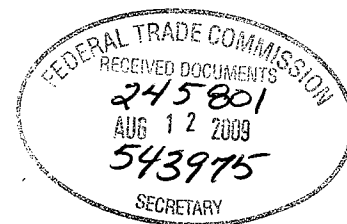


ORIGINAL



UNITED STATES OF AMERICA  
BEFORE THE FEDERAL TRADE COMMISSION

\_\_\_\_\_)  
In the Matter of )  
 ) PUBLIC  
 ) Docket No. 9327  
Polypore International, Inc. )  
a corporation. )  
\_\_\_\_\_)

ERRATA SHEET

This errata sheet provides several attached pages to be replaced in the public version of Complaint Counsel's Post-Trial Findings of Fact filed on July 17, 2009.

<u>Page No.</u>	<u>Finding</u>	<u>Corrections</u>
13	61	Additional <i>in camera</i> information redacted
15	79	<i>In camera</i> label has been removed from PX1791
18	98	PX0922 has been labeled <i>in camera</i>
19	105	RX01519 has been labeled <i>in camera</i>
26	163	PX0920 and PX0033 have been labeled <i>in camera</i>
32	203	PX0782 has been labeled <i>in camera</i>
37	234	Additional <i>in camera</i> information redacted
43	281	Additional <i>in camera</i> information redacted
49-50	323	RX00945 and Simpson Tr. 3438 are labeled <i>in camera</i>
51	336	PX0911 has been labeled <i>in camera</i>
53	347, 350	PX0911 has been labeled <i>in camera</i>
56-57	373	PX0263 has been labeled <i>in camera</i>
62	412	PX has been added to cite 1657
63-64	420, 421	<i>In camera</i> label has been removed from PX1664
77	502	Gillespie, Tr. 3048 has been labeled <i>in camera</i>
84	554	Last cite, PX2112 at 019 is labeled <i>in camera</i>
99	659	<i>In camera</i> label has been removed from PX2241
105	692	PX0922 and PX0263 are labeled <i>in camera</i>
106	695	Additional <i>in camera</i> information redacted
110	717, 724	Additional <i>in camera</i> information redacted
111	729	Additional <i>in camera</i> information redacted
119	770, 771	Additional <i>in camera</i> information redacted
129	827	PX0905 has been labeled <i>in camera</i>
142	918	Gillespie, Tr. 3127 has been labeled <i>in camera</i>
148	950	Additional <i>in camera</i> information redacted
149	956	Gilchrist, Tr. 423-434 has been labeled <i>in camera</i>
154-155	990	<i>In camera</i> label has been removed from PX1124 and

156 997 PX2300  
173 1100 *In camera* label has been removed from PX2300  
177 1126, 1127 *In camera* label has been removed from PX2301  
Axt, Tr. 2251-2252 and Axt, Tr. 2252-2253 have been  
labeled *in camera*  
181 1156, 1158 Gilchrist, Tr. 454 and PX0089 at 002 have been labeled *in*  
*camera*  
191 1221, 1223 PX0920 and PX0923 have been labeled *in camera*  
192 1226 PX0913 has been labeled *in camera*  
193 1232 PX0924 has been labeled *in camera*

Dated: August 12, 2009

Respectfully Submitted

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market participants) are the same. (Simpson, Tr. 3174; Kahwaty, Tr. 5294-5295, *in camera*).

59. Such aggregation leads to the following four markets described in the FTC's complaint: deep-cycle, motive, UPS, and SLI. (Simpson, Tr. 3170-3171). Aggregating beyond the markets identified in the FTC's complaint would lead to a loss of detail because one would combine markets where market participants differ and entry conditions differ. (Simpson, Tr. 3175).

60. Daramic recognizes separate product markets for SLI, motive power, Deep-cycle and reserve power. [REDACTED]

[REDACTED] (Gilchrist, Tr. 458-459, *in camera*; PX0395, *in camera*).

At that meeting, attendees agreed that [REDACTED]

[REDACTED] (Gilchrist Tr. 461-463; PX395, *in camera*).

61. [REDACTED]  
[REDACTED] (PX0265 at 004, *in camera*).

#### C. Deep-cycle Battery Separators are a Product Market

62. The market for deep-cycle battery separators is a product market. (Simpson, Tr. 3170-3171).

63. Company documents analyze competition in the context of a market for deep-cycle battery separators. (PX0131 at 028-029; PX0506 at 001-003, *in camera*).

##### 1. Product Characteristics

64. A deep-cycle battery is one that is built for long durations of discharge at a lower amperage. (Godber, Tr. 137-138). The construction of a deep-cycle is much different from other types of batteries. (Godber, Tr. 138). Deep-cycle batteries are made with thicker plates so that they can better withstand deep discharges and corrosion of the grid (lead plates pasted with lead oxide) that occurs in a golf cart battery. (Godber, Tr. 138). Further, the active material that is put into the positive plate is a different material than what is used in automotive batteries. (Godber, Tr. 138). The important measurers of a deep-cycle battery are capacity and life. (Godber, Tr. 138).

65. Daramic uses the term "deep-cycle" in its business operations to denote batteries that deeply discharge such as those intended for golf cars and floor scrubbers. (Whear, Tr. 4764).

