

UNITED STATES OF AMERICA
BEFORE THE FEDERAL TRADE COMMISSION



In the Matter of)
)
Polypore International, Inc.,)
a corporation.)
_____)

PUBLIC

Docket No. 9327

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I. Jurisdiction

1. Daramic is, and all times relevant herein, has been engaged in "commerce" as defined in Section 1 of the Clayton Act, as amended, 15 U.S.C. § 12, and is a corporation whose businesses are in or affect "commerce" as defined in Section 4 of the Federal Trade Commission Act, as amended, 15 U.S.C. § 44. (RX01589 at 003).

II. Background

A. Overview of Transaction

2. On February 29, 2008, Daramic Acquisition Corporation, a subsidiary of Polypore, acquired 100% of the outstanding stock of Microporous Holdings Corporation, the parent of Microporous, from Industrial Growth Partnes II L.P. ("IGP") and other stockholders. (RX01589 at 003; PX0162 (Stock Purchase Agreement, *in camera*)).

B. Parties

1. Polypore competes in the flooded lead acid battery separator industry through its Daramic business unit
3. Polypore International, Inc. ("Polypore") is a leading global high technology filtration company that develops, manufactures, and markets specialized microporous membranes used in the separation and filtration processes. (PX2160 at 006). Its products and technologies are used in two primary segments, energy storage and separation media. (PX2160 at 006). The energy storage business accounted for approximately 74% of Polypore's \$610.5 million of 2008 fiscal net sales. (PX2160 at 006, 028).
4. The energy storage segment includes two businesses – [REDACTED] (PX0901 (Toth, Dep. at 22), *in camera*). The name of the electronics business is Celgard, which makes lithium ion separators for small electronics. (Toth, Tr. 1498-1499). The name of the transportation and industrial business is [REDACTED] (PX0901 (Toth, Dep. at 28-29), *in camera*).
5. Polypore's separation media segment and its lithium ion electronics business segments are not at issue in this matter.
6. Daramic is the business unit in Polypore that manufacturers and sells separators for flooded lead-acid batteries. (Hauswald, Tr. 661). Daramic contributes about half of the revenues to Polypore. (Toth, Tr. 1386; *see also* (Hauswald, Tr. 1159 (More than half of Polypore's business is Daramic in terms of dollars.); PX0908 (Amos, Dep. at 111), *in camera* (Daramic represents approximately [REDACTED]% of Polypore's revenue)).
7. Daramic has three manufacturing facilities in the United States which make PE separators - Owensboro, Corydon, and Piney Flats. In addition, Daramic has PE separator

manufacturing facilities in Feistritz, Austria; Prachinburi, Thailand; Tianjin, China; Bangalore, India; Selestat, France; and Potenza, Italy. (Hauswald, Tr. 711-13; PX0582 at 018).

8. Daramic has a history of acquiring separator plants. In approximately 1999, Daramic acquired a plant that produces SLI separators from Exide, a large battery manufacturer. (Gilchrist, Tr. 319-320). Later, Daramic acquired Jungfer, an Austrian separator manufacturer which, in addition to selling PE separators to European battery manufacturers, sold polyethylene manufacturing lines to other separator manufacturers. (Gilchrist, Tr. 320-21).

2. Microporous

9. Microporous Products L.P., ("Microporous" or "MPLP") was a leading developer, manufacturer, and marketer of highly specialized rubber and polyethylene battery separators for use in lead-acid batteries. (PX0131 at 008). Michael Gilchrist was President and CEO of Microporous. (PX0131 at 009). Prior to the acquisition of Microporous by Daramic, Microporous's management team had more than 170 years of aggregate industry experience with an average of more than 10 years service with Microporous. (PX0131 at 009).
10. Microporous is a subsidiary of Microporous Holding Corporation, a Delaware corporation. (PX0162 at 005, *in camera*). Microporous Products, GmbH, an Austrian registered company, is a solely owned subsidiary of Microporous. (PX0611 at 003).
11. Microporous was the successor of a company called American Hard Rubber, which produced rubber separators and other products in New Jersey beginning in the early 1930's. In the early 1950's, Amerace Corporation acquired American Hard Rubber. Microporous was formed in the mid-1980's as a result of a leveraged buy-out by a management group occurring around the time that another firm bought Amerace's other product lines. (Gilchrist, Tr. 313-315).
12. Microporous sold three brands of battery separators: i) Flex-Sil which was predominantly used in deep-cycle batteries; ii) Ace-Sil which was used in high-end stationary applications (*i.e.*, industrial batteries); and iii) CellForce which, at the time of the acquisition, was predominantly used in deep-cycle and motive power batteries. (Gilchrist, Tr. 300-301).
13. Prior to the acquisition, Microporous owned plants at Piney Flats, Tennessee and Feistritz, Austria. The plant in Piney Flats includes a building for the manufacture of Flex-sil and Ace-Sil, and an adjoining building for the manufacture of CellForce. The two buildings have never operated "independently." (Gaugl, Tr. 4641). At the Piney Flats plant facility, Microporous operated three production lines - one line for each of its

three products (*i.e.*, Flex-Sil, Ace-Sil and CellForce). (Gilchrist, Tr. 311; *see* PX0078, *in camera*).

14. Microporous employed seven or eight employees in its lab and testing facility at its Piney Flats location. (Gilchrist, Tr. 326). Having a lab and testing facilities was imperative to MPLP's ability to compete in the marketplace. (Gilchrist, Tr. 327-328).
15. Prior to the acquisition, Microporous had about 15 employees at its Feistritz facility. As the facility moved into full production mode, Microporous anticipated having up to 40 employees at the facility. (Gilchrist, Tr. 333-334).

III. Product Markets

A. Flooded Lead Acid Battery Separators Generally

16. Battery separators prevent electrical shorts in flooded batteries by insulating the positive and negative plates. The rubber or polyethylene material in the separators is microporous (*i.e.*, contains very small holes) and facilitates the movement of electrical current between the battery's plates. (Gilchrist, Tr. 304-305; Benjamin, Tr. 3504; PX0078 at 003).
17. A flooded lead acid battery is one that contains an electrolyte liquid in it. When the battery is charged or discharged, the liquid tends to evaporate because it creates H₂O in the gas bubbles, which evaporates and requires adding additional water. (Godber, Tr. 147). Flooded batteries lose water continuously through gassing. Proper battery maintenance requires the addition of water, so that the water level stays above the battery plates. (Brilmyer, Tr. 1854-1855).
18. Flooded lead acid batteries are different from valve-regulated and AGM technology. (Douglas, Tr. 4052-53). Flooded batteries have electrolyte freely flowing while valve-regulated batteries use an absorbed glass mat that absorbs the acid like a thick toilet tissue so there is no free acid in the battery. (Douglas, Tr. 4053-54). AGM batteries, *i.e.*, absorbed glass mat, are not flooded acid batteries. (Wallace, Tr. 1978).
19. AGM separators are more expensive than PE battery separators. (Gillespie, Tr. 2982).

1. Physical Distinctions Affect Performance

20. Battery separators are differentiated by various characteristics including: ingredients (*e.g.*, rubber, polyethylene), rib spacing, backweb thickness, border areas, and finishing characteristics (*i.e.*, delivered in large rolls or cut into smaller flat sheets). (Gilchrist, Tr. 352, 364-366). Many types of batteries have performance specifications that require a unique function or feature for the separator. Hence, battery separator manufacturers make different separator products or brands, each of which is suitable for particular applications. (Gilchrist, Tr. 350-351; Brilmyer, Tr. 1829, 1831).

i) Formulations

21. Battery separators are distinguished by additives that serve a variety of functions and are added to the PE base according to the requirements of specific battery applications. (Whear, Tr. 4667-4668).
22. Daramic's PE separator types are all chemically and physically tailored to perform in specific applications based on the function of the battery in which the separators are contained. (Whear, Tr. 4681-4682).
23. There are certain chemical properties of the separator that will require greater or emphasis depending on the specific application. (Whear, Tr. 4782). The specific formula of separator is set according to the needs of the customer. (Whear, Tr. 4782).
24. In industrial applications, both UPS and motive power, the PE separators are made using a special "clean" oil that reduces the presence of black scum, which can interfere with the proper maintenance and function of these types of batteries. (Whear, Tr. 4807; PX0582 at 050).
25. The Clean Oil that Daramic uses is patented by Daramic. (Whear, Tr. 4807).

ii) Thickness

26. Separators with different backweb thicknesses perform differently. (Leister, Tr. 4041-4042). You cannot have a separator with a thinner backweb perform in the same manner as a separator with a thicker backweb. (Leister, Tr. 4042).
27. For example, East Penn does not use separators with the same backweb thickness in both motive and deep-cycle applications. (Leister, Tr. 3982). For motive power, East Penn specifies a backweb thickness of 0.020 as the minimum thickness, while East Penn's deep-cycle batteries use 0.012-0.013 thicknesses. (Leister, Tr. 3996). There is also no overlap between the backweb thicknesses of separators that East Penn purchases for use in motive power batteries with those that it purchases for automotive batteries. (Leister, Tr. 4021, 3982).
28. Swapping separators of the same backweb thickness would affect the life and performance of the battery because in addition to backweb thickness there are other properties within a separator that impact on the performance of the battery. (Leister, Tr. 4023). These variations in separator properties include electrical resistance, puncture resistance and oxidation resistance, all of which are important in determining which separator to use in any particular end use application. (Leister, Tr. 4023-4024).
29. For example, East Penn might have a very limited overlap in the backweb thicknesses of certain large eighteen wheeler truck SLI separators and some of its deep-cycle separators. (Leister, Tr. 4022). However, if East Penn were to take the separators in the eighteen-

wheeler and place them in a deep-cycle battery it would devalue the deep-cycle battery by shortening the life of the battery. (Leister, Tr. 4022-4023).

iii) Applications

30. The following flooded battery applications use different types of separators: deep-cycle, SLI or automotive, motive and UPS batteries. (Gilchrist, Tr. 351-352). Daramic categorizes its separator sales by general categories such as Automotive, Industrial, HDDC, and Specialty. (Hauswald, Tr. 676-677; *see also* PX0582 at 031).
31. Trojan has never considered using motive power construction in its deep-cycle batteries because they are so much smaller and there is not enough space for all of the insulation. (Godber, Tr. 146). Moreover, the cost of the insulation does not make it cost-competitive as the applications in which deep-cycle batteries are used do not require that length of life. (Godber, Tr. 146).
 2. Separators are not substitutable for different end use applications
32. Misapplying the battery separators would "change the way [the battery] works. . . [and] change the life of the battery. . .". (Whear, Tr. 4683).
 3. Producers can price discriminate by end use applications
33. PE separator manufacturers know the end use applications of the separators they sell. { [REDACTED] } (Weerts, Tr. 4504, *in camera*).
34. Daramic keeps track of the sales of its products. (Hauswald, Tr. 676). Daramic keeps track of whether the separator is sold in the United States or elsewhere. (Hauswald, Tr. 677).
35. Daramic has sufficient information regarding the applications for its products that it is able to provide information regarding the demand for each type of application, including deep-cycle, motive power, reserve power, and SLI. (PX0395 at 019, *in camera*; Burkert, Tr. 2336).
36. At MPLP Mr. McDonald tracked revenue numbers based on application. (RX01120, *in camera*; McDonald, Tr. 3895-3896, *in camera*).
37. Daramic is aware of the end use applications for the separators it sells. For example, Daramic has an agreement with { [REDACTED] }

[REDACTED] } (Roe, Tr. 1355, *in camera*).

- 38. Daramic was aware of the locations and end use applications where its separators would be used by Exide in its response to Exide's RFP. (Gillespie, Tr. 3013-3014, *in camera*).
- 39. Daramic is aware that certain backweb thicknesses are typically used in particular types of end use applications. (Roe, Tr. 1308). Customers often request a specific backweb thickness when ordering a separator from Daramic. (Roe, Tr. 1308-1309). Daramic tracks the backweb thickness of all separators that it sells in the AFS database. (Roe, Tr. 1309-1310).
- 40. When EnerSys provides technical specifications to a separator manufacturer, those specifications convey the type of battery and even the nomenclature of the battery. For example, when EnerSys provided its specifications to [REDACTED] the drawings noted that it was a request for a [REDACTED] with certain attributes. (Gagge, Tr. 2523, *in camera*).
- 41. Mr. Gagge is not aware of a single instance in which a separator manufacturer did not know for what battery its separator was intended. (Gagge, Tr. 2524, *in camera*). EnerSys conveys the intended battery application to the separator supplier so that the supplier can assist EnerSys in choosing the appropriate separator characteristics. (Gagge, Tr. 2524, *in camera*).
- 42. Daramic can discriminate by end use to EnerSys because EnerSys manufactures specific batteries at specific facilities. In Richmond, Kentucky, it manufactures a tubular-plate motive power battery. (Axt, Tr. 2099-2100). In Ooltewah, Tennessee, it manufactures a flat-plate motive power battery. (Axt, Tr. 2099-2100). In Monterrey, Mexico, it manufactures a flat-plate motive power battery and Mexican telecom batteries, and in Hays, Kansas it produces flooded batteries for the telecom and UPS industry in addition to battery backup for utilities. (Axt, Tr. 2099-2100).
- 43. Separator suppliers work with battery manufacturers to design and make sure that the separators it is using work well with all of the components of the battery in order to meet the customer's end use application. (Gillespie, Tr. 2932).
- 44. In developing a new separator product for battery manufacturers, it is necessary to know for what application the battery is intended. In Dr. Brilmyer's position as Director of R&D, he insisted upon knowing the application that his separators would serve before a developmental separator project could be green-lighted. From his perspective such knowledge is essential. (Brilmyer, Tr. 1828-1829).
- 45. Daramic actually suggests specific separators for specific applications. [REDACTED]

i) Arbitrage will not defeat price discrimination by end use application

53. Arbitrage will not occur because separators are manufactured for customer specific designs. EnerSys cannot resell UPS separators to other manufacturers because they are made for EnerSys design and "there is no other market for them." (*Burkert*, Tr. 2326; 2399). At one time EnerSys asked its sales person, Randy Hanschu, if Daramic could take back some separators and resell them. (*Burkert*, Tr. 2328). Mr. Hanschu informed EnerSys that no other customer used the same material and he could not resell it. (PX1257 at 001; *Burkert*, Tr. 2330).
54. When EnerSys sought to return motive separators to Daramic, Daramic responded that "[e]very industrial motive power customer wants their specific size. For one reason or another company X believes they need a separator ½" aller than EnerSys." (PX1275 at 001).
55. During the Ownsboro strike, EnerSys was only able to find one common separator in the Feistritz plant that could be used for one of its batteries in Mexico. (*Burkert*, Tr. 2333). The cost of the separator was approximately 20 percent more because EnerSys had to pay in euros, stock, carry, and freight the material to Mexico. The duties that EnerSys had to pay from Austria were approximately 6.5 percent. (*Burkert*, Tr. 2402).

B. Product Markets Generally

56. Dr. Simpson opined that deep-cycle, motive, UPS and SLI are all product markets. (Simpson, Tr. 3170-3171). "[T]he starting point for defining the product market would be to look at the particular separators that are sold and ask what are the substitutes for these." (Simpson, Tr. 3173-3174). Because battery manufacturers design a battery for a particular application, and the separator plays a significant role in the performance characteristics of the battery, battery manufacturers have little discretion to shift among different battery separators. Thus, according to Dr. Simpson, demand for a small set of battery separators suitable for a particular battery design would be highly inelastic. (Simpson, Tr. 3414, *in camera*).
57. Applying the Merger Guidelines hypothetical monopolist test here, Dr. Simpson noted that since the demand curve was highly inelastic, a price increase would be profitable regardless of the contribution margin. (Simpson, Tr. 3414, *in camera*). Even Dr. Kahwaty conceded that demand for separators used in deep-cycle batteries is inelastic. (Kahwaty, Tr. 5317, *in camera*).
58. When Guidelines market analysis leads to many very small product markets - in some cases specific to a particular buyer - it makes sense to aggregate these very narrow product markets into broader ones where the market conditions (e.g., entry conditions,

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] } (Gilchrist, Tr. 458-459, *in camera*; PX0395, *in camera*). At that meeting, attendees agreed that { [REDACTED] } (Gilchrist Tr. 461-463; PX395, *in camera*).
61. Daramic's Strategy Audit states there are "[n]o substitutes for PE separators on the horizon." (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).

66. Deep-cycle batteries are distinct from SLI batteries. SLI batteries are used to start an engine, whereas "deep-cycle batteries are designed to run at relatively lower current draw for a long period of time, such as driving a golf cart, scissor lifts, floor-sweeping machines." (Qureshi, Tr. 1994).
67. Both deep-cycle and motive batteries are cycling batteries. (Roe, Tr. 1197). However, deep-cycle batteries are differentiated from motive power batteries in that deep-cycle batteries are more deeply discharged. (Roe, Tr. 1197).
68. The components of deep-cycle batteries differ from an SLI battery. Deep-cycle batteries use a high-antimony lead alloy grid and use high-density active material that takes longer to fall apart. (Qureshi, Tr. 1995). The positive lead alloy grid at U.S. Battery has an antimony content of 5% and the negative grid has an antimony content of 2.75%. (Qureshi, Tr. 1998). SLI grids have much lower antimony content or none at all. (Qureshi, Tr. 1996). Also the grid for a deep-cycle battery is generally thicker than that of an SLI battery. (Qureshi, Tr. 1997).
69. A key component to deep-cycle batteries is the separator. The separator reduces antimony transfer which can cause antimony poison. (Godber, Tr. 139). The reduction of antimony transfer is important property for separators used in deep-cycle batteries. (Leister, Tr. 4039). The separator plays an important role in scavenging or tying up the antimony in the electrolyte, preventing it from going to the negative plate. (Qureshi, Tr. 2004).
70. U.S. Battery uses leaf separators for all its deep-cycle batteries and assembles the plates and separators by hand. (Qureshi, Tr. 2035-36). While it has an enveloping machine that it could use to automate the deep-cycle battery manufacturing process when using HD separators, U.S. Battery has determined that through testing and experimentation that enveloped separators do not work well in deep-cycle batteries "[b]ecause the shed material falls to the bottom and creates punctures and the shed material rises to the top and prematurely creates internal shorts against the strap." (Qureshi, Tr. 2035).
71. In a deep-cycle battery, the lead and lead oxide are the most expensive components. (Qureshi, Tr. 1993). The separator is the next most expensive component. (Qureshi, Tr. 1993).

i) Role of Antimony

72. Antimony plays two functions in the deep-cycle batteries. (Qureshi, Tr. 2001). The first one is that antimony hardens the lead to make it easier to handle and assemble. (Qureshi, Tr. 2001). In deep-cycle batteries the positive plate has an antimony alloy. The antimony helps cast the plate by increasing the flow of the molten lead that is poured into the grid mold. Antimony also prevents corrosion in a cycling application as well as creating better adhesion on the grid for active material flow. (Godber, Tr. 139).

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, *in camera*). Flex-Sil includes rubber in a solid form, the rubber makes up about 40% of the separator's content. (Hauswald, Tr. 673).

b. Rubber/PE Hybrid (CellForce and HD)

80. In other Daramic products, such as Daramic HD or CellForce, the separator is made from PE for its increased strength and incorporates a rubber additive. (Hauswald, Tr. 664; PX1791 at 001, *in camera*). Daramic HD includes rubber in the form of latex, which is added in a liquid form. (Hauswald, Tr. 671-672).
81. The HD latex additive allows HD to perform similarly to rubber separator in a way that straight PE separators cannot. (Whear, Tr. 4806; PX0582 at 046). Daramic HD contains uncrosslinked rubber material in order to retard antimony poisoning affects. (PX0675 at 013).
82. CellForce includes rubber in the form of ground-up Ace-Sil, which is added in a powder form. (Gilchrist, Tr. 312; Hauswald, Tr. 672; PX0798). CellForce is used in deep-cycle batteries. (Gilchrist, Tr. 360-361).
83. Daramic HD is typically available in backweb thicknesses of between 13 to 15 mils. (Whear, Tr. 4806; PX0582 at 046).
84. Deep-cycle batteries require separators containing rubber or latex to suppress antimony poisoning. (PX1791 at 001; PX0072 at 020; PX0798).

2. PE Separators do not work in Deep-cycle

85. Pure PE separators do not work for deep cycling applications. (Hauswald, Tr. 666; PX1124). Separators made of pure polyethylene are not able to suppress antimony. (Qureshi, Tr. 2005).
86. Polyethylene separators and other inert materials are not suitable for deep-cycle batteries, which expand and contract the grid of a separator when the battery cycles through charges and discharges. Because antimony is used for the grid in deep-cycle batteries, the separator material must inhibit the antimony from leaching and collecting on the negative battery plate. Rubber based separators inhibit the leaching of antimony well. (Gilchrist, Tr. 365).
87. While it is physically possible to put a typical car battery into a deep-cycle application, the battery life would be extremely short. (Godber, Tr. 150-151). Trojan has tested straight PE separators in its deep-cycle products "off and on, and they just don't last." A PE separator in a deep-cycle product would drastically reduce the life of the battery to about 20 percent of what it would be if rubber was used. (Godber, Tr. 151). Polyethylene separators give substantially less number of cycles, less than half of what U.S. Battery expects from its separators. (Qureshi, Tr. 2005).

88. U.S. Battery expects a deep-cycle battery in a golf cart use to go at least 600 or more cycles, which is defined as a charge/discharge. (Qureshi, Tr. 2005-2006). A pure polyethylene separator gives substantially less number of cycles, less than half of what U.S. Battery expects. (Qureshi, Tr. 2005). A pure polyethylene separator "would last perhaps 150 to 300 cycles." (Qureshi, Tr. 2005).
89. Exide does not use a straight PE separator in deep-cycle batteries because straight PE separators do not meet the performance criteria for those batteries. (Gillespie, Tr. 2933). In negotiations with Daramic and MPLP, Exide never threatened to switch to a straight PE separator. Doing so would not make sense as a straight PE separator in a deep-cycle battery would negatively impact the quality and reliability of the battery and would negatively impact on Exide's reputation. (Gillespie, Tr. 2933-2934).
90. Trojan has never threatened to move business to a straight polyethylene separator to constrain the prices it pays for deep-cycle separators. (Godber, Tr. 154). Mr. Godber cannot recall any instances where Trojan successfully used PE as leverage in negotiations with Microporous. (Godber, Tr. 223).
91. All of Daramic's deep-cycle separator products function in a similar way, and differently from how pure PE performs, in terms of their performance for golf car applications, as shown in Daramic's technical bulletin on golf car battery separators. (Hauswald, Tr. 664, 666; PX1791 at 001).

3. Other Technologies do not work in deep-cycle

92. A PVC/silica separator is not a competitor in the deep-cycle market because it does not provide antimony suppression. (PX0319 at 007; *see also* Gagge, Tr. 2520, *in camera*).
93. Exide will not use PVC in deep-cycle batteries. PVC separators do not work well in deep-cycle batteries because PVC is [REDACTED] } (Gillespie, Tr. 3042, *in camera*).
94. Sealed batteries using AGM separators do not perform well in golf cart and floor scrubber applications. (Roe, Tr. 1208; Gilchrist, Tr. 366). AGM does not work well in deep-cycle batteries because use of AGM can result in the shedding of lead particles in a deep-cycle battery which could penetrate the AGM separators, according to a former VP of worldwide technology at [REDACTED] } (PX0433 at 002; PX0911 (Roe, Dep. at 118-120, *in camera*)). Bob Cullen of H&V does not foresee wide-scale use of AGM in deep-cycle batteries in his lifetime. (PX0433 at 002).
95. Sealed batteries last about 50% to 75% of what a good deep-cycle battery would last. (Godber, Tr. 147-148). In other words, flooded deep-cycle batteries have a 25 to 50 percent longer life than a sealed battery. (Godber, Tr. 149). Sealed batteries are more expensive than flooded deep-cycle batteries. AGM batteries cost approximately 30%

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] } batteries. (PX0922 (Roe, IHT at 54)). Similarly, Daramic documents refer to a { [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). 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

available alternate product for their deep-cycle batteries. (Roe, Tr. 1223). Only by purchasing Flex-Sil was Exide able to avoid a supply interruption during the strike. (RX01260). In purchasing Flex-Sil in place of HD during the strike, Exide paid a premium for the Flex-Sil separators rather than switch to any alternate type of separator for use in their golf cart batteries. (Roe, Tr. 1223). Additionally, by switching from HD to Flex-Sil during the strike, Exide had to forego the credit towards its shortfall payments to Daramic that it was otherwise due under its contract with Daramic. (RX01260).

D. Motive Separators are a Product Market

110. The market for motive power battery separators is a product market. (Simpson, Tr. 3170-3171).

1. Product Characteristics

i) Thicker than other separators

111. Motive batteries are extremely large and serve as counterweights in the design of industrial vehicles and are among the largest batteries made. (PX2110 at 35). Motive batteries are much larger than deep-cycle batteries and their construction is much more robust. Instead of plastic, motive batteries use a steel tray and glass mat is wrapped around the plate. (Godber, Tr. 142).

112. Motive batteries must be able to withstand at least five years of use as that is the typical warranty on a fork lift battery. (Godber, Tr. 142). Motive batteries tend to corrode like the deep-cycle, but the grids are a lot thicker and it takes longer to corrode. (Godber, Tr. 142). In addition, the positive plate is surrounded with a lot of insulation and glass mat, so that none of the material can get out and short. (Godber Tr. 142). The glass mat and insulation used in motive batteries is very expensive and is not a cost-effective option for deep-cycle batteries. (Godber, Tr. 142-143).

113. Motive battery separators are so much thicker than other separators that Daramic has to allocate a particular part of its plant capacity for it. (Hauswald, Tr. 708-709).

ii) Unique Formulations

114. For traction batteries, Daramic sells a product called Daramic Industrial CL. (Hauswald, Tr. 681). Daramic CL is specifically designed for use in motive power applications. (Roe, Tr. 1327). Daramic CL is a standard PE separator that utilizes clean oil as an ingredient. (Roe, Tr. 1327).

115. CellForce, a PE-based separator with a rubber additive (*i.e.*, Ace-Sil dust) is used in motive batteries. (Gilchrist, Tr. 385).

2. End use applications

116. Motive power batteries are batteries used primarily in fork trucks. (Gilchrist, Tr. 306-307; Axt, Tr. 2097; Hauswald, Tr. 708; Godber Tr. 142). Motive power batteries must provide a low, steady power source over a much longer period of time than light duty deep-cycle batteries. (PX0319 at 008). The vast majority of demand for motive power is limited to two geographies: North America and Europe. (Gilchrist, Tr. 399).

3. Respondent recognizes motive separators as a distinct market in documents

117. Respondent's documents analyze competition in the context of a market for motive battery separators. (PX0080 at 021, *in camera*; PX0131 at 030-031, 035, 062-065; PX0395 at 025, *in camera*; PX0506 at 001-002, 004-005, *in camera*).
118. At Polypore's January 11, 2006 Board of Director's Meeting, the board document referred to the markets as motive, deep-cycle, and SLI, among others. (PX0042 at 012, *in camera*).
119. Microporous's former owners wrote that [REDACTED] } (PX1124 at 2; *See also, e.g.,* (PX0072 at 020; PX0185 at 006).
120. A Daramic marketing flyer describes the motive market as follows:

the requirements for traction batteries in respect of mechanical properties and chemical stability are considerably higher than for starter separators. [A] forklift battery is typically operated for about 40,000~50,000 hours in charge – discharge service whereas a starter battery only for 2000 hours. The requirements as to electrical resistance are lower because of the typically low current densities for traction batteries. *These differences are reflected in the design of the modern traction battery separator material.* (PX1790 at 001 (emphasis added)).

4. PVC is not an alternative in North America

121. Battery manufacturers in North America have shied away from using PVC separators in recent years due to certain disadvantages of PVC as compared to PE separators. PVC is less stable than PE due to the fact that chlorine that can be released by the PVC separators into the battery. (PX0916 (Dauwe, Dep. at 22)). While Amer-Sil would like to eliminate the chlorine release, it is impossible for Amer-Sil to entirely prevent the chlorine release associated with the use of PVC separators. (PX0916 (Dauwe, Dep. at 125)).

122. Daramic's own documents detail the problems with PVC, stating that "In North America and Western Europe, sintered PVC separators are never used in motive power applications. Batteries with sintered PVC separators will not meet the demanding performance and cycle life applications (the battery is required to achieve a minimum life of 4 years under arduous deep-cycle duty." (PX1790 at 002).
123. { [REDACTED] } where the application is more heavy-duty. (Axt, Tr. 2307, *in camera*).
124. Amer-Sil has taken certain steps to improve the stability of the PVC separators { [REDACTED] } (PX0916 (Dauwe, Dep. at 122, *in camera*)) { [REDACTED] } (PX0916 (Dauwe, Dep. at 88), *in camera*) { [REDACTED] } (PX0916 (Dauwe, Dep. at 158, *in camera*)).
125. PVC is also more brittle than PE, and therefore unlike PE separators, PVC cannot be used in batteries that use a sleeved or enveloped separator. (PX0916 (Dauwe, Dep. at 22-23)).

5. Demand for motive separators is inelastic

126. If Daramic threatened to cut { [REDACTED] } off if it did not pay a { [REDACTED] } increase in price for its separators, { [REDACTED] } would have no choice but to pay because there are no alternatives available to Daramic. (Craig, Tr. 2567, *in camera*).
127. Daramic is currently seeking a price increase of approximately { [REDACTED] } from EnerSys. (Craig, Tr. 2552, *in camera*). If { [REDACTED] } has to pay that price increase worldwide, customers will not switch to alternative technologies for their motive or UPS batteries. (Craig, Tr. 2552-2553, *in camera*). A small change in the price of separators would not change the dynamics of the battery market. (Craig, Tr. 2553, *in camera*).
128. A { [REDACTED] } increase in Daramic's battery separator prices would have very little impact on the price of a motive or UPS battery. (Craig, Tr. 2553-2554, *in camera*).
129. There is no motive separator technology available to motive customers for a small but significant and non-transitory increase in price. Daramic is currently seeking price increases from EnerSys of { [REDACTED] } (Axt, Tr. 2212, *in camera*; RX00564 at 001). Despite these price increases, EnerSys { [REDACTED] } (Axt, Tr. 2220, *in camera*). Motive battery manufacturers { [REDACTED] } (Axt, Tr. 2220, *in camera*).

130. When EnerSys used Amer-Sil PVC separators in Europe during Daramic's declared force majeure in 2006, they were 20 percent more expensive than the PE that EnerSys was buying from Daramic. (Axt, Tr. 2102).
131. A UPS battery like PX3002 costs EnerSys approximately { } to make. (Craig, Tr. 2553, *in camera*). The cost of the separator is approximately { } percent of the cost of the battery. (Craig, Tr. 2553, *in camera*). EnerSys sells this battery for approximately { } (Craig, Tr. 2553, *in camera*). Using { } percent as a percent of cost for ease of calculation, the cost of the separators in the battery are approximately { } and a { } percent increase would be approximately { } (Craig, Tr. 2554, *in camera*). If EnerSys passed this price increase on, the price of the battery would increase by only { } percent. (Craig, Tr. 2554, *in camera*). The figures for motive batteries are slightly different, but the result is the same. (Craig, Tr. 2554, *in camera*).
132. EnerSys would likely eat a { } percent price increase rather than destroying customer relations by giving them the impression that EnerSys was "nickel-and-diming" them. (Craig, Tr. 2554, *in camera*).

E. UPS Separators are a Product Market

133. The market for UPS battery separators is a product market. (Simpson, Tr. 3170-3171).
134. Microporous documents analyze competition in the context of a market for UPS battery separators. (PX0078 at 028, *in camera*; PX0135 at 002, *in camera*; PX0140, *in camera*; PX0402 at 022, *in camera*).
1. Product Characteristics
135. An uninterruptible power supply or source ("UPS") battery is designed to be used as a backup power source usually for computer systems. (Brilmyer, Tr. 1832; Roe, Tr. 1736-1737; *see also* Axt, Tr. 2099). In the event of a power failure, the UPS batteries are designed to provide a quick burst of energy between 5 to 30 minutes in duration. The batteries are typically built using clear cases that allow for the easy visual inspection and maintenance of electrolyte levels within the battery. These batteries need to be trustworthy and are generally rated at 15 to 20 year life span. (Brilmyer, Tr. 1833).
136. Classic reserve power batteries generate a low current over a relatively long period of time, while UPS batteries, a type of reserve power battery, generate a higher current over a shorter period of time. (Gilchrist, Tr. 305-306).
137. UPS batteries are very dependable batteries lasting 15-20 years and provide short bursts of power for five minutes to 30 minutes when used. They have thick plates and typically a clear case that facilitates the inspection of the battery's acid level. (Brilmyer, Tr. 1833).

2. Special Formulations

138. UPS battery separators are typically made of PE, *i.e.*, microporous polyethylene. (Brilmyer, Tr. 1833). Specifically, for the stationary UPS applications the separators have lower overall oil content than separators built for other applications in order to further reduce the presence of black scum. (Whear, Tr. 4713-4714).
139. Black scum interferes with the efficient maintenance of a flooded UPS battery where the case of the battery is clear by obscuring the line indicators used to visually inspect and maintain the acid levels within the battery. (Brilmyer, Tr. 1852-1855).
140. The black scum problem also presents itself in battery applications where an automatic watering system is employed. Here the scum can clog the float bob mechanism used to trigger the watering system thus preventing the proper maintenance of water level within the battery. (Brilmyer, Tr. 1852-1853).
141. Daramic starting working on the black scum problem in the early 1990's. (Whear, Tr. 4710). During the early test work Daramic discovered a type of oil that would reduce the scum formation. (Whear, Tr. 4710-4711). Later Daramic began to adjust the amount of residual oil left in the separator in further effort to address the black scum issue but neither the new oil nor the reduced overall oil content initiatives completely eliminated the presence of black scum. (Whear, Tr. 4713-4714).
142. Not all PE separator products are appropriate for UPS battery application. Daramic has different separators designed for different uses. For instance, "Daramic HP is a PE product made by Daramic, not for UPS products. It's a high puncture resistance product made for the automotive industry." (Brilmyer, Tr. 1915).
143. Daramic CL was made for industrial applications where scum formation was a potential problem. (Brilmyer, Tr. 1834).
144. Using the HP PE separator in a UPS application would lead to a much greater scum issue than using Daramic CL. (Brilmyer, Tr. 1922).
145. Daramic's DARAK separator, which is used in industrial batteries largely in Europe is a unique separator that is stiff, very chemically stable, and contains no oil. It is not a PE separator product. (Brilmyer, Tr. 1864, 1911).
146. CellForce, a PE-based separator with a rubber additive (*i.e.*, Ace-Sil dust) can be used in UPS batteries. (Gilchrist, Tr. 397-398).

