Air Products does not argue is that the costs of expanding the Chandler facility do not fall within the definition of reimbursable costs under § 5 of the Agreement. Having failed to make such an argument, it has no valid response to this aspect of Honeywell's claim.

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[137] Def's Post-Trial Br. at 77-78.
[138] Trial Tr. at 1388-89. Jarosz cited a figure of $4.6 million because that is the amount of damages claimed for Categories 1 through 3.
[139] Jarosz's discussion of this issue in his export report was even more cryptic. JX 1025 at 52-53.

Unfortunately, Honeywell's expert was not of much help in calculating the damages associated with this claim. In determining how much of the Chandler expansion costs would have been reimbursed had the Alliance continued, he assumed that Air Products would run both Future Alliance Sales and Ashland Sales through the Alliance, and did not do a separate analysis involving only Future Alliance Sales. Thus, the Chandler expansion costs were absorbed by an inappropriately high amount of sales, resulting in a claim for $4,376,602,[140] even though the facility will cost only $4.9 million to expand.

Since Dudney did not provide the proper analysis using only Future Alliance Sales, I will perform my own, using figures from the lost profits analysis discussed above.[141] The total amount of Future Alliance Sales that Dudney expected for the relevant portions of 2004 and 2005 amounts to $24,094,784.[142] Dudney projected the total Ashland Sales during that period to be $27,746,964.[143] Dividing the first figure by the sum of the both of them results in a ratio of 46.5%. That is the court's best estimate of the percentage of sales that Dudney assumed would have been made through Chandler in the but-for world that were not attributable to the Ashland ECD acquisition and which would have resulted in reimbursement for Chandler expansion costs. Multiplying that

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[140] Assuming only Category 1 customers are included. JX 1139 Ex. XIV.

[141] I will use the figures from the locational cut, assuming that only Category 1 customers were covered by the Agreement.

[142] $12,622,450 from 4/1/04 to 12/31/04 and $11,472,334 from 1/1/05 to 8/30/05. JX 1139 Ex. XV-A.

[143] $9,738,583 from 4/1/04 to 9/30/04 and $18,008,381 from 10/1/04 to 8/30/05. JX 1139 Ex. XVII-A.

percentage by $4,376,602 results in a damage award of $2,034,138. Adding that to the $6,096,849 determined above yields a result of $8,130,987.

V. Conclusion

Air Products shall pay Honeywell $8,130,987 in contractual damages as full relief for its breach of contract, and the parties will be released from their obligations under the Agreement. The parties shall present an implementing final order within ten days. Each side shall bear its own costs.