73. Antimony also is what makes the battery a deep-cycle; if you do not have enough antimony the cycle loses capacity. (Qureshi, Tr. 2001-2002). During the operation of a deep-cycle battery, traces of antimony comes out from the corrosion of particles on the metal grid, which if allowed to migrate to the negative plate will cause the battery to gas more. (Qureshi, Tr. 2002).

74. The deposition of antimony onto the negative plate, sometimes called “antimony poisoning” drastically reduces the cycle life of the battery. (PX1791 at 001; PX1124 at 001).

ii) Need to suppress antimony transfer

75. Antimony poison occurs when the antimony migrates from the positive to the negative plate. (Godber, Tr. 139; *see also* Qureshi, Tr. 2002). Antimony poisoning causes the voltage of the battery to drop, and that causes the charger to charge longer, which creates more gas and more heat leading to increased water loss and corrosion. (Godber, Tr. 139-140).

76. Excessive gassing weakens the battery causing the battery to have a shorter life. (Qureshi, Tr. 2002-2003). Excessive gassing also results in water loss, which requires the battery owner to water the battery more frequently. (Qureshi, Tr. 2002-2003). Daramic’s technical bulletin on golf cart separators has an entire section that explains this antimony effect. (Hauswald, Tr. 663; PX1791 (Technical Bulletin Topic: Golf Car Battery Separators)).

77. Rubber based separators work best at preventing antimony transfer. (Godber, Tr. 140, 150). Rubber based separators reduce the antimony effect. Daramic offers multiple separator products that are designed for golf cart applications and have the “Rubber Effect” to combat antimony. (PX1791 at 001; Hauswald, Tr. 663-664). For the deep-cycle applications the separators are enhanced with latex and rubber additives in order to aid in the suppression of antimony migration and stymie water loss that deep discharging batteries tends to produce. (Whear, Tr. 4682; PX0913 (Whear, Dep. at 052, *in camera*)).

78. East Penn uses Daramic HD separators in its golf cart and floor scrubber batteries in order to reduce antimony transfer in those batteries. (Leister, Tr. 4038-39). [REDACTED]

[REDACTED] } (PX1514, *in camera*).

a. Pure Rubber (Flex-Sil)

79. In Daramic products like Flex-Sil, the separator is made of natural rubber. (Hauswald, Tr. 664; PX1791 at 001). Flex-Sil includes rubber in a solid form, the rubber makes up about 40% of the separator’s content. (Hauswald, Tr. 673).

more than a flooded battery, and a gel battery costs around 50% more than a flooded battery. (Godber, Tr. 149).

96. Sealed batteries go into deep-cycle applications where there may be a regulation that prohibits a flooded battery such as in an airport or a hospital. (Godber, Tr. 148). Trojan does not produce sealed batteries, but buys some for resell. (Godber, Tr. 148). About one percent of the batteries Trojan sells are sealed. (Godber, Tr. 148).

#### 4. End Use Applications

97. The primary end-use application for deep-cycle batteries is golf carts, but deep-cycle batteries also are used in other applications. (Godber, Tr. 143; *see also* Gilchrist, Tr. 305; Wallace, Tr. 1955-1956; Gillespie, Tr. 2931). The biggest markets for Trojan are golf, floor scrubbers, scissor lifts, and boom lifts. (Godber, Tr. 143).

98. [REDACTED] head of sales and marketing, defines deep-cycle [REDACTED] [REDACTED] batteries. (PX0922 (Roe, IHT at 54, *in camera*)). Similarly, Daramic documents refer to a [REDACTED] [REDACTED] (PX0263 at 004, *in camera*).

99. Daramic's marketing Flex-Sil, CellForce and HD for golf cart batteries. (PX1791 at 001).

##### i) Original Equipment

100. Exide expects to qualify HD for use in all of its deep-cycle batteries, including those going into OE applications. (Gillespie, Tr. 3091).

##### ii) After Market

101. Typically, 14-15% of deep-cycle batteries are sold by original equipment manufacturers while the remaining portion of deep-cycle batteries are sold in the aftermarket. (Gilchrist, Tr. 357-358, 608-609).

102. Exide sells golf cart batteries into both OE and aftermarket markets. (Gillespie, Tr. 2932). Approximately 90% of the golf cart batteries that Exide sells are sold into the aftermarket, with the remainder going to OE applications. (Gillespie, Tr. 2932).

#### 5. Demand for Deep-cycle Separators is inelastic

- i) Post Acquisition Price Increases on Deep-cycle Separators have not Induced Switching to non-rubber based separators