F. SLI Separators are a Product Market

147. The market for SLI battery separators is a product market. (Simpson, Tr. 3170-3171).
148. Respondent's documents analyze competition in the context of a market for SLI battery separators. (PX0080 at 060, *in camera*; PX0088 at 001; PX0131 at 031-032; PX0402 at 012, *in camera*; PX0506 at 001-002, *in camera*; 006-007, *in camera*).

1. Product Characteristics

149. SLI batteries are batteries used in automobiles. (Gilchrist, Tr. 307). SLI is an acronym for starting, lighting and ignition. (Brilmyer, Tr. 1831).
150. For the SLI application, the PE separator is enhanced to provide superior (lower) electrical resistance and puncture resistance. (Whear, Tr. 4682, PX0913 (Whear, Dep. at 14, *in camera*)).
151. SLI separators must also have a very low electrical resistance ("ER") to provide the surge in current. (PX0913 (Whear, Dep. at 16, *in camera*); PX0669 at 004, *in camera*, 019, *in camera*).
152. Daramic uses the term "SLI" to differentiate between other types of separators in its business. (Whear, Tr. 4761). Within the SLI category 90 percent of sales in North America are of separators between six and ten mils in thickness. (Whear, Tr. 4762).

2. Physical Distinctions Affect Performance

153. Daramic HP represents the majority of Daramic's sales of SLI separators. (Whear, Tr. 4805). The typical backweb thickness for this separator ranges from .150mm to .200mm. (Whear, Tr. 4805, PX0582 at 044).
154. Daramic Standard is not advertised to the SLI market due to the fact that at the typical overall thicknesses prevailing in the SLI market Standard PE would not have sufficient puncture resistance necessary to prevent damage to the separator during battery production. (Whear, Tr. 4804-4805; PX0582 at 041-042).
155. [REDACTED] } (PX0913 (Whear, Dep. at 26, *in camera*)).
156. CellForce can be used in SLI batteries and has some advantages because [REDACTED] } (Gilchrist, Tr. 440-441, *in camera*).

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); see PX0033 at 005 FN5 (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*).

165. { } determines the market price in each geographic region based in part on the competitive landscape that exists in each region. (PX0922 (Roe, IHT at 27, *in camera*); Roe, Tr. 1317-1318).
166. Even in global negotiations with Daramic, EnerSys received different prices depending on the geographic market. In November 2005, Daramic and EnerSys negotiated an energy surcharge that would { } (Axt, Tr. 2137-2138, *in camera*; RX00582, *in camera*).
167. Exide currently pays Daramic { } (Gillespie, Tr. 2998, *in camera*, 3060-3062, *in camera*).
168. The average price of an SLI separators sold in North America is \$0.70 per square meter. (Roe, Tr. 1313). Whereas in Europe the average price of an SLI separator is \$1.00 per square meter at today's exchange rates. (Roe, Tr. 1313-1314).
169. Daramic continues to price separators differently depending on the geographic region. In an { } Daramic offered different prices for comparable material in different geographic zones. (PX2296 at 005-006, *in camera*; Roe, Tr. 1792, *in camera*).

C. North American Customers Look to North American Suppliers for Separators

170. { } (Gillespie, Tr. 3036-3037, *in camera*).
171. { } (Gillespie, Tr. 3037, *in camera*).
172. North American suppliers export separators to customers overseas at a higher cost to both the supplier and the customers. For example, Microporous exported 75% of the CellForce separators that it produced at Piney Flats to Hawker/EnerSys facilities in Europe. (Gilchrist, Tr. 345). It shipped these separators to Hawker/EnerSys in containers at a freight cost of several thousand dollars per container. (Gilchrist, Tr. 599). It also took typically between 18-21 days to ship from North America to Europe. (Gilchrist, Tr. 595). MPLP also had to pay Hawker/EnerSys for warehouse space for consignment stock, so as to avoid supply shortages. (Gilchrist, Tr. 599).

1. Large North American customers expect worldclass suppliers

173. Exide believes that there are very few world-class separator manufacturers that are capable of providing separators to a large battery manufacturer such as Exide. (Gillespie, Tr. 2955-2958). In order for a separator supplier to be a viable option for supply of separators to Exide in North America, it must have: (i) the ability to provide quality separators that meet Exide's requirements on a consistent, reliable basis; (ii) technology to be able to provide for Exide's current and future needs; (iii) the infrastructure and wherewithal to supply a company of the size of Exide; (iv) sufficient capital to be able to make investments in R&D and equipment; (v) the logistical wherewithal to supply Exide's facilities on a global basis; (vi) pricing to meet Exide's commercial needs; (vii) the ability to provide year-over-year improvements in Exide's total costs; (viii) the ability to improve their own processes and methodologies to provide mutual gains to Exide and the supplier; and (ix) the ability from an engineering prospective to understand and develop separators capable of improving the performance of the batteries. (Gillespie, Tr. 2956-2958).

2. Local Supply a benefit to customers

174. It is a market advantage to be able to supply separators locally to battery manufacturers. (PX0582 at 018; RX01498 at 001, *in camera*). Daramic supplies customers locally in order to reduce the risk of supply chain disruption to the customer. (Hauswald, Tr. 724-725).
175. All PE SLI battery manufacturers in North America who buy separators from Daramic receive those separators from Daramic plants in the United States. (Hauswald, Tr. 716-717).
176. **Having a separator manufacturing plant located close to battery manufacturing plant allows for the technical support team to respond to the customers needs faster.** (PX0919 (Riney, IHT at 429, *in camera*)).
177. Global battery manufacturers want to eliminate long supply chains for battery separators in order to reduce their inventory, warehouse, and other costs associated with a reserve stock of separators, as well as increase their flexibility in ordering separators for their production lines. Customers want a consistent supply and to know the separator manufacturer will be around in five years. (PX0918 (Riney, IHT 36, *in camera*)). For example, instead of ordering separators a month ahead of time, they could order the separators several days before they would be used on the battery production line. (Gilchrist, Tr. 594-596).

178. A local separator supplier was more likely to respond quickly to any technical and quality issues relating to delivered separators. (Gilchrist, Tr. 594-96). [REDACTED] (PX0918 [REDACTED] (Riney, IHT at 196, *in camera*)).
179. Ocean transport is the most economic mode for transporting battery separators from Asia to the United States. (Hauswald, Tr. 723). In order to ship separators from China to the United States, they would have to travel six to eight weeks via ship. (Hauswald, Tr. 722-723).
180. Local supply is also an important factor that Daramic emphasizes in sales pitches to customers. (Roe, Tr. 1318-1319). For example, in a 2003 sales pitch to JCI, Daramic discussed the possibility of building a new plant in Brazil to supply JCI's Brazillian battery manufacturing plant on a local basis. (Roe, Tr. 1321; RX01188). Daramic believed that building a plant to supply JCI on a local basis would provide many advantages to JCI's business. (Roe, Tr. 1321). Those advantages included the avoidance of import duties and the need to carry less inventory, both of which would lower JCI's overall costs for separator purchases. (Roe, Tr. 1321-1322; RX01188 at 003).
181. In addition to the tangible price benefits of local supply, Daramic understood that local supply would be beneficial to JCI as it would facilitate Daramic's local sales managers and technical support personnel working with the customer on a weekly basis, along with Daramic support personnel fluent in the local language, all of which would provide added value to the customer as opposed to supply from a distant manufacturing location. (Roe, Tr. 1322-1324; RX01188 at 003).
182. JCI understood the value of local supply very well. { [REDACTED] } (PX0652; PX0924 (Jensen, Dep. at 94-95, *in camera*)). The offer was for \$10 per square foot while the land had a commercial value of "at least \$30 per SQM." (PX0652 at 001; PX0924 (Jensen, Dep. at 99, *in camera*)). This deep discount came from Entetec's strong interest in enticing Daramic to build a production line close to its facility. (PX0652 at 001 ("Enertec is not selling us land for the money; they are looking for a Brazil supplier.")). "Enertec is willing to sell us part of their land for two reasons, first they have a large site with no plans to use it for expansion and secondly they understand the advantage of a lower landed cost by having a battery separator plant near." (PX0653 at 001; PX0924 (Jensen, Dep. at 110, *in camera*)).
183. Similarly, in 2006, JCI worked to develop a new supplier in Asia to introduce new competition to that geographic region. (Hall, Tr. 2702). JCI looked at Anpei and BFR as possible new suppliers in Asia. (Hall, Tr. 2702-2703; PX1509 at 003, *in camera*). JCI believed that the addition of one or more new Asian suppliers would [REDACTED] } (PX1519 at 009, *in camera*). JCI's strategy with regard to BFR was [REDACTED] } (Hall, Tr. 2856, *in camera*, 2878, *in camera*)).

184. { [REDACTED] } (PX1522 at 004, *in camera*).
185. EnerSys prefers to have its separator suppliers to be located close to its plants, not necessarily next door, but “within a 50-mile radius.” (Axt, Tr.2108). EnerSys prefers to have local suppliers to reduce shipping costs, inventory carrying costs, freight forward fees, logistics, lead times, timeliness of supply, and duties. (Axt Tr. 2109, 2130). This is particularly true in Europe and North America where EnerSys does a lot of business. (Axt Tr. 2108). Even for its low-volume motive business in China, EnerSys is concerned about logistics. (Axt Tr. 2240-2241). However there is { [REDACTED] } (Axt, Tr. 2220, *in camera*).
186. Prior to the opening of Microporous’s Feistritz facility, EnerSys purchased CellForce separators from Microporous for its plants in Europe. (Axt, Tr. 2141-2142, *in camera*). However, this raised concerns for EnerSys because { [REDACTED] } (Axt, Tr. 2142, *in camera*; PX1200 at 002, *in camera*). { [REDACTED] } (Axt, Tr. 2142, *in camera*).
187. MPLP and EnerSys { [REDACTED] } (PX1200 at 001, *in camera*). { [REDACTED] } (Axt, Tr. 2141, *in camera*). { [REDACTED] }
[REDACTED]
(PX1200 at 002-003, *in camera*).
188. Logistic considerations including shipping costs to the customer, reductions in lead times as well as pure customer preference framed the basis of MPLP decision to expand into Europe. (Trevathan, Tr. 3709).
189. Battery manufacturers who purchase separators from local suppliers save on ocean freight costs. For example, after Microporous opened its Feistritz plant, Hawker/EnerSys no longer had to pay ocean freight costs of several thousand dollars per container to import CellForce separators from Piney Flats. (Gilchrist, Tr. 599). { [REDACTED] }

[REDACTED] }
(PX0905 (Gaugl, Dep. at 34-35, *in camera*)).

190. In the summer of 2007, East Penn was interested in getting a new battery separator competitor for local supply of PE SLI separators. (Leister, Tr. 4007). East Penn was looking for an alternate source due to the long lead times and added freight costs that East Penn faces when ordering PE SLI separators from Entek on the west coast. (Leister, Tr. 4008). The long lead times are an important issue for East Penn because shipments from Entek on the West Coast exceed East Penn's manufacturing time and necessitate East Penn's carrying additional supplies of PE separators at an added cost to East Penn. (Leister, Tr. 4008). The freight costs are an issue as well as East Penn incurs larger freight costs when obtaining supply from Entek. (Leister, Tr. 4008-4009). Freight and lead times are important components of East Penn's evaluation of separator suppliers as East Penn evaluates suppliers based on the total cost of doing business with a supplier, rather than on the list price of the separators. (Leister, Tr. 3986).
191. East Penn considers the ability to meet with separator sales representatives and engineers on a regular basis as an important component of its separator supplier considerations. (Leister, Tr. 4026).
192. East Penn is not currently seeking to obtain PE separators supplies from any Asian PE separator manufacturers. (Leister, Tr. 4035-4036). East Penn believes that obtaining PE separator supplier from Asia would be problematic as this would pose an even greater challenge to East Penn than does its current supply situation with Entek. (Leister, Tr. 4035).
193. East Penn approached Entek on multiple occasions about the possibility of Entek setting up an East Coast facility so that Entek could provide local supply to East Penn. (Leister, Tr. 4020-4021). Entek informed East Penn that Entek would take it under advisement, which East Penn understood to mean that Entek was not going to move forward with establishing an East Coast manufacturing facility. (Leister, Tr. 4021).
194. With Entek out of the picture for local supply, East Penn turned towards MPLP. (Leister, Tr. 4021). East Penn initiated conversations with MPLP about the possibility of MPLP supplying East Penn with PE SLI separators. (Leister, Tr. 4006-4007; PX0141). East Penn did so because it was seeking a new local supplier of PE SLI separators. (Leister, Tr. 4008).
195. { [REDACTED] } (Balcerzak, Tr. 4097, 4108, *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; 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. (Thuett, Tr. 4404-4405). The value-added tax includes a 12% charge on the

sale price of the separators that is non-recoverable for the separator manufacturer. (Thuét, Tr. 4405). This value-added tax has a negative impact on the direct manufacturing costs of battery separator manufacturers in China, including on Daramic's Tianjin joint venture facility. (Thuét, Tr. 4405).

206. { [REDACTED] } (Simpson, Tr. 3237-3238, *in camera*). { [REDACTED] } (Simpson, Tr. 3238, *in camera*). { [REDACTED] } (Simpson, Tr. 3238, *in camera*). Finally, { [REDACTED] } (Simpson, Tr. 3238, *in camera*).
- i) { [REDACTED] }
207. { [REDACTED] } (Roe, Tr. 1807; PX0907 (Kung, Dep. at 186-187, *in camera*)).
208. BFR faces a number of barriers to export of separators outside of China. Separators manufactured by BFR and exported out of China are subject to a non-refundable value-added tax ("VAT") of 12% which serves as a barrier to export. (Hall, Tr. 2717). The VAT is a "cost adder to product produced inside of China whose destination was outside of China." (Hall, Tr. 2717). { [REDACTED] } (PX1522 at 005, *in camera*; Hall, Tr. 2723-2725, *in camera*).
209. { [REDACTED] } (Hall, Tr. 2846-2847, *in camera*). Mr. Hall testified that he is aware that there are Chinese guidelines that allow a manufacturer to { [REDACTED] } (Hall, Tr. 2846-2847, *in camera*). { [REDACTED] } (Hall, Tr. 2846-2847, 2879, *in camera*).
210. Another barrier to export is the relative value of Chinese currency. (Hall, Tr. 2717-2718). The Chinese currency has strengthened since China unpegged its currency from the US dollar. (Hall, Tr. 2718). This strengthening of the Chinese currency has made BFR products more expensive to export because inputs such as labor are now more expensive relative to other currencies. (Hall, Tr. 2718-2719; *see also* PX1522 at 005, *in camera* { [REDACTED] }).

211. Yet another barrier to BFR's export of product from China are the freight costs associated with transporting separators from BFR's Chinese manufacturing facility to other countries. (Hall, Tr. 2721-2722).
212. Duties also serve as barriers to BFR export to certain countries. (Hall, Tr. 2721-22). For example, Mexico imposes duties on separators coming from China. (Hall, Tr. 2722). This is particularly significant for JCI who manufactures its golf cart batteries in a plant in Mexico. (Hall, Tr. 2665).
- a. { [REDACTED] }
213. { [REDACTED] }
(Hall, Tr. 2735, *in camera*; PX1522 at 005, *in camera*). { [REDACTED] }
{ [REDACTED] } (PX0907 (Kung, Dep. at 189, *in camera*)). Because Daramic operates large production lines, { [REDACTED] } (PX0907 (Kung, Dep. at 189, *in camera*)).
214. Mr. Hall performed a benchmarking analysis of BFR's cost structure to determine the viability of BFR's opportunity to export to JCI's Asian joint ventures. (Hall, Tr. 2716). The benchmark analysis performed by Mr. Hall is a comparison of costs for production of a separator between { [REDACTED] } (Hall, Tr. 2724, 2729, *in camera*).
{ [REDACTED] } (Hall, Tr. 2724, *in camera*).
215. In his procurement role, Mr. Hall regularly builds cost structures for key commodities like separators. (Hall, Tr. 2728, *in camera*). Mr. Hall views this as a good way to compare suppliers. (Hall, Tr. 2728, *in camera*). JCI uses their analysis of suppliers cost structures to make sure their pricing is reasonable in the market and to compare one supplier with another. (Hall, Tr. 2729, *in camera*).
216. In order to do an efficient benchmarking analysis, Mr. Hall { [REDACTED] }
{ [REDACTED] } (Hall, Tr. 2725, *in camera*). Mr. Hall used 2007 cost data in his benchmarking analysis { [REDACTED] }
{ [REDACTED] } (Hall, Tr. 2725-2726, *in camera*).
217. Mr. Hall utilized BFR data that he received from { [REDACTED] }
{ [REDACTED] } (Hall, Tr. 2847, *in camera*).
218. The benchmarking analysis examined the material costs as well as the manufacturing costs (otherwise known as conversion and SG&A costs). (Hall, Tr. 2726, *in camera*; PX1522 at 005, *in camera*). Material costs include the component raw materials that go

into the manufacture of the separators. (Hall, Tr. 2726, *in camera*). Manufacturing costs include the fixed overhead and the sales and general administration costs. (Hall, Tr. 2726, *in camera*).

219. Labor is { [REDACTED] } of manufacturing a PE separator. (Hall, Tr. 2727-2728, *in camera*). Much of the manufacturing process is { [REDACTED] } (Hall, Tr. 2727-2728, *in camera*).

220. Mr. Hall obtained information to prepare the benchmarking analysis from multiple sources, including discussions with all three suppliers regarding their material costs. (Hall, Tr. 2724-2725, *in camera*).

221. Mr. Hall had knowledge of { [REDACTED] } (Hall, Tr. 2729-2730, *in camera*). Mr. Hall then cross-referenced the { [REDACTED] } with his knowledge of BFR material costs. (Hall, Tr. 2730, *in camera*).

222. { [REDACTED] } (Hall, Tr. 2729-2731, *in camera*).

223. Mr. Hall was also able to determine { [REDACTED] } conversion costs (manufacturing costs) for a typical PE separator. Mr. Hall utilized information from { [REDACTED] } (Hall, Tr. 2731, *in camera*).

224. Mr. Hall determined { [REDACTED] } conversion costs for a typical PE separator by extrapolation from his understanding of how { [REDACTED] } (Hall, Tr. 2732, *in camera*).

225. According to Mr. Halls' benchmarking analysis, in 2007, BFR's material costs were { [REDACTED] } (Hall, Tr. 2725-2726, *in camera*; PX1522 at 005, *in camera*). According to Mr. Hall's analysis BFR's material costs were { [REDACTED] }

- [REDACTED] (Hall, Tr. 2732-2733, *in camera*; PX1522 at 005, *in camera*).
226. Mr. Hall's benchmarking analysis showed that BFR's manufacturing costs in 2007 were [REDACTED] per square meter of 6 mill backweb separator. (Hall, Tr. 2727, *in camera*; PX1522 at 005, *in camera*). Mr. Hall's benchmarking analysis indicated [REDACTED] as to the conversion costs. (Hall, Tr. 2733, *in camera*). According to Mr. Hall's analysis, [REDACTED] (PX1522 at 005, *in camera*).
227. Mr. Hall attributes [REDACTED] (Hall, Tr. 2733-2734, *in camera*).
228. Mr. Hall understands that [REDACTED] (Hall, Tr. 2735, *in camera*). According to Mr. Hall, the total cost for BFR to produce a typical 6 mill backweb separator was [REDACTED] per square meter in 2007. (Hall, Tr. 2727, *in camera*; PX1522 at 005, *in camera*). According to Mr. Hall's analysis, [REDACTED] cost to produce an equivalent separator [REDACTED] per square meter, and [REDACTED] cost to produce that same separator was [REDACTED] per square meter in 2007. (PX1522 at 005, *in camera*; Hall, Tr. 2734-2735, *in camera*).
229. At BFR's most recent board meeting in March 2009, Mr. Hall analyzed updated figures with regards to BFR's cost structure. Based on BFR's current cost structure, the same 6 mill backweb separator now costs BFR approximately [REDACTED] (Hall, Tr. 2735-2736, *in camera*, 2764, *in camera*).
230. EnerSys had looked to Asia for future potential suppliers. In his search for alternatives, Mr. Axt located two companies in China that currently make SLI separators, [REDACTED] (Axt, Tr. 2217, *in camera*). EnerSys is working with these companies [REDACTED] (Axt, Tr. 2218-2219, *in camera*).
231. [REDACTED] (Axt, Tr. 2220, *in camera*). The prices quoted to EnerSys from [REDACTED] (Axt, Tr. 2217, *in camera*; Burkert, Tr. 2360, *in camera*). [REDACTED] (Axt, Tr. 2217, *in camera*; Burkert, Tr. 2365, *in camera*). [REDACTED] (Axt, Tr. 2218, *in camera*).

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*)). In the United States, Daramic and Entek have low manufacturing costs relative to BFR, largely because of their local production facilities, cheaper raw material sourcing, and mass production volumes. (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*). { [REDACTED] }

- [REDACTED] (Hall, Tr. 2745, *in camera*).
239. As far as Mr. Hall knows, BFR { [REDACTED] } (Hall, Tr. 2745, *in camera*; PX0907 (Kung, Dep at 298, *in camera*)).
240. JCI has no plans to { [REDACTED] } (Hall, Tr. 2745, *in camera*). JCI never had a { [REDACTED] } (Hall, Tr. 2745-2746, *in camera*). Nor did JCI ever { [REDACTED] } (Hall, Tr. 2746, *in camera*).
241. JCI believes that { [REDACTED] } (Hall, Tr. 2746, *in camera*).
242. BFR is not considering building a manufacturing plant in North America. The BFR board has not approved any plans to { [REDACTED] } (Hall, Tr. 2879, *in camera*).
- c. { [REDACTED] }
243. All of BFR's PE separator production is currently sold { [REDACTED] } (PX0907 (Kung, Dep. at 85, *in camera*)). JCI purchases separators from BFR, but these separators are { [REDACTED] } (PX0907 (Kung, Dep. at 90, *in camera*)).
244. JCI has investigated the possibility of BFR sourcing separators to { [REDACTED] } (Hall, Tr. 2738-2740, *in camera*). { [REDACTED] } (Hall, Tr. 2736-2738, *in camera*).
245. JCI's ownership interest in BFR does not allow it to { [REDACTED] } (Hall, Tr. 2741, *in camera*). Neither does JCI's ownership interest in BFR allow JCI to dictate { [REDACTED] } (Hall, Tr. 2742-2743, *in camera*).
246. In 2008, { [REDACTED] } (RX01532 at 007, *in camera*). { [REDACTED] } (Hall, Tr. 2738-2740, *in camera*).

4. Separator manufacturers outside of North America do not sell separators for flooded lead acid batteries into North America.
247. Other flooded lead acid battery suppliers, including Amer-Sil and firms in India and China, did not have a global reach and only supplied the local market near their plants. (Gilchrist, Tr. 307-08).
248. As worldwide VP of sales and marketing, Mr. Roe was the person at Daramic who was responsible for competitive intelligence. (Roe, Tr. 1193-1194). Mr. Roe testified that he is not aware of any instance prior to Daramic's acquisition of MPLP where Asian manufacturers of PE separators supplied North American battery manufacturers with PE separators for use in any type of flooded lead acid batteries. (Roe, Tr. 1236). Mr. Roe further testified that he does not know of any instances where an Asian PE separator manufacturer had supplied North American battery manufacturers with separators for any type of flooded applications since the acquisition of MPLP. (Roe, Tr. 1236-1237).
249. Daramic has not faced competition in North America from Asian PE battery separator manufacturers. (Thuett, Tr. 4381-4382; Seibert, Tr. 4266-4267, *in camera*). Nor has Daramic ever seen any instances of Asian PE battery separator manufacturers selling PE separators for flooded lead acid batteries to customers in North America. (Thuett, Tr. 4379-4380). **Daramic does not compete with any Asian battery separator producer in North America.** (Seibert, Tr. 4165, *in camera*; RX01084, *in camera*). According to Polypore's CEO, the Asian separator manufacturers are not selling separators in North America because the margins are not high enough. (Toth, Tr. 1404).
250. Microporous did not consider the regional Asian suppliers as potential competitors for its separator business in North America. (Gilchrist, Tr. 308).
251. { [REDACTED] } (Weerts, Tr. 4500-4502, *in camera*).
 { [REDACTED] } (Weerts, Tr. 4502, *in camera*).
252. { [REDACTED] } (Weerts, Tr. 4502-4503, *in camera*). {
 [REDACTED] } (Weerts, Tr. 4501, *in camera*). {
 [REDACTED] } (Weerts, Tr. 4512, *in camera*).
253. { [REDACTED] } (PX0916 (Dauwe, Dep. at 35, 40, *in camera*)). {
 [REDACTED] } (PX0916 (Dauwe, Dep. at 29-33, *in camera*)). {
 [REDACTED]

[REDACTED] } (PX0916 (Dauwe, Dep. at 152-153, *in camera*)).

254. { [REDACTED] } (Gagge, Tr. 2521, *in camera*). { [REDACTED] } (Gagge, Tr. 2512, *in camera*). { [REDACTED] } (Gagge, Tr. 2520, *in camera*). { [REDACTED] } (Gagge, Tr. 2520, *in camera*). Because some EnerSys batteries are likely to be subjected to { [REDACTED] } (Gagge, Tr. 2521, *in camera*).

Five Percent Price Increases in Battery Separators Will Not Cause an Increase in Imports of Batteries

255. With the exception of an extremely low volume tank battery called OPz, EnerSys does not import flooded lead batteries into North America. (Craig, Tr. 2548-49). It is not cost-effective to ship large flooded lead acid batteries like EnerSys's motive and UPS batteries. (Craig, Tr. 2549-50). EnerSys must drain flooded lead acid batteries in order to ship them and then refill them when they arrive. (Craig, Tr. 2550).

5. Respondents documents analyzed North American market separate from other geographic regions

256. [REDACTED] (Seibert, Tr. 4252, *in camera*). [REDACTED] (RX01073 at 006, 010, 014, *in camera*; RX01074 at 006, 010, 014, *in camera*).

257. Daramic is currently seeking a price increase of approximately { [REDACTED] } from EnerSys. (Craig, Tr. 2552, *in camera*). If EnerSys has to pay that price increase in just North America, it will not begin importing motive or UPS batteries from abroad. (Craig, Tr. 2552-53, *in camera*).

V. Market Participants

- A. Daramic and MPLP Were Only Suppliers of Deep-cycle Separators in North America

258. Prior to the acquisition, Microporous participated in the North American deep-cycle market with its CellForce and Flex-Sil products. (Gilchrist, Tr. 300-301).

259. Prior to the acquisition, Daramic participated in the North American deep-cycle market with its HD product. (Gilchrist, Tr. 343).
260. Prior to the acquisition of Microporous by Daramic, the only competitors in the world for the sale of battery separators for deep-cycle applications were Daramic and Microporous. (Godber, Tr. 153-54; Gilchrist, Tr. 305, 343; Wallace, Tr. 1931, 1943; Hauswald, Tr. 674-675; McDonald, Tr. 3948).
261. Prior to the acquisition, U.S. Battery, which primarily manufactures deep-cycle batteries, only bought separators for its deep-cycle flooded batteries from Daramic and Microporous. (Wallace, Tr. 1942-1943). U.S. Battery is not aware of any other suppliers of battery separators for deep-cycle flooded batteries. (Wallace, Tr. 194; Qureshi, Tr. 2011).
262. The only separators that are available for flooded lead acid deep-cycle batteries are Flex-Sil, HD, and CellForce, which all come from Daramic. (Godber, Tr. 151-152; *see also* Qureshi, Tr. 2004).
263. Prior to the acquisition, Daramic and Microporous competed for the sale of separators that went into golf cart batteries. (Hauswald, Tr. 653-654).
264. In the past ten years, Mr. Gilchrist has not seen any competition other than that between MPLP and Daramic for deep-cycle applications. (Gilchrist, Tr. 366).
265. As a result of the acquisition, Daramic has "complete control" or 100% of the deep-cycle separator markets world-wide. (PX0076 at 002, Gilchrist, Tr. 421).
266. Today, Daramic is the only supply option in the world for deep-cycle battery separators. (Godber, Tr. 229; Qureshi, Tr. 2010-2011).
267. JCI is not aware of any separator manufacturer other than Daramic that can supply a deep-cycle battery separator that will work in JCI's batteries. (Hall, Tr. 2705).
268. { [REDACTED] } (PX1515 at 002, *in camera*). Following the acquisition of MPLP, JCI scheduled what it called "red flag" meeting to discuss the impact of the acquisition on JCI's purchases of deep-cycle separators. (Hall, Tr. 2705-2707). { [REDACTED] } (PX1514, *in camera*).
269. { [REDACTED] } (PX0023 at 003, *in camera*). { [REDACTED] } (PX0023 at 003, *in camera*).

270. Respondent's documents show that Microporous and Daramic are the only current sellers and the only market participants in the North American market for rubber and PE/rubber deep-cycle battery separators used in golf carts and scrubbers. (PX0131 at 035; PX1104 at 001; PX0395 at 027, *in camera*).
271. Sales data from 2007 show that the change in HHI and the post-merger HHI for the deep-cycle market far exceeds the thresholds listed in the Merger Guidelines. (Simpson, Tr. 3184-3185). { [REDACTED] } (Simpson, Tr. 3184-3185; PX0033 at 040, 042 (Simpson Report), *in camera*). 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*).
272. Microporous's separators have approximately 90% market share for golf-cart battery applications because its application specific separator prevents gassing and water loss in these deep-cycle batteries. (Brilmyer, Tr. 1831).
273. 2005-2007 Market shares and HHI calculations for deep-cycle battery separators in North America are:

		Sales	Shares		
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

(PX0949 at 190-214, *in camera*; PX0949 at 224-233, *in camera*; PX0033 at 40, *in camera*).

274. Daramic's market share in deep-cycle has increased each year from 2005 through 2007. (PX0033 at 40, *in camera*).
1. Daramic produces HD
275. Daramic's HD separator is a separator with a rubber additive (*i.e.*, latex or liquid rubber) which is used in deep-cycle batteries. (Gilchrist, Tr. 338-339, 343). Daramic markets HD to deep-cycle battery manufacturers. (Gilchrist, Tr. 381).

2. MPLP Produced Flex-Sil and CellForce

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] } (PX0080 at 058-059, *in camera*). In September 2007, Mr. Gilchrist informed the Microporous board that "left to our own initiatives, MPLP will capture the majority of the industrial segment on its own in the next three to four years." (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

increase its U.S. share of the motive market segment to 45-50%. (Gilchrist Tr., 398-399). Sales data estimated by Microporous for 2010 show that the change in HHI (4872) and the post-merger HHI (10000) for the motive market exceeds the thresholds listed in the Merger Guidelines. (Simpson, Tr. 3185-3186).

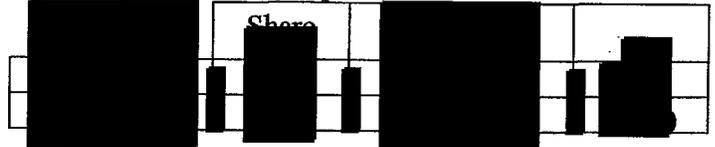
- 283. After the acquisition of MPLP by Daramic there is only one option for Crown's industrial separator supply. (Balcerzak, Tr. 4128). When Daramic had quality problems with its separators at Crown, its salesman, Randy Hanschu understood that Crown had nowhere to turn. (PX0803 at 1 ("It is sure getting difficult to convince our customers we are not a monopoly.")).
- 284. When EnerSys's contract with Daramic expires, it will continue to purchase separators from Daramic because it has no other choice. (Craig, Tr. 2611).
- 285. During the Daramic Strike at the Owensboro facility, Crown experienced some order disruption, coming close to shutting down productions lines as a result of the strike. (Balcerzak, Tr. 4099).
- 286. Entek was unable to supply Crown with industrial PE separators during the Owensboro strike according to Mr. Balcerzak because Entek did not posses the proper tooling needed to make Crown's required profile. (Balcerzak, Tr. 4100-4101).
- 287. MPLP documents reflect the fact that motive separators are a product market and reflect a highly concentrated North American geographic market projecting shares of 29 percent for Microporous and 71 percent for Daramic in 2008. (PX0072 at 024-025).

288. 2006-2007 Market Shares and HHI calculations for motive battery separators in N.A. are:

		Sales	Share		
█	█	█	█	█	█
█	█	█	█	█	█
█					
█	█	█	█	█	█
█	█	█	█	█	█

(PX0080 at 60, *in camera*; PX0033 at 41, *in camera*).

Based on Microporous planned expansion, the estimated 2010 market shares and HHI calculations for motive battery separators in N.A. are:



(PX0949 at 190-214, *in camera*; PX0949 at 224-233, *in camera*; PX0033 at 42, *in camera*).

C. Daramic has been the Primary Supplier of UPS but MPLP is a Market Participant and was about to Commercialize a Product

- 289. Prior to the acquisition, Microporous participated in the North American UPS market with its CellForce product. (Gilchrist, Tr. 300-301).
- 290. Prior to the acquisition, Daramic participated in the North American UPS market with its Daramic CL product. (Burkert, Tr. 2318; Hauswald Tr. 988).
- 291. Daramic PE separators have 95% market share for UPS battery applications in North America. (Brilmyer, Tr. 1834).
- 292. As a result of the acquisition, Daramic has "complete control" of the industrial flooded reserve power separator markets world-wide. (PX0076 at 002, Gilchrist, Tr. 422).