103. Since the acquisition, U.S. Battery must single source the separators for its deep-cycle flooded batteries from Daramic. (Wallace, Tr. 1951).
104. Following the acquisition, Daramic increased prices on Flex-Sil, CellForce, and HD. (Roe, Tr. 1218). Despite these price increases, Daramic has not lost any deep-cycle business to any competitor anywhere in the world. (Roe, Tr. 1217-1218). Nor have Daramic's post-acquisition price increases on deep-cycle separators caused any customer to switch from a rubber or hybrid rubber/PE separator to a straight PE separator for use in a deep-cycle battery. (Roe, Tr. 1218).
105. East Penn purchases HD from Daramic for use in its golf cart batteries under a contract that Daramic and East Penn entered into in 2008. (Roe, Tr. 1220-1221; RX01519, *in camera*). East Penn continued to purchase HD for their golf cart batteries despite the 5% price increase that Daramic passed through to East Penn on the HD separators in 2009. (Roe, Tr. 1222-1223).
106. U.S. Battery sought additional suppliers for its deep-cycle separator needs over the years, but was unsuccessful in finding anyone willing or able to do so. (Wallace, Tr. 1943-1944). At one point in the last few years, U.S. Battery sought to persuade Entek to supply these separators, but Entek said it was not interested in entering the deep-cycle separator market. (Wallace, Tr. 1943-1944; 1950-1951).
107. In the last year, U.S. Battery designed two new battery product lines called US 27DC and US 31DC which contained Daramic's HD separators. (Wallace, Tr. 1947-1948). During the design phase, U.S. Battery informed Daramic of these new applications for HD separators. At that time, Daramic did not indicate it would not be able to supply the specified HD separators. After the acquisition and close in time to the production phase, Daramic informed U.S. Battery that it would only supply the Flex-Sil separator, which cost twice as much as the HD separator, for the two new battery lines. (Wallace, Tr. 1948-1950). Dr. Simpson evaluated the critical loss and determined that [REDACTED] } (PX0033 at 006, 012, *in camera*; Simpson Tr. 3169-3172)

ii) Limited Supply of Deep-cycle separators due to Owensboro strike did not cause substitution to non-deep-cycle separators

108. HD supply was limited during the 2008 strike at Daramic's Owensboro manufacturing plant. (Roe, Tr. 1219). Despite the limited availability of HD during the strike, no customers switched from HD to a straight PE product for use in deep-cycle applications. (Roe, Tr. 1219).
109. The Owensboro strike limited the availability of HD for use at Exide. (Roe, Tr. 1223). Because of the HD shortage, Exide was forced to purchase Flex-Sil, which was the only

157. The backweb thicknesses of SLI separators have been reduced in recent years. (Leister, Tr. 4024). This reduction in thickness is meant to reduce the overall cost of the separators. (Leister, Tr. 4024). SLI battery separators are very thin and very strong so as to resist punctures and have mechanical strength. (Brilmyer, Tr. 1829, 1831).

158. { [REDACTED] } is the standard backweb thickness in use in SLI batteries sold in the US. (PX0907 (Kung, Dep. at 75-76, 80), *in camera*).

159. Over 99% of the separators that Daramic tracks that are sold in the automotive market have a backweb thickness between 6 and 10 mils (150-250 microns). (Hauswald, Tr. 677-678).

160. It is very difficult for a separator manufacturer to change the thickness of their PE separator from { [REDACTED] } (PX0907 (Kung, Dep. at 79), *in camera*).

#### IV. Geographic Market is North America

A. Manufacturers in North America can price discriminate to customers based on geography.

161. Dr. Simpson explained that North America is the relevant geographic market with which to analyze this transaction. (Simpson, Tr. 3183). Because manufacturers of deep-cycle, motive, UPS, and SLI battery separators can set different prices for different geographic regions they can price discriminate based on geography. (Simpson, Tr. 3183).

162. Where sellers can price discriminate based on geographical location, the Merger Guidelines state: "The agency will consider additional geographic markets consisting of particular locations of buyers for which a hypothetical monopolist would profitably and separately impose at least a small but significant and nontransitory increase in price." (Merger Guidelines, Section 1.22). Dr. Simpson concluded from reviewing the testimony of buyers and the documents in this case that a hypothetical monopolist could impose such a price increase on buyers in North America. (Simpson, Tr. 3183).

163. A hypothetical monopolist of all production facilities in North America can price discriminate to North American customers because suppliers ship directly to customers. (e.g., PX0920 (Gilchrist IHT 64-65) , *in camera*; see PX0033 at 005 FN5, *in camera* (Simpson Report); PX2251 at 004 (Simpson Rebuttal Report), *in camera*).

B. Daramic charges different prices in different geographic regions

164. [REDACTED] (Riney, Tr. 4958, *in camera*; Roe, Tr. 1317). [REDACTED] } (Roe, Tr. 1797, 1799, *in camera*).

196. Crown tries to maintain just-in-time delivery of its separator supply. (Balcerzak, Tr. 4130). Having to ship material from overseas would interfere with Crown's just-in-time methods. (Balcerzak, Tr. 4130).
197. Douglas Battery has a preference for local supply because it reduces distance, time, travel, just-in-time opportunities, and enables the supplier to quickly respond if Douglas has problems with their separators. (Douglas, Tr. 4080).
198. Planning for the Rama III project began in 2006. (PX0640). One of the explicit rationales for the Prachinburi expansion was the [REDACTED] (PX0640 at 001; PX0924 (Jensen, Dep. at 56, *in camera*)). [REDACTED] (PX0924 (Jensen, Dep. at 72, *in camera*)).

3. Cost of exporting separators to North America is prohibitively expensive

199. Daramic has not shipped separators from either of its Asian manufacturing plants to customers in North America. (Roe, Tr. 1233-1234).
200. EnerSys would prefer to have a supplier with plants both in North America and in Europe. (Burkert, Tr. 2385). If EnerSys had to have a supplier with two plants in North America and none in Europe, it would be a negative cost to EnerSys. (Burkert, Tr. 2386). EnerSys does not want to stock, pay freight, or worry about supply interruptions. (Burkert, Tr. 2467).
201. [REDACTED] (Burkert, Tr. 2349, *in camera*).
202. EnerSys was forced to ship a container of separators to its Monterrey plant from Daramic's Feistritz facility during the Ownsboro strike at a high freight and time cost. (PX1285).
203. [REDACTED] (PX0782 at 002, *in camera*; PX0912 (Riney, Dep at 240, *in camera*)).
204. If the price of motive separators in North America increased by five percent, Douglas Battery would not look for separator suppliers abroad. (Douglas, Tr. 4082).
205. PE separators that are manufactured in China are subject to added taxes by the Chinese government resulting in higher manufacturing costs for Chinese separator manufacturers. (PX0871 at 002, *in camera*). PE separators exported from China are subject to a value-added tax. (Thuet, Tr. 4404-4405). The value-added tax includes a 12% charge on the



232. [REDACTED] } (PX1248 at 001, *in camera*).

233. [REDACTED] } (Axt, Tr. 2219, *in camera*). EnerSys is working with [REDACTED] } (Axt, Tr. 2219, *in camera*).

b. [REDACTED] }

234. BFR cannot compete on price terms with Daramic and Entek in selling PE separators to customers in the United States – [REDACTED] } (PX0907 (Kung, Dep. at 172-173, *in camera*)). [REDACTED] } (PX0907 (Kung, Dep. at 172-173, *in camera*)).

235. When asked whether BFR can find customers in North America and sell its PE separators to them, Mr. Kung answered: [REDACTED] (PX0907 (Kung, Dep. at 176-177), *in camera*). [REDACTED] } (PX0907 (Kung, Dep. at 176-177, *in camera*)).  
Second, [REDACTED] } (PX0907 (Kung, Dep. at 176-177, *in camera*)).

236. When asked how much prices would have to increase in North America for BFR to supply a North American battery manufacturer with PE SLI separators Mr. Kung responded by saying [REDACTED] } (PX0907 (Kung, Dep. at 186-187, *in camera*)).

237. Using Mr. Hall's benchmarking analysis of 2007 costs, [REDACTED] } (PX1522 at 005, *in camera*). [REDACTED] } (PX1522 at 005, *in camera*).

238. [REDACTED] } (Hall, Tr. 2746-2747, *in camera*). [REDACTED] } (Hall, Tr. 2745, *in camera*).

276. Microporous developed CellForce in the mid-1990's to address customer needs for a more flexible separator material that can fold around the battery plates and be sealed along one edge, while retaining the electrochemical attributes of a rubber-based separator. (Gilchrist, Tr. 316-317). Because there were cost advantages for customers to use CellForce that related to sealing and sleeving the separator, Microporous anticipated that its Flex-Sil customers would migrate to CellForce separators for many of its battery applications. (Gilchrist, Tr. 373-374).

### 3. No Other Suppliers in the World

#### B. Daramic and MPLP were the only Suppliers of Motive Separators in North America

277. Prior to the acquisition, Microporous participated in the North American motive market with its CellForce product. (Gilchrist, Tr. 300-301).

278. Prior to the acquisition, [REDACTED] } (PX0211 at 001, *in camera*; Hauswald, Tr. 988).

279. As a result of the acquisition, Daramic has "complete control" or more than 97% of the industrial markets for motive power separators world-wide. Amer-Sil in Luxembourg would be the remaining competitor. (PX0076 at 002, Gilchrist, Tr. 422).

280. Sales data from 2007 show that the change in HHI and the post-merger HHI for the motive market far exceeds the thresholds listed in the Merger Guidelines. (Simpson, Tr. 3184-3185). Daramic's acquisition of Microporous increased the [REDACTED] } in the motive market. (Simpson, Tr. 3185; PX0033 at 040, 042 (Simpson Report), *in camera*).

281. In August 2007, Mr. Gilchrist informed the Microporous board that [REDACTED]

[REDACTED] } (PX0080 at 058-059, *in camera*).

[REDACTED] } (PX0077 at 003, *in camera*).

282. Dr. Simpson noted that the 2007 data understates the competition between Microporous and Daramic in this market because the firm with the smaller share was in the process of gaining market share. (Simpson, Tr. 3438, *in camera*). Microporous anticipated that, by the end of 2009, new sales of CellForce to manufacturers of motive batteries would

facilities. (Gaugl, Tr. 4618). Daramic estimated its calender rolls cost up to \$80,000 a piece and it has approximately 100 different ones. (Whear, Tr. 4678).

318. Trojan did not reach out to Entek as a potential supplier of deep-cycle battery separators because Trojan had previously tested Entek separators for golf applications in the mid-90s and the performance was not there. (Godber, Tr. 289). The technology that Entek had available then is the same as Entek has available today. (Godber, Tr. 289). Since the mid-90s, Entek has not called on Trojan for its deep-cycle business. (Godber, Tr. 290).
319. East Penn does not know whether Entek currently sells deep-cycle separators. (Leister, Tr. 4041). East Penn did purchase some deep-cycle separators from Entek in the past, but stopped buying those separators at least three years ago. (Leister, Tr. 3985). At that time, East Penn was paying Entek higher prices for deep-cycle separators than East Penn is currently paying to Daramic for HD separators. (Leister, Tr. 4041).