D. Daramic and Entek were Primary Suppliers of SLI but MPLP is a Market Participant and was Expanding to Serve Customers in that Market

- 293. Prior to the acquisition, Microporous participated in the North American SLI market with its PE product. (Gilchrist, Tr. 311).
- 294. Prior to the acquisition, Daramic participated in the North American SLI market with its Daramic HP product. (PX0669 at 003, *in camera*).
- 295. In North America, Daramic and Entek had virtually the entire automotive separator market prior to the acquisition. (PX0171 at 004). However, MPLP had manufactured and sold SLI separators in North America and considered itself a competitor in that market. (Gilchrist, Tr. 308, 313, 341-342).
- 296. Entek is a global supplier of SLI separators that operates plant facilities in northern England and on the West Coast of the United States. The West Coast plant supplies the Asia Pacific markets. (Gilchrist, Tr. 307-308, 310-311).
- 297. At the time of the acquisition, MPLP, Daramic and Entek were the only firms in North America with production lines for PE separators. (Gilchrist, Tr. 307-308, 342, 616).

298. When it comes to PE separators there are only two options in the industry after the acquisition, Entek and Daramic. (Balcerzak, Tr. 4128).
299. Microporous was a recent entrant in the SLI separator market. Microporous had begun testing PE material for SLI at JCI in 2003, and in November of 2005 JCI was still testing material from Microporous for SLI batteries. (Trevathan, Tr. 3690-91).
300. Microporous planned to produce polyethylene (PE) separators for automotive batteries on one of the two production lines at its recently built plant in Feistritz, Austria. (Gilchrist, Tr. 331-332). Several of Microporous's customers were interested in buying PE separators from this production line and Mr. Gilchrist, Microporous's CEO prior to the acquisition, was confident that actual sales would ensue. (Gilchrist, Tr. 345-346; 440-443, *in camera*).
301. { [REDACTED] } (Simpson, Tr. 3439, *in camera*). Dr. Simpson noted that a Microporous document predicted future market shares for 2010 in a North American SLI battery separator market. (Simpson, Tr. 3439, *in camera*). { [REDACTED] } (Simpson, Tr. 3186; PX0033 at 041 (Simpson Report), *in camera*).
302. One measure of Microporous's impact on the SLI market is the use of the { [REDACTED] } (PX0080 at 060, *in camera*). Using these estimated sales, Microporous would have had { [REDACTED] } (PX0080 at 60, *in camera*).
303. Similarly, Daramic market share charts for SLI in North America give MPLP a 4 percent share of SLI sales, Entek 49 percent, and Daramic 47 percent, but nothing to any Asian producer. (PX0264 at 003).
304. At the time of the acquisition, Johnson Controls Europe was contemplating using CellForce separators in some of their SLI batteries. (Gilchrist, Tr. 440-441, *in camera*). Johnson Controls was testing samples on its battery production lines. (Gilchrist, Tr. 441-442, *in camera*).
305. 2006-2007 Market shares and HHI calculations for SLI battery separators in N.A. are:

		Sales	Shares		
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

[REDACTED]

(PX0949 at 190-214, *in camera*; PX1833 at 13-65, *in camera*; PX0033 at 41 (Simpson report), *in camera*).

306. Based on Microporous planned expansion, estimated 2010 market shares and HHI calculations for SLI battery separators in N.A. are:

	Sales	Shares		
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]

(PX0080 at 60, *in camera*; PX0033 at 41 (Simpson report), *in camera*).

1. Entek is not an uncommitted entrant in any non-SLI product market

307. Dr. Simpson explained that { [REDACTED] } is not a market participant in the deep-cycle and motive markets because it was not an uncommitted entrant under the Merger Guidelines. (Simpson, Tr. 3461-3462, *in camera*).

308. Entek does not manufacture industrial product. { [REDACTED] }
{ [REDACTED] }
(Weerts, Tr. 4503, *in camera*; RX00114 at 008, *in camera*). { [REDACTED] }
{ [REDACTED] }
(Weerts, Tr. 4503-4504, *in camera*).

309. { [REDACTED] } (Weerts, Tr. 4504, *in camera*). { [REDACTED] }
{ [REDACTED] } (Weerts, Tr. 4492, *in camera*; RX00114 at 004, *in camera*). { [REDACTED] }
{ [REDACTED] }
(Weerts, Tr. 4492-4493, *in camera*; PX1833 at 004, *in camera*).

310. { [REDACTED] }
{ [REDACTED] } (PX1830 at 011, *in camera*).

311. { [REDACTED] }

[REDACTED] } (Weerts, Tr. 4503-4504, *in camera*). { [REDACTED]
[REDACTED] }
(RX00114 at 008, *in camera*).

312. { [REDACTED]
[REDACTED] } (Weerts,
Tr. 4484, *in camera*; PX1815 at 001, *in camera*). { [REDACTED]
[REDACTED] } (Weerts, Tr. 4507, *in camera*).
{ [REDACTED]
[REDACTED] } (PX1810 at 001, *in camera*).

313. { [REDACTED]
[REDACTED] } (Weerts,
Tr. 4515-4516, *in camera*).

314. { [REDACTED] }
(Weerts, Tr. 4515-4516, *in camera*). { [REDACTED]
[REDACTED] }
{ [REDACTED] } (Weerts, Tr. 4516, *in camera*). { [REDACTED]
[REDACTED] } (Weerts, Tr. 4516, *in camera*).

315. Entek exited the industrial PE separator market in the early part of this decade.
(Balcerzak, Tr. 4097). **Entek does not manufacture industrial separators today.**
(Seibert, Tr. 4174, *in camera*).

316. { [REDACTED] } (PX1833 at 008, *in camera*). { [REDACTED]
[REDACTED] } (PX1806 at 001, *in camera*).

317. There are significant sunk costs for Entek to enter the deep-cycle, motive, or UPS
markets. Calender rolls cost approximately \$20,000 to \$50,000 a piece. (Gaugl, Tr. 4553-
4554). The lead time from order to delivery of a calender roll takes approximately 12 to
14 weeks. (Gaugl, Tr. 4553). Microporous has approximately 20 calender rolls at its two

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 [REDACTED] 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 [REDACTED] equity share in BFR, while Fengfang's equity share in BFR is [REDACTED] and Rising's is [REDACTED] (Hall, Tr. 2740, *in camera*). The principal owner of Rising is [REDACTED] (Hall, Tr. 2836, *in camera*). Unanimous BFR board approval is required for [REDACTED] (Hall, Tr. 2826, *in camera*).
323. Dr. Kahwaty estimated market shares for a global PE battery separator market. (RX00945-179). 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, {

{ (Seibert, Tr. 4287- 4290, *in camera*).

(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)).
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).

339. Daramic began testing {REDACTED}, as a replacement for {REDACTED}, in 2003. (PX0949 at 019, (Response to CID Request No. 8, *in camera*)).
340. Daramic's early work with U.S. Battery ultimately led to Daramic DC. (Qureshi, Tr. 2020). U.S. Battery and Daramic tested Daramic DC and found it to be quite acceptable. (Qureshi, Tr. 2020). The product was commercialized in about 2002. (Qureshi, Tr. 2021). U.S. Battery began purchasing Daramic DC in approximately 2003. (Qureshi, Tr. 2021). At the time U.S. Battery began purchasing Daramic DC, its price was much lower than the price of the Microporous Flex-Sil product. (Qureshi, Tr. 2021).
341. U.S. Battery first used Daramic DC in a new economy line golf cart battery, the US 1800. (Qureshi, Tr. 2021; McDonald, Tr. 3946-3947). Microporous responded to Daramic's introduction of the DC separator by offering to lower the price of its Flex-Sil separator for use in the US 1800 battery to close to the price of the Daramic DC. (Qureshi, Tr. 2023; PX1764 at 002; McDonald, Tr. 3947). Once Microporous lowered the price of Flex-Sil for the U.S. 1800 battery, U.S. Battery approved and began purchasing both Flex-Sil and Daramic DC for use in the US 1800. (Qureshi, Tr. 2024). Mr. Qureshi testified that there was no noticeable or functional differences between the US 1800 batteries with the Daramic DC separator and those with the Flex-Sil separator. (Qureshi, Tr. 2025).
342. U.S. Battery expanded the use of Daramic DC to 10 different types of deep-cycle batteries that it produced that were all previously using Flex-Sil. (Qureshi, Tr. 2025). The warranties on the batteries that incorporated Daramic DC in place of Flex-Sil carried U.S. Battery's normal one-year warranty. (Qureshi, Tr. 2026). U.S. Battery also used Daramic DC on their economy line batteries that carry a six month warranty. (Qureshi, Tr. 2026). These economy line batteries also contain fewer lead plates to reduce their cost. (Qureshi, Tr. 2027). Less lead plates will lessen the product life. (Qureshi, Tr. 2027). The length of the warranty U.S. Battery puts on its batteries, is related more to the number of plates in the battery than the type of separator the battery is using. (Qureshi, Tr. 2085).
343. The November 9, 2005 Trip Report concludes that U.S. Battery's owner, Jon Anderson, "appreciates that we developed a competing product for rubber. . . Jon sees their benefit as having two suppliers in order to manage costs while maintaining product performance. Meanwhile, we benefit by continuing to gain incremental volume (and taking it away from Microporous Products) in a market where we are relatively new entrants." (PX0557 at 003). As the trip report confirms, U.S. Battery communicated to Daramic its interest in incorporating more HD into its higher quality batteries, and Daramic was interested in supplying more product to U.S. Battery. (Qureshi, Tr. 2029-30).

a. Daramic DC Won Business from MPLP's Flex-Sil

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)). 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); 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*). [REDACTED]

- [REDACTED] } (Seibert, Tr. 4309-4310, *in camera*).
352. { [REDACTED] } (PX0321; Seibert, Tr. 4311, *in camera*). { [REDACTED] }
(Seibert, Tr. 4311-4312, *in camera*). Thus, { [REDACTED] } (PX0904 (Seibert, Dep. at 59, *in camera*)).
353. In order to grow sales of HD, { [REDACTED] } (PX0321 at 002; PX0904 (Seibert, Dep. at 65, *in camera*)). { [REDACTED] } (PX0557; Whear, Tr. 4812, *in camera*). { [REDACTED] } (PX0557 at 002; Whear, Tr. 4812, *in camera*).
354. Because Daramic felt that HD performed better than rubber separators such as Flex-Sil, and PE based separators with rubber additives, such as CellForce and Daramic DC, Daramic decided to phase out Daramic DC and replace it with Daramic HD. (PX0695 at 003; Wallace, Tr. 1947, 1960-1961). US battery switched its DC purchases to HD when DC was discontinued by Daramic in 2006. (Wallace, Tr. 1947).
355. Daramic HD's first commercial sales took place in 2005. (Roe, Tr. 1209).
356. Daramic HD was specifically targeted as an alternative to Microporous's rubber separator, Flex-Sil, being used in golf cart and floor scrubber batteries. (PX0319 at 003). Pierre Hauswald, as general manager of Daramic, participated in developing the Daramic HD strategy, as described in PX0319. (Hauswald, Tr. 688:22-24).
357. Tests conducted by Daramic accurately showed { [REDACTED] } (Whear, Tr. 4839, *in camera*). Daramic is currently still testing HD in comparison to Flex-Sil. (Whear, Tr. 4787).
358. Prior to the acquisition, Daramic tried to sell Daramic HD to Trojan, for use in its deep-cycle batteries, including golf cart batteries. (Hauswald, Tr. 659-660).
359. In 2006, U.S. Battery switched all its applications that were using Daramic DC to Daramic's replacement product, Daramic HD, (Qureshi, Tr. 2028). Daramic HD is superior to Daramic DC in terms of cycle life. (Qureshi, Tr. 2028).
360. A November 9, 2005 Daramic Trip Report to U.S. Battery confirms that U.S. Battery viewed HD as a superior to DC. (PX0557 at 002). Based on a comparison of Daramic HD to Daramic DC in enveloped golf cart batteries, Daramic reported that "Nawaz

[Qureshi] wants to switch all DC product immediately to HD. . . . Nawaz want to make a running change as soon as it is available.” (PX0557 at 002). Moreover, Daramic noted that U.S. Battery’s Nawaz Qureshi “provided a list of four (4) new product lines he would like to switch away from rubber. **NOTE:** Some of these new sizes include mid-level product line.” (PX0557 at 002). Included within the four new products, was the “US 2000 (mid-level golfcart battery).” (PX0557 at 002). The Daramic Trip Report also states that “[i]t may be up to us to determine how much more business we want to take away from Microporous Products and when we want to take it.” (PX0557 at 002).

361. { [REDACTED] } (PX0904 (Seibert, Dep. at 131, *in camera*)). In response to Mr. Keith’s email that said “We know we can price the product where we want to either get business or cause Amerace to reduce theirs,” Mr Seibert wrote “knowing that we’re ‘competitive’ should we take prices down 5% to 10% to get even more aggressive?” (PX0329 at 001).
362. In February 2007, Mr. Roe, informed the individuals at Daramic who were directly in charge of HD strategy that HD was meant for the same market as MPLP’s Flex-Sil separators. (PX0316 at 002; Roe, Tr. 1200-1201). Mr. Keith, a Daramic salesman, sepecifically noted the competition between HD and Flex-Sil, stating that Daramic “must continue to improve our service on HD or we stand a good chance of losing golf car business back to Amerace Flex-Sil.” (PX0413 at 5).
363. { [REDACTED] } believed that the { [REDACTED] } separators could match the antimony suppression of { [REDACTED] } { [REDACTED] } separator. (PX0911 (Roe, Dep. at 58-59, *in camera*)). Daramic even advertised to customers that HD matched the antimony poisoning retardation of the Flex-Sil separators. (PX0423 at 002; Roe, Tr. 1202-1203). This advertisement was part of the marketing product literature that was provided to battery manufacturers. (Roe, Tr. 1203).
364. Additionally, Daramic provided battery manufacturers with test results comparing Daramic HD to rubber separators. (PX0423 at 002). The test results indicated that HD outperformed pure rubber separators as well non-active separators over the life of a battery. (PX0423 at 002). These test results were clearly designed to compare { [REDACTED] } { [REDACTED] } separator available on the market. (PX0911 (Roe, Dep. at 59, *in camera*)).
365. Daramic informed customers that the HD separators are superior to CellForce. (RX00598 at 001).
366. When Daramic introduced the HD separators it understood that on a performance basis they were close to the level of MPLP’s Flex-Sil separators. (PX0433 at 001). However, Daramic was not satisfied with simply being close to the performance of Flex-Sil, and it continued to work hard to improve the HD separators.

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

379. In 2007, Mr. McDonald suggested “doctor[ing]” an HD/Flex-Sil comparison test data in order to protect Flex-Sil sales volume at Exide. (McDonald, Tr. 3951-3954; PX0497 at

separators that they were using in their deep-cycle batteries from Flex-Sil to HD. (Roe, Tr. 1212-1213; 1277-1278). Both Exide and US Battery switched from Flex-Sil to HD for a portion of their deep-cycle golf car batteries. (Roe, Tr. 1212-1213).

388. Exide began switching from Flex-Sil to HD separators for its deep-cycle batteries in 2005. (Gillespie, Tr. 2936-2937).
389. U.S. Battery switched from Flex-Sil to HD separators for some of its deep-cycle batteries. (Gilchrist, Tr. 368-370).
390. Today, US Battery is pleased with the performance of HD such that its purchases have increased over time and have grown to include additional models in its product line. (Wallace, Tr. 1947-1948). US Battery planned additional purchases of the HD separator in its Group 27 and 31 lines of batteries prior to Polypore's purchase of Microporous. (Wallace, Tr. 1948). US Battery also planned to put HD in its US 2000 model battery which has a one year warranty. (Wallace, Tr. 1978). The longest standard warranty offered by US Battery is one year. (Wallace, Tr. 1965).
391. U.S. Battery sells deep-cycle flooded batteries containing Daramic's HD separators to manufacturers of scissor lifts and boom lifts, including JLG Industries and Skyjack. (Wallace, Tr. 1934-1935).
392. Daramic felt that it was within its discretion, when and how much of US battery's deep-cycle business it wanted to win away from MPLP. (PX0557 at 002, *in camera* ({ [REDACTED] }))).
393. { [REDACTED] } (PX0261, *in camera*). In this proposal, Daramic encouraged Exide to { [REDACTED] } (PX0261 at 002, 007, *in camera*). Daramic believed that Exide { [REDACTED] } (Roe, Tr. 1789, *in camera*).
394. Daramic's December 2007 HD sales pitch to Exide hit its mark, and the following month, Mr. Roe informed Daramic's management that Exide was interested in { [REDACTED] } (PX0222 at 001, *in camera*).

c. HD Constrained Pricing of MPLP

395. Daramic's acquisition of Microporous was a merger to monopoly in the deep-cycle market. (Simpson, Tr. 3193, *in camera*). By eliminating the competition between Daramic and Microporous, the acquisition enables Daramic to increase price. (Simpson, Tr. 3193, *in camera*).
396. Prior to the acquisition, as a result of competition between Microporous and Daramic, customers buying deep-cycle separators had some leverage in pricing negotiations with separator suppliers. Daramic's HD separator had been making inroads into the deep-cycle golf car market prior to the merger. (McDonald, Tr. 3943-3945). HD sales had been growing among MPLP golf car customers. (McDonald, Tr. 3945). Due to the threat of HD's emerging presence in the deep-cycle market, MPLP lowered prices on its Flex-Sil separator attempting to protect market share. (McDonald, Tr. 3943). Trojan, Exide and US Battery all used HD as a competitive threat to Microporous' deep-cycle battery separators. (Gilchrist, Tr. 379-380, 406).
397. In 2005 the possibility that US Battery could also retaliate against an effective price increase by purchasing HD prevented MPLP from removing a material rebate program US Battery enjoyed. (PX0509; McDonald, Tr. 3912).
398. On no less than three occasions between 2006 and 2007, Exide used HD to successfully constrain the price of Flex-Sil. (Gillespie, Tr. 2945-2953). Exide benefitted from the competition between Daramic and MPLP for the sale of deep-cycle battery separators. (Gillespie, Tr. 2945-2946). With both HD and Flex-Sil qualified for use in deep-cycle batteries, Exide had some added leverage in negotiations with both Daramic and MPLP. (Gillespie, Tr. 2945-2946). Having two potential suppliers of deep-cycle separators mitigated Exide's risk and exposure in the supply chain, by mitigating the risk of sole-sourcing and by providing a backup source of supply in case of disruption of supply capability. (Gillespie, Tr. 2945). Additionally, the knowledge that both Daramic and MPLP wanted Exide's deep-cycle business provided Exide with leverage in negotiations. (Gillespie, Tr. 2946).
399. In 2006, Exide used HD as leverage in negotiations with MPLP to get better pricing and payment terms from MPLP. (Gillespie, Tr. 2946-2950). In March 2006, MPLP informed Exide that it was raising prices on the Flex-Sil separators and decreasing Exide's payment terms. (PX1059 at 001; PX0636 at 002). At that time, Exide told MPLP that "we will begin to explore other opportunities to obtain golf cart separators." (PX1059 at 001). One day later, Gordon Ulsh, Exide's CEO informed Mr. Gilchrist that MPLP's pricing action were "forcing us to run quicker to alternate supply". (PX0636 at 001). Mr. Gillespie personally told Mr. Gilchrist that Exide had qualified HD and would move the majority (and possibly all) of the deep-cycle purchases to Daramic in response to MPLP's pricing actions. (Gillespie, Tr. 2946-2948).
400. Within two weeks time, Daramic became aware that Exide had threatened to move from Flex-Sil to HD. (PX1710 at 001). On March 17, 2006, Mr. Hauswald informed Mr. Toth

that MPLP “found out that we are taking their market share with our Daramic HD, for the golf cart business.” (PX1710 at 001).

401. Eventually, Exide and MPLP came to an agreement on the pricing of Flex-Sil, with Exide receiving more favorable pricing terms and obtaining pricing concessions from MPLP. (Gillespie, Tr. 2949; *see also* PX0635 (April 2006 email from Mr. Gilchrist to Mr. Ulsh noting “we are anxious to return our relationship with Exide to a more cooperative realm. And as such [...] I am extending our terms to Exide to 50 days.”)).
402. Exide believes that in this instance the only reason that they “were able to negotiate or have this leverage” to obtain lower prices and better pricing terms from MPLP was because it had HD as a “viable option.” (Gillespie, Tr. 2949-2950).
403. In 2007, Exide used HD as leverage with MPLP to fight off a rubber surcharge on Flex-Sil separators. (Gillespie, Tr. 2950-2953; Gilchrist, Tr. 377-379). In 2007, MPLP sought to impose on Exide a rubber surcharge on the price of Flex-Sil separators. (Gillespie, Tr. 2950-2951; Gilchrist, Tr. 375-376). Prior to Daramic’s acquisition of MPLP, Exide refused to pay the rubber surcharge to MPLP because Exide had HD as a “viable alternative to switch the business” and informed MPLP that “if you levy the surcharge, you’re going to lose that business.” (Gillespie, Tr. 2951-2953).
404. Also in 2007, Exide used HD as leverage to fight off a price increase on Flex-Sil separators. (Gillespie, Tr. 2953). At that time, MPLP attempted to impose a base price increase on the Flex-Sil separators being sold to Exide. Exide refused to pay this price increase because at that time it had the ability to threaten to move its deep-cycle business to Daramic. (Gillespie, Tr. 2953; *see also* PX1097, *in camera* (February 05, 2008 email from Exide to MPLP regarding { [REDACTED] })).
405. Exide experienced price decreases or no price increases from MPLP due to competition from HD. (Gillespie, Tr. 2947-2953).
406. Trojan also used the threat of switching to Daramic’s HD as leverage in pricing negotiations with Microporous. (Gilchrist, Tr. 371-372, 379; PX1663).
407. Trojan used { [REDACTED] } with MPLP. (Godber, Tr. 258, *in camera*). Likewise, Mr. Gilchrist testified that Trojan would bring up HD “every time there was us instigating the need for a price increase.” (Gilchrist, Tr. 406).
408. Trojan met with Daramic in February 2005 to discuss the fact that Daramic was going to introduce the HD product at the BCI convention in April, and that test results showed the product would do as well as Flex-Sil. (Godber, Tr. 178). At the time, Trojan was concerned with Microporous’s capacity to supply it with separators and was also

- 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.”); 1657 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, *in camera*). 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, *in camera*).

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, *in camera*). 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).

428. Trojan has determined that 25 percent of its deep-cycle batteries could use CellForce instead of Flex-Sil. (Godber, Tr. 173). The same 25 percent of Trojan's batteries that could use CellForce, also could use Daramic HD instead of Flex-Sil. (Godber, Tr. 173).
429. Currently, 16 percent of Trojan's deep-cycle batteries contain CellForce. (Godber, Tr. 176). The percentage of Trojan's batteries using CellForce was expected to grow to 21 percent prior to Daramic's acquisition of Microporous. (Godber, Tr. 176). Microporous expected to satisfy Trojan's demand for CellForce through its Austrian expansion. Microporous informed Trojan that "once we get this [the Austrian expansion] up and going, we has some more CellForce that will be available in the states. (Godber, Tr. 224).
430. Trojan wanted to expand its use of CellForce to get a cost savings because CellForce was less expensive. (Godber, Tr. 225). Trojan had plans to move a considerable amount of its Flex-Sil batteries to CellForce when Microporous got its Austrian plant up and running in Spring 2008. (Godber, Tr. 226-227). The conversion to CellForce was delayed approximately 4 months once Daramic acquired Microporous, which resulted in Trojan paying approximately \$140,000 more for its separators than it had been expecting to. (Godber, Tr. 228-229).

e. Flex-Sil, HD and CellForce Compete for OEM Business

431. Microporous's CellForce separator competes with Daramic's HD separators used for deep-cycle battery applications. For example, Trojan purchased CellForce for some of its deep-cycle batteries. (Gilchrist, Tr. 360-361).
432. Trojan has qualified CellForce for some OEM floor scrubber accounts. (Godber, Tr. 277). US Battery sells to a variety of customers including original equipment manufacturers like Skyjack and JLG Industries. Included in these sales to OEM customers are batteries containing HD separators. (Wallace, Tr. 1933-1935).
433. [REDACTED] }
(PX1744 at 004, *in camera*).

B. The acquisition had anti-competitive effects in the deep-cycle market

1. An anticompetitive effect of the acquisition is Daramic's refusal to honor MPLP commitments to Trojan.
434. Just prior to Daramic's acquisition of Microporous, Trojan was in discussions with Microporous on a contract extension and had agreed to most major terms including contract length and the pricing formula. (Godber Tr. 215-217). The current contract between Microporous and Trojan was set to expire in 2010 and Trojan wanted to create a

longer-term arrangement so that it would be protected in the event that Microporous was sold. (Godber, Tr. 215).

435. After the acquisition Daramic stated to Trojan that it wanted to stand behind the commitments that Microporous had made to Trojan. (Godber Tr. 218-219). In a letter to Trojan's Rick Godber on March 31, 2008, about one month after the acquisition, Daramic's Pierre Hauswald wrote:

Mike [Gilchrist] has explained to me that just before Daramic acquired Microporous, you and he were very, very close to concluding a new supply contract between Trojan and MP that would have gone through 2019. We are prepared to stand behind the commitments MP made to you before this acquisition. So, if you are still interested, we just need to work out the very few details taht were still open when you last discussed this topic with Mike, and then we could finalize the extension. . . . I just wanted you to know that we are still willing to honor the commitments MP made to you personally and to Trojan. (PX1666).

436. Notwithstanding Daramic's pledge to "stand behind the commitments MP made" before the acquisition, { [REDACTED] } (Godber, Tr. 239, *in camera*). Those changes included the { [REDACTED] } (Godber, Tr. 239-240, *in camera*). None of these terms were in the draft contracts exchanged between Trojan and Microporous prior to the merger. (Godber, Tr. 240, *in camera*). { [REDACTED] } (Godber, Tr. 241, *in camera*).
437. After the acquisition, Trojan was left with no alternatives to Daramic for deep-cycle separators. (Godber, Tr. 291).

438. Microporous also notified Trojan of a { [REDACTED] } (Godber, Tr. 232-233, *in camera*). According to Mr. Godber, { [REDACTED] } (Godber, Tr. 235, *in camera*). Mr. Gilchrist confirmed this understanding in his testimony in this proceeding. (Gilchrist, Tr. 407-410). Mr. Godber was angry about the notice because of "the thought that they would be coming out with { [REDACTED] } (Godber, Tr. 232-233, *in camera*).

439. { [REDACTED] } (Godber, Tr. 233, *in camera*). Trojan
{ [REDACTED] } (Godber, Tr.
234, *in camera*). { [REDACTED] }
{ [REDACTED] } (Godber, Tr. 234, *in camera*).
440. { [REDACTED] } (Godber, Tr.
234, *in camera*). { [REDACTED] }
{ [REDACTED] } (PX0904 (Seibert, Dep. at 203, *in camera*)).
441. Notwithstanding the 2007 signed agreement between Trojan and Microporous regarding
pricing, { [REDACTED] }
{ [REDACTED] } (Godber, Tr. 236-237, *in camera*). { [REDACTED] }
{ [REDACTED] } (Godber, Tr. 238, *in camera*). { [REDACTED] }
{ [REDACTED] } (Godber, Tr. 241, *in camera*).
442. Mr. Godber testified that he was concerned about the acquisition when he became aware
of it because “[o]ne company was going to control the deep-cycle separator market.”
(Godber, Tr. 242-43, *in camera*). Based on Daramic’s post-acquisition actions, Mr.
Godber testified that his concerns have increased. (Godber, Tr. 242, *in camera*).
443. Rather than negotiate in good faith, Daramic first sued Trojan. (Godber, Tr. 247-248 *in
camera*). The dispute between Daramic and Trojan is ongoing. (Godber, Tr. 238, *in
camera*).
444. { [REDACTED] } (Gillespie, Tr. 3044-3045, 3132, *in camera*). After the
acquisition of MPLP, Daramic informed Exide that it { [REDACTED] }
{ [REDACTED] }
(Gillespie, Tr. 3044, 3132-3133, *in camera*).
445. { [REDACTED] }
(Gillespie, Tr. 3045, *in camera*). { [REDACTED] }
{ [REDACTED] } (Gillespie, Tr. 3044-3046, 3121, 3132-3134, *in
camera*).

2. Daramic's post-acquisition strategy is to sell the higher priced Flex-Sil to deep-cycle customers that wanted a cheaper alternative

446. { [REDACTED] } (PX1740 at 001, *in camera*). In a November 2007 Microporous Customer Contact Report to U.S. Battery, Microporous reported that U.S. Battery "was very comfortable with CellForce" and would decide if it would commit a certain volume once it received pricing. (PX1763 at 003). The report states that Microporous told U.S. Battery that it would have capacity available, but if U.S. Battery did not want to commit, Microporous needed to know so that it could sell the CellForce volume elsewhere. (PX1763 at 003).
447. On February 5, 2008, just three weeks before the acquisition, Microporous's North American Sales representative, Roger Berger, informed U.S. Battery's Mr. Qureshi that { [REDACTED] } (PX1741 at 004, *in camera*). Mr. Berger's email to Mr. Qureshi stated: { [REDACTED] } (PX1741 at 004, *in camera*). The next day, Mr. Qureshi responded that { [REDACTED] } (PX1741 at 003, *in camera*).
448. When US Battery approached Daramic for supply of its HD separator for a new battery it had been developing Mr. McDonald communicated to US Battery that Daramic did not have the appropriate tool to be able to produce an HD separator in the requested profile. (McDonald, Tr. 3823-3824). Neither could Daramic provide CellForce in the requested profile, again due to not having the proper tooling. (McDonald, Tr. 3823-3824). Instead, Mr. McDonald offered US Battery a Flex-Sil quotation. (McDonald, Tr. 3824).
449. Notwithstanding Microporous's willingness to sell U.S. Battery CellForce at a cost savings versus Flex-Sil, and notwithstanding U.S. Battery's desire to use CellForce in its mid-level golf batteries premerger, Mr. Qureshi testified that the US 2000 battery currently is using Flex-Sil. (Qureshi, Tr. 2042). When asked why it is not using CellForce, Mr. Qureshi testified: "We were told that CellForce would not be available." (Qureshi, Tr. 2042). Today, U.S. Battery continues to use the more expensive Flex-Sil in these mid-level batteries. (Qureshi, Tr. 2042).
450. Since its acquisition of Microporous, the Daramic strategy { [REDACTED] } (PX0617 at 001-002, *in camera*). { [REDACTED] } (PX0441 at 001-002, *in camera*).

451. In response to a June 12, 2008 email from Pierre Hauswald { [REDACTED] }, Steve McDonald, Daramic's Sales Manager for the Americas, proposed that { [REDACTED] } (PX0617 at 001-002, *in camera*).
452. Daramic has restricted the number of HD separators available to U.S. Battery for purchase. (Wallace, Tr. 1979). Consequently, U.S. Battery predominantly purchased Flex-Sil separators from Microporous for its deep-cycle batteries. (Wallace, Tr. 1972).
453. In the later part of 2008, after the merger, Mr. Qureshi at U.S. Battery had designed two deep-cycle batteries – the Group 27 and 31 batteries – that the company was previously purchasing from another company. (Qureshi, Tr. 2042-43). Mr. Qureshi designed the batteries to use Daramic HD. (Qureshi, Tr. 2044; PX1747). Daramic informed Mr. Qureshi that the separators he wanted for the batteries was not available in either CellForce or HD. (Qureshi, Tr. 2049). Mr. Qureshi testified that when these batteries go into production, they will be using Flex-Sil separators. (Qureshi, Tr. 2044). Mr. Qureshi testified that he “was somewhat surprised because now this product will cost us more. I had designed it with the more cost-effective separator, which we could not use.” (Qureshi, Tr. 2049). Mr. Qureshi testified he had no understanding as to why Daramic could not make an HD or CellForce separator for these batteries. (Qureshi, Tr. 2049).
454. { [REDACTED] } (PX1743 at 001-003, *in camera*). In an email to Daramic sales personnel, Harry Seibert wrote: [REDACTED] (PX1743 at 002, *in camera*).
455. Prior to the merger, U.S. Battery had hoped to increase its purchase of Daramic's HD separators in the next two to three years to between 30 to 50%. (Qureshi, Tr. 2090). Daramic internal trip reports to U.S. Battery also recognized that U.S. Battery had hoped to achieve a more even balance in purchases between Daramic and Microporous prior to the merger. (*See, e.g.*, PX1739 at 002, *in camera* { [REDACTED] }); PX0681 at 002 (“U.S. Battery prefers to split their business move (*sic*) evenly between Daramic and the competition thus enhanced stiffness appears to be key.”); PX0326 at 001 (“U.S. Battery is presently purchasing 1 T/L [truckload] of Daramic for 5 T/L of MicroPorous Products material. They would like to achieve a more even balance between their two separator suppliers.”)). Since the merger, U.S. Battery has been unable to purchase more HD from Daramic. (Wallace, Tr. 1980).

456. In April 2008, Mr. Qureshi met with Daramic's salesperson, Mr. David Gunter, and discussed the then recent acquisition of Microporous. (Qureshi, Tr. 2051). Mr. Qureshi showed Mr. Gunter his displeasure with the acquisition and told him that it was "not healthy" because "anything that reduces competition in a free market system is not healthy." (Qureshi, Tr. 2051-2052; *see also* PX0682 at 002, *in camera* ({ [REDACTED] } Emphasis in original)). Mr. Qureshi continues to believe that today over a year after the acquisition. (Qureshi, Tr. 2052).
457. Exide lost the leverage it had to get a competitive price when Daramic bought MPLP because there was "only one provider" of deep-cycle separators left. (Gillespie, Tr. 2953-2954).
458. [REDACTED] (PX0904 (Seibert, Dep. at 191, *in camera*)).
459. After the merger, when Daramic was unable to supply sufficient HD to Exide due to the strike at Owensboro, Exide was forced to purchase Flex-Sil, which was the only available alternate product for their deep-cycle batteries. (Roe, Tr. 1223). { [REDACTED] } (RX01260, *in camera*). In purchasing Flex-Sil in place of HD during the strike, Exide had to pay a premium for Flex-Sil. (Roe, Tr. 1223-24). { [REDACTED] } (RX01260, *in camera*).
460. Exide's post-acquisition experience is in contrast to Trojan's pre-merger experience with MPLP. When Microporous's CellForce capacity became constrained in 2006, Microporous offered to provide Flex-Sil product at CellForce pricing on Trojan's T-605, which at the time was using CellForce, so that Microporous could win CellForce business at a traction customer. (PX1659; Godber, Tr. 198). Through this arrangement, Trojan was able to purchase Flex-Sil for its T-605 batteries at a 10% discount. (Godber, Tr. 225).
- C. MPLP was Daramic's only competitive Constraint in Motive
461. Daramic's acquisition of Microporous was a merger to monopoly in the motive market. (Simpson, Tr. 3193, *in camera*). By eliminating the competition between Daramic and Microporous, the acquisition enables Daramic to increase price. (Simpson, Tr. 3193, *in camera*).