2. Suppliers outside North America are not Market Participants in North America

320. Amer-Sil, a regional supplier, operates a plant facility in Luxembourg that produces PVC-based separators for motive batteries. (PX0916 (Dauwe, Dep. at 15); Gilchrist, Tr. 306-307; PX0078, *in camera*). Amer-Sil produces PVC separators for lead acid batteries and does not produce PE separators. (PX0916 (Dauwe, Dep. at 14)). Amer-Sil's PVC separators are used in European flooded motive and stationary batteries, but are not used in automotive batteries. (PX0916 (Dauwe, Dep. at 18-19)).
321. There are regional suppliers in India, China, Indonesia and Korea that produce separators for local customers. They include Anpei and BFR, Chinese manufacturers of SLI separators, Korindo, an Indonesian manufacturer of SLI and industrial separators, and Global Industrial, a Korean manufacturer of SLI and industrial separators. (Gilchrist, Tr. 307-308, 424, 430).
322. JCI entered into a three way joint venture in February 2007 with Rising and Fengfang { } to form the joint venture known as BFR. (Hall, Tr. 2715-2716, 2740, *in camera*). JCI does not have a controlling interest in BFR. (Hall, Tr. 2741, *in camera*). JCI has a { } equity share in BFR, while Fengfang's equity share in BFR is { } and Rising's is { } (Hall, Tr. 2740, *in camera*). The principal owner of Rising is { } (Hall, Tr. 2836, *in camera*). Unanimous BFR board approval is required for { } (Hall, Tr. 2826, *in camera*).
323. Dr. Kahwaty estimated market shares for a global PE battery separator market. (RX00945-179, *in camera*). Using these market shares, Daramic's acquisition of Microporous increased the HHI by 189 points to 3920. (Simpson, Tr. 3189). These figures understate the change in HHI because Dr. Kahwaty had erroneously assigned some Daramic sales to Entek. (Simpson, Tr. 3190). Dr. Simpson also testified that the

2007 data understates the competition between Microporous and Daramic in this market because the firm with the smaller share was in the process of gaining market share. (Simpson, Tr. 3438, *in camera*).

VI. Competitive Effects

A. MPLP and Daramic were Closest Competitors in 3 of 4 Markets

324. The acquisition enabled Daramic to increase price unilaterally. (Simpson, Tr. 3192-3194, *in camera*).

325. Mr Seibert, the Vice-President and Business Director for sales, marketing, and technical assistance, [REDACTED]

[REDACTED] (Seibert, Tr. 4287- 4290, *in camera*). [REDACTED]

[REDACTED] (Seibert, Tr. 4288, *in camera*).

326. MPLP's low-priced competition made it a maverick in the separator industry. Historically, there was not an "aggressive rivalry among competitors." (PX0482 at 002). According to Daramic's worldwide VP of sales and marketing, that changed when MPLP entered the market with its PE-based CellForce separators. (PX0482 at 002; Roe, Tr. 1281).

1. Daramic was MPLP's only competitive Constraint in Deep-cycle

327. Flex-Sil has unique properties that differentiate it from other battery separators. (PX0131 at 14). Dr. Simpson explained that because Flex-Sil is differentiated from other products, its owner has market power, and thus would not lose all of its sales if it were to increase price above cost. (Simpson, Tr. 3176). Consequently, in Dr. Simpson's opinion, "the owner of Flex-Sil has the incentive to increase price until it gets to the point where the profit that it loses as sales shift to other products just begins to exceed the additional profit that it gets from getting a higher price on those sales it continues to make." (Simpson, Tr. 3177; PX2251 at 017, *in camera*).

328. Dr. Simpson rejects Dr. Kahwaty's argument that Flex-Sil's pricing is constrained by a long-term contract with Trojan which set its price below the profit maximizing level because MPLP was recently willing to offer concessions to buyers of Flex-Sil and MPLP presumably would be unwilling to lower price further if it already thought that it had set too low a price. (Simpson, Tr. 3181-3182).

329. Daramic HD was the closest independently-owned substitute for Flex-Sil. Thus, if the owner of Flex-Sil were to increase price a little more, some of the sales that would be lost would shift to Daramic HD. (Simpson, Tr. 3177-3178). If Flex-Sil and Daramic HD are owned by the same owner, then the joint owner recovers some of the profit on the lost Flex-Sil sales that shift to Daramic HD. (Simpson, Tr. 3178). “[I]n this way a price increase that would not make sense for an independently owned Flex-Sil (or Flex-Sil and CellForce) would make sense if they also owned Daramic HD.” (Simpson, Tr. 3178, PX2251 at 017, *in camera*; Kahwaty, Tr. 5514-5515, *in camera*).
330. Daramic analyzed the effect of rubber price increases on Flex-Sil versus HD in an effort to gauge the impact of rubber prices on the prices of the two competing products because of MPLP’s new rubber pass-through agreements. (PX0948; Whear, Tr. 4785- 4786).
331. Before the acquisition, Daramic’s pricing for HD was { } than Microporous’s pricing for CellForce and Flex-Sil. (Gilchrist, Tr. 467, *in camera*).
332. None of the Asian battery separator manufacturers are producing a deep-cycle separator containing an antimony suppression additive. (Thuet, Tr. 4396).
333. Exide believes that following Daramic’s acquisition of MPLP, Exide no longer has the same leverage for the purchase of deep-cycle battery separators that it had prior to the acquisition, because now there is only one provider of deep-cycle separators for Exide to negotiate with. (Gillespie, Tr. 2953-2954).
334. Prior to Daramic’s acquisition of MPLP, in addition to offering { } golf cart purchases of golf cart separators. (Gillespie, Tr. 2995-2997, *in camera*). Now that MPLP is no longer an independent competitor, Daramic is { } (Gillespie, Tr. 2997, *in camera*).
- i) Daramic DC Introduced to Compete with MPLP’s Flex-Sil
335. Daramic spent many years trying to develop a battery separator that would work well in deep-cycle applications. (PX0433 at 001).
336. Daramic made repeated attempts to develop a product to compete with MPLP’s Flex-Sil separators in the deep-cycle market. (PX0433 at 001). Daramic first developed a separator known as DC, a separator for deep-cycle batteries manufactured by combining PE with a hardwood lignan additive intended to suppress antimony transfer and water loss in deep-cycle batteries. (PX0911 (Roe, Dep. at 69-70, *in camera*)).
337. Daramic DC was Daramic’s original deep-cycle separator introduced to the market in 2002. (PX0319 at 003).
338. Daramic DC was specifically designed for the golf cart application. (Whear, Tr. 4776).