462. Prior to the acquisition, Daramic and Microporous were the only suppliers of separators for motive power batteries used in fork-lifts to North American customers. (Gilchrist, Tr. 306-307, 342; Benjamin, Tr. 3533; Douglas, Tr. 4075-4076; Leister, Tr. 4027-4028). As of 2007, Mr. McDonald was aware of no other Motive power separator supplier other than Daramic and MPLP. (McDonald, Tr. 3949 (PX0506 *in camera*)).
463. Mr. Roe stated that HD competed against CellForce in the “motive power traction market.” (Roe, Tr. 1202; PX0316 at 002).
464. Entek is not in the motive separator business anymore. (Axt, Tr. 2186, *in camera*). {
[REDACTED]
} (Axt Tr. 2186, *in camera*). {
[REDACTED]
}
(Axt Tr. 2189, *in camera*).
465. For at least 6 years prior to the acquisition of MPLP by Daramic, Daramic and MPLP were the only competitors for North American battery manufacturers’ motive power business. The only price competition that Daramic faced in the sale of motive power separators came from MPLP. (Roe, Tr. 1264-1266). Indeed, during the entire time period from 2003 until the acquisition of MPLP, the only competitor that Daramic lost North American motive power business to was MPLP. (Roe, Tr. 1278-1279; PX0911 (Roe, Dep. at 16, *in camera*)). During that time, MPLP was also the only battery separator manufacturer whose competition caused Daramic to lower prices on motive batteries. (Roe, Tr. 1264-1266, 1812-1813).
466. MPLP was poised to capture substantial market share from Daramic in the motive market. (Simpson, Tr. 3185-3186, 3438, *in camera*; PX0131 at 062-065). {
[REDACTED]
} (PX0247, *in camera*; PX0153 at 2; PX0243, *in camera*).
467. {
[REDACTED]
} (PX0950 at 14-16, *in camera*). {
[REDACTED]
}.} (PX0258 at 002; PX0255 at 001, *in camera*; Roe, Tr. 1292-1294, *in camera*, 1350-1354, *in camera*).
468. Since the acquisition of MPLP in February 2008, Daramic has not lost any motive power business in North America to any competitors. (Roe, Tr. 1279). Nor has Daramic made any price concessions to North American customers for motive products due to competition from any other competitor. (Roe, Tr. 1812-1813). Post-merger, customers have less leverage in price negotiations with separator suppliers.

469. { [REDACTED] } (PX2262 at 001-002, *in camera*).

470. After the acquisition, Daramic raised the prices for CellForce separators sold to Bulldog Batteries by 10%. This price increase took effect on January 1, 2009. (Benjamin, Tr. 3522). Previously, Daramic charged Bulldog Batteries a 7% energy surcharge in 2008. (Benjamin, Tr. 3521). Bulldog has no ability to determine whether these increases are justified by increases in Daramic's raw material costs. (Benjamin, Tr. 3524-3525). However, as compared to past pricing increases from separator suppliers, the President of Bulldog Batteries feels the 10% price increase is "pretty exorbitant." (Benjamin, Tr. 3525). For example, in the five year period during which it purchased CellForce separators from Microporous, the cumulative price increases from Microporous totaled about 3% and the largest price increase was 1-1/2%. (Benjamin, Tr. 3526).

471. After Daramic notified Bulldog Battery that a ten percent price increase effective January 1, 2009 would be occurring, Mr. Benjamin, the President, stated he did not try to negotiate a lower price with Daramic because "[t]here was no way to negotiate a lower price. There was no place to go." (Benjamin, Tr. 3522). After the announced price increase Bulldog Battery did not look to source their needs from another motive battery separator manufacture because there is no other supplier. (Benjamin, Tr. 3526).

1. Daramic viewed MPLP as a threat

472. The only motive competitor that Daramic lowered its prices to meet in North America was Microporous. (Roe, Tr. 1265). As far back as 2002, Daramic was lowering prices on motive products { [REDACTED] } (PX0243 at 001, *in camera*; Roe, Tr. 1254). In 2002, Daramic lowered prices on industrial products to { [REDACTED] } (PX0243 at 002, *in camera*). **Daramic documents reflect the benefits of competition between MPLP and Daramic in the motive market, stating, e.g., that in this market, [REDACTED] (PX0023 at 004, *in camera*).**

473. In 2002, Daramic signed an exclusive supply agreement with C&D Battery to supply C&D with motive power PE separators. (PX0836 at 001; Roe, Tr. 1254). Daramic's contract with C&D contained a competitive pricing clause which allowed C&D the opportunity to move product to a competitor if it received a lower priced offer and Daramic declined to match the offer. (PX0836 at 001; Roe, Tr. 1254-1255).

474. Soon after signing the contract with Daramic, C&D brought a lower-priced offer from MPLP for motive power separators to Daramic. (Roe, Tr. 1255; PX0836 at 001). In response to MPLP's low priced offer, Daramic made price concessions to C&D in order to maintain the C&D business. (Roe, Tr. 1255-1257; PX0836 at 001). Daramic did not expect that MPLP would continue to offer C&D ever lower prices. (PX0836 at 001).
475. In early 2003, Daramic learned that MPLP was again offering even lower prices to entice C&D to switch from Daramic to MPLP. (PX0836 at 001). This time C&D informed Daramic that Daramic's prices were 60% higher than the MPLP offer. (PX0836 at 001). C&D again reminded Daramic about the competitive price clause in their contract. (PX0836 at 001). Mr. Roe was surprised that MPLP continued to offer lower prices. (Roe, Tr. 1257). In response to MPLP's second attempt to win C&D's business, Daramic again offered price concessions to C&D amounting to a savings for C&D of \$275,000. (PX0836 at 001). At the end of the day, Daramic gave C&D an 11.2% price reduction in April 2004 in order to maintain C&D's business in the face of competition from MPLP. (PX0409 at 001; Roe Tr. 1261).
476. Daramic recognized the threat to its business, noting that "we have a new polyethylene competitor entering the North American market. Micro-Porous Products . . . they have attacked all the large manufacturers and to keep from losing business, we have adjusted prices as needed which has eroded our margins. . ." (PX0153 at 002).
477. By the time Daramic was responding to the second low price offer from MPLP at C&D, Daramic had had enough of the competitive price clause in the C&D agreement, and Mr. Roe felt that the key to moving forward with C&D was to "eliminate the competitive clause of the agreement." (PX0836 at 002). By eliminating the competitive price clause, Daramic felt that it could tie up 100% the C&D business for the next three years and keep MPLP from supplying C&D. (PX0836 at 002; Roe, Tr. 1259).
478. In June 2004, just two months after lowering prices to C&D, competition from MPLP forced Daramic to lower prices on motive power separators at EnerSys by about 14% from an average price of \$2.04 per square meter to an average price of \$1.75 per square meter. (PX0409 at 001; Roe, Tr. 1263-1264).
479. Several months later, Daramic again reacted to MPLP price competition on motive power separators by lowering prices by 3% at East Penn to maintain that business. (PX0409 at 001; Roe, Tr. 1262-1263).
480. Competition between MPLP and Daramic resulted in lower prices for EnerSys in 2004. In 2004, EnerSys was able to use a bid from Microporous for its motive power business to negotiate a reduction in price from Daramic in the \$200,000 range for its North American motive separator business. (Axt Tr. 2121-2122; RX00208).
481. Competition between MPLP and Daramic resulted in lower prices for EnerSys in 2005.
[REDACTED]

[REDACTED] (Axt, Tr. 2242, *in camera*). [REDACTED]
[REDACTED] (Axt, Tr. 2243, *in camera*).

- 482. In 2005, Daramic used the absence of competition from Microporous to “negotiate a little tougher” for higher prices with Exide. (PX0843 at 001).
- 483. Daramic expected that it would continue to face price competition at C&D from MPLP in the future. (Roe, Tr. 1266). In 2005, Mr. Roe informed Mr. Hauswald that he expected there to be a “price fight” with MPLP for the C&D business when the contract expired at the end of 2006. (Roe, Tr. 1266-1267; PX0209 at 001). Mr. Roe also expected that Daramic’s prices would be higher than MPLP’s at the end of the contract period. (PX0209 at 001).
- 484. Daramic had no interest in splitting C&D’s separator business with MPLP after 2006. (PX0209 at 01). In order to keep 100% of C&D’s business, Mr. Roe suggested that Daramic “play our card that we supply all or nothing.” (PX0209 at 001). Mr. Roe thought that an “all or nothing” strategy could be successful with C&D because he did not believe that MPLP was capable of supplying all of C&D motive and stationary separator needs at that time. (PX0209 at 001; PX0922 (Roe, IHT at 104-105, 115-116, *in camera*)).
- 485. Competition between MPLP and Daramic resulted in lower prices for [REDACTED] in 2006. Daramic’s first offer [REDACTED] (Axt, Tr. 2165-66, *in camera*). [REDACTED] (Axt, Tr. 2166, *in camera*). [REDACTED] (Axt, Tr. 2166, *in camera*; PX1204, *in camera*).
- 486. Daramic saw Microporous as a threat in its 3-Year Strategy and that Microporous’s planned capacity expansions could threaten additional Daramic industrial sales. (PX0171 at 008).
- 487. In its 3-Year Strategy, the key for Daramic to securing its motive sales was either execution of a long-term contract with EnerSys or the acquisition of Microporous. (PX0171 at 008).
- 488. Competition between MPLP and Daramic resulted in lower prices for EnerSys in 2007. In 2007, MPLP sought a rubber pass-through agreement with its customers, including EnerSys. (RX00210 at 001). [REDACTED] (RX00207, *in camera*). Nevertheless, after several weeks of negotiations, EnerSys accepted it with respect to Ace-Sil, but not for CellForce.

(RX00210 at 001-002; McDonald, Tr. 3909; Burkert, Tr. 2313-2314, 2334-2336, 2358-2359, *in camera*). With respect to CellForce, EnerSys was able to threaten to switch its volume to Daramic in order to avoid the new rubber adjustment formula. (RX00210 at 001; Axt, Tr. 2246).

489. The availability of MPLP to EnerSys in 2007 also prevented Daramic from being able to force a new long term contract onto EnerSys. On November 7, 2007, Tucker Roe wrote an email to Larry Burkert in which he informed Mr. Burkert that { [REDACTED] } (RX00768 at 001, *in camera*). Mr. Roe added, however, that Daramic would { [REDACTED] } (RX00768 at 001, *in camera*).
490. EnerSys's Mr. Burkert responded to Mr. Roe's email stating that he was { [REDACTED] } (RX00768 at 001, *in camera*; Burkert, Tr. 2343-2344, *in camera*). Mr. Burkert testified that he was able to make that statement because he was { [REDACTED] } (Burkert, Tr. 2344, *in camera*).
491. Daramic sold "HD to certain traction customers, primarily as a defensive move against Amerace's CellForce." (PX0316 at 002; PX0023 at 004, *in camera*). { [REDACTED] } (PX0023 at 010, *in camera*). Daramic's February 2007 HD Product Strategy Presentation showed that { [REDACTED] } (PX0023 at 010, *in camera*).

2. MPLP took sales

492. Bulldog was MPLP's first big motive customer. (Benjamin, Tr. 3515).
493. In 2002-2003, Bulldog Battery switched to Microporous (*i.e.*, Amerace) for separators for its motive batteries because Daramic, its supplier at that time, was not providing reliable delivery and consistent product quality. (Benjamin, Tr. 3511-3512). Daramic had been supplying Bulldog Battery with a PE type separator which could run on a sleeve machine. Microporous began supplying Bulldog Battery with its newly developed CellForce product which could also run on a sleeve machine. (Benjamin, Tr. 3508, 3514).

494. In an effort to source motive separators from the only other motive separator supplier, Bulldog Battery proposed buying a tool for Microporous, if Microporous would run the tool for Bulldog. Microporous countered Bulldog's offer, by saying it would buy the tool if Bulldog would sign a one year contract. Bulldog agreed to Microporous's proposal. (Benjamin, Tr. 3513-3514).
495. Once Bulldog Battery became a customer of Microporous, Daramic would periodically contact them. Daramic would say to Bulldog "Well, you really need to come back to Daramic and buy our material, we can give you a better price, we can do this." (Benjamin, Tr. 3517). Daramic's motive separator pricing was lower than Microporous. (Benjamin, Tr. 3558).
496. In motive, Daramic intended to leverage its HD product to respond to competition from Microporous. (PX0171 at 004).
497. In 2006, after Bulldog Battery had switched to Microporous, Daramic unsuccessfully tried to win back this business by offering Bulldog Battery lower pricing on Daramic HD. (Benjamin, Tr. 3516, 3518, 3557). Bulldog Battery continued to source most of its motive battery separators from Microporous who lowered its price for CellForce in response to Daramic's pricing offer. (Benjamin, Tr. 3516-3517).
498. Because Daramic and Microporous competed so vigorously for motive battery manufactures, in 2006 Bulldog Battery was able to receive a 2.5% price decrease on all of its separator purchases from Microporous without using Daramic as a threat, but simply by stating Daramic had offered it a lower price. (Benjamin, Tr. 3545-3548). If Bulldog Battery wanted to switch its motive separators from Microporous's CellForce separators to Daramic's HD separators, it could do so. (Benjamin, Tr. 3518, 3555). Thus, if Microporous and Daramic were independent today, Bulldog Battery would have two sourcing options for its motive separator needs instead of only one today. (Benjamin, Tr. 3526, 3555).
499. Prior to the acquisition, Microporous lowered its pricing for the CellForce separators sold to Bulldog Batteries after finding out that Daramic had offered Bulldog Batteries a lower price for its competing HD separators. (Benjamin, Tr. 3517-3518).
500. Daramic was achieving 37.2% average gross margin for its PE industrial separators, but average of 28% for its HD separators. Daramic feared that a shift to PE/rubber separators for the motive market would lead to higher HD sales and that it could not charge a premium for HD due to competition from CellForce. (PX0319 at 013)

D. MPLP was Daramic's only competitive constraint in UPS

501. Prior to the acquisition, Daramic and Microporous were the only suppliers of separators for reserve power for flooded high-end batteries to North American customers. (Gilchrist, Tr. 305-306; 343).
502. { [REDACTED] } (Simpson, Tr. 3193, *in camera*; Gillespie, Tr. 3048).
503. { [REDACTED] } (Axt, Tr. 2216, *in camera*). { [REDACTED] } (Axt, Tr. 2216-2217, *in camera*). There is no one other than Daramic who makes UPS separators either in North America or worldwide. (Axt, Tr. 2102-2103).
504. EnerSys planned to shift its separator purchases from a split between Daramic and MPLP to sole sourcing with MPLP. The only component of the plan that had not been achieved was having a replacement for Daramic's Darak product. (McDonald, Tr. 3929-3930; PX0511).
505. Prior to the acquisition, Microporous had made some sales for over a "year and a half" to C&D and had already won a contract with EnerSys that would have given Microporous 40-50% of the North America UPS market. (Gilchrist, Tr. 398-399).
506. There is no other UPS separator technology available to UPS customers for a small but significant and non-transitory increase in price. { [REDACTED] } (Axt, Tr. 2220-2222, *in camera*).
507. In its global search for UPS separators, { [REDACTED] } (Axt, Tr. 2216-17, *in camera*). As of today, other than Daramic, there is no one in the world that makes a separator that can be used in EnerSys's UPS batteries. (Axt, Tr. 2101).
1. MPLP was in the process of commercializing a UPS separator to address the black scum issue
508. Planning for project LENO began in late 2006 at the approval of the R&D steering committee which included Mike Gilchrist and Larry Travathan, as well as Steve McDonald and Matt Wilhjem. (Brilmyer, Tr. 1836).
509. The LENO had a variety of people with different areas of expertise from development and sales to finance, in order to keep the R&D developers "based in reality." The finance and sales team members kept the team focused on the market for the new product and the costs associated with its development as well as the price the product could achieve in that market. (Brilmyer, Tr. 1837-1838).

510. The LENO team met regularly once a month, specifically the second Tuesday of the month in order to “ke[ep] the project moving” and to “ke[ep] everybody on track.” (Brilmyer, Tr. 1838).
511. The minutes from the LENO team meetings were recoded by Dr. Brilmyer and copies were distributed to the steering committee every month. (Brilmyer, Tr. 1838-1839).
512. White PE was another name for the LENO project. Part of the LENO project goal was to find a solution to the black scum problem inherent in UPS batteries that used PE separators. White PE was a variation on the low ER no oil theme originally intended to become a replacement- for Daramic's Darak product commonly used in gelled batteries. (Brilmyer, Tr. 1837, 1839-1840).
513. MPLP's { [REDACTED] } (Whear, Tr. 4821, *in camera*)
514. The LENO project was initiated at the request of a customer, EnerSys, who had interests in a competing separator product for their gel batteries (Darak) and also for a separator that would address the “black scum problem they were having in their UPS batteries.” (Brilmyer, Tr. 1839).
515. The UPS batteries that EnerSys was experiencing the black scum problem with were flooded lead acid batteries produced in its Hays, Kansas facility. (Brilmyer, Tr. 1841).
516. The LENO team at Microporous was eventually successful in discovering the root cause and a solution to the black scum problem. (Brilmyer, Tr. 1855).
517. Microporous had sent separators to EnerSys at its Hays, Kansas facility for battery builds and testing prior to the merger with Daramic. (Brilmyer, Tr. 1924-1925; PX0665 at 002, *in camera*).
518. The testing that the LENO project team had conducted was progressing very well before the merger. (Brilmyer, Tr. 1856-1857). Life-testing takes two years to complete for UPS batteries. (Brilmyer, Tr. 1902).
519. { [REDACTED] } { [REDACTED] }
(PX0490, *in camera*; Brilmyer, Tr. 1868, *in camera*).

i) MPLP expected sales in late 2008 or 2009-07-08

520. Due to the strong customer demand for the product and the technical success Microporous achieved, Microporous had already made capital expenditures in its

European facility, and was planning on additional expenditures at its United States facility, in anticipation of separator sales from project LENO as early as late 2008 or early 2009. (Brilmyer, Tr. 1858; PX0664 at 002, *in camera*).

2. Acquisition ended MPLP's efforts to address black scum in UPS

521. Since the acquisition, { [REDACTED]
[REDACTED]
(PX0579 at 3, *in camera*)
[REDACTED]
[REDACTED] }
522. { [REDACTED]
[REDACTED] } (PX0913 (Whear, Dep. at 197, *in camera*); Whear, Tr. 4825, *in camera*)). As a final solution it offered the Darak product as an alternative to EnerSys. (Whear, Tr. 4722; PX0913 (Whear, Dep. at 200, *in camera*)). Darak does not create black scum. (Axt, Tr. 2104).
523. There was little support for the LENO project among Daramic management since the goal of the project was to replace the costly, "very high-margin" Darak product with a less expensive, lower margin PE based separator. (Brilmyer, Tr. 1863-1864).

i) MPLP development team eliminated

524. After the acquisition, the { [REDACTED]
[REDACTED] } (Whear, Tr. 4820, *in camera*).
525. After the merger, Daramic moved Dr. Brilmyer from Piney Flats Tennessee to its Owensboro Kentucky facility and disbanded the R&D group of the former Microporous against the request of Dr. Brilmyer and Rick Wimberly who thought the projects that they were engaged in under an independent Microporous were worthy of a continued concerted focus. As a result, work on the LENO project slowed down. (Brilmyer, Tr. 1861-1862).

E. MPLP was a Competitive Constraint in SLI

526. In 2003, Mr. Roe was negotiating with JCI for a contract extension. (Roe, Tr. 1237). During the course of these negotiations, Mr. Roe came to understand that MPLP was bidding on a portion of JCI's SLI business in both the US and Europe. (Roe, Tr. 1237; PX0693). Mr. Roe understood that JCI was reviewing a proposal for the establishment of a new battery separator manufacturing facility in Europe, and Mr. Roe assumed that this would be a new MPLP manufacturing facility. (Roe, Tr. 1240; PX0693).

527. After learning about MPLP's attempt to gain a share of JCI's SLI business, Daramic grew very concerned about the potential threat to Daramic from MPLP's possible entrance into the SLI market. (PX0244). Just two weeks after Daramic forced JCI into a contract extension, Mr. Roe informed Daramic's worldwide sales team that MPLP had been qualified for use in automotive products at JCI and might soon be pursuing automotive opportunities. (PX0244; Roe Tr. 1249-1250). Mr. Roe told the Daramic sales team that it had "become critical that we assess the true sales situation of [MPLP's] CellForce [sic] product." (PX0244; Roe Tr. 1248). Daramic understood that at that time, MPLP's CellForce line was running at full capacity and that MPLP was planning a second PE line for their Piney Flats facility. (PX0244; Roe, Tr. 1251-1253). Mr. Roe requested that his sales team estimate where MPLP might be supplying customers, and informed the sales team that this was a "critical exercise in order to understand the potential threat of this competitor." (PX0244; Roe, Tr. 1251).
528. Dr. Kahwaty's assertion that Microporous was a high-cost firm is belied by Microporous's position in the deep-cycle and motive markets. { [REDACTED] } (Simpson, Tr. 3438, *in camera*).
529. Dr. Simpson noted that even if { [REDACTED] } did have higher cost than { [REDACTED] } in the manufacture of { [REDACTED] } these higher costs did not prevent Microporous from competing. (Simpson, Tr. 3463, *in camera*). Significantly, Daramic offered lower prices for SLI battery separators in response to competition from { [REDACTED] }. (PX0258).

F. The acquisition will facilitate coordination in the SLI market

530. Dr. Simpson concluded that Daramic's acquisition of Microporous would facilitate coordinated interaction. (Simpson, Tr. 3201-3202, *in camera*).
531. Coordinated interaction refers to anticompetitive effects that can only occur when the merged firm acts in concert with some of its rivals. (Simpson, Tr. 3199-3200, *in camera*; Merger Guidelines §2.1). While outright collusion is an example of coordinated interaction, Dr. Simpson noted: "firms that repeatedly interact can learn over time that they make more profits if they don't compete too aggressively, so just that over time firms through repeated interaction begin to behave in a way that's less competitive . . . and recognize that by behaving not as aggressively they earn more profits." (Simpson, Tr. 3200, *in camera*). The terms of coordination need not be overly elaborate - such terms could be as simple as a division of markets or the assignment of customers. (Simpson, Tr. 3200, *in camera*).
532. "While sellers sometimes explicitly coordinate their behavior, sellers often simply learn to cooperate through repeated interaction." (PX0033 at 020-021, *in camera*).

533. "Economic theory suggests that successful coordination becomes easier as the number of sellers involved declines." (PX0033 at 021, *in camera*). "This is confirmed by studies of actual cartels which find that cartels generally have only a small number of participants." (PX0033 at 021, *in camera*).
534. Dr. Simpson noted that for coordinated interaction to occur, firms need to reach terms of coordination, monitor those terms, and enforce those terms. (Simpson, Tr. 3201, *in camera*). Dr. Simpson testified that the following factors would make coordinated interaction more likely: repeated interaction among firms; a small number of firms; and information being readily available in the marketplace about what other firms are doing. (Simpson, Tr. 3201, *in camera*).
535. { [REDACTED] } (PX0904 (Seibert, Dep. 142, *in camera*)). { [REDACTED] } (PX0904 (Seibert, Dep. 142-143, *in camera*)).
536. These factors are present in this market. (Simpson, Tr. 3201-3202, *in camera*). A small number of firms repeatedly interact, and information about what other firms are doing is widespread in this market. (Simpson, Tr. 3201-3202, *in camera*).
537. If Daramic hears a rumor about a competitor, it is a small enough community that Daramic can check and find out whether the information is accurate. (Hauswald, Tr. 834, *in camera*). The industry is small enough such that competitive information such as Microporous's opening of a factory, Daramic's strike at a plant, or a plant closing for any significant length of time, is known by everyone in the industry. (Hauswald, Tr. 835-37, *in camera*).
538. In 2006, { [REDACTED] } learned and wrote in his personal notebook { [REDACTED] } sales information relating to the customers to whom { [REDACTED] } was selling and the quantities they sold. (PX0093 at 046, *in camera*). { [REDACTED] } gets such information from its work force regarding what customers are buying. (Hauswald, Tr. 840, *in camera*; PX0093 at 046, *in camera*).
539. { [REDACTED] } (PX0093 at 046, *in camera*; Hauswald, Tr. 841, *in camera*). { [REDACTED] } (PX0093 at 046, *in camera*; Hauswald, Tr. 843, *in camera*).
540. A Polypore document indicates that this effect is indeed present in these markets. The CFO of Polypore advised a subordinate to address barriers to entry when discussing Polypore's business, including Daramic, with Standard and Poor's: "The reason why we

don't worry too much about 'backlog' in the traditional sense is that with the SUBSTANTIAL technical ability, capital investment, lengthy qualification requirement, market share, and other 'barriers to entry,' the likelihood of our base business leaving us without our advance (in some cases significant advance) knowledge is very very low." (PX0829 at 001 (emphasis in original)). The subordinate, advised Standard and Poor's of the barriers to entry as instructed. (PX0828 at 001; PX2251 at 009, *in camera*).

541. Dr. Simpson noted that Daramic's acquisition of Microporous makes reaching terms of coordination, monitoring those terms, and enforcing those terms much easier for two reasons. (Simpson, Tr. 3201-3202, *in camera*). First, it reduces the number of players from three to two. (Simpson, Tr. 3202, *in camera*). Second, it eliminates a maverick firm: Microporous was the firm that was most aggressive about introducing new products and competing for market share. (Simpson, Tr. 3201-02, *in camera*).
542. JCI's PE SLI separator suppliers from 2004 through 2007 were Daramic and Entek. (Hall, Tr. 2687-2688). In this timeframe, JCI purchased between 110 and 120 million square meters of PE separators on an annual basis from Entek without a contract. (Hall, Tr. 2690).
543. JCI believes that Daramic and Entek were not competing for JCI's business. (Hall, Tr. 2692). In 2004, JCI described the separator supply base { [REDACTED] } (PX1505 at 002, *in camera*).
544. One reason that JCI felt that Daramic and Entek were not competing for its business was that JCI continued to see price increase during this time period despite double digit growth in its separator purchases, whereas JCI got lower prices from suppliers of other commodities as JCI's business grew. (Hall, Tr. 2692).
545. While JCI investigated moving some supply away from Entek, JCI had no other supplier outside of Daramic that JCI could use as a source of separator supply. (Hall, Tr. 2802-2803). During this time period, JCI's separator strategy continued to have a goal of bringing new separator entrants into the marketplace in order to get more competition. (Hall, Tr. 2691, 2693). JCI's goal was to { [REDACTED] } (PX1509 at 009, *in camera*).
546. { [REDACTED] } (PX0471, *in camera*;
Toth Tr. 1604-1605, *in camera*). { [REDACTED] }
{ [REDACTED] } (Simpson, Tr. 3390-3391, *in camera*).

1. SLI market has only two competitors today

547. Prior to the acquisition, Daramic, Microporous, and Entek were the only suppliers of separators for SLI or automotive batteries to North American customers. (Gilchrist, Tr. 307-308, 342). The SLI market is the largest separator market. (PX0131 at 032).
548. Daramic views itself as the "market leader" when it comes to pricing. (PX0235). Daramic was the first in the industry to announce a price increase for 2006. Soon after Daramic's announcement, Entek "followed our lead" and increased prices. (PX0235). Daramic was "excited" because Entek "had again shown that Daramic is the market leader." (PX0235). Daramic's VP of worldwide sales informed his sales team to "NOT BE AFRAID TO FORCE THE INCREASE." (PX0235, emphasis in original).

2. Respondent documents state that competition is not strong in SLI

549. { [REDACTED] } (PX0265 at 004, *in camera*). { [REDACTED] } (PX0265 at 004, 008, *in camera*). In comments on an earlier draft of this Strategy Audit, Tucker Roe of Daramic stated: "I would say that over the past years there has not been an aggressive rivalry among competitors but this has changed when Microporous Products entered the market and more recently seen by Entek," which implies that Microporous's entry prompted the increased rivalry. (PX0482 at 002). Finally, a Microporous document titled "Overview of Battery Separator Industry, September 2007" states: "Microporous Products, at the invitation of these [battery] manufacturers seeks to become a supplier to the domestic U.S. automotive industry and help the above manufacturers create a more competitive environment." (PX0088 at 001-002).

G. MPLP was expanding in SLI at customers' request

550. Dr. Simpson opined that { [REDACTED] } (Simpson, Tr. 3461-3462, *in camera*; (PX0258; PX0254 at 001, *in camera*)). { [REDACTED] } (Kahwaty, Tr. 5413-5414, *in camera*). In addition, Daramic documents generally reference { [REDACTED] } (PX0276 at 009, *in camera*; PX0174 at 003, *in camera*).
551. Prior to the acquisition, at its Piney Flats plant, Microporous manufactured extensive samples and some commercial-use separators for SLI batteries for Johnson Controls,

Exide, Voltmaster and several battery manufacturers in the European Union. Several truckloads of material were shipped to Johnson Control's Tampa plant. (Gilchrist, Tr. 312-13, 417-18). Mr. McDonald also talked to East Penn about supplying them PE for SLI. (McDonald, Tr. 3879-3880 *in camera*).

552. { [REDACTED] } (Weerts, Tr. 4517, *in camera*). { [REDACTED] }
(Weerts, Tr. 4517, *in camera*). { [REDACTED] }
{ [REDACTED] } (PX1832 at 026-027, *in camera*).

1. Worked with customers to qualify in SLI

i) Work with JCI in 2003 to bring competition to SLI market

553. Johnson Controls ("JCI") is the largest manufacturer of flooded lead acid batteries in the world. (Hall, Tr. 2662-2663). In the United States, JCI is one of "only three major automotive battery manufacturers." (PX0088 at 001)

554. { [REDACTED] } (PX2112, *in camera*). The company viewed MPLP as one of three { [REDACTED] }
(PX2112 at 006-019, *in camera*) ({ [REDACTED] } (PX2112 at 019)).

555. As part of JCI's separator sourcing strategy, JCI engaged in discussions with MPLP prior to 2003 in an effort to develop MPLP as a new entrant into the SLI separator business. (Hall, Tr. 2670).

556. JCI tested a sample PE SLI separator manufactured by MPLP in 2003. (Hall, Tr. 2696). The MPLP sample SLI separator was produced off of a production line in MPLP's Tennessee facility that was not set up to run the process; instead MPLP's production line was modified to try to create the requisite SLI sample for JCI. (Hall, Tr. 2696). { [REDACTED] } (Hall, Tr. 2696, 2811, *in camera*; PX0672 at 006, *in camera*).

a. Daramic forced JCI into contract extension that stymied entry

557. In 2002, JCI was “primarily a North American company.” (Hall, Tr. 2666). It had just acquired Hoeppeke, a smaller European battery producer. (Hall, Tr. 2666). About one year later, it also acquired Varta, another European battery producer. (Hall, Tr. 2672).
558. { [REDACTED] } (PX2112 at 014, *in camera*; PX1503 at 003, *in camera* { [REDACTED] }); Hall, Tr. 2666). { [REDACTED] } (PX2112 at 014, *in camera*). Others, such as the Varta business, were on a purchase order basis. (Hall, Tr. 2672).
559. { [REDACTED] } was the exclusive supplier of PE battery separators to JCI facilities in the United States through December 31, 2003. (PX2112 at 11, *in camera*; PX0820 at 017). { [REDACTED] } also supplied { [REDACTED] } (PX2112 at 014, *in camera*).
560. Soon after becoming Global VP for Procurement at JCI in 2002, Rodger Hall sought better separator pricing for the company. (Hall, Tr. 2666). It did not appear to Mr. Hall that JCI and Daramic were aggressively competing for JCI’s business. (Hall, Tr. 2666-2267). For example, JCI requested a quote on U.S. business from Daramic and after a delay on Daramic’s part of several months, the quote received from suggested to JCI that Daramic was not aggressive about getting into JCI’s U.S. business. (Hall, Tr. 2668). Mr. Hall reasoned that, as JCI’s overall production volumes increased, it should have been able to obtain better pricing from its separator suppliers. (Hall, Tr. 2666).
561. { [REDACTED] } (RX0039 at 016, *in camera*). In order to get a competitive price, JCI’s strategy was to develop new entrants for competition. (Hall, Tr. 2670).
562. However, JCI struggled to bring on new competitors due to Daramic’s negotiating tactics. JCI felt that Daramic and Entek were { [REDACTED] } (PX1505 at 002, *in camera*).
563. { [REDACTED] } (PX1503, *in camera*). { [REDACTED] } (PX1503 at 003, *in camera*).
564. Internally, Daramic viewed its negotiations with JCI in 2003 as { [REDACTED] } (PX0243 at 001, *in camera*). Mr. Roe told his boss, Frank Nasisi, that he believed the JCI negotiation would help { [REDACTED] } (PX0243 at 001, *in camera*).

565. Mr. Hall of JCI, on the other hand, wanted to reduce the mandatory minimum volumes committed to Entek and Daramic so that space could be created for new competition. (Hall, Tr. 2670-2674).
566. Negotiations continued during 2003 and Daramic continued to supply JCI's facilities in Europe and elsewhere outside the United States at previously invoiced prices. (Hall, Tr. 2672, 2780). As of November 2003, Daramic considered its "negotiations for a global contract [with JCI] . . . are still pending." (PX1786 at 027).
567. { [REDACTED] }
(PX0928 at 001; Hall, Tr. 2873-2874, *in camera*). Mr. Hall thought the competitive market was "unhealthy." (Hall, Tr. 2873-2874). JCI felt that Daramic and Entek "were not aggressively competing against each other for business." (Hall, Tr. 2667, 2692). { [REDACTED] }
{ [REDACTED] } (PX1505 at 002, *in camera*; PX2112 at 017, *in camera* { [REDACTED] })).
568. At a meeting in June 2003 at JCI headquarters, Mr. Gilchrist and an official from Kelso (then-owner of MPLP) discussed the potential for MPLP to supply "as high as 50,000,000 square meters on a worldwide basis" of JCI's polyethylene separator needs for the SLI market. (PX0928 at 001). Mr Hall explained that Daramic had been "arrogant" and difficult to deal with" and unwilling to lower its prices to JCI during "the last six or seven years" while JCI's purchasing volume had grown. (PX0928 at 001-002).
569. { [REDACTED] } (PX0758 at 017, *in camera*).
570. In addition to considering MPLP, JCI also considered a start-up company in Europe named Alpha as a potential new supplier. (Hall, Tr. 2683-2686). However, JCI considered there to be high risks associated with Alpha because it was not yet in existence. (Hall Tr. 2686, 2872; PX1505 at 002, *in camera*). Mr. Hall was not sure what the outcome of JCI's work with Alpha would be. (Hall, Tr. 2872, *in camera*). Mr. Hall did not view Alpha as being on equal footing with MPLP, because MPLP was producing separators with a proven technology, thus JCI was "much more comfortable with the capability of [MPLP] to develop SLI separator production capability." (Hall, Tr. 2872-2873, *in camera*).
571. Meanwhile, Daramic began to get frustrated at its failure to persuade JCI to accept its previous proposal. (Roe, Tr. 1674-1676). On December 2, 2003, Mr. Roe informed Laura Pierri of JCI that Daramic was withdrawing all earlier proposals. (PX1504 at 001). If JCI did not sign Daramic's proposed contract by the end of the month, then "all purchases for product in Europe will be priced on a spot purchase price that will be significantly higher than those previously quoted." (PX1504 at 001).

572. Negotiations deteriorated. On December 3, 2003, JCI told Daramic it wanted two proposals, one for the US and one for Europe. (PX0965 at 013, *in camera*). Daramic was unwilling to submit a proposal for JCI's European business only. (Roe, Tr. 1680-1681).
573. In late 2003, Daramic believed that MPLP was offering to supply JCI under a five year contract with continuous price reductions passed along to JCI. (Roe, Tr. 1237-1238; PX0693; PX0758 at 017, *in camera*). JCI had requested a similar price reduction clause from Daramic, which Daramic "totally rejected." (PX0693).
574. During the course of negotiations with JCI, Daramic took a position that they would only negotiate for a worldwide contract, and was unwilling to submit a proposal for JCI's European business only. (Roe, Tr. 1680-1681).
575. Soon after learning of MPLP's bid for JCI's SLI business, Daramic threatened to cut off supply to JCI in Europe if JCI did not sign a long term contract. (PX0758 at 017, *in camera*; Roe, Tr. 1676).
576. JCI did not consider the negotiations finalized with Daramic over the contract on the table in the beginning of 2004. JCI was still negotiating pricing and was unhappy with the minimum volume requirements. (Hall, Tr. 2674). Additionally, JCI was not satisfied with the length of the contract and wished to have a shorter-term contract. (Hall, Tr. 2684). JCI informed Daramic that it was not through negotiating the contract. (Hall, Tr. 2675).
577. By early January, the back-and-forth discussions between Daramic and JCI had "escalated," so Mr. Hall became directly involved. (Hall, Tr. 2676-2677). Frank Nasisi, the general manager of Daramic at the time, called Mr. Hall and told him the contract "negotiations weren't moving forward at a pace that [Nasisi] considered appropriate and that [an 85%] price increase was going to occur" on a date certain in the immediate future. (Hall, Tr. 2676-2677). { [REDACTED] }
(Hall, Tr. 2866-2867, *in camera*).
578. Mr. Hall responded that the parties should have a five day "cooling-off period" and then resume discussions about the contract(s). (Hall, Tr. 2677-2678). The parties then agreed to get back to each other after five days. (Hall, Tr. 2677-2678). Meanwhile, { [REDACTED] }
(Hall, Tr. 2865-2866, *in camera*).
579. Before five days had passed, { [REDACTED] }
{ [REDACTED] } (Hall, Tr. 2677-2678; PX0965 at 013, *in camera*). Mr. Nasisi informed Mr. Hall that if the contract was not signed Daramic intended on closing down Daramics's main supply plant to JCI located in Potenza, Italy. (Hall, Tr. 2678).

580. Mr. Nasisi said he would supply JCI with separators it had in inventory (about a nine-day supply), and when those ran out, JCI would no longer be a Daramic customer unless it signed the contract. (Hall, Tr. 2677-2678). He gave JCI only several days to sign the contract and send it back to Daramic as it was, without any changes. (Hall, Tr. 2678).
581. Subsequently, JCI understood that Daramic's Potenza, Italy plant was actually shut down. (Hall, Tr. 2678-2680). { [REDACTED] } (PX0757 at 002, *in camera*). { [REDACTED] } (Hall, Tr. 2868-2869, *in camera*).
582. Mr. Hall understood that the impact of a shutdown of Daramic's Potenza plant on JCI in Europe would be dire; it would create "a very serious problem with supplying [the company's] customers." (Hall, Tr. 2679-2680). If Daramic stopped production at the Potenza plant, JCI would be forced to choose which of its battery customers to serve, and which it could no longer supply. (Hall, Tr. 2680-2681). ("Since we need separators to build batteries, we would not have been able to build batteries for some of our key customers.").
583. JCI immediately reached out to Entek to find how much available capacity Entek could supply to JCI. However, Entek could not supply the "sizes and the volume that would be required to replace what [JCI] couldn't get from Daramic and the Potenza plant." (Hall, Tr. 2680). Even if JCI could obtain some separators from Entek, it still would have faced "a considerable shortfall" in meeting its needs in Europe at that time. (Hall, Tr. 2680).
584. Daramic and Entek were the only suppliers qualified by JCI to supply separators to the company in Europe as of January 2004. (Hall, Tr. 2681). JCI had no other suppliers to turn to. (Hall, Tr. 2681).
585. After searching for other supply options, Mr. Hall immediately went to Greg Sherrill, JCI's General Manager and explained the situation. At that point JCI decided it "had no choice but to sign the contract as it was." (Hall, Tr. 2681-2682). JCI did not wish to sign this contract with Daramic, but the company's management "felt we were being forced to sign this contract." (Hall, Tr. 2682).
586. On January 12, 2004, JCI conceded that Daramic's { [REDACTED] } { [REDACTED] } (PX1505 at 002, *in camera*).
587. { [REDACTED] } { [REDACTED] } (Hall, Tr. 2869, *in camera*). Mr. Hall testified

that he { [REDACTED] } (Hall, Tr. 2869, *in camera*).

588. Daramic believed that by forcing JCI into a long term contract, it had stopped MPLP's work with JCI on SLI supply. (PX0433 at 004). At the same time, Daramic recognized that the JCI contract did not entirely eliminate the future threat of MPLP in the SLI business. (PX0433 at 004). Daramic worried that JCI and MPLP might continue to work together during the course of the Daramic contract, with MPLP bringing on new capacity in the US and/or Europe to fulfill volume commitments that JCI could make for the end of the contractual period. (PX0433 at 004; Roe, Tr. 1274-1275).
589. In a series of emails, Daramic's executives acknowledged "strong arming" JCI during 2003-04 contract negotiations. Daramic knew that its coercive negotiating engendered "bad blood" between JCI and Daramic. (PX0750 at 001).
590. { [REDACTED] }
(PX0965 at 013, *in camera*). { [REDACTED] }
{ [REDACTED] } { [REDACTED] }
{ [REDACTED] } (PX1505 at 002, *in camera*).
591. { [REDACTED] }
{ [REDACTED] } (PX0908 (Amos, Dep. at 133, *in camera*)). In particular, { [REDACTED] }
{ [REDACTED] } (PX0744 at 001; PX0908 (Amos, Dep. at 148, *in camera*)).
592. Daramic understood that if it could { [REDACTED] } (PX0751 at 001, *in camera*). Tucker Roe acknowledged that he knew "Varta [a JCI affiliate in Germany] has received and is reviewing a commitment proposal for a new PE separator facility to be built" in connection with what he viewed was "part of the [MPLP] proposal" to JCI. (PX0693).
593. The 2004 Daramic/JCI contract also affected Alpha, the other potential new supplier. The minimum volume requirements and the five-year contract length of the contract, forced JCI to end its work with a start-up company called Alpha. (Hall, Tr. 2683-2684). The minimum volume requirements in Europe did not leave JCI sufficient room to develop any additional supplier for PE separators. (Hall, Tr. 2684).

2. JCI renewed work with MPLP in 2005

594. Despite difficulties in 2003, Microporous continued to work towards entering the SLI market. JCI reengaged in discussions with MPLP in 2005 about possible supply of PE SLI separators from MPLP to JCI in the US and in Europe. (Hall, Tr. 2693-2694).
595. JCI informed MPLP that it wanted to bring them on as an additional SLI separator supplier because Daramic and Entek needed competition to improve their pricing and their performance as suppliers. (Hall, Tr. 2698-2699).
596. In the context of discussions with MPLP, JCI was interested in local supply of separators, contemplating that MPLP's future European facility would supply separators to JCI's European manufacturing plants, and MPLP's Tennessee facility would supply separators to JCI's plants in Tampa and/or Winston-Salem. (Hall, Tr. 2695).
597. In 2005 MPLP was intending to expand into SLI for JCI and further expand into industrial with CellForce production for EnerSys. (Trevathan, Tr. 3718-3719).
598. The MPLP expansion was a strategic multiphase plan which encompassed both SLI and industrial customers in both North America and Europe. (Trevathan, Tr. 3721-3724).
599. Subsequent to JCI's 2005 discussions with MPLP, JCI tested MPLP's PE SLI separators a second time after MPLP had improved the manufacturing process. (Hall, Tr. 2696-2697). This time the problems that were encountered by JCI in its earlier testing of MPLP separators were fixed. (Hall, Tr. 2696-2697).
600. JCI's technical representatives had discussions with MPLP personnel to make sure that MPLP understood the manufacturing process and understood the changes that were made from the previous failed attempt by MPLP, in order make sure that MPLP could successfully manufacture the separators on a repeated basis. (Hall, Tr. 2697). Following these discussions, JCI was comfortable that MPLP could produce an SLI separator that JCI could use. (Hall, Tr. 2697). [REDACTED] [REDACTED] (PX0672 at 006, *in camera*).

i) JCI negotiations ended

601. Ultimately JCI and MPLP negotiations did not lead to a contract between the two parties. (Hall, Tr. 2697). JCI did not contract with MPLP because (a) uncertainty surrounding an arbitration that Daramic had filed against MPLP in Europe, and (b) reluctance on the part of MPLP's owners to grant JCI an assignment clause to prevent the sale of MPLP to a competitor. (Hall, Tr. 2697-2700; 2800).
602. JCI was concerned that Daramic's arbitration could delay MPLP's installation of capacity such that it would not have the requisite production capacity by the end of 2008. (Hall, Tr. 2700). JCI felt strongly that it needed new capacity in place in a timely manner to avoid being in the same situation it was in with Daramic in 2004. (Hall, Tr. 2699-

2700). { [REDACTED] } (Hall, Tr. 2701, 2748-2749, *in camera*). JCI believed that with the arbitration Daramic had { [REDACTED] } (PX1510 at 004, *in camera*).

603. JCI felt the need for an assignment clause with MPLP because it was aware of Daramic's previous acquisitions of separator manufacturers. (Hall, Tr. 2701). JCI considered it a possibility that Daramic might acquire any new separator manufacturing entrant (including MPLP) and thereby undo JCI's strategy to add new competitors to the marketplace. (Hall, Tr. 2701).
- ii) MPLP worked with Exide to become supplier of SLI separators up until acquisition
604. In the summer of 2007, Exide issued an RFP to MPLP, Daramic, Entek, Nippon Sheet Glass (NSG), and Amer-Sil for requests for bids on Exide's global separator business starting in 2010. (Gillespie, Tr. 2962; 2965-2967; RX00013). The RFP covered Exide's needs for automotive, motive, stationary and golf cart batteries. (Gillespie, Tr. 2967). At that time, Daramic was the only separator manufacturer in the world that could supply all of Exide's PE separator needs. (Gillespie, Tr. 2978).
605. Exide intended on using the RFP process to "go from a single source to a multi-source environment to mitigate the risk and exposure that Exide had from the single exposure." (Gillespie, Tr. 2966). Exide made all of the potential suppliers aware that Exide intended to pursue a multi-sourcing strategy. (Gillespie, Tr. 2966). Exide believed that the more competition there was in the marketplace, the better off Exide would be in the long run in obtaining lower costs, better quality and better service. (Gillespie, Tr. 2976-2978).
606. NSG refused to quote on Exide's RFP. (Gillespie, Tr. 2963-2964; PX1079 at 001-003).
607. Daramic and MPLP were the only companies that bid on supply for Exide's golf cart batteries. (Gillespie, Tr. 2967).
608. In response to the RFP, Amer-Sil submitted a bid for a portion of Exide's European motive power requirements. (Gillespie, Tr. 2967). Exide views Amer-Sil as a small player only capable of supplying limited applications in Europe. (Gillespie, Tr. 2968-2969). Amer-Sil did not bid on Exide's automotive requirements. (Gillespie, Tr. 2968).
609. MPLP's response to Exide's RFP was in the form of a memorandum of understanding (MOU) signed by Exide and MPLP in 2007. (Gillespie, Tr. 2968-2969; PX1080). The signing of the MOU represented Exide's commitment to go forward with supply from MPLP. (Gillespie, Tr. 3084). The MOU documented the discussions between Exide and MPLP to move forward with MPLP supplying 22 million square meters of PE automotive separators to Exide beginning in 2010. (Gillespie, Tr. 2968-2969; PX1080).

This represented about one third of Exide's PE separator business on a worldwide basis. (Gillespie, Tr. 2978-2979).

610. Mr. Gillespie was responsible at Exide for negotiating the MOU with MPLP. Mr. Gillespie's counterpart at MPLP in negotiations over the MOU was Mr. Gilchrist. (Gillespie, Tr. 2970-2971).
611. MPLP executed the MOU on July 20, 2007. (PX1080 at 007). Exide and MPLP agreed that their work together would remain confidential. (Gillespie, Tr. 2971-2972). Exide did not execute the MOU until September 2007 due to concerns at Exide over the potential for MPLP to have to disclose Exide's name to Daramic in connection with Daramic's lawsuit against MPLP. (Gillespie, Tr. 2971-2972; PX1080 at 007).
612. Mike Gilchrist was the point person in negotiations with Exide on the expansion for SLI in the U.S. (Trevathan, Tr. 3756).
613. MPLP signed an MOU with Exide for SLI volume for Exide's US facilities. (Trevathan, Tr. 3732-3734).
614. At the August 16, 2007 Microporous Board of Directors meeting, Microporous management reported that an MOU (Memorandum of Understanding) on the two-line SLI expansion had been signed, and that Microporous had given Exide a draft supply agreement. (PX1106 at 031).
615. Exide believed that the MOU would eventually lead to Exide's purchasing of PE SLI separators from MPLP in 2010. (Gillespie, Tr. 2976). In furtherance of that belief, Exide and MPLP continued to work towards the goals of the MOU in the months preceding Daramic's acquisition of MPLP. (Gillespie, Tr. 2974-2976, 3088-3089). After negotiating the MOU, Exide went forward with testing of MPLP's separator samples and developing specific pricing for the separators. (Gillespie, Tr. 2974).
616. Exide personnel also met with MPLP personnel on numerous occasions in furtherance of their work together on future supply of PE SLI separators. (Gillespie, Tr. 2975). For example, member's of Exide's procurement team met with MPLP in Paris in January 2008 to discuss MPLP's capabilities and testing of MPLP separators. (PX1023 at 001, 100). Additionally, Exide was working throughout this period of time to get internal buy-in for the strategy to move forward with MPLP, including working on a red-lined draft of a supply contract. (Gillespie, Tr. 3075, 3077).
617. Exide received and tested PE SLI separators from MPLP. (Gillespie, Tr. 2973). Exide's initial bench testing of MPLP's PE SLI separators looked good and Exide then produced batteries in the US and Europe for testing using MPLP separators. (Gillespie, Tr. 2973-2974; PX1024; PX1095). Exide felt that Exide and MPLP were going through a lot of hurdles very easily with the product." (Gillespie, Tr. 2975-2976).

618. The original MOU between Exide and MPLP expired in 2007. (PX1080). In February 2008, Exide and MPLP extended their MOU. (Gillespie, Tr. 2976). At that point in time, Exide had every intention that they would be purchasing PE SLI separators from MPLP in 2010. (Gillespie, Tr. 2976).
619. { [REDACTED] } (Gilchrist, Tr. 445-447, *in camera*).
620. Mr. Gilchrist was concerned until the last minute that the acquisition might fall through and carried on developing Microporous's business until the merger agreement was signed. This is why Microporous renewed its Memorandum of Understanding with Exide on February 14, 2008 during a period when acquisition negotiations with Daramic were in "stop-start" mode. (Gilchrist, Tr. 448-449, *in camera*; RX00403).
621. One day before the Daramic purchase, MPLP executives including Mr. Trevathan and Mr. Gilchrist traveled to Atlanta just two days before the acquisition to meet with Exide in order to "finalize an agreement" between MPLP and Exide for the PE line expansion at Piney Flats. (Trevathan, Tr. 3734; Gilchrist, Tr. 447-449, *in camera*; PX0392). MPLP was working in good faith to finalize the agreement. (Gilchrist, Tr. 447-449). At the Atlanta meeting, Exide reiterated its desire to move forward with the expansion process. (Gilchrist, Tr. 447-449)
622. The purpose of the February 2008 meeting between Exide and MPLP was in part to reassure Exide that MPLP was still interested in building a line for them. (McDonald, Tr. 3939).
623. Right up to the date of the deal, MPLP had no assurance that the deal would be consummated with Daramic. (Trevathan, Tr. 3753). And had the deal fallen through, MPLP would have continued with its expansion plans including those with Exide. (Trevathan, Tr. 3753-3754). Mr. Trevathan thought that MPLP was on its way to further improve profitability in the event that the merger with Daramic fell through. (Trevathan, Tr. 3750).
- iii) MPLP also held discussions with East Penn regarding SLI separator supply
624. Following an initial phone conversation between Mr. Leister of East Penn and Roger Berger of MPLP, Mr. Berger visited East Penn's Pennsylvania manufacturing plant to conduct further discussions with Mr. Leister regarding the possible supply of PE SLI separators to East Penn. (Leister, Tr. 4009). During this face to face meeting, East Penn indicated to Mr. Berger that East Penn was interested in seeing MPLP enter the SLI market. (Leister, Tr. 4010).

625. East Penn's conversations with MPLP about possible supply of PE SLI separators continued with a visit by East Penn representatives to MPLP's Piney Flats facility in October 2007. (Leister, Tr. 4011-4012) (PX0082). Accompanying Mr. Leister, East Penn's Director of Procurement Strategy and Supplier Development, on this trip to Piney Flats was Roger Barr, and Davis Knauer. (Leister, Tr. 3971-3976; 4011). As VP of Automotive Manufacturing And Purchasing, Mr. Barr is involved in the purchasing of SLI separators, while Mr. Knauer as VP of Automotive Engineering is involved in the testing and qualifying of SLI products. (Leister, Tr. 4011).
626. During East Penn's visit to Piney Flats in October 2007, as a signal of East Penn's seriousness about working with MPLP, the East Penn representatives indicated that East Penn might be willing to enter a long term contract with MPLP for the supply of PE SLI separators. (Leister, Tr. 4016-4017).
627. Following East Penn's visit to Piney Flats, Mr. Leister requested a price quote on 11 million square meters of PE SLI product from MPLP. (Leister, Tr. 4018). MPLP provided a price quote soon thereafter. (Leister, Tr. 4018).
628. Based on the discussions and tour of the facility, East Penn felt that MPLP had the requisite knowledge to make SLI separators for East Penn. (Leister, Tr. 4013). In late 2007, East Penn saw MPLP as a viable supplier for SLI separators. (Leister, Tr. 4018-4019). Up to the time of Daramic's acquisition of MPLP, East Penn had not ruled out the possibility of buying SLI separators from MPLP. (Leister, Tr. 4019).
629. MPLP believed that it would have been producing SLI separators for East Penn, but for the acquisition. (Trevathan, Tr. 3722-3723 (Phase III for East Penn was "discontinued because of the acquisition of Microporous by Daramic.")).
630. In the event that the lawsuit brought by Daramic against MPLP was successful, the contingency plan within MPLP was to produce SLI on the two lines in Tennessee and produce CellForce on the two lines in Austria. (Trevathan, Tr. 3705; PX0090).
- iv) MPLP planned to sell SLI separators to European customers as well
631. Microporous was planning on selling SLI separators from the Feistritz facility prior to its acquisition by Daramic, and would have pursued selling SLI separators from the Feistritz had it not been acquired by Daramic. (Gaugl, Tr. 4626).
632. At the Feistritz plant facility, Microporous built two production lines both of which could produce CellForce separators or plain polyethylene separators for SLI batteries. (Gilchrist, Tr. 332).

- H. SLI separator market reverts to a duopoly as a result of acquisition which eliminated a global new entrant
633. The acquisition enabled Daramic to increase price unilaterally. (Simpson, Tr. 3192-3194, *in camera*).
634. Daramic's acquisition of Microporous had two harmful unilateral effects in the SLI market, the first concerned sales to Exide. (Simpson, Tr. 3194, *in camera*). Although Microporous would not initially be in a position to supply all of the needs of Exide, Exide wanted to have Microporous as an independent supplier because they believed that they could obtain better pricing with an additional supplier competing for their business. (Simpson, Tr. 3194, *in camera*).
635. The second concerned sales to smaller battery manufacturers. Dr. Simpson testified: "For smaller battery manufacturers, Microporous would be in a position to meet all of their demand. And Microporous could be their best supplier, in which case eliminating it would reduce competition. They [Microporous] could be their second best supplier, in which case they would be the constraint on the supplier who was the best. . . . [In that way], the acquisition would reduce competition." (Simpson, Tr. 3194-3195, *in camera*). In fact, Daramic had already lowered prices to some smaller battery manufacturers in response to Microporous's expansion of capacity. (PX0258).
636. { [REDACTED] } (Hall, Tr. 2747, *in camera*).
Subsequent to the completion of the long term contract, { [REDACTED] } (Hall, Tr. 2747, *in camera*). { [REDACTED] } (Hall, Tr. 2748, *in camera*).
637. { [REDACTED] } (Hall, Tr. 2762-2763, *in camera*). { [REDACTED] } (Hall, Tr. 2762-2763, *in camera*). { [REDACTED] } (Hall, Tr. 2763-2764, *in camera*). { [REDACTED] } (Hall, Tr. 2823-2824, *in camera*).
638. Entek will not constrain Daramic's post-acquisition pricing. Dr. Simpson noted that, although Entek currently has some excess capacity, that excess capacity was created by the ongoing recession. (Simpson, Tr. 3195, *in camera*). Dr. Simpson then noted that when the economy recovers, demand will increase and that excess capacity will decrease. (Simpson, Tr. 3195, *in camera*). Dr. Simpson further noted { [REDACTED] } so excess capacity does not motivate a firm necessarily to be fiercely competitive and cut price and try to gain market share." (Simpson, Tr. 3196-3197, *in camera*).

639. Dr. Simpson testified that { [REDACTED] } (Simpson, Tr. 3197, *in camera*) { [REDACTED] } (Simpson, Tr. 3197, *in camera*).

640. Dr. Simpson concluded that { [REDACTED] } segments the industry by aligning those two suppliers with { [REDACTED] } and making them less effective substitutes for other battery manufacturers. (Simpson, Tr. 3442, *in camera*). Dr. Simpson explained: { [REDACTED] } (Simpson, Tr. 3441, *in camera*). explained that other battery { [REDACTED] } (Simpson, Tr. 3442, *in camera*).

641. Dr. Simpson also noted that { [REDACTED] } (Simpson, Tr. 3197, *in camera*). As a matter of economic theory, most-favored nation clauses tend to make firms less competitive by preventing them from making selective price cuts. (Simpson, Tr. 3197-3198, *in camera*).

642. Dr. Simpson testified that a useful way to see { [REDACTED] } (Simpson, Tr. 3198-3199, *in camera*). Microporous was building a new factory in Austria and had plans to add an additional line at its Tennessee plant. (Gaugl, Tr. 4576). The additional capacity at the Austria plant would have freed up capacity at its Tennessee plant which previously had supplied European customers. (PX2301 (Heglie, Dep. at 38-39)). Daramic responded to { [REDACTED] } (Simpson, Tr. 3195, 3223-24, *in camera*, see generally 3209-3224, *in camera*).

643. { [REDACTED] } (PX1823 at 001, *in camera*). { [REDACTED] } (PX1823 at 001, *in camera*).

644. { [REDACTED] } (Gillespie, Tr. 3022, *in camera*). { [REDACTED] } (Gillespie, Tr. 3022, *in camera*).

645. { [REDACTED] } (PX0950 at 014-016, *in camera*). { [REDACTED] } (PX0258 at 002; PX0255 at 001, *in camera*; Roe, Tr. 1292-1294, *in camera*, 1350-1354, *in camera*).

I. Daramic acquired MPLP to eliminate a competitive threat

646. As early as July 2003, Daramic's head of sales, Tucker Roe, sent a memo to the President of Daramic summarizing the rationale for acquiring Microporous, thus: "The only reason for acquisition would be purely defensive to secure our market share of the traction market and terminate the continued price erosion." (PX0935 at 001; PX0433 at 004 ("The main disadvantage I see if we do not acquire Amerace is that Amerace may continue their plans for a second line resulting in either our loss of current customers or further reduction in our market pricing, hence loss of margins.")).
647. In 2003, the President of Daramic put an acquisition of Microporous at the top of his list of possible acquisitions, describing the benefit to Daramic simply as "Eliminate price competition." (PX0932).
648. The effects of price competition eventually led Daramic in 2005 to consider an outright acquisition of MPLP. (PX0433). Daramic understood that the benefit of an acquisition of MPLP would be the elimination of their low price competitor. (PX0433 at 003). On the other hand, Daramic also believed that if MPLP remained independent and was "allowed to add additional capacity" it would "further reduce the overall market pricing." (PX0433 at 003-004; Roe, Tr. 1270-1271; PX0919 (Riney, IHT at 294-295, *in camera*)).
649. The main disadvantage that Daramic saw in 2005 in not acquiring MPLP was that MPLP might continue their expansion plans resulting in either a loss of customers for Daramic, or a further reduction in Daramic's market pricing. (PX0433 at 004; Roe, Tr. 1271-72).
650. Bob Toth became CEO of Polypore in July 2005. (PX0901 (Toth, Dep. at 7), *in camera*). Upon becoming CEO, Mr. Hauswald provided Mr. Toth "a summary of several memos done by Tucker [Roe]" regarding Daramic's { [REDACTED] } (PX2242 at 001, *in camera*). Mr. Hauswald stated that { [REDACTED] }

[REDACTED] } (PX2242 at 001, *in camera*).

651. In September 2005, Mr. Hauswald again advises Mr. Toth that Daramic should buy Amerace because it has taken EnerSys business from Daramic and threatens to take even more. (PX0168). Mr. Hauswald told Mr. Toth that “Amerace is a real threat for our business, not only in the industrial market, but, later, in the automotive market, because there is no doubt that JCI and EXIDE will contact them for a deal, when our contracts will expire. I’m still recommending to buy Amerace, as a defensive action.” (PX0168 at 002).
652. One month later in October 2005, Frank Nasisi, advised Mr. Toth that based on the information Daramic has received about Amerace building a plant in Europe for EnerSys, “[w]e must do everything possible to stop this process. . . . The bottom line is that Amerace can be another Entek: building plants to exclusively supply EnerSys, JCI, East Penn and so forth.” (PX0694 at 001). Mr. Hauswald felt that Daramic should “solve the [Microporous] case definitively.” (PX0694 at 001).
653. Daramic understood that an acquisition of MPLP might not sit well with battery manufacturers. Daramic recognized that customers might view a Daramic acquisition of MPLP as an elimination of a potential PE supplier, thereby creating a situation where battery manufacturers would have even greater dependency on Daramic for supply of PE separators. (PX0433 at 04). Daramic further understood customers would not take well to a Daramic acquisition of MPLP in light of Daramic’s past history of acquisitions of other PE suppliers such as Evanite, PIL, and Jungfer. (PX0433 at 004; Roe, Tr. 1275-1276).
654. While Daramic decided not to acquire MPLP in 2005, the same factors were at play in 2008 when Daramic eventually acquired MPLP. (Roe, Tr. 1276-1277; PX0911 (Roe, Dep. at 221-222, *in camera*)).
655. In August of 2006, Daramic personnel including, Mr. Hauswald, Mr. Roe, Mr. Whear, and Mr. Riney, met to discuss the direction of the company. (PX0992 at 001, *in camera*; Hauswald, Tr. 826, *in camera*). Daramic at the time believed that { [REDACTED] } (Hauswald, Tr. 827-828, *in camera*; PX0992 at 004, *in camera*). Daramic also stated that { [REDACTED] } (PX0992 at 004, *in camera*).
656. On August 23, 2006, Mr. Frank Nasisi sent an e-mail to Pierre Hauswald on various issues at Daramic, because Mr. Nasisi’s time at Daramic-Polypore was soon coming to an end. In his e-mail, Mr. Nasisi stated, “Amerace will be a problem for Daramic. They have acquired momentum and it will be very difficult to stop them unless the BOARD will approve its purchase at any price (it will be more now than a year ago).” (PX0167; Hauswald, Tr. 649- 650).

J. Daramic tried to stop MPLP from building a European plant by suing MPLP for using Jungfer technology in Europe

657. Polypore became aware in the spring of 2005 that it might be able to stop any future Microporous expansion in Europe, or better yet buy Microporous at a discount to other potential bidders. In May 2005, Frank Nasisi, the departing CEO of Polypore, notified Michael Graff by email that while looking through his files he had found the contract between Jungfer and Microporous relating to the PE production line that Jungfer installed for Microporous in 2001. (PX0747). In the email he stated:

The contract puts a restriction on Microporous Products to sell PE product for automotive application in Europe or Korea, places where at that time Jungfer was selling its product. This is certainly a big restriction of anyone who wants to expand the business by going into the automotive market

It certainly will reduce their value for anyone outside Daramic. Phillip [Bryson, Polypore GC,] will investigate it further and provide us with a clear picture of this new finding.

658. In June 2006, Michael Graff emailed Mr. Toth and Mr. Hauswald { [REDACTED] } (PX0751 at 001, *in camera*). In his email reply, Mr. Hauswald confirmed that indeed Mr. Bryson was "on it:"

{ [REDACTED] } (PX0757 at 001, *in camera*).

659. Daramic not only took legal action to stop the Microporous expansion in Europe, it also took other initiatives as well. Pierre Hauswald { [REDACTED] } (PX0246, *in camera*). The email to the team { [REDACTED] } (PX0246, *in camera*). { [REDACTED] } (PX2241, *in camera*).

K. Prior to the Acquisition MPLP was Expanding

660. Worldwide sales of CellForce in 2007 were approximately \$8 million. (Gilchrist, Tr. 555). At the time of the acquisition, Microporous anticipated that sales of CellForce would grow substantially. (Gilchrist, Tr. 345-346).
661. Microporous was owned by IGP. (PX2301 (Heglie, Dep. at 8)). In evaluating its investment in Microporous, IGP saw growth opportunities in golf cart, reserve power and motive power battery separator markets, and potential opportunity in the automotive market. (PX2300 (Heglie, IHT at 21-23)). Other attributes that IGP evaluated in making its investment in Microporous included a highly engineered product, strong profitability, a large component of the business was aftermarket, which tends to have a steady demand, and good cash flow characteristics. (PX2300 (Heglie, IHT at 22)).
662. At the time of its acquisition of Microporous, IGP determined that Microporous had multiple growth strategies. (PX2301 (Heglie, Dep. at 22)). During the course of IGP's ownership of Microporous, the Microporous Board, which was comprised of mostly IGP employees or partners, wanted to grow Microporous's sales and profits. (PX2301 (Heglie, Dep. at 24)).
663. Because Microporous was owned by private equity companies, starting in the 1990's it was imperative that the company develop growth strategies and expansion into the SLI market was the first place the company looked. (Gilchrist, Tr. 299).
664. In May 2007, Microporous management presented the Microporous Board with the strategic plan, which included **"Protect golf car market"**; **"Protect position in European traction"**; **"Regain U.S. traction position"**; and **"Create position in SLI market."** (PX1102 at 029 (emphasis in the original). The board was generally supportive of the strategic plan. (PX2301 (Heglie, Dep. at 30)); PX2300 (Heglie, IHT at 159)). With regard to creating a position in SLI, Mr. Heglie testified that while there were debates between management and the board regarding the details and execution, "the core tenet of trying to create a position in that market, I think we agreed with." (PX2301 (Heglie, Dep. at 31)); PX2300 (Heglie, IHT at 160)).
665. At the time Microporous was planning the Austrian expansion, it had contemplated expanding in the U.S. as well. (Gaugl, Tr. 4560). When it began ordering equipment for the expansion, it ordered equipment for three lines. (Gaugl, Tr. 4576). Two of those lines were to be built in Austria, and one was slated to be built in Piney Flats, Tennessee, (Gaugl, Tr. 4576).

1. MPLP was Adding Capacity

666. Microporous planned to add the fourth production line for polyethylene separators at the Piney Flats facility in May or June of 2008. (Gilchrist, Tr. 311, 374-375, 457, *in camera*; Gaugl, Tr. 4560; PX0078, *in camera*, RX00207, *in camera*).
667. Microporous ordered the long lead time items for a fourth PE line in December of 2006 with the equipment that was ordered for the lines that would eventually be installed in Feistritz Austria. Long lead time items for a PE line are those pieces of equipment that take from ten to twelve months to arrive. (Trevathan, Tr. 3600).
668. The equipment that Microporous purchased for the new Piney Flats PE/CellForce line included the mixers, the extruder, the calender, heat exchangers for the condensation unit, the dryers and the pinhole detection system. (Gaugl, Tr. 4561). Work on the fourth line at Piney Flats began prior to the acquisition, including designing and planning work, hiring an engineering firm, and drawing up blueprints. (Gaugl, Tr. 4575).

i) Secured all of EnerSys's Motive Business

669. Microporous planned to devote one full line in Austria to serving the EnerSys business in Europe. (Gilchrist, Tr. 401-402).

a. Committed to build capacity in the US for EnerSys

670. [REDACTED] } This meant that EnerSys would [REDACTED] } (Axt, Tr. 2144, *in camera*). Initially EnerSys committed every plant except Richmond, Kentucky, which was not included because EnerSys wished to keep two suppliers and because CellForce could not be sleeved at that time. (Axt, Tr. 2131).