344. Beginning in 2003, U.S. Battery began manufacturing deep-cycle batteries with Daramic's DC separator in place of Flex-Sil. (Wallace, Tr. 1945). Prior to purchasing Daramic's separator, U.S. Battery was only buying Flex-Sil for its deep-cycle batteries. (Wallace, Tr. 1945-1946).

345. [REDACTED] } (Whear, Tr. 4840, *in camera*).

ii) MPLP Responded to Competition

346. Prior to purchasing Daramic's DC separator, U.S. Battery was only buying Flex-Sil for its deep-cycle batteries. When Microporous found out that U.S. Battery was additionally buying Daramic's DC separator for its deep-cycle batteries, it lowered its pricing on Flex-Sil separators. (Wallace, Tr. 1945-1946).

iii) Daramic Improved Product and Introduced HD

347. Daramic developed the HD separators to replace its DC separators. (Roe, Tr. 1196). Daramic HD separators are manufactured by combining PE with a latex rubber additive. (Hauswald, Tr. 699-700). HD separators provide improved performance over the DC separators. (Roe, Tr. 1196; PX0911 (Roe, Dep. at 69-70, *in camera*)). HD separators provide better antimony suppression and less water loss in deep-cycle batteries than the old DC separators. (Roe, Tr. 1196). HD separators also provide improved end-of-charge performance over time than standard PE separators. (PX0423 at 002).

348. U.S. Battery tested Daramic HD product and the Microporous Flex-Sil product side by side and determined the two "are very comparable." (Qureshi, Tr. 2033). The main advantage of HD is its cost advantage. (Qureshi, Tr. 2033).

349. Exide had tested previous versions of Daramic separators for deep-cycle batteries and none of the versions prior to HD had passed Exide testing. (Gillespie, Tr. 2937).

350. Daramic HD was developed to compete in the deep-cycle market. (Roe, Tr. 1195-1196; PX0911 (Roe, Dep. at 56, *in camera*); PX1791; PX1744 at 004, *in camera*; PX1071; PX222 at 001, *in camera*).

351. [REDACTED] } (Seibert, Tr. 4304, *in camera*).  
[REDACTED] } (Seibert, Tr. 4308-4309, *in camera*).

367. [REDACTED] } (PX0911 (Roe, Dep. at 227, *in camera*)). For example, when HD was introduced to the marketplace with a 12 mill backweb thickness there were problems associated with wrinkling of the separators. (Roe, Tr. 1312-1313). Daramic was subsequently able to overcome this wrinkling problem by increasing the backweb thickness of the HD separators to 13 mill. (Roe, Tr. 1312-1313).
368. Exide understood that Daramic was marketing the HD separators for use in golf cart batteries. (Gillespie, Tr. 2937). When Daramic introduced the HD separators, Mr. Tucker Roe approached Mr. Gillespie and asked that Exide test the HD in golf cart batteries to see how it performs. (Gillespie, Tr. 2937). Daramic wanted to know what it would take for Exide to get HD into Exide's golf cart batteries. (Gillespie, Tr. 2937-2938). [REDACTED] } (Gillespie, Tr. 2996, *in camera*).
369. From Exide's perspective, Daramic's interest in getting Exide's golf cart business was a ten on a scale of one to ten. (Gillespie, Tr. 2938-2939; *see also* PX1071 at 001-002 (May 2006 email from Mr. Roe to Mr. Gillespie "we are aggressively pursuing this market")).
370. When Daramic introduced the HD separators Exide was interested in buying HD for its deep-cycle batteries for performance and commercial reasons. Exide's testing indicated that HD met Exide's performance criteria for deep-cycle batteries. Daramic offered Exide a competitive price on the HD separators. Additionally, Exide received a "double kiss" when buying HD because it also received a credit back from Daramic for every purchase of HD under their contractual agreements. (Gillespie, Tr. 2937-2938).
371. Prior to Daramic's acquisition of MPLP, Daramic was attempting to grow HD's sales in the deep-cycle segment. (Roe, Tr. 1209; PX0736 at 002). In fact, in February of 2006, Mr. Roe informed Exide's head of procurement that Daramic was "aggressively pursuing" sales in the "golf cart/deep-cycle and motorcycle battery business." (PX1071 at 001-002; Roe Tr. 1209-1211). In order to grow HD's market share in the deep-cycle market, Daramic provided HD samples to most of the significant deep-cycle battery manufacturers including Trojan, Exide, US Battery, and Crown. (PX0262 at 003).
372. [REDACTED] } (PX0904 (Seibert, Dep. at 106-107, *in camera*)). Daramic's February 2007 HD Product Strategy Presentation showed that [REDACTED] } (PX0023 at 010, *in camera*).
373. [REDACTED] } (PX0263 at 003-004, *in camera*). [REDACTED] } (PX0263 at

008, *in camera*). This “action plan” targeted a complete conversion of Exide’s deep-cycle batteries from Flex-Sil to HD. (PX0263 at 008, *in camera*). Daramic’s “action plan” also including qualification of HD for use in Exide’s deep-cycle OEM batteries. (PX0263 at 008, *in camera*). [REDACTED]

[REDACTED] } (PX0263 at 008, *in camera*).

374. Daramic wrote in their September 2007 America Monthly Sales Report that East Penn and US Battery were concerned about receiving a consistent supply of HD separators from Daramic. (PX0305 at 007). In fact, US Battery wanted to increase its purchases of HD separators from Daramic. (PX0305 at 007). In the Monthly Sales Report, Daramic noted it must continue to improve its service or it would “stand a good chance of losing golf car business back to Amerace Flex-Sil.” (PX0305 at 007).

a. Customers Viewed Daramic HD and MPLP’s Deep-cycle Products as Substitutes

375. Exide regards Flex-Sil and Daramic HD separators to be substitutes for each other. (Gillespie, Tr. 2933). Exide uses Flex-Sil and Daramic’s HD separators in its flooded lead acid batteries for use in golf cart and floor scrubber applications. (Gillespie, Tr. 2932). Exide does not use any other type of separators in its deep-cycle batteries. (Gillespie, Tr. 2933). No other separators meet Exide performance criteria for deep-cycle batteries. (Gillespie, Tr. 2933).
376. Flex-Sil and HD are used as exact substitutes in Exide’s most common golf cart battery, the GC110, which makes up approximately 80% of Exide’s deep-cycle sales. (Gillespie, Tr. 2941-2944; PX1401 and PX1402 (demonstrative batteries)). With the exception of the separator, there are no differences between these batteries. The batteries have the exact same labels and there is no way to tell the difference between them without cutting them open. (Gillespie, Tr. 2941-2944). For the end user, there is no difference in the price or warranty between Exide’s GC110 batteries which use HD and those that use Flex-Sil. (Gillespie, Tr. 2944).
377. The testing conducted by US Battery comparing Flex-Sil and HD showed comparable results. (Wallace, Tr. 1972; Qureshi, Tr. 2004, 2063).
378. US Battery’s 1800 model deep-cycle battery contains either Flex-Sil or Daramic HD today with no distinction in their performance or warranty claims rate. (Wallace, Tr. 1946). Based on its battery performance testing, U.S. Battery found that Flex-Sil and HD separators are comparable products, *i.e.*, one is not better than the other. (Wallace, Tr. 1971-1972).



- interested in learning if the HD product had some pricing advantage. (Godber, Tr. 182-183).
409. Trojan discussed the potential of using the Daramic HD separator at an internal meeting on February 21, 2005 because of its “[n]eed for a second source to ensure supply and competitive pricing.” (PX 1651; Godber Tr. 183-184). After February 2005, Daramic’s potential ability to offer a competitive product became a platform for discussions with Microporous regarding price reductions and capacity. (Godber, Tr. 183-184; *see also* PX0429 (email from Rick Godber to Mike Gilchrist: “We now understand that Daramic May have a separator that can compete in performance, and may have cost advantages to Flex-Sil and CellForce.”)).
410. At the 2005 BCI convention, Daramic made a presentation about the HD product, which left people very excited that Daramic had a product that could match Flex-Sil performance. (Godber, Tr. 187-188; *see also* PX1653 (email from Trojan’s technical director stating: “Daramic’s technical presentation at BCI was well received by the people I talked to. . . . Their [Daramic’s] presentation will generate additional interest in HD separators which will make it a common separator for deep-cycle applications in time.). Trojan received samples of and pricing for the HD separator in May 2005. (Godber, Tr. 188). The pricing on the HD separator was, depending on the product line, 10 to 28 percent below what Trojan was currently paying Microporous for Flex-Sil. (Godber, Tr. 188).
411. Trojan tested Daramic’s HD separator and approved it in its Pacer line of golf cart batteries. (Godber, Tr. 171). Today, CellForce, Daramic HD, and Flex-Sil are qualified for use in Trojan’s Pacer batteries. (Godber, Tr. 172).
412. Trojan was able to get Microporous to provide cost reductions based on Trojan threatening to test and switch to Daramic’s HD separator. (Godber, Tr. 190-191; *see also* PX1655 at 001 (email from Trojan to Microporous stating: “[HD] appears to be a fairly immediate replacement for CellForce at a substantial lower cost. Longer term it may work as a Flex-Sil replacement in our products.”)). The cost savings were around \$200,000 to \$300,000, which represents two percent of Trojan’s spend with Microporous at that time. (Godber, Tr. 191-192; PX1659 (“total savings to Trojan will be about \$350,000.”); PX1657 at 001 “As you can see, based on the volumes you gave us there is a potential annual savings of over \$288,000.”).
413. Prior to the introduction of HD separators by Daramic, Microporous did not respond positively to Trojan’s request for price reductions. (Godber, Tr. 199). After the introduction of the Daramic HD separator, however, Microporous told Trojan that it was going to work with Trojan to reduce its costs to alleviate the need for Trojan to start using HD separators. (Godber, Tr. 199-200). Mr. Godber, Trojan’s CEO testified that Daramic HD was mentioned by both him and Microporous’s CEO, Mike Gilchrist, during their discussions relating to Microporous’s price reductions. (Godber, Tr. 200).