671. [REDACTED] } (Axt, Tr. 2150, *in camera*).
[REDACTED]
[REDACTED] } (Axt, Tr. 2151, *in camera*).

672. [REDACTED] } (RX00207 at 010, *in camera*; Axt, Tr. 2152, *in camera*). [REDACTED]
[REDACTED] } (RX00207 at 010, *in camera*; Axt, Tr. 2156, *in camera*). According to Mr. Axt,
[REDACTED]

[REDACTED] } (Axt, Tr. 2153, *in camera*).

673. MPLP negotiated a contract with EnerSys for industrial CellForce volume related to the European facility as well as the expanded U.S. facility. (Trevathan, Tr. 3728). One of the commitments that Microporous made to EnerSys was to { [REDACTED]

} (RX00207 at 010, *in camera*). { [REDACTED]

} (RX00207 at 009-010, *in camera*).

674. { [REDACTED] } (PX2300 (Heglie, IHT at 164-165)); PX1106 at 031).

675. Mr. Heglie testified that while the contract amendment that committed Microporous to { [REDACTED] } was " [REDACTED] " he thought that Mike Gilchrist as an officer of the company had the legal authority to execute the agreement. } PX2300 (Heglie, IHT at 138)).

676. The Microporous Board wanted to maintain its customer position with EnerSys. (PX2301 (Heglie, Dep. at 38)). Fulfilling commitments to EnerSys was important to the Board. (PX2301 (Heglie, Dep. at 38)).

677. At no point did Microporous go back to EnerSys to say that it could not fulfill the contract. (PX2300 (Heglie, IHT at 164)). EnerSys was an important customer, as Mr. Heglie testified :

Again, our view was they were an important customer. We wanted to supply them. We wanted to continue to grow with them. We would have liked management for anything requiring capital to have discussed it with the Board first, but what's done was done and our view was we had to figure out a way to work with it.

(PX2300 (Heglie, IHT at 164)).

ii) Backfill supply for North America

678. The "backfill" was describing how to refill idle or unutilized capacity in Microporous's Piney Flats, TN plant that would become available when Microporous transferred a portion of its U.S. business to Austria. (PX2301 (Heglie, Dep. at 38-39)). { [REDACTED]

} (McDonald, Tr.

3874-3876, *in camera*). { [REDACTED] } (McDonald, Tr. 3876-3877, *in camera*).

679. By moving production of the EnerSys European volumes to Austria, Microporous planned to make capacity available at Piney Flats for North American customers. (Gilchrist, Tr. 402-403; Trevathan, Tr. 3763, 3774 (“[W]e would be able to go out to customers and bring in incremental volume to the company and backfill that open capacity in Piney Flats.”)).
- a. MPLP was marketing backfill CellForce Capacity in competition with Daramic
680. Once the Austrian lines were operating at sufficient scale, Microporous could capitalize on further efficiencies and “economies in manufacturing” by converting some of its production at Piney Flats from Flex-Sil to CellForce. (Gilchrist, Tr. 373-374).
681. { [REDACTED] } was one of the customers that Microporous intended to supply with motive power separators in connection with its “backfill” strategy. (McDonald, Tr. 3874-3876, *in camera*).
2. MPLP owners had funded and were willing to continue to fund MPLP expansion plans
682. In the fall and early winter of 2007, MPLP moved ahead with plans to expand. MPLP met several times with a building contractor, J.A. Street, and hired them to draw plans for additional PE capacity in their Piney Flats Facility. (Trevathan, Tr. 3725-3726, 3735-3736). MPLP also met with third party suppliers Matheson and Litzler, concerning equipment purchase and installation for the expansion lines just prior to the merger. (Trevathan, Tr. 3726-3727).
683. By the summer of 2007, Daramic was well aware of MPLP’s expansion plans and the two firms began discussions concerning a potential acquisition. In an August 9, 2007 email reporting on his conversation with Mr. Bryson about a possible acquisition of MPLP, Mr. Heglie wrote that he “told him [Mr. Bryson] that we were in the early stages of our investment, had partnered with management and were not looking to divest, and are in the midst of executing on our own multi-pronged expansion plan for which we have plenty of capital and support.” (PX1105 at 002).
- i) Mandate had no impact on MPLP’s existing expansion plans

684. On November 14, 2007, three months after Microporous and Daramic began discussing a potential acquisition, and three months after Microporous and EnerSys signed the contract amendment committing Microporous to install a second PE line in Tennessee, the Microporous Board issued “strategic mandates” to Mr. Gilchrist to “make the Board’s long- and near-term objectives for the Company more clear . . . as well as assist in the 2008 strategic financial planning process.” (PX2301 (Heglie, Dep. at 64)).
685. Mr. Heglie testified that the mandates were not intended to tell Microporous management that there would be no further expansion. (PX2301 (Heglie, Dep. at 65)). Nor did the mandate mean the Microporous should stop the work that was doing to try to grow the business. (PX2301 (Heglie, Dep. at 65-66)). There is nothing in the mandate that eliminated the possibility of Microporous moving forward in its desire to compete in the automotive separator market. (PX2301 (Heglie, Dep. at 67)). In fact, Mr. Heglie testified that he does not recall the Microporous Board ever communicating that Microporous could not compete in the automotive market. (PX2301 (Heglie, Dep. at 68)). Mr. Heglie further agreed that the mandate was not the last word on possible expansion for Microporous. (PX2301 (Heglie, Dep. at 69); RX00401 at 002; PX2300 (Heglie, IHT at 197)).
686. After the issuance of the “mandate” on November 14, 2007, the Microporous Board was still open to the possibility of moving into the . . . PE SLI market.” (PX2301 (Heglie, Dep. at 71)). Moreover, the Board was “still open to the possibility of adding new lines in order to move into the PE SLI market.” (PX2301 (Heglie, Dep. at 72)), ; *see also* PX2300 (Heglie, IHT at 183)), (“I think the Board’s, my view, and I believe this is true of the IGP part of the Board’s view, is the SLI automotive market wasn’t as attractive as other market opportunities available for the company, but it was still a potential growth opportunity. It’s something that we continually evaluated and considered investment in at different points.”)).
687. According to Mr. Heglie, the mandate did not keep Microporous from moving forward in the PE SLI market where economically attractive long-term contracts were available. (PX2300 (Heglie, IHT at 197)). Had “Microporous management brought the Board a long-term contract that the Board viewed as economically viable for an expansion into the PE SLI market, the Board would have still contemplated expanding.” (PX2301 (Heglie, Dep. at 72)).
688. At that time, Exide wanted “to move forward with an SLI project for two lines (one in U.S. and one in Europe) to begin supply January 1, 2010.” (PX1102 at 024; PX2300 (Heglie, IHT at 153-154); Trevathan, Tr. 3757). Exide was “[a]lso interested in incremental industrial volumes in Europe.” (PX1102 at 24; PX2300 (Heglie, IHT at 153-54)). [REDACTED] (Gilchrist, Tr. 454-455, *in camera*).

689. Nothing in the mandates would have prevented Microporous management from continuing to work with Exide on possible expansion for the PE SLI separator market. (PX2301 (Heglie, Dep. at 74)). In fact, the Microporous Board was supportive of management's activity with Exide, "[b]ecause it could generate a fair amount of capital, good return on the investment if it worked." (PX2300 (Heglie, IHT at 153)).
690. Microporous management was working in good faith with Exide and that at no point was it working in something other than good faith with Exide on potential expansion for PE SLI separators. (PX2301 (Heglie, Dep. at 75-76)).
691. Mr. Heglie testified that growth opportunities as it relates to customer development would have continued to be a focus of IGP and Microporous absent the acquisition. (PX2300 (Heglie, IHT at 220-221)). In reaching that conclusion, Mr. Heglie had discussions with other Board members from IGP about where they saw Microporous going if there was not an acquisition by Daramic. (PX2300 (Heglie, IHT at 219)). With regard to those discussion, Mr. Heglie provided the following testimony:

[W]e were still moving forward on at least a broad view of the investment thesis in the strategic plan. . . . evaluating growth opportunities with the company, trying to grow the company, trying to grow the cash flow, trying to improve the margins, trying to generate cash to pay down debt.

I'm sure we would have continued attempting to move forward on some of these customer opportunities that we had.

So I don't know that there was a major deviation from the original strategy. . . . But, again, it's really case-by-case, and we had plenty of opportunities on the radar screen, as we talked about.

(PX2300 (Heglie, IHT at 219-220)).

- L. Competition between Daramic and MPLP increased in the months preceding the acquisition
692. In 2007, Daramic faced growing competition from MPLP at no fewer than five of its top ten customers. (Roe, Tr. 1307). This included renewed competition from MPLP in both motive and automotive markets. In the automotive market, Daramic understood that MPLP was competing with Daramic for business at JCI, Exide, East Penn and Fiamm. (Roe, Tr. 1303-1307). Daramic during this period viewed MPLP as a viable competitor for automotive separator supply. (Roe, Tr. 1307-1308; PX0922 (Roe, IHT 359-361)). At the same time, MPLP was competing with Daramic for motive business at EnerSys, Exide and East Penn. (Roe, Tr. 1303-1306). Daramic and Microporous continued to compete for deep-cycle customers as well. (PX0263 at 03-04; 08).

693. The threat of increased competition with MPLP was increasing in the months preceding Daramic's acquisition of MPLP. In 2007, Daramic grew concerned about the possible loss of automotive business to MPLP at JCI. (PX2078). At that time, Daramic was supplying about 55 million square meters of separators to JCI on an annual basis. (Roe, Tr. 1296). Daramic also understood that it was JCI's strategy to have multiple suppliers in each geographic region (the Americas, Europe and Asia) in order to exert pressure on PE suppliers. (Roe, Tr. 1296-1298; PX2078).
694. At that time, Daramic considered MPLP to be a competitive threat for JCI's automotive business. (Roe, Tr. 1307). In August 2007, Mr. Roe informed Mr. Hauswald that "one likely scenario" for JCI would include MPLP taking 20-25 million square meters of product in 2009 - product which to date was being supplied to JCI by Daramic. (PX2078; Roe, Tr. 1301). Mr. Roe further believed that MPLP might get an even larger share of JCI's separator business beginning in 2010. (PX2078; Roe, Tr. 1301).
695. The increased competition along with MPLP's expansion plans were of great concern to Daramic as it believed that it was facing an EBITDA loss of { [REDACTED] } without an acquisition of MPLP. (PX0276 at 007, *in camera*).
696. { [REDACTED] } (PX0238 at 001; PX0922 (Roe, IHT at 362-63), *in camera*). Mr. Roe responded by stating that "2008 will be the most challenging year ever faced by Daramic." (PX0238 at 001). Mr. Roe noted that Daramic was "finishing 2007 on a down-swing" and was "beginning to feel the real effects" of price competition and Daramic's past performance issues. (PX0238 at 001). Mr. Roe indicated that Daramic had to be the "price leader" and "continue to push/force price increases" even as the competition was lowering prices. (PX0238 at 001).
697. Mr. Roe also emphasized to Mr. Hauswald that 2008 would be a uniquely difficult year for Daramic because of MPLP's ongoing expansion project which was "an element we have not faced in many years." (PX0238 at 001). According to Mr. Roe, "unlike prior years, we have a true legitimate big competitor entering the market (MP) and for sure they will capture volume at whatever it takes." (PX0238 at 001; PX0922 (Roe, IHT at 362-363), *in camera*; Roe, Tr. 1302-1303).

M. The acquisition eliminated capacity expansion plans

698. The fourth PE line was never installed. (Gaugl, Tr. 4560). Some of the equipment for that line is sitting in boxes in Austria and Piney Flats. The extruder is at the supplier in a semifinished stage, and the pinhole detector is being used in Piney Flats. (Gaugl, Tr. 4565).
699. With the acquisition of MPLP by Daramic, "basically the carpet was pulled out from under us" with regard to Exide's strategy of adding separator suppliers to the

marketplace. (Gillespie, Tr. 2979). Following Daramic's acquisition of MPLP, Exide's leverage for its \$70 million of separator business has been lessened. (Gillespie, Tr. 2979). All of Exide's investment of time and money into the development of MPLP as a supplier of PE SLI separators "was now up in smoke." (Gillespie, Tr. 2980).

1. Discussions with Daramic impacted MPLP expansion plans

700. Mr. Heglie testified that although the mandate did not state that IGP would not invest capital in Microporous while it was talking to Daramic, he also stated that he "had a view that if we weren't going to get paid by Daramic or get compensation for the capital investments, that we wouldn't make them, and I believe Daramic understood that." (PX2300 (Heglie, IHT at 206)).
701. Mr. Heglie testified that the opportunity to do business with East Penn occurred around the time of discussions with Daramic. (PX2300 (Heglie, IHT at 188)). According to Mr. Heglie, Microporous may have put off discussions with East Penn: "[B]ased on the uncertainty with the Daramic transaction . . . IGP was unwilling to commit a bunch of capital to it without knowing if we're going to be compensated for it." (PX2300 (Heglie, IHT at 188)).
702. Likewise, Mr. Heglie testified that he held the same view about spending capital to gain Exide's business: "I think similar to East Penn, we would, at least while those [Daramic/Microporous] discussions were moving forward, we would have been reluctant to invest additional capital." (PX2300 (Heglie, IHT at 190)).

2. Acquisition eliminated the innovation competition between MPLP and Daramic

i) Innovation competition existed in deep-cycle

703. Daramic and Microporous competed with one another to innovate their deep-cycle battery separators. (Qureshi, Tr. 2050). Daramic improved the performance of its original deep-cycle separator, Daramic DC, { [REDACTED] } (PX0949 at 019, *in camera*). The new improved product became known as Daramic HD. (PX0949 at 019, *in camera*).
704. With { [REDACTED] }, Daramic became aware that the lack of stiffness of the separators slowed down the hand assembly of the cells at { [REDACTED] } (PX1742 at 002, *in camera*). A November 2006 document discussing a visit to U.S. Battery stated that " [REDACTED] " (PX1742 at 001, *in camera*). An April 4, 2007 Daramic Trip Report to U.S. Battery reiterates that "[a] lack of stiffness in leaf separators had been an impediment to further sales by Daramic." (PX0681 at 001). That trip report states that Daramic made a

presentation to Mr. Qureshi on its { [REDACTED] } project, a project to improve separator stiffness for better handling. (PX0681 at 001; PX0682 at 001, *in camera*). After the presentation, Mr. Qureshi indicated an interest in receiving separators with sodium silicate for added stiffness to test. (PX0681 at 002).

705. In April 2008, Daramic visited U.S. Battery and reviewed the results of the { [REDACTED] } project and determined that the sodium silicate additive affected the capacity of the battery. (PX0682 at 001, *in camera*; Qureshi, Tr. 2087-88). During the Daramic visit to U.S. Battery, Mr. Qureshi suggested that Daramic use polyvinyl alcohol to improve stiffness. (PX0682 at 001, *in camera*; Qureshi, Tr. 2087-88). While Daramic pursued a solution to U.S. Battery's stiffness problem prior to the merger, since the merger Daramic has not followed up on Mr. Qureshi's suggestions to improve stiffness. (Qureshi, Tr. 2051).

ii) Innovation competition existed in UPS

706. MPLP had several technically innovative projects underway prior to merger, including, but not limited to, projects { [REDACTED]

[REDACTED]

} (See generally Whear, Tr. 4730-4748, *in camera*).

707. Daramic and Microporous were the only suppliers developing separators that eliminated the formation of black scum on the top of the acid in UPS batteries. This scum impeded the visual monitoring of the acid level and battery plates in UPS batteries. In batteries with automatic watering devices, the scum caused a valve to stick resulting in the overfilling of acid in the battery. (Brilmyer, Tr., 1852-54).
708. Dr. Brilmyer knows of no other separator manufacturer in North America selling separators for the flooded UPS application other than Daramic. (Brilmyer, Tr. 1850-51).
709. Black scum results from the mixture of oil, carbon black, lead oxide and some other chemicals in batteries. To address the black scum problem in batteries, Microporous began an R&D project called LENO, an acronym for "low ER [electrical resistance] no oil." (Brilmyer, Tr. 1836).
710. Planning for project LENO at Microporous began in late 2006 at the approval of the R&D steering committee which included Mike Gilchrist and Larry Travathan, as well as Steve McDonald and Matt Wilhjelm. (Brilmyer, Tr. 1836).

711. At the end of 2006, EnerSys, a customer of Daramic's gel battery separator, asked Microporous to develop a competing product so that there would be a second alternative supplier for a DARAK-type separator. (Brilmyer, Tr. 1839-40). DARAK was substantially more expensive than PE separators. (Brilmyer, Tr. 1843-44).
712. EnerSys committed to MPLP that as soon as EnerSys engineering approved their separator, EnerSys would move its UPS business to MPLP. (Axt, Tr. 2104; Burkert, Tr. 2326).
713. The LENO project additionally included the development of a gel battery separator that would compete with DARAK, Daramic's gel battery separator. Microporous planned to develop a gel battery separator that would compete with Daramic's DARAK product, as well as Daramic's PE separators that were used in industrial batteries, including UPS and telecommunications batteries. (Brilmyer, Tr. 1864). Because DARAK was a high cost/high margin product compared to the gel battery separator developed by the LENO project team, Microporous planned to take a substantial portion, if not all, of Daramic's DARAK business after the new product was available in commercial quantities. (Brilmyer, Tr. 1865, 1878-79, 1917; Brilmyer, Tr. 1874, *in camera*).
714. Salespeople from Microporous were optimistic that there was customer demand for its new gel battery separator in the U.S. and Europe, including at customers such as { [REDACTED] } (Brilmyer, Tr. 1868, *in camera*). Generally, battery customers prefer having more than one plant as a source for their separators to ensure supply security and to obtain competitive pricing. Because { [REDACTED] } at only one plant in Germany, customers were interested in another source for this type of battery. (Brilmyer, Tr. 1869, *in camera*).
715. { [REDACTED] } (PX0490 at 001; Brilmyer, Tr. 1875, *in camera*).
{ [REDACTED] } (Brilmyer, Tr. 1878-79, *in camera*).
716. At the time of the acquisition, Microporous had made substantial progress on the LENO project. EnerSys had been extensively testing a gel battery separator prototype made by Microporous for over one year as part of a two year testing regime. To address the black scum problem, Microporous had developed PE separators that did not contain calcium stearate. In February 2008, just prior to the acquisition, Microporous had delivered samples of a newly designed PE separator to EnerSys that solved the black scum problem by eliminating calcium stearate from the separator material. (Brilmyer, Tr. 1856-57, 1922-24; PX0664 at 002, *in camera*).

717. The manager of the LENO project, Mr. Brilmyer, expected that the new products from the project would generate revenues from commercial sales by the end of 2008 or early 2009. Microporous projected revenues in this time frame for both the calcium stearate-free PE separators and the new gel battery separator. (Brilmyer, Tr. 1857-58, 1881, *in camera*).
718. Despite the bright prospects for the new gel battery separator from the LENO project, after the acquisition, Daramic's management was not interested in the further development of a product to replace DARAK, a very high-margin product for Daramic. (Brilmyer, Tr. 1863-64).
719. Of the MPLP innovation projects, only project { [REDACTED] } is still active in the flooded lead-acid battery arena after having come under Daramic's control. (Whear, Tr. 4736-4752, *in camera*).
720. Project { [REDACTED] } was patent protected by MPLP. (Whear, Tr. 4814, *in camera*).
721. Project { [REDACTED] } (Whear, Tr. 4822-23, *in camera*).
722. Prior to the merger Daramic had innovative projects ongoing that were halted after the merger. (Whear, Tr. 4752-4754, *in camera*). Included in the abandoned projects was project { [REDACTED] } (PX0913 (Whear, Dep. at 251), *in camera*).

iii) Innovation competition existed in SLI

723. IGP believed CellForce had applicability in the automotive market because in testing, Microporous "thought that potentially using CellForce you could ultimately reduce the lead content in an automotive battery." (PX2300 (Heglie, IHT at 121)). If CellForce were proven to allow for a reduced lead content in SLI batteries, it would be an attractive product to battery manufacturers: "Lead is a huge component of cost on a lead acid battery, so if you can eliminate some of that lead, you can take cost out of the battery which is very valuable to a battery manufacturer." (PX2300 (Heglie, IHT at 121)). Mr. Heglie, as an IGP Board Member, continued to see value in CellForce for the automotive SLI market throughout IGP's ownership of Microporous. (PX2301 (Heglie, Dep. at 170)).
724. At the time of the acquisition, Microporous was developing several new product ideas for SLI separators. One, called a "smart separator," [i.e., Project Einstein] allowed for the controlled shrinking or expansion of the separator under certain conditions. (Gilchrist, Tr. 340).

N. Daramic Reaction to the MPLP Expansion – The MP Plan

725. In the fall of 2007, Daramic took active steps to respond to the MPLP threat to Daramic's automotive and motive power business in the US and Europe. Mr. Roe and Mr. Hauswald put together a project known as the { [REDACTED] } (PX0258; PX0255, *in camera*; PX 0911 (Roe, Dep. 173-174), *in camera*). In North America, Daramic identified East Penn, Douglas and Crown as customers whose business Daramic believed was immediately at risk of loss to MPLP in 2008. (PX0258 at 002). At East Penn, Daramic was concerned about the potential loss of automotive and motive power business, while at Crown and Douglas the concern related to potential loss of motive power business. (PX0258 at 002; Roe, Tr. 1303-1304). These customers were specifically identified because Daramic understood that MPLP had submitted proposals to win each of these customers business. (Roe, Tr. 1289-1290).
726. Understanding the threat that MPLP posed, Daramic developed the { [REDACTED] } to offer beneficial terms to customers willing to enter into exclusive or near exclusive long term contracts with { [REDACTED] } (Roe, Tr. 1285-1286; 1291; *see also* PX0258 at 001 ("What do we want to achieve? Secure select [Long term] agreements to fight the [MPLP] threat.")). Under the { [REDACTED] } Daramic offered customers contracts that { [REDACTED] } (PX0255 at 001, *in camera*; Roe, Tr. 1292-1294, 1350-1354, *in camera*). Additionally, the terms offered to customers under the MP Plan further limited Daramic's { [REDACTED] } (PX0255 at 001, *in camera*).
727. With the MP Plan in pocket, Daramic went to certain customers offering beneficial contractual terms in order to secure their business and to prevent erosion of Daramic's customer base. (Roe, Tr. 1290-1291). In addition to beneficial pricing terms, Daramic offered those customers identified as at risk of loss to MPLP guaranteed delivery times, committed inventory stock, rebate schedules and consignment to secure the business with Daramic. (PX0258 at 01; Roe, Tr. 1292). Daramic entered long term contracts with { [REDACTED] } as per the terms of the { [REDACTED] } (Roe, Tr. 1352, *in camera*).
728. Crown signed a { [REDACTED] } (Balcerzak, Tr. 4104, *in camera*; RX00994, *in camera*).
729. The length of the new supply contract is unusually long for Crown, and was entered into at the suggestion of Daramic. (Balcerzak, Tr. 4105, *in camera*). Prior to the most recent contract, the term for the agreement between Crown and Daramic extended only { [REDACTED] } (Balcerzak, Tr. 4111, *in camera*).

730. When Crown negotiated the contract with Daramic they did not considered other separator suppliers because other than MPLP, the only other { [REDACTED] } was Entek and it had been disqualified due to quality and logistical problems. (Balcerzak, Tr. 4106, *in camera*).
731. { [REDACTED] } (Balcerzak, Tr. 4116, *in camera*; RX00994 at 009, *in camera*).
732. { [REDACTED] } (PX0637 at 002-009, *in camera*; RX01519, *in camera*).
733. After East Penn had entered into a three-year contract in 2008 for most, if not all, of its PE separator needs, that left Microporous with virtually “no more opportunities to sell much CellForce, or PE for that matter, for motive power or SLI in North America.” (PX0108).
734. { [REDACTED] } (Leister, Tr. 3998-3999, *in camera*); (RX1519 at 1, *in camera*). East Penn intended to continue to buy the remaining { [REDACTED] } of its motive power separators from MPLP because East Penn wanted to have multiple suppliers for its motive power batteries. (Leister, Tr. 4005, *in camera*).
735. { [REDACTED] } (Simpson, Tr. 3230, 3236, *in camera*; PX0033 at 47).
736. In addition to Crown, Douglas and East Penn, Daramic specifically identified various European customers who were at risk of loss to MPLP, including Midac, Germanos, TAB and Nuova Brescia. (PX0258 at 002). Daramic offered the same contractual terms to these customers that it had offered to the North American customers identified in the MP Plan. (Roe, Tr. 1294).
737. Daramic then entered contracts with { [REDACTED] } in Europe under the terms of the MP Plan. (Roe, Tr. 1353-1354, *in camera*).
738. As demonstrated by Daramic’s contracting under the MP Plan, pre-merger competition from MPLP constrained Daramic’s pricing to customers in North America of automotive, motive and deep-cycle separators. Because of competition from MPLP, Daramic was unable to pass through any price increases in 2009 to { [REDACTED] } (Roe, Tr. 1352, *in camera*). { [REDACTED] }

received no price increase in 2009 under the terms of the contract entered into under the MP Plan despite Daramic's alleged increases in raw material and energy costs during that time period. (Roe, Tr. 1353, *in camera*).

739. Similarly, Daramic was unable to pass through any price increase to { } in 2009 due to the pre-merger constraint that MPLP had posed at { } (Roe, Tr. 1353, *in camera*).
740. Daramic succeeded in passing through limited price increases to { }
{ } (Roe, Tr. 1353, *in camera*).
741. In contrast to the customers at threat of loss to MPLP, Daramic was unwilling to offer to { }
{ } (PX0985, *in camera*; Roe, Tr. 1344-1345, *in camera*).
742. In at least one instance, MPLP had an immediate constraining influence on Daramic's automotive separator pricing. In late 2007, Daramic was involved in negotiations with { } (Roe, Tr. 1345-1346, *in camera*). { }
{ } automotive battery manufacturer in Europe. (Roe, Tr. 1345, *in camera*; PX0215 at 002, *in camera*). While Daramic's sales personnel were meeting customers in pursuit of the strategy outlined in the MP Plan, Daramic learned that { }
{ } (Roe, Tr. 1352, *in camera*; PX0215 at 004, *in camera*).
743. Initially, Daramic had not anticipated that { }
{ } (PX0215 at 002, *in camera*). Upon learning of the competition from MPLP at { }
{ } Daramic believed that they faced competition for { } from MPLP as well as from Asian suppliers, specifically from Anpei. (PX0214, *in camera*). Soon thereafter, Daramic learned that "{ }
{ }" (PX0215 at 002-003, *in camera*; Roe, Tr. 1348-1349, *in camera*). Daramic further understood that { }
{ } testing and therefore MPLP was the "only full scale alternative to { }" (PX0215 at 002, *in camera*; Roe, Tr. 1349-1350, *in camera*).
744. Daramic grew concerned because { } would be "a key customer for [MPLP] and pave the way for others to follow." (PX0215 at 003, *in camera*). Daramic feared that a customer the size of { } would be "a fantastic communication tool for MPLP's Automotive products with other customers" and would thus provide credibility to MPLP. (Roe, Tr. 1350, *in camera*; PX0215 at 002, *in camera*).
745. Daramic's worldwide VP of sales contacted Mr. Hauswald to inform him of the threat to Daramic's position at { } (PX0215 at 002, *in camera*). Daramic believed that

MPLP had “made a very persuasive pricing proposal” for { } business, and that the “competitive threat [was] real.” (PX0215 at 002, *in camera*). In response to the MPLP threat, Mr. Roe sought and received approval from Mr. Hauswald to offer to { } (PX0215 at 001-002, *in camera*; Roe, Tr. 1350-1351, *in camera*). { } (PX0215 at 002, *in camera*). Additionally, Daramic offered to { } just as it was doing for customers identified under the { }. (PX0215 at 002, *in camera*).

746. While Daramic was constrained from increasing prices to certain customers by MPLP’s pre-merger competition, in the post-acquisition environment, Daramic was unconstrained by the terms of the { } with regards to separators sold by MPLP to the very same customers. Thus, while { } received no price increase in 2009 for PE and HD separators purchased from Daramic under the terms of the { } did receive a { } price increase on all Flex-Sil separators it purchases from Daramic in 2009. (PX0950 at 015, *in camera*).

747. The MP Plan also detailed Daramic’s proposed reaction if the favorable terms offered under the MP Plan did not induce customers to sign long term contracts with Daramic. Under the MP Plan, Daramic planned on punishing those customers that intended to switch some of their business to MPLP, indicating that as a “last resort we play hard - no agreement - no supply.” (PX0258 at 01; Roe, Tr. 1291-1292). Indeed, soon after the creation of the MP Plan, Mr. Roe informed Mr. Hauswald and others at Daramic that { } (PX0214, *in camera*). Shortly thereafter, the message of hard ball had clearly made it to Daramic’s sales team, as one of Daramic’s European sales personnel who was { } (PX0252 at 001, *in camera*).

1. Polypore Board documents analyzing the acquisition predict unilateral anticompetitive effects

748. As chairman of the board, Mr. Graff’s role in the Microporous acquisition was to “encourage management to do diligence and come forward with a recommendation of how they wanted to proceed.” (Graff, Tr. 4855). Those responsible for the due diligence were people from Daramic assisted by Polypore employees. (Graff, Tr. 4865, *in camera*). Mr. Graff, along with the other Polypore board members, was responsible for approving the Microporous acquisition. (Graff, Tr. 4865, *in camera*).

749. { } (Graff, Tr. 4868-69, *in camera*). { }

[REDACTED]
} (Graff, Tr. 4870-71, *in camera*; PX0738, *in camera*). {
[REDACTED]
(Graff, Tr. 4879-80, *in camera*).

750. { [REDACTED]
[REDACTED]
(PX0738 at 004, *in camera*). { [REDACTED]
[REDACTED] } (Graff, Tr. 4872, *in camera*). { [REDACTED]
[REDACTED] } (Graff, Tr. 4873, *in camera*).

751. { [REDACTED]
[REDACTED] } (Graff, Tr. 4873-74,
in camera; PX0738 at 004, *in camera*). { [REDACTED]
[REDACTED] } (PX0738 at 007, *in camera*).

752. { [REDACTED]
[REDACTED] }
(Graff, Tr. 4874, *in camera*; PX0738 at 008, *in camera*). { [REDACTED]
[REDACTED] } (PX0738 at 008, *in camera*).

753. { [REDACTED]
[REDACTED] } (PX0738 at
010, *in camera*).

754. { [REDACTED]
[REDACTED] } (Graff,
Tr. 4876-77, *in camera*; PX0738 at 010, *in camera*). { [REDACTED]
[REDACTED] } (Graff,
Tr. 4880, *in camera*).

755. { [REDACTED]
[REDACTED] } (Compare PX0738 at 002-011,
in camera, with PX0203 at 080-089, *in camera*). { [REDACTED]

{ (PX0203 at 085, *in camera*), {
} (PX0203 at 086, *in camera*), {
} (PX0203
at 088, *in camera*), {
(PX0203 at 088, *in camera*), {
} (PX0203 at 088, *in
camera*).

756. {
} (Graff, Tr. 4883-84, *in
camera*; RX01097 at 002, *in camera*).

757. {
} (PX0464 at 004, *in camera*).

758. {
} (PX0823, *in camera*; Roe Tr. 1225; Graff, Tr. 4885-88, *in camera*). Daramic
assembles its budget based on certain assumptions with regard to volume and pricing and
includes a three year long term plan. (Roe, Tr. 1226-1227). The assumptions that
Daramic incorporates into the budget are Daramic's best estimate of what is going to
happen in the upcoming year with respect to volume and pricing of the separators that
Daramic sells. (Roe, Tr. 1226-1230). These assumptions are specifically laid out in the
budget so that the Polypore board can understand how the budgetary figures were
prepared. (Roe, Tr. 1226-1227).

759. Daramic did not know whether the { } would successfully maintain customers at
risk of loss to MPLP. Despite launching the { }, Daramic's 2008 budget
included the assumption that { }
{ } (PX0823 at 002, 008, *in camera*; Graff, Tr. 4887-88,
in camera). This is the same volume that Daramic was projecting on losing in the { }
{ }. (Roe, Tr. 1370, *in camera*).

760. The 2008 budget also included Daramic's long range plans covering the time period of
2008 to 2010. (PX0823 at 007-012, *in camera*). { }
{ } (PX0919 (Riney, IHT at
298), *in camera*). In its long range plans, using its best estimates of what was likely to
occur in the coming three years, Daramic's management assumed that { }
{ }

[REDACTED] } (PX0823 at 008, *in camera*; Roe, Tr. 1371-1375, *in camera*; Graff, Tr. 4887-88, *in camera*). { [REDACTED] } (Graff, Tr. 4888-89, *in camera*).

761. { [REDACTED] } (PX0823 at 008, 013, *in camera*; PX0276 at 019, *in camera*; PX0919 (Riney, IHT at 296, 304-305, 317, 321-322, *in camera*; Roe, Tr. 1382, *in camera*). { [REDACTED] } (PX0276 at 016, 019, *in camera*).

762. When Daramic presented the 2008 budget to the board for approval in December 2007, Daramic also provided a comparison of how the long range plan would look with and without the MPLP acquisition. (PX0823 at 013-014, *in camera*). With an acquisition of MPLP, Daramic's underlying sales assumptions changed dramatically. Daramic assumed that with an acquisition of MPLP, { [REDACTED] } (PX0823 at 013, *in camera*).

763. Polypore's board approved Daramic's 2008 budget. (Roe, Tr. 1382, *in camera*).

- i) Daramic acquired MPLP to avoid market share loss and EBITDA loss

764. Daramic believed, and Mr. Hauswald reported to Polypore's Board, that a { [REDACTED] } (PX0203 at 088, *in camera*; PX0738 at 010, *in camera*; *see also* PX0275 at 012, *in camera*). Daramic also believed, and Mr. Hauswald also reported to the Polypore Board, that a { [REDACTED] } (PX0203 at 088, *in camera*; PX0738 at 010, *in camera*).

765. Mr. Hauswald gave the presentation entitled "Project Titan" regarding the acquisition of Microporous to the Polypore Board in October 2007. (PX0203 at 080-089, *in camera*; Hauswald, Tr. 776, 778-79, *in camera*; PX0951 at 004, *in camera*). Mr. Hauswald confirmed that he put together a financial model of what the world would look like with

the acquisition and without the acquisition and had the numbers checked to make sure they were accurate. (Hauswald, Tr. 778-79, *in camera*; PX0203 at 84, *in camera*). Mr. Hauswald himself prepared the presentation at the direction of Mr. Toth. (Hauswald, Tr. 900-901, *in camera*). The model showed that Daramic would receive { } additional EBITDA between 2008 and 2012 with the acquisition. (PX0203 at 84, *in camera*)

766. The Project Titan Board presentation revealed that the impact on Daramic LRP EBITDA without the acquisition would be a { } (PX0203 at 86, *in camera*; Hauswald, Tr. 783, *in camera*). While the { } (PX0203 at 086, 088, *in camera*; Hauswald, Tr. 783, *in camera*).
767. Mr. Hauswald's speaker notes for the October 2007 Project Titan Board presentation showed, { } (PX0174 at 003, *in camera*, Hauswald, Tr. 788-89, *in camera*). Mr. Hauswald confirmed that Daramic will { } (Hauswald, Tr. 788-89, *in camera*, PX0174 at 003, *in camera*). { } (PX0174 at 003, *in camera*). Interestingly, Daramic predicted { } (PX0174 at 003, *in camera*; Hauswald, Tr. 789, *in camera* ({ })).
768. Mr. Hauswald also acknowledged that Daramic would { } (Hauswald, Tr. 789, *in camera*; PX0174 at 003, *in camera*). Mr. Hauswald further confirmed that Daramic was projecting that without the acquisition it { } (Hauswald, Tr. 789, *in camera*; PX0174 at 003, *in camera*). He also agreed that if Daramic did not purchase Microporous, it would have to { } (Hauswald, Tr. 791, *in camera*; PX0174 at 003, *in camera*).
769. Daramic believed that absent the acquisition, it would have to lower prices and build low cost facilities to compete on price with MPLP. The October Board presentation speaker notes, which were reviewed by Polypore Board members Mr. Graff and Mr. Toth, stated under the heading, { }

{ } (PX0738 at 017, *in camera*). Moreover, the presentation indicated that without an acquisition all customers would benefit because { } (PX0738 at 017, *in camera*).

770. Mr. Hauswald presented to the Board that a benefit of the acquisition was to { } by avoiding the loss of share to an expanding Microporous. (Hauswald, Tr.784, *in camera*; PX0203 at 086, *in camera*). Microporous had { } (PX0462 at 005, *in camera*; PX0738 at 013, *in camera*; PX0463 at 002, *in camera*). Daramic expected { } (PX0463 at 003, *in camera*).

771. Mr. Hauswald also presented to the Polypore Board that a business risk with a Microporous acquisition was customer reaction and that they might start legal action against Daramic, which they did. (PX0203 at 088, *in camera*; Hauswald Tr. 785-86, *in camera*).

772. Prior to the acquisition, Daramic projected profit and loss scenarios with and without the acquisition of Microporous. (PX0051, PX0095 at 001-002, *in camera*). { } (PX0051). { } (PX0051, PX0095 at 001-002, *in camera*).

ii) Daramic acquired MPLP in order to raise prices

773. Mr. Hauswald explained to the Polypore Board that with the acquisition, Daramic would be able to institute a { } products which would result in { } (Hauswald, Tr. 782, 819-20, *in camera*; PX0203 at 84, *in camera*; PX0738 at 006-007, *in camera*; PX0463 at 008, *in camera*; PX0464 at 004).

774. The Polypore Board documents also stated that Daramic planned to { } (PX0203 at 085, *in camera*; PX0738 at 006, 007, *in camera*; PX0463 at 005, 008, *in camera*; PX0464 at 004, *in camera*). Mr. Hauswald acknowledged that { } (Hauswald, Tr. 819, *in camera*).

iii) Daramic acquired MPLP to avoid capacity expansion

775. { [REDACTED] } (PX0306 at 001, *in camera*).
2. Polypore Board approved the acquisition based on the due diligence team's findings as stated in the Board Documents
776. { [REDACTED] } (PX0742 at 001, *in camera*; Toth, Tr. 1476-1477, *in camera*). At the meeting, Mr. Toth first provided a summary of the strategic rationale for the transaction and the key financial projections. (Toth, Tr. 1477, *in camera*; PX0742 at 001, *in camera*). Based on the management team's presentation and recommendation, the Board members then unanimously adopted a resolution to acquire Microporous. (Toth, Tr. 1477, *in camera*; PX0742 at 001 *in camera*).
777. When the Board voted for the resolution approving the Microporous purchase, it was relying on the term sheet that was attached. (PX0742 at 001, *in camera*; Toth, Tr. 1607, *in camera*). The term sheet includes { [REDACTED] } (Toth, Tr. 1607, *in camera*; PX0742 at 007, *in camera*). The Board's resolution stated that { [REDACTED] } (PX0742 at 001, *in camera*). The presentations analyzed at the prior meetings included the financial data presented in the Board documents, above, that { [REDACTED] } (PX0203 at 080-089, *in camera*; PX0738, *in camera*; PX0463, *in camera*; PX0464, *in camera*). { [REDACTED] } (Graff, Tr. 4890-4891, *in camera*).
778. { [REDACTED] } (PX0742 at 001, Graff, Tr. 4892, *in camera*). { [REDACTED] } (PX0742 at 003, 007; Graff, Tr. 4892, *in camera*).
779. { [REDACTED] } (PX0742 at 001, *in camera*).

3. MPLP recognized that Daramic's offer to acquire it eliminated competition

780. On August 9, 2007, Eric Heglie and Phillip Bryson met "to have an initial discussion . . . concerning a potential acquisition." (PX1104 at 002). While Mr. Bryson is in-house counsel for Polypore, he described his function to Microporous "as probably less than (*sic*) 50% on legal duties and the rest as part of the 'business.'" (PX1104 at 001; *see also* PX1105 at 001 ("Phillip [Bryson] gave me his background. He is their general counsel but also leads their corporate development work.")). With regard to Mr. Bryson's role on the Microporous acquisition, Mr. Gilchrist reported to Jeff Webb, an IGP member of the Microporous board, that Microporous might consider a response "to Bryson's not so veiled 'threats' about the coming 'war' between us if they don't acquire MPLP." (PX1112 at 002).

781. In preparation for the meeting between Mr. Heglie and Mr. Bryson, Mike Gilchrist emailed Mr. Heglie suggesting that Mr. Heglie stress that MPLP "be valued at what its immediate significant growth opportunities offer;" and that "IGP [is] committed to growth and infusing necessary capital for MPLP to execute its growth plans." (PX1104 at 001). In addition, Mr. Gilchrist suggested that Mr. Heglie stress the following:

Any offer must take into account the significant strategic implications of what Daramic gains by owning MPLP:

- Total control of deep-cycle markets (no competitor)
 - Total control of industrial markets (no competitor)
 - Regains complete upper hand in automotive with no new competitor being introduced
 - Control of CellForce
 - Control of new developments in our chemistry

(PX1104 at 001; PX1106 at 040).

782. Mr. Gilchrist's email to Mr. Heglie concluded that Daramic's attempt to purchase Microporous "is a 'strategic' play on Daramic's part and not based on current financials but the prospects of taking Daramic's most dangerous competitor out of play." (PX1104 at 001).

783. On the evening of August 9, 2007, the same day that he met with Mr. Bryson, Mr. Heglie documented the conversation the two had that day, "while fresh in [his] mind." (PX1105 at 001). In an email to Mr. Gilchrist, Mr. Heglie reported that Polypore's Phillip Bryson stated that Daramic management saw "benefits in pricing/market share consolidation. . . ." (PX1105 at 001). Mr. Heglie further reported that Mr. Bryson said that "one of their strategic goals is to get bigger in golf cart market, and that we can either battle it out or combine to achieve that." (PX1105 at 001).

784. Daramic was well aware of Microporous' expansion plan during the initial discussions concerning a potential acquisition. In August 9, 2007 email reporting on his conversation with Mr. Bryson about a possible acquisition of Microporous, Mr. Heglie wrote that he "told him [Mr. Bryson] that we were in the early stages of our investment, had partnered with management and were not looking to divest, and are in the midst of executing on our own multi-pronged expansion plan for which we have plenty of capital and support." (PX1105 at 002).

785. In preparing for a follow-up meeting scheduled for August 21, 2007 between Michael Gilchrist and Daramic, IGP and Microporous spent the weekend of August 18 and 19, working on information sheets for Mr. Gilchrist to present verbally to Daramic. (PX0069; PX1108; PX1109). According to Mr. Heigle, the theme of the discussion "obviously being that in 4-5 years we will be competing more head-on with Daramic in their key markets and will be a much more diversified business than we are today." (PX0069 at 001). Moreover, Mr. Heigle believed that at the meeting Microporous should

play up our differentiated technology via CellForce and its derivatives. I think if we can make Daramic feel that we are not only going to attack their markets, but also do it with proprietary technology that has significant benefits over their existing products, it will make our case that much stronger.

(PX1108 at 001).

786. The August 20, 2007 revised information sheet that Microporous was to share verbally with Daramic included the "**Current Situation:** MPLP is spending capital to execute a three-phase capacity expansion plan which includes facility construction and five (5) new CellForce and/or polyethylene process lines." (PX1109 at 002 (emphasis in original)). The information sheet also included "**End of Year 2010 Financial Estimate:** Incremental estimated EBITDA growth from present to End-of-Year 2010: \$13,500,000. Of the \$13,500,000 in incremental growth, approximately 90% will be replacing Daramic existing business." (PX1109 at 002 (emphasis in original)). The incremental growth that Microporous is expecting by 2010 tracks closely to the { [REDACTED] } of EBITDA loss in 2010 that Daramic reported to the Polypore Board of Directors as the impact on its long range plan if it did not acquire Microporous. (PX0203 at 086, *in camera*).

787. The August 20, 2007 revised information sheet also included "**Strategic Implications to be Considered:**

- Daramic will have the benefit of existing differentiated technologies (Flex-Sil, Ace-Sil, and CellForce).
- Daramic will have complete control of 100% of the deep-cycle markets.
- Daramic will have complete control of >97% of the Industrial markets for motive power.

- Daramic will have complete control of 100% of the industrial flooded reserve power markets.
- Daramic will dissolve the threat of MPLP in automotive SLI as no new competitor will be introduced into the market with a secured position.”

(PX1109 at 003 (emphasis in original)).

- i) MPLP and Daramic found assignment of contracts irrelevant because customers had no options

788. In an August 2007 email from Mr. Gilchrist to Mr. Heglie regarding EnerSys’s reaction to a potential acquisition of Microporous by Daramic, Mr. Gilchrist wrote:

EnerSys, as well as others, will be frustrated by this acquisition. Our contract with EnerSys allows only for the fact that EnerSys cannot be compelled to assign the contract to a competitor buying MPLP. The reality is that this means basically nothing as there are not other choices from which to source industrial separators but MPLP and Daramic – Amer-Sil is not an option. The reality is that everyone would be struck with Daramic – like it or not. This lack of assignment does not diminish our value to Daramic.

(PX1104 at 001).

789. In late January 2008, with the closing for the acquisition just a month away, IGP was concerned that it needed to make assignments of the Trojan and Daramic contracts post-closing issues, because it feared that Daramic’s general counsel, Phillip Bryson, would refuse to close without knowing what the customers would say. (PX1125 at 001). Jeff Webb of IGP and Mike Gilchrist agreed that Mr. Gilchrist should broach the subject with Pierre Hauswald because he “will best understand the practical business issue of both EnerSys and Trojan having nowhere else to go and will probably be the most agreeable to dealing with assignments after closing.” (PX1125 at 001). Mr. Hauswald agreed with this assessment. (PX0079).

4. The acquisition resulted in anticompetitive price increases

790. “Daramic’s acquisition of Microporous led to price increases.” (Simpson, Tr. 3165).

791. “The most straightforward method of looking to see whether an acquisition or a merger led to higher prices is to compare pricing before and pricing after the acquisition. . . . [T]here are other factors that also affect price, and one has to control for these factors . . .” (Simpson, Tr. 3209-3210, *in camera*).

792. The empirical industrial organization literature uses one of two approaches to evaluate post merger price increases. (Simpson, Tr. 3210, *in camera*). While econometrics is often used to implement these two approaches, the analysis here did not require the use of econometrics. (Simpson, Tr. 3366-3367, *in camera*). The first approach examines the residual price change after accounting for the other factors that might affect market price. (Simpson, Tr. 3210, *in camera*). The second approach, called the difference-in-differences approach, uses prices in a market that is free of the effects of the acquisition but subject to the same supply and demand shocks as the market where the acquisition occurred to control for other factors that might affect price in the acquisition market. (Simpson, Tr. 3210- 3211, *in camera*).
793. Dr. Simpson testified that four factors could lead to higher prices in a market: increasing demand for the product, changes in productivity, increasing input costs, and increasing market power. (Simpson, Tr. 3212, *in camera*). Dr. Simpson noted { [REDACTED] }.
{ [REDACTED] }.
(Simpson, Tr. 3212-3213, *in camera*). Dr. Simpson also noted that { [REDACTED] }.
{ [REDACTED] } (Simpson, Tr. 3213, *in camera*).
794. In Dr. Simpson's opinion, { [REDACTED] }.
{ [REDACTED] } (Simpson, Tr. 3213-3220, *in camera*). Moreover, { [REDACTED] }.
{ [REDACTED] } (Weerts, Tr. 4510-4511, *in camera*).
795. For example, Daramic's raw material and energy inputs are based on crude oil. (PX2068 at 001). Several price indices can be used to estimate changes in the price of these raw material and energy inputs. (PX2068 at 001). The U.S. Bureau of Labor Statistics publishes price indices for crude petroleum – domestic production and fuels and related products and power on its website. (Simpson, Tr. 3215-3216, 3217, *in camera*). { [REDACTED] }
{ [REDACTED] } (Simpson, Tr. 3217, *in camera*).
796. The price index for crude petroleum – domestic production was 252.6 in November 2007; this price index was 150.6 in November 2008. (PX0033 at 045 (Simpson Report), *in camera*). Dr. Simpson concluded that { [REDACTED] }.
{ [REDACTED] } (Simpson, Tr. 3218, *in camera*).
797. Dr. Simpson also { [REDACTED] }.
{ [REDACTED] } (Simpson, Tr. 3211, *in camera*). Dr. Simpson explained that { [REDACTED] }
{ [REDACTED] } (Simpson, Tr. 3378, *in camera*).

798. The Difference in Difference methodology is an empirical approach. (Simpson, Tr. 3473, *in camera*). The court in Evanston/Northwestern Hospital accepted the Difference in Difference methodology Dr. Simpson employed in this case. (Simpson, Tr. 3473, *in camera*).
799. Dr. Simpson explained that { [REDACTED] } (Simpson, Tr. 3221, *in camera*). Daramic was concerned that Crown Battery, Douglas Battery, and East Penn Battery would shift their purchases to Microporous. (Roe, Tr. 1287-1289; PX0258 at 002). To prevent this, in the Fall of 2007, Daramic offered these firms long-term contracts under its MP plan that limited their price increases in 2009. (Roe, Tr. 1293; PX0258 at 001). Dr. Simpson stated that { [REDACTED] } (Simpson, Tr. 3221-3222, *in camera*; PX0033 at 025, *in camera*).
800. Dr. Simpson noted that { [REDACTED] } (Simpson, Tr. 3465-3466, *in camera*). Dr. Simpson also noted that { [REDACTED] } (Simpson, Tr. 3464, *in camera*). Dr. Simpson explained that { [REDACTED] } (Simpson, Tr. 3464, *in camera*; PX0033 at 024, *in camera*).
801. Dr. Simpson testified { [REDACTED] } (Simpson, Tr. 3221-3222, *in camera*). { [REDACTED] } (RX00945 at 097, *in camera*, (Roe, Tr. 1352-53, *in camera*)). Daramic increased the price for PE battery separators to East Penn by 5 percent in 2009. (Roe, Tr. 1222).
802. Other firms, which were not offered long-term contracts under the { [REDACTED] }, received much larger price increases. { [REDACTED] } (RX00945 at 091, *in camera*; PX0950 at 015, 071-072, *in camera*). { [REDACTED] } (RX00945 at 091, *in camera*). { [REDACTED] }

[REDACTED]
} (Gillespie, Tr. 3000, *in camera*). Trojan, which had a contract with Microporous,
{ [REDACTED] } (Godber, Tr. 236-
38, *in camera*; PX0950 at 014, *in camera*).

803. { [REDACTED]
[REDACTED] } (Gillespie, Tr. 3001-3002, *in camera*; see e.g., PX2052 at 003, *in camera*).

804. Subsequent to Daramic's acquisition of MPLP, Daramic has { [REDACTED]
[REDACTED] } (Gillespie, Tr. 3002, *in camera*).

805. Daramic's post-acquisition supply proposals to Exide are { [REDACTED] }
(Gillespie, Tr. 3047, *in camera*). Daramic's pricing proposals have { [REDACTED]
[REDACTED] } (Gillespie, Tr. 3047, *in camera*). Exide's analysis shows
that it will { [REDACTED]
[REDACTED] } (Gillespie, Tr. 3047, *in camera*).

806. { [REDACTED]
[REDACTED] } (Seibert, Tr. 4285, 4299, *in camera*). { [REDACTED]
[REDACTED] } (Seibert,
Tr. 4285, *in camera*; RX00542).

807. { [REDACTED]
[REDACTED] } (PX0704 at 010, *in camera*).

808. Mr. Hauswald sent an email to Mr. McDonald explaining his frustrations with the
Daramic organization { [REDACTED]
[REDACTED] }
(McDonald, Tr. 3881-3882, *in camera*; PX0617 at 001-002, *in camera*). Mr. McDonald
emailed a response to Mr. Hauswald ideas for improving earnings { [REDACTED]
[REDACTED] } (PX0617; McDonald, Tr. 3885-3886 *in camera*).

O. Daramic Used its Enhanced Market Power to Extract Monopoly Rents in 2008
and 2009

809. [REDACTED]
(Seibert, Tr. 4301, *in camera*). [REDACTED]
[REDACTED] (Seibert,
Tr. 4284, *in camera*).

810. { [REDACTED] } (PX0950 at 004-013, *in camera*; Riney, Tr. 4949, *in camera*, 4951, *in camera*). { [REDACTED] } (PX0950 at 013, *in camera*). { [REDACTED] } (PX0950 at 014, *in camera*; PX0371). The proposed price increases by customer range from { [REDACTED] } (PX0950 at 014-5, *in camera*).
811. The final price increases associated with the Fall 2008 proposed price increases vary by customer; for instance, Daramic did not increase prices for PE battery separators to { [REDACTED] } (RX00945 at 097, *in camera*; (Roe, Tr. 1352-53). Daramic increased the price for PE battery separators to East Penn by 5 percent. (Roe, Tr. 1222).
812. Daramic increased the price of battery separators to { [REDACTED] } (RX00945 at 091, *in camera*). { [REDACTED] } (PX0950 at 071-072, *in camera*).
813. Daramic increased the price of both PE battery separators and CellForce battery separators to { [REDACTED] } (RX00945 at 091, *in camera*). C&D purchases battery separators from Daramic under a contract that took effect { [REDACTED] } (PX0950 at 71, *in camera*).
814. Exide purchases battery separators from Daramic under a contract that took effect { [REDACTED] } (PX0950 at 72, *in camera*). Daramic increased the price of PE battery separators to Exide { [REDACTED] } (RX00945 at 091, *in camera*; (Gillespie, Tr. 3000, *in camera*)). Daramic increased the price of { [REDACTED] } (Gillespie, Tr. 3000, *in camera*).
815. In 2008, Daramic increased the price of CellForce battery separators to Bulldog by 10 percent. (Benjamin, Tr. 3521-3522).
816. In October of 2008, Daramic announced price increases to { [REDACTED] } (Godber, Tr. 233, *in camera*). Daramic later levied a { [REDACTED] } (Godber, Tr. 236-237, *in camera*). { [REDACTED] } (Godber, Tr. 238, *in camera*). Compared to the pricing in the contract that Trojan had been negotiating with Microporous pre-acquisition, { [REDACTED] } (Godber, Tr. 239, *in camera*).

VII. Entry into the Battery Separator Markets at Issue would not be Timely, Likely and Sufficient

A. General

817. Dr. Simpson explained that "Microporous possessed various tangible and intangible assets that made it the competitor that it was." (Simpson, Tr. 3205, *in camera*). Dr. Simpson testified: "The tangible assets included things such as a product that worked, a technical workforce that could troubleshoot and innovate, a business force that was effective at selling the product. It included a factory in the United States and . . . a soon-to-be-opened factory in Europe." (Simpson, Tr. 3205-3206, *in camera*). Dr. Simpson also cited qualification by customers as an additional tangible asset that Microporous possessed. (Simpson, Tr. 3206, *in camera*). Finally, Dr. Simpson noted that Microporous possessed such intangible assets as a favorable reputation with customers and the benefit of learning by doing through having produced the product for a number of years. (Simpson, Tr. 3206, *in camera*).
818. Dr. Simpson noted that some of these assets needed to be acquired sequentially - "you can't test a product until you develop a product and you can't get learning by doing until you're actually producing the product and figuring out through producing it how to make it more efficiently." (Simpson, Tr. 3206, *in camera*). Dr. Simpson noted that one could assess the overall time required to obtain these tangible and intangible assets either by summing up the times to obtain the ones that could not be obtained simultaneously or by examining past instances where a firm entered a market. (Simpson, Tr. 3207-3208, *in camera*). Dr. Simpson noted that both approaches show that entry would take at least several years. (Simpson, Tr. 3207-3208, *in camera*, 3395, *in camera*).
819. Learning by doing is present in the manufacture and sale of battery separators. (PX0033 at 010, *in camera*; PX0131 at 054; PX0265 at 011, *in camera*; PX0092 at 001; Simpson, Tr. 3263). Learning-by-doing is accumulated over multiple years. (PX0033 at 010, *in camera*; PX0131 at 054; PX0265 at 011, *in camera*; PX0092 at 001; Simpson, Tr. 3207, *in camera*, 3213, *in camera*; PX1715).
820. Manufacturing know how is accumulated over multiple years. (PX0131 at 054, 056, 064; PX0092 at 001).
821. On average it takes an experienced PE line builder approximately 18 months to install a PE separator line in an existing facility. (Gaugl, Tr. 4543). But that time may range up to 20 months. (Gaugl Tr. 4543).
822. Dr. Simpson testified that Daramic could further extend the time a firm needs to enter by using exclusive contracts to deprive that firm of sales. (Simpson, Tr. 3209, *in camera*).

823. Barriers to entry include a significant capital investment, sophisticated production processes, extensive customer relationships, patent protected technology and high customer switching costs. (Gilchrist, Tr. 604-05; RX00741 at 015).
824. Learning how to build a PE battery separator line is an ongoing process where you learn day by day. (Gaugl, Tr. 4591). Mr. Kung has { [REDACTED] } (PX0907 (Kung, Dep. at 100), *in camera*). Mr. Kung said, “{ [REDACTED] }” (PX0907 (Kung, Dep. at 100), *in camera*).
825. Prior to designing and starting up the line for Microporous in Tennessee, Mr. Gaugl had previously designed and started up four other PE battery separator lines – two for Global Industries in South Korea; one for Batou in the province of inner Mongolia in China; and 1 for Jungfer in Jungfer’s Feistriz, Austria facility. (Gaugl, Tr. 4532-34). By the time Mr. Gaugl became responsible for designing the Microporous line in Piney Flats, Tennessee, he had seven years of experience setting up PE production lines. (Gaugl, Tr. 4543).
826. According to Mr. Gaugl, the eighteen months include: about two months to do the generic layout of the lines and the specification of the main equipment; about ten months to obtain the long lead time items; approximately four months to install the equipment; and about two months to start-up and debug the lines. (Gaugl, Tr. 4543-44).
827. The, on average, 18-month project of setting up a PE battery separator line ends at the 24-hour test run. (Gaugl, Tr. 4595). In the 24-hour test, the line must demonstrate that it is capable of producing in spec material at a certain throughput. (Gaugl, Tr. 4539). The 24-hour test is to demonstrate the technical capabilities of the line. It has nothing to do with whether one is able to make a commercial product at a competitive cost. (PX0905 (Gaugl, Dep. at 43-44)).
828. Debugging of new lines continue well after the 24-hour test. (Gaugl, Tr. 4594-95). Passing the 24-hour test run does not mean that a new PE line will operate without problems. (Gaugl, Tr. 4595). Problems that occur after the 24-hour test are not always obvious at the time of the 24-hour test. (Gaugl, Tr. 4595).

B. Building and operating a PE line is a long and difficult process

829. { [REDACTED] }
(PX0907 (Kung, Dep. at 9-10), *in camera*).

830. { [REDACTED] }

{ (PX0907 (Kung, Dep. at 27), *in camera*). { (PX0907 (Kung, Dep. at 101), *in camera*). { (PX0907 (Kung, Dep. at 102), *in camera*).

831. { (PX0907 (Kung, Dep. at 101), *in camera*).

832. { (PX0907 (Kung, Dep. at 98-100), *in camera*). Mr. Kung is not aware of any universities that teach students how to develop PE separator production lines. (PX0907 (Kung, Dep. at 98-99), *in camera*).

833. Mr. Kung and his team of { (PX0907 (Kung, Dep. at 25-27), *in camera*). { (PX0907 (Kung, Dep. at 27, 34-35), *in camera*). It took { (PX0907 (Kung, Dep. at 28-29), *in camera*).

834. { (PX0907 (Kung, Dep. at 45-46), *in camera*). { (PX0907 (Kung, Dep. at 45-46), *in camera*). { (PX0907 (Kung, Dep. at 46), *in camera*).

835. { (PX0907 (Kung, Dep. at 132), *in camera*). For example, one PE line at { pieces of equipment. If one machine is not working, the other { "won't function right" and production yields will fall. (PX0907 (Kung, Dep. at 134-135), *in camera*).

836. Battery separator manufacturing involves "very complicated technology," and the process of PE production "is one of the most complicated processes in [the] membrane industry." (PX0907 (Kung, Dep. at 39-40), *in camera*). Good engineers are "very, very important. That is the only way to survive" as a PE separator business. (PX0907 (Kung, Dep. at 39). A good engineering team is necessary to reduce PE separator manufacturing costs. (PX0907 (Kung, Dep. at 39-40), *in camera*).

837. { [REDACTED] } (PX0907 (Kung, Dep. at 103), *in camera*). { [REDACTED] } (PX0907 (Kung, Dep. at 106), *in camera*).
838. The PE production process is a “very narrow field [of expertise] in the industry.” Only a limited number of people in the world have the necessary experience to oversee a project involving installation of a new PE line. (PX0907 (Kung, Dep. at 102), *in camera*).
839. Currently, only two “major players” remain in the world, with respect to PE separator manufacturing: Daramic and Entek. (PX0907 (Kung, Dep. at 40), *in camera*). { [REDACTED] } (PX0907 (Kung, Dep. at 39-40), *in camera*).
840. { [REDACTED] } (PX0907 (Kung, Dep. at 107), *in camera*).
841. An individual PE line with annual production capacity of { [REDACTED] } to operate profitably. (PX0907 (Kung, Dep. at 47), *in camera*). “If you don’t have big volume, you are not going to make any profit.” (PX0907 (Kung, Dep. at 47), *in camera*).
842. When BFR was operating just two PE separator lines, its capacity of { [REDACTED] } because of the larger cost of investment to buy the land, build the building, and the lines. (PX0907 (Kung, Dep. at 61-62), *in camera*). Thus, { [REDACTED] } of its PE manufacturing operations. (PX0907 (Kung, Dep. at 68), *in camera*).
843. During the 2008 strike at Daramic’s Owensboro, Kentucky manufacturing plant, Daramic brought its own management and employees over from Europe to help run the Owensboro manufacturing lines. Notwithstanding the use of experienced personnel to run the production lines, the separators produced on those lines during the strike had “quality issues” and the “number of defects rose significantly.” (Gillespie, Tr. 2986-2992).
844. For example, during the Owensboro strike, Daramic provided wavy separator rolls to Exide. (Gillespie, Tr. 2987-2988; PX1407). Exide was dissatisfied with the wavy separators but had no other qualified source of supply. (Gillespie, Tr. 2988-2990). Exide had no option but to use the wavy separators or face shutting down battery manufacturing operations. (Gillespie, Tr. 2989-2990). Using the wavy separators was a “big deal” for

Exide in terms of manufacturability because the wavy separators caused variations in Exide's productivity level costing Exide more money to run the product. (Gillespie, Tr. 2988-2989).

845. Exide learned first hand lessons from Daramic's Owensboro strike. The strike demonstrated to Exide that manufacturing separators takes more than turning a switch, as experienced Daramic employees were unable to run their own product, with their own designs, without encountering considerable quality problems. (Gillespie, Tr. 2992-2993).
846. During the Owensboro strike, EnerSys also received poor quality separators from Daramic. A lot of material was out of specifications in a variety of ways. (Burkert, Tr. 2332). EnerSys had no choice but to accept the poor quality material, since it did not know how long it would take Daramic to replace it. (Burkert, Tr. 2332). These quality issues cost EnerSys money in terms of efficiency losses at the plants and will eventually show up in higher warranty returns on batteries. (Burkert, Tr. 2339). EnerSys estimates that these issues cost it \$1.4 million in costs which was approximately \$3.2 million in revenues. (Burkert, Tr. 2339).

1. MPLP entry into PE at Piney Flats took many years

847. The development of the CellForce product took many years. (Gilchrist, Tr. 323). CellForce was initially developed by Microporous in 1995-1996 and the first samples were given to Trojan in 1996-1997. (Gilchrist, Tr. 316-17, 324-25). [REDACTED] } (PX 2235 at 004, *in camera*). Beginning in early 2001, MPLP began producing CellForce on a production line at its Piney Flats facility. (Gilchrist, Tr. 321-322).
848. Peter Gaugl built the PE/CellForce line for the former Microporous in Piney Flats, Tennessee in 2000. (Gaugl, Tr. 4534). At the time he built the line in Tennessee, Mr. Gaugl was employed by Jungfer as a project engineer responsible for designing and starting up polyethylene battery separator lines for other companies. (Gaugl Tr. 4532). Mr. Gaugl incorporated the lessons from previous lines he designed and started up when designing and starting up later PE battery separator lines. (Gaugl, Tr. 4587.).
849. [REDACTED] } (PX0590 (Gaugl, Arb. Dep. at 52-53), *in camera*).
850. Even with all his experience, Mr. Gaugl testified that the Piney Flats line encountered a number of problems that he only discovered after he had completed the project and went back to Austria. (Gaugl, Tr. 4588, 4595). The Piney Flats line that Gaugl installed had

machine failures because the equipment was underdesigned. (Gaugl, Tr. 4590). { [REDACTED] } (PX0905 (Gaugl, Dep. at 40), *in camera*). In some cases the problems with the Piney Flats line were identified months after the 24-hour test run. (Gaugl, Tr. 4594-95).

851. In mid-2001, Mr. Gaugl left Jungfer and became employed by Microporous. (Gaugl Tr. 4534). { [REDACTED] } (PX0905 (Gaugl, Dep. at 39), *in camera*). Most of the problems Mr. Gaugl encountered at the installation in Piney Flats for Microporous were new problems that Mr. Gaugl had not encountered at any of the other installations he was involved in. (Gaugl Tr. 4600).
852. For example, the Piney Flats line had electrical problems that were not obvious at the time of the 24-hour test. (Gaugl, Tr. 4595). And while the line was producing good material when it was working, the electrical failures prevented the line, at times, from producing any material at all. (Gaugl, Tr. 4595).
853. Some of the problems that Mr. Gaugl discovered with the new line installed at Piney Flats occurred after the one year warranty period given to Microporous by Jungfer. (Gaugl, Tr. 4596-97, 4599).
854. The new line at Piney Flats also encountered problems with the extraction system that caused the PE material to wrinkle, which only appeared after the line was operating on a day-to-day basis, and after the warranty period. (Gaugl, Tr. 4597, 4599). Wrinkled material is a problem for battery producers. (Gaugl, Tr. 4597). It is also a problem for Microporous, because wrinkled PE material results in scrap material. (Gaugl, Tr. 4597). Scrap material leads to higher production costs because the PE line has less throughput. (Gaugl, Tr. 4598-99).
855. The line Mr. Gaugl installed at Piney Flats had a solvent recovery problem, which he learned about two or three years after operating the new PE line. (Gaugl, Tr. 4599). That resulted in a higher solvent loss than acceptable by the environmental authorities. (Gaugl, Tr. 4599).
856. { [REDACTED] }
(PX0905 (Gaugl, Dep. at 43), *in camera*).
857. Beginning in early 2001, Microporous began producing CellForce on the new production line at its Piney Flats facility. (Gilchrist, Tr. 321-22). The determination of whether the PE material from a new PE production line is "in-spec" does not include

testing the separator in a battery. (Gaugl, Tr. 4620). The battery maker makes the decision about testing a separator in a battery. (Gaugl, Tr. 4620).

858. Interested customers tested the product from Microporous's new PE/CellForce line before purchasing commercial quantities. It took more than a year for Hawker/EnerSys, the first CellForce customer to complete its testing and approval process and began buying commercial quantities. Trojan, the second CellForce customer, began buying commercial quantities in 2002. (Gilchrist, Tr. 321-23, 325).
859. The CellForce approval process at Trojan, the second CellForce customer, was delayed by one year due to shrinkage issues with the product. (Gilchrist, Tr.358-361). Trojan began testing CellForce in mid-1999 and qualified it in March 2001, but experienced shrinkage issues with the product and stopped ordering it until at least May 2002. Trojan began buying commercial quantities of CellForce in 2002 for deep-cycle applications. (Gilchrist, Tr. 321-323, 325; PX0450 at 005).
860. Microporous began making profits on its investment in CellForce in 2004, which was three years after it began selling commercial quantities of CellForce to Hawker/EnerSys, its first customer. (Gilchrist, Tr. 393).