414. Mr. Godber testified he does not recall any instance where Trojan successfully used any product other than HD as leverage in price negotiations with Microporous. (Godber, Tr. 223).
415. During the 2005 discussions with Microporous regarding cost reduction related to the threat of switching to Daramic HD, Trojan also was trying to accelerate its ability to use more CellForce since it was less expensive than Flex-Sil. (Godber, Tr. 191). At the time, Trojan was not able to get all the CellForce that it wanted from Microporous because there was limited capacity and a large demand from the motive market. (Godber, Tr. 195).
416. From 2005 to the time of the acquisition, Trojan continually used the threat of buying Daramic HD to get lower prices from Microporous. (Godber, Tr. 200-215). In October 2005, Trojan used the threat of moving business to HD as leverage against Microporous to negotiate down a proposed energy charge from 5.5 percent to 3.75 percent. (Godber, Tr. 200-201).
417. In early 2006, Microporous attempted to increase the prices it charged Trojan by around 6.5 percent for Flex-Sil and by 4.5 percent for CellForce. (Godber, Tr. 202). Trojan did not accept the price increases. (Godber, Tr. 202). Mr. Godber testified that in his negotiations with Microporous, Trojan used the only ammunition it had -- the threat of switching to HD separators -- to reduce the amount of the price increase down to 4.5 percent across the board for all Microporous separators. (Godber, Tr. 202). At the time Trojan was negotiating the price increase, Mr. Gilchrist stated: "We must put the specter of Daramic's [HD] product totally behind us." (PX1660 at 004; Godber, Tr. 203-204).
418. During 2007 pricing negotiations, Trojan threatened Microporous that it would switch to HD separators for its deep-cycle batteries. (Gilchrist, Tr. 371-372, 379, 468, *in camera*, 535, 609-610; PX1789 at 041, *in camera*).
419. In August 2007, Microporous once again proposed a price increase to Trojan on its Flex-Sil and CellForce products of 6.5 and 4.5 to 5 percent, respectively. (Godber, Tr. 204). The price increases covered separators that went into Trojan's OE and aftermarket golf batteries. (Godber, Tr. 293-295). The August 2007 price increase led to heated discussions in which Trojan told Microporous "[y]ou're forcing us to again now go look at an alternative like Daramic HD, which was the only alternative." (Godber, Tr. 204-205; *see also* PX0428 at 004, *in camera* ("appears to be a perception we have no options. . . . I felt they [IGP] needed to understand there are alternatives.")). A Trojan internal email exchange confirms that Trojan was contemplating HD as an alternative on some of its product lines and was also contemplating giving up the exclusive separator design that Microporous provided Trojan in return for its sole source commitment. (Godber, Tr. 206-207; PX1663).
420. Trojan's use of HD as a competitive threat to Microporous effectively constrained Microporous's across the board price increases. { [REDACTED]

[REDACTED]

[REDACTED] (Godber, Tr. 214-215; PX1664). By accepting these price increases, Trojan and Microporous agreed that there would be no further price increases available to Microporous on December 1, 2008. (Godber, Tr. 214-215). Thus, the next price increase to [REDACTED] could not occur until [REDACTED] (Godber, Tr. 235, *in camera*). Mr. Godber testified that [REDACTED] and I agreed” that [REDACTED] would be allowed no further price increases over and above the signed [REDACTED] (Godber, Tr. 214-215; 235, *in camera*; PX1664).

421. As a result of its 2007 negotiations with [REDACTED] lowered its pricing increase for [REDACTED] and agreed that it would not increase prices again until after [REDACTED] (Gilchrist, Tr. 408-409; PX1664). This compromise occurred in response to Trojan’s threat to switch to HD separators for some of its deep-cycle batteries sold to the replacement market. (Gilchrist, Tr. 410, 526, *in camera*).

422. [REDACTED] (PX0950 at 14-16, *in camera*).

423. [REDACTED] (PX0950 at 14-16, *in camera*).

424. [REDACTED] (PX0950 at 14-16, *in camera*).

d. MPLP Responded to HD with CellForce

425. When MPLP began to recognize the HD threat, Mr. McDonald and his sales force began to offer CellForce at a cost savings as a means of combating the lower cost Daramic deep-cycle separator. (McDonald, Tr. 3949).

426. In response to the competition from Daramic’s HD separator, Microporous developed the CellForce separator and offered to sell it to U.S. Battery. (Wallace, Tr. 1952-1953). Prior to US Battery’s use of HD Microporous had not offered it CellForce for deep-cycle application. (Wallace, Tr. 1953).

427. U.S. Battery approved the purchase of CellForce and planned to purchase this new brand of separators from Microporous. (Wallace, Tr. 1977).