2. MPLP expansion in Austria took longer than two years as well

861. Planning for and developing a new separator plant in a new country takes more than two years. The expansion undertaken by Microporous was difficult and required "a very significant effort" by Microporous. (Trevathan, Tr. 3650-3660). Microporous began planning to build a new plant in Europe in early 1999. (Gilchrist, Tr. 329-30).
862. Discussions with Exide concerning Microporous expanding to meet its requirements had begun prior to the negotiations with JCI concerning that expansion opportunity. (Trevathan, Tr. 3609).
863. "At the time discussions with JCI terminated, [Microporous] had had several meetings with Exide, and we had provided a copy of an MOU for signature, and the terms of the MOU involved expansion to supply sufficient volume or a volume that equated to roughly 22 million square meters, that would require an expansion similar in size and scope as what we were discussing with JCI." (Trevathan, Tr. 3610).
864. Microporous's Austrian expansion was still ongoing at the time it was acquired by Daramic on February 29, 2008. (Gilchrist, Tr. 300). The acquisition by Daramic did not change the timing in which the Austrian facility would begin producing product. (Gaugl, Tr. 4626).
865. The expansion in Austria resulted in two additional lines; one for EnerSys, and the second for producing mainly automotive separators. (Gaugl, Tr. 4559-60). Each of the two lines had approximately 11 million square meters of capacity. (Gaugl, Tr. 4533;

- gilchrist, Tr. 312-313). The cost of building an 11 million square meter line is approximately \$9 million. (Gaugl, Tr. 4547).
866. The Austrian expansion was a greenfield project in which Mr. Gaugl was responsible for the detailed design of the equipment, the installation and the startup. (Gaugl, Tr. 4536-37).
867. The process for manufacturing PE separators is "a complicated yet continuous process." (PX0611 at 003). The process requires 15 to 18 different pieces of equipment. (Gaugl, Tr. 4610). One cannot call a machine supplier and order a complete PE battery separator line. (Gaugl, Tr. 4610-11).
868. Before he ordered the equipment for Microporous's Austrian expansion, Mr. Gaugl had to design the specifications of the equipment for the line. (Gaugl, Tr. 4608-09). Mr. Gaugl designed the equipment to be installed in Austria in 2005. (Gaugl, Tr. 4609).
869. For the Microporous expansion in Austria, Mr. Gaugl designed all the connection points and controls between the individual machines and drew up blueprints specifying how the various components would be connected together. (Gaugl, Tr. 4610).
870. [REDACTED] } (PX0611; PX0905 (Gaugl, Dep. at 128-29), *in camera*).
871. One of the reasons for choosing Austria for the expansion was so that Microporous could hire former Jungfer employees that were familiar with PE battery separator production. (Gaugl, Tr. 4606). Hiring skilled employees can shorten the start-up period for a new PE battery separator production facility by six months. (Gaugl, Tr. 4606). Mr. Gaugl testified that hiring skilled employees gave Microporous a jump start and cut down the start-up period by a few months. (Gaugl, Tr. 4606).
872. Microporous had ordered the long lead time items for its new lines in December of 2006 including the equipment for a third PE line. These long lead time items for a PE line are those pieces of equipment that take from ten to twelve months to arrive. (Trevathan, Tr. 3600). The long lead time items included the dryers, extruders, and the calender systems. (Trevathan, Tr. 3600).
873. The construction of the plant building began in February 2007. Prior to the construction, Microporous spent 9-10 months obtaining approvals for the plant from local government authorities and environmental agencies. Additionally, it spent time obtaining financial incentives from the Austrian government. (Gilchrist, Tr. 329-31). After the building was completed, the manufacturing equipment was installed and tested. In the first week of March 2008 (i.e., the week after the acquisition), one of the two production lines became operational. (Gilchrist, Tr. 334-335).

874. The Austrian facility began producing commercial product in March 2008, over two years after Microporous began the plans for such an expansion. (Gaugl, Tr. 4603; PX0611). However, the Austrian facility did not reach optimum efficiency and did not operate on a regular schedule until June 2008. (Gaugl, Tr. 4603).
875. In its Austrian expansion, Microporous implemented the modifications it made at Piney Flats in order to avoid the problems it had earlier encountered at Piney Flats. (Gaugl, Tr. 4601). Notwithstanding the modifications it made to the Austrian facility to avoid the problems it previously encountered at Piney Flats, the Austrian facility had problems producing separators as late as September 2008. (Gaugl, Tr. 4622-23).
876. Mr. Gaugl testified that as of January 2009, the Austrian facility was still going through a learning curve: "You go through a learning curve all the time, so it's continuous improvement." (Gaugl, Tr. 4605). According to Mr. Gaugl, PE battery separator plants make continuous improvements in efficiency and quality. (Gaugl, Tr. 4605). A PE battery separator producer that has gone through several steps of continuous improvement will be definitely better than a firm just starting up into the production of PE battery separators. (Gaugl, Tr. 4605).
3. Development of a new separator is a lengthy, and not always successful process
877. Daramic development of HD took much longer than two years. (PX0950 at 064). Daramic began testing different additives for its new deep-cycle separator as early as 1999. (Whear, Tr. 4777-4778). But it was not until 2005 that Daramic made its first commercial sales. (Whear, Tr. 4778).
878. In the late 1990s, U.S. Battery had discussions with Daramic about Daramic developing a deep-cycle battery separator. (Qureshi, Tr. 2014-15). U.S. Battery engaged Daramic in these discussions because U.S. Battery was looking for a lower cost separator and there was no other competition to Microporous. (Qureshi, Tr. 2017-18). Nawaz Qureshi helped Daramic develop a deep-cycle battery separator. (Qureshi, Tr. 2015). He gave some technical suggestions, and built test batteries for Daramic that contained Daramic separators and Flex-Sil separators, which both Daramic and U.S. Battery tested at their own facilities. (Qureshi, Tr. 2015-16, 2017-18).
879. In its internal documents, Daramic has recognized U.S. Battery as "a key development partner in approving both DC and HD separators." (PX0326 at 001; *see also* PX0681 at 001 ("a valuable partner in the qualification of Daramic products in the past— notably Daramic DC and Daramic HD."))
880. Amer-Sil spent more than five years attempting to develop a new motive separator only to see the project fail. Amer-Sil attempted to develop a PVC separator known as Amersleeve that potentially could be used in sleeve form. (PX0916 (Dauwe, Dep. at 46-

47)). { [REDACTED] } (PX0916 (Dauwe, Dep. at 157-158), *in camera*). Despite the many years of effort, the Amersleeve project was not a success. Amer-Sil discontinued work on the Amersleeve project in 2008 because the separator did not work and no customers were interested in purchasing it. (PX0916 (Dauwe, Dep. at 47)).

C. Customer switching times are barriers to entry

1. General

881. The testing requirements to gain customer approvals add significantly to the amount of time it takes to enter any of the markets for PE separators. In 2006, Mr. Hauswald expressed { [REDACTED] } (PX2267 at 4, *in camera*). This delay was due to the fact that { [REDACTED] } (PX2267 at 4, *in camera*).
882. Battery manufacturers generally provide customers with a warranty against material, workmanship and manufacturing defects for a period of time, *e.g.*, five years. If a battery has a bad component such as a separator, the warranty may require the manufacturer to replace the defective battery with a new battery. (Benjamin, Tr. 3505).
883. Typically, separator customers do not purchase a new separator product until they have tested, validated and approved the separator. Mr. Seibert in an email to Mr. Whear said “skipping qualification steps always makes me a little nervous; in part because I have had the unpleasant experience of approving quality claims that amounted to hundreds of thousands of dollars.” (PX0320).
884. Even when a battery manufacturer switches the backweb thickness of a separator, new testing and qualification is required. (Leister, Tr. 4025).
885. Based on Microporous’s experience in selling its CellForce product, this internal customer process can take four to five years. (Gilchrist, Tr. 618).
886. At EnerSys the process for testing and validating a new separator product involves preliminary material tests of separator samples, which are typically made in a laboratory, and final tests of production samples in actual batteries. The preliminary tests involve testing the separator material in puncture, shrinkage and electrical resistance tests, as well as analyzing its brittleness and composition, *i.e.*, particularly oil. (Gagge, Tr. 2484-85, 2487). If the separator samples pass these preliminary tests, EnerSys will request the potential supplier to provide production samples, *i.e.*, separators made on the supplier’s production line. (Gagge, Tr. 2484-86).

887. After receiving production samples from a potential separator supplier, EnerSys builds test batteries with the new separators. These test batteries undergo performance and battery life tests. The performance tests essentially analyze whether the battery with the new separator will generate the electrical current specified for the battery. The battery life tests are time-consuming because they are designed to determine whether the battery will perform well for the duration of the battery's warranty period. These tests involve placing the test batteries in a box which has an elevated temperature. (Gagge, Tr. 2484-2487, 2488-89). The elevated temperature helps age the battery. (Gagge, Tr. 2489).
888. Qualifying a separator to meet the performance specifications is not the only step that is required before the separator can be sold in commercial batteries. (Gillespie, Tr. 2935-2936). After a separator is qualified, a battery manufacturer must make sure the separator is runnable in the battery manufacturing facilities. (Gillespie, Tr. 2936; *see also* Gagge, Tr. 2488). Use of a new separator requires the battery manufacturer to understand and tweak the battery manufacturing machines to be able to run a different type of product. (Gillespie, Tr. 2936).

i) Testing for motive and UPS

889. Testing for traction batteries takes up to 3 years. (Whear, Tr. 4798; PX0568; *see also* Whear, Tr. 4813, *in camera*; PX0564, *in camera*).
890. Testing for motive power and stationary is a very long-term process that takes about two years to complete. (Whear, Tr. 4801, (PX0842 "Testing industrial cells is a very long term process (~2 years). . .")). When C&D began testing HD for use in motive batteries, Daramic understood that it would take two years to qualify the separator at C&D. (PX0806 at 003).
891. Motive battery separators undergo cycle testing for a period of 2.5 years at EnerSys. (Gagge, Tr. 2490). From beginning to end the testing process takes "upwards of three years, a six-month development cycle for production tooling, et cetera, and then the two and a half years of testing would follow." (Gagge, Tr. 2492).
892. Even though EnerSys had experience with CellForce through its acquisition of Hawker, it still took a long time to approve CellForce in the remainder of EnerSys's facilities. (Axt, Tr. 2127-28). Mr. Axt explained that this is because

each plant uses different profiles of polyethylene or of CellForce, so you just -- there's a long development period and approval period to get qualified. It's just not because you use the product in one facility it's already approved in another.

(Axt, Tr. 2128).

a. PVC testing takes two years

893. Amer-Sil's PVC separators are not currently being tested by any battery manufacturer for use in North American battery manufacturing plants. (PX0916 (Dauwe, Dep. at 132)). If a North American battery manufacturer decided to begin testing Amer-Sil's PVC separators for use in North America, the separators would not be in use for at least two years time as testing and qualification of Amer-Sil's PVC separators typically takes two years or longer. (PX0916 (Dauwe, Dep. at 163-164))
894. If { } obtains the appropriate calender roll, it would take { } before EnerSys could begin ordering product from them. (Burkert, Tr. 2362, *in camera*; Gagge, Tr. 2498-2499, *in camera*). It is not possible to accelerate the testing. (Gagge, Tr. 2508-2509, *in camera*). EnerSys is currently in discussions with { }
{ } (Gagge, Tr. 2499-2500, *in camera*). { }
(Gagge, Tr. 2515-16, *in camera*). If { }
{ } could actually supply EnerSys with product. (Burkert, Tr. 2360, *in camera*; see also Gagge, Tr. 2500, *in camera*).
895. Exide expects testing of motive power and stationary separators to take a minimum of two years. (Gillespie, Tr. 2973-2974; RX00013 at 009; PX1090 at 004 (Exide timeline indicating a 26 month timeframe for industrial product validation and testing).

2. Deep-cycle testing

896. Life-cycle tests are conducted a few different ways. The Battery Council International sets testing standards for the rate of discharge. Life-cycle testing in the lab involves putting the battery on a discharge machine in a laboratory that runs automatically so that the batteries cycle every day. (Godber, Tr. 159-60). Because you barely get more than a cycle in a given day, it takes a while to for the battery to reach the end of its life of six or seven hundred cycles. (Godber, Tr. 159).
897. Testing and qualification of deep-cycle battery separators typically takes between 18 and 24 months. (Gillespie, Tr. 2934). Exide manufactures deep-cycle batteries at its Salina and Bristol manufacturing plants. (Gillespie, Tr. 2999, *in camera*). Qualification of Daramic's HD separators took well over a year for use Exide's Salina facility. (Gillespie, Tr. 2935). HD separators only received approval a year or so later for use in Exide's Bristol manufacturing facility. (Gillespie, Tr. 2935).
898. Trojan tests separators for use in their batteries in order to understand the life-cycle characteristics due to original equipment warranty requirements and to protect their brand. (Godber, Tr. 158).

899. In addition to life-cycle testing in the lab, Trojan will conduct field testing. (Godber, Tr. 159). In field testing, Trojan will build a battery with a particular separator and then will go to a golf course and put the batteries in the golf carts at the course and follow the batteries during the course of their life. (Godber, Tr. 160). A field test for a separator generally is a two-year time frame to understand how the battery is going to perform in the field. (Godber, Tr. 163). On a severe hilly course, field testing may be done in 18 months because the discharge of the battery will be faster and the battery will degrade sooner. (Godber, Tr. 163).
900. Because field testing is expensive, Trojan does not typically run field testing and laboratory testing concurrently. (Godber, Tr. 164). Laboratory testing is typically performed before field testing to see if the laboratory numbers are good enough to merit the more expensive field testing. (Godber, Tr. 164).
901. Trojan began testing the CellForce separator in June of 1999 for approval for a lower capacity golf cart, the T-605, and for a marine battery line. (Godber, Tr. 166). These two product lines were for aftermarket products. (Godber, Tr. 166). The field test was started after the life-cycle testing began, once Trojan began seeing good results in the lab. The qualification process finished in March of 2001. (Godber, Tr. 166-67).
902. Notwithstanding the extensive testing on CellForce, Trojan ran into a shrinkage problem with CellForce on the marine product lines, shortly after it began selling the product. (Godber, Tr. 167-68). Trojan had not sold many batteries at the point it discovered the problem and decided to pull products with CellForce separators from the market. (Godber, Tr. 168). Microporous was able to resolve the shrinkage problem, and after some additional testing, Trojan reapproved the CellForce for the marine line in 2003. (Godber, Tr. 168-69).
903. Trojan has tested CellForce for aftermarket floor scrubber, scissor lift and boom lift batteries; the testing for those applications ran around 20 to 22 months. (Godber, Tr. 169-70).
904. Daramic's decision to switch HD production to Piney Flats from Owensboro was made in the spring of 2008. Yet qualification of HD material made in Piney Flats took until the spring of 2009 to be achieved. (Trevathan, Tr. 3715-16). Even with the trained work force that was sent from Owensboro to train the Piney Flats staff how to establish the line and make the product the qualification took a year. (Trevathan, Tr. 3716).

3. SLI testing

905. Exide's testing of MPLP's PE SLI separators was scheduled to take 18-24 months to complete. (Gillespie, Tr. 2973; RX00013 at 009 (test sequence for automotive separators "expected to take 9 months for life cycle and 1 year for field test"); PX1090).

i) Daramic documents recognize long testing time

906. While Daramic was actively trying to grow HD's market share, Daramic also understood that battery manufacturers would require testing and qualification of the new separator before HD was widely accepted for commercial use. (PX0262 at 003). Daramic expected customer qualification of HD for use in deep-cycle batteries to take 18 months of testing or longer. (PX0262 at 003).
907. Daramic recognized that testing separators in deep-cycle applications at Trojan would take approximately two years. In a May 24, 2006 email responding to the announcement that Trojan was adding another deep-cycle battery plant, Pierre Hauswald wrote Bob Toth, { [REDACTED] } (PX2248 at 001, *in camera*). Less than one year later, Daramic put together an { [REDACTED] } (PX0263 at 008, *in camera*).
908. High switching costs provide Daramic with an important advantage over other suppliers. Daramic's { [REDACTED] } for Daramic in sales to large customers. (RX01497 at 001, *in camera*). According to Mr. Roe, the costs associated with switching suppliers is "much higher" for customers purchasing industrial (motive or stationary) separators than it is for customers purchasing automotive separators. (PX0482 at 003).
- D. The PE separator manufacturing process is complicated and requires special know how
909. The equipment needed to manufacture polyethylene separators includes an extruder, extractor, calender rolls, mixer, dryer and bulk handling equipment. (Gilchrist, Tr. 591-593).
910. The manufacturing process for separators is highly automated. For example, Microporous has only two or three people monitoring the equipment on each of its production lines. (Gilchrist, Tr. 601-602). Consequently, labor is not a huge constituent of the cost of making a battery separator. (Gilchrist, Tr. 601).
911. Because different product formulas require different conditions of the die which lead to extraction, the employees working on the production lines for separators have unique skills. To meet customer product specifications, the employees on the lines must know

how to set the proper conditions of pressure, temperature and speed on the equipment. (Gilchrist, Tr. 394-395).

912. Manufacturers of separators have special know-how obtained in a learning-by-doing fashion. For example, Microporous "learned a lot of lessons, painful lessons, expensive lessons" when initially manufacturing CellForce at Piney Flats. These "expensive lessons" were incorporated into its new production lines in Feistritz. (Gilchrist, Tr. 395-396).
913. Microporous's manufacturing lines for CellForce use PE technology that it obtained from Jungfer. (Gilchrist, Tr. 563). Depending on the type of calender rolls attached to the line, these manufacturing lines can produce separators for either SLI applications or industrial applications. (Gilchrist, Tr. 562, 569-570).

1. Lack of experience is a barrier to entry:

914. Customers are unlikely to sponsor entry by firms without appropriate flooded lead acid separator experience. { [REDACTED] } (Axt, Tr. 2305-2306, *in camera*).
915. { [REDACTED] } (PX0265 at 012, *in camera*). EnerSys believes that a viable supplier needs to be a reputable company with financial stability, technical innovation, research capabilities, customer service and support. (Gagge, Tr. 2484).
916. Reputation is an important component for entry into any North American PE market. EnerSys was willing to try MPLP's CellForce product only after acquiring Hawker and learning from its European operations about MPLP's reputation and stellar customer focus. (Axt, Tr. 2127).
917. Customers care about their separator suppliers' reputations for financial stability, technical expertise, manufacturing capabilities, and leadership capabilities. (Axt, Tr. 2107-2108). Technical expertise is important for innovation, weekly support, and monthly support. (Axt, Tr. 2110; *see also* Hauswald, Tr. 784-785, *in camera*).
918. MPLP had a very good reputation in the marketplace. (Gillespie, Tr. 3127).

E. Entek is not likely to enter the deep-cycle, motive or UPS markets

919. Dr. Simpson noted that { } does not currently make deep-cycle or motive battery separators and thus would need { } before it could have a significant effect on these markets as a supplier. (Simpson, Tr. 3195-3196, *in camera*). Specifically, Dr. Simpson explained that to enter the deep-cycle battery separator market at a level sufficient to restore the pre-acquisition competitive environment, { } would need to develop a reliable product, modify its production line, get qualified by customers, and then gain the learning by doing necessary to be efficient. (Simpson, Tr. 3408, *in camera*).
920. Entek is unlikely to develop a separator for the deep-cycle market because it was unsuccessful in developing a competitive product for this market in 1996. (Gilchrist, Tr. 363). Moreover, Entek's separators are based on polyethylene material which is inert and has no effect on inhibiting the antimony transfer process. (Gilchrist, Tr. 365, 389-390).
921. Entek is unlikely to develop separators for motive batteries because in the past it has refused to supply separators for this application despite a request to do so by Bulldog Batteries. (Benjamin, Tr. 3519). Based on its conversation with Entek about a supply relationship, Bulldog Batteries concluded that Entek was simply not interested in supplying industrial battery applications with separators. After Entek told Bulldog Batteries that it was "not interested in getting into the industrial. We don't want to manufacture the material that you're using, and we're quite happy with the market that we have. So, we're going to stay there." Bulldog took Entek off its supplier list and no longer pursued them as a supplier of motive battery separators. (Benjamin, Tr. 3520-3521). Entek has never approached Bulldog Battery in an effort to supply its motive separator needs. (Benjamin, Tr. 3521).
922. Entek has chosen to focus solely on the SLI separator market. Its only industrial separators are UPS gel-type separators, a legacy product made solely for C&D Dynasty. (Gilchrist, Tr. 429-30). Entek does not have a significant position in the motive market. (PX0402 at 009-011).
923. Exide understands that { } does not currently manufacture motive power or stationary separators. (Gillespie, Tr. 3037, *in camera*). Mr. Gillespie testified that he believed that { }
{ } (Gillespie, Tr. 3037-3038, *in camera*).
924. In the past, Exide repeatedly asked { } for quotations on Exide's industrial (motive and stationary) separator business, and "the answer was continually, no, no, no." (Gillespie, Tr. 3129, *in camera*). Only in November 2008 did, { }
{ } (Gillespie, Tr. 3129, *in camera*; Weerts, Tr. 4509, *in camera*; PX1902 at 001, *in camera*). According to Mr. Gillespie, from Exide's

- perspective, the { } (Gillespie, Tr. 3129-3130, *in camera*). Exide does not believe that { } is enthusiastic about manufacturing industrial separators. (Gillespie, Tr. 3040, *in camera*).
925. To date, { } has not provided Exide a pricing estimate for potential supply of motive or stationary separators. (Gillespie, Tr. 3040, *in camera*; Weerts, Tr. 4507-4509, *in camera*). { } (Weerts, Tr. 4527, *in camera*). { } has indicated to Exide that it should be prepared for "sticker shock" on { } pricing for motive and or stationary separators. (Gillespie, Tr. 3040, *in camera*; Weerts, Tr. 4509, *in camera*). { } (PX1902 at 001, *in camera*). The fact that { } for Exide. (Gillespie, Tr. 3130, 3136-3137, *in camera*).
926. { } (Gillespie, Tr. 3040, *in camera*; PX1902 at 001, *in camera*). { } (Gillespie, Tr. 3126-3127, *in camera*). In order to meet Exide's needs, { } (Gillespie, Tr. 3137-3138, *in camera*).
927. { } has also indicated to Exide that there will be an issue of black scum with any industrial (motive or stationary) separators that { } might provide to Exide. (Gillespie, Tr. 3129-3130, *in camera*; PX1902 at 001, *in camera*). This is a "big issue" for Exide, because regardless of the pricing, without a resolution to the black scum issue "I can't put the separator in the batteries". (Gillespie, Tr. 3130, 3134-3135, *in camera*). Exide does not have black scum issues on the separators that it purchases from Daramic, so this would only be an issue if Exide tried to purchase industrial separators from { } (Gillespie, Tr. 3136, *in camera*).
928. Even if Exide and { } can resolve the pricing and black scum issues, Exide will { } In order for Exide to make a decision to purchase motive or stationary separators from { } it would first have to test and qualify those separators. Such testing will take at least { } was able to acquire the proper tooling and manufacture a sufficient quantity for Exide's testing needs. (Gillespie, Tr. 3038-3039, *in camera*). { } (Weerts, Tr. 4489, *in camera*).
929. EnerSys has continued to seek an alternative to Daramic since the acquisition of MPLP in February of 2008. Mr. Burkert met a representative of { } at the BCI Conference in 2008, and provided { } in hopes of engaging discussions. (Burkert, Tr. 2351-52, *in camera*).

EnerSys never received a { } (Burkert, Tr. 2352, *in camera*). When Mr. Burkert approached an { } representative in another industry conference in Europe, he got the impression { } wanted no part of him. (Burkert, Tr. 2353, *in camera*).

930. Mr. Burkert felt that while { } was polite to him, it was not interested in doing business with EnerSys. (Burkert, Tr. 2353, *in camera*; see also Gagge, Tr. 2500-2501, *in camera*). As a result of these conversations, EnerSys will not be placing any orders with { } (Burkert, Tr. 2357, *in camera*).

931. If EnerSys received preproduction samples of { } material today, it would do { } preliminary testing. (Gagge, Tr. 2522, *in camera*). If those samples worked EnerSys would get production samples and test those on the motive side for { } (Gagge, Tr. 2522, *in camera*).

932. JCI pursued discussions with Entek about possible supply of deep-cycle separators. JCI { } (PX1515 at 006, *in camera*). JCI discussed { } (PX1515 at 006, *in camera*).

F. Amer-Sil is unlikely to enter any of the North American markets for PE or deep-cycle separators

933. Amer-Sil has { } (PX0916 (Dauwe, Dep. at 115, 117, *in camera*)). Amer-Sil has been approached by { } (PX0916 (Dauwe, Dep. at 89-90, *in camera*)). { } According to Amer-Sil's Managing Director, { } (PX0916 (Dauwe, Dep. at 94-95), *in camera*). Amer-Sil's owners thought { } (PX0916 (Dauwe, Dep. at 94), *in camera*).

934. Mr. Burkert met with { } at the BCI Conference in 2008. (Burkert, Tr. 2356, *in camera*). Mr. Burkert met with { } representatives again at their headquarters in { } and came away with the belief that { } had no intention of entering the market for PE separators. (Burkert, Tr. 2355-56, *in camera*). As a result of these conversations, EnerSys will not be placing any orders with { } (Burkert, Tr. 2357, *in camera*).

G. Regional separator manufacturers are not likely to begin supplying battery manufacturers in North America

935. Exide believes that supply from { } would carry significant risks. These companies are unable to provide the quality, reliability and technology that Exide requires from a separator supplier. For example, { } which is "pretty bad" according to Mr. Gillespie. (Gillespie, Tr. 3027, *in camera*; RX00306 at 004, *in camera*). { } have the technological capabilities to manufacture six millimeter backweb separators. The very fact that these companies lack the technological capabilities to produce the most common PE SLI separators is of concern to Exide. (Gillespie, Tr. 3025-3026, *in camera*). Additionally, Mr. Gillespie's experience shows that it is very risky to attempt to { } (Gillespie, Tr. 3025-3026, *in camera*).

936. { } (Axt, Tr. 2218, *in camera*). EnerSys is working to locate a source of { } (Burkert, Tr. 2360, *in camera*). When { } could actually supply EnerSys with product. (Burkert, Tr. 2360, *in camera*; see also Gagge, Tr. 2500, *in camera*).

H. None of the { } manufacturers will be a significant supplier to Exide in the next two years

937. Exide has "extensively look around the world" for alternative suppliers of automotive battery separators. (Gillespie, Tr. 2962). Exide's search for alternate suppliers has included the hiring of a third party to help find potential suppliers in Asia, issuing a request for proposal (RFP), and trips by Exide personnel around the world. (Gillespie, Tr. 2962, 3022-3023, *in camera*).

938. Exide identified the { } most promising Asian suppliers that could potentially supply PE SLI separators to Exide in the future; { } (Gillespie, Tr. 3023, 3041, *in camera*). Exide has conducted some preliminary tests on swatches of material produced by the { } Asian suppliers it identified as potential suppliers. Based on that testing, Exide narrowed the list down to { } (Gillespie, Tr. 3023, *in camera*).

939. Exide has not found any manufacturers in { } that could make the motive and stationary separators that Exide needs for its flooded lead acid batteries. (Gillespie, Tr. 3041, 3049, *in camera*).

940. { } for testing and battery builds. (Gillespie, Tr. 3023-3024, *in camera*). Exide has to { } samples before it could determine whether the material would work for Exide, expecting it { } Exide has some indication on whether it could be put into production. (Gillespie, Tr. 3024, 3041, *in camera*).
941. Even if the { } samples qualify for use at Exide, there are many other issues that Exide would have to overcome before using { } (Gillespie, Tr. 3024-3025, *in camera*). { } (Gillespie, Tr. 3024-3025, *in camera*).
942. Exide is also reluctant to buy from a supplier that is partly owned by a competitor. Exide considers it a risk that { } Exide considers { } as adding risk to the supply chain. (Gillespie, Tr. 3024-3025, *in camera*).
943. Additionally, Exide is concerned that { } (Gillespie, Tr. 3024-3025, *in camera*).
944. Exide does not believe that it will be buying { } in the next two years. (Gillespie, Tr. 3025, *in camera*).
945. Exide's analysis shows that supply from the Asian suppliers would be { } for supply of separators. (Gillespie, Tr. 3029-3031, *in camera*).

BFR will not be a supplier to EnerSys in the next two years

946. Dr. Simpson explained that { } would not be considered a market participant in any of the four North American markets at issue. (Simpson, Tr. 3461-3462, *in camera*).
947. Mr. Hall has had some conversations about the possibility of BFR supplying motive power separators to { } (Hall, Tr. 2849-2850, *in camera*). { } (PX0907 (Kung, Dep. at 262), *in camera*). { }; such discussions will not take place until a separator has been qualified. (Hall, Tr. 2881-2882, *in camera*; PX0907 (Kung, Dep. at 291, *in camera*)). However, Mr. Hall has communicated to { }

[REDACTED] (Hall, Tr. 2881-2882, *in camera*).

948. BFR manufactures PE separators for use in automobiles, motorcycles and trucks. (PX0672 at 002, *in camera*; PX0907 (Kung, Dep. at 85-86, *in camera*)). To date, BFR has not { [REDACTED] } (Hall, Tr. 2880, *in camera*). Mr. Hall is not aware of any instance in which { [REDACTED] } (Hall, Tr. 2880, *in camera*). The BFR board has { [REDACTED] } (Hall, Tr. 2881, *in camera*). Nor has the BFR board approved { [REDACTED] } (Hall, Tr. 2881, *in camera*).

949. { [REDACTED] } (Axt, Tr. 2218, *in camera*; see also Gagge, Tr. 2499, *in camera*). Even if { [REDACTED] } had the appropriate calender roll, it would still be { [REDACTED] } before { [REDACTED] } could begin ordering product from them. (Burkert, Tr. 2362, *in camera*; Gagge, Tr. 2498-2499, *in camera*). { [REDACTED] } (Gagge, Tr. 2508-2509, *in camera*).

950. BFR has not had { [REDACTED] } (Hall, Tr. 2880-2881, *in camera*). BFR has neither designed nor manufactured a PE/Rubber separator. (PX0907 (Kung, Dep. at 283, *in camera*)).

I. Epoch and Baotou are less likely to supply to Exide in North America than BFR

951. In Daramic's discussions with { [REDACTED] } Daramic learned that { [REDACTED] } was having financial difficulties. Daramic had multiple meetings with { [REDACTED] } to discuss possible business ventures. (PX0903 (Thuet, Dep. at 58-60, *in camera*)). After the most recent meetings between Daramic and { [REDACTED] } in { [REDACTED] } Daramic felt that { [REDACTED] } was chasing Daramic in order to get into a partnership with Daramic because { [REDACTED] } was having financial issues. (Thuet, Tr. 4413-4414, *in camera*).

952. { [REDACTED] } (PX0907 (Kung, Dep. at 113, *in camera*)). { [REDACTED] } (PX0907 (Kung, Dep. at 113, *in camera*)). { [REDACTED] } (PX0907 (Kung, Dep. at 113, 123), *in camera*). { [REDACTED] } (PX0907 (Kung, Dep. at 132), *in camera*).

953. Exide believes that supply from { } would carry significant risks. (Gillespie, Tr. 3027, *in camera*; RX00306 at 004, *in camera*). These companies are unable to provide the quality, reliability and technology that Exide requires from a separator supplier. (Gillespie, Tr. 3027, *in camera*; RX00306 at 004, *in camera*). For example, { } which is "pretty bad" according to Mr. Gillespie. (Gillespie, Tr. 3027, *in camera*; RX00306 at 004, *in camera*). { } have the technological capabilities to manufacture six millimeter backweb separators. The very fact that these companies lack the technological capabilities to produce the most common PE SLI separators is of concern to Exide. (Gillespie, Tr. 3025-3026, *in camera*). Additionally, Mr. Gillespie's experience shows that it is very risky to attempt to { } (Gillespie, Tr. 3025-3026, *in camera*).

J. NSG is not an option for supply of PE separators to customers in North America

954. NSG is a separator manufacturer located in Japan. (Gillespie, Tr. 2963). In July 2006, NSG expressed interest in supplying PE separators to Exide, noting that the opportunity was "most interesting to NSG, and be assured we will take this most seriously." (PX1073 at 001).

955. Subsequently, NSG refused to quote on Exide's RFP due of NSG's new relationship with Daramic, despite previous assurances that it wanted to bid on Exide's PE business. (Gillespie, Tr. 2963-2964; PX1079 at 001-003). In July 2007, NSG informed Exide that it had sold the majority interest of its Tianjin, China facility to Daramic, and suggested that Exide contact Daramic for a quote on supply from Tianjin because according to NSG, "Daramic has the management authority to decide product mix and customer pricing." (PX1079 at 003). NSG also informed Exide that it did not have the capacity to service new PE separator customers from its manufacturing facility in Japan. (PX1079 at 003). Subsequently, NSG has not approached Exide about possible supply of PE separators. (Gillespie, Tr. 2965).

K. Asian entry would not be sufficient to replace MPLP

956. Mr. Gilchrist explained, aside from Daramic and Entek, there were no other competitors that "could actually do what Microporous was doing in SLP" against Daramic and Entek. (Gilchrist, Tr. 423-434).

957. Asian manufacturers do not have the same engineering know how gained from learning and doing as North American companies like Daramic and Microporous. { } (PX0913 at 45-46, *in camera*). For example, in assessing a small SLI battery separator manufacturer in { } Daramic noted that: { }

{REDACTED} (PX0216 at 1, *in camera*;
PX0217 at 2-3, *in camera* (Trip report describing {REDACTED}
{REDACTED}))).

958. No Asian suppliers have ever supplied PE separators to North America. (Roe, Tr. 1236).
959. BFR and Global Industrial are regional separator firms that have not aspired to become a global separator manufacturer on the order of magnitude of Daramic, Entek or Microporous. (Gilchrist, Tr. 308, 424).
960. None of the {REDACTED} separator suppliers that Exide has evaluated are on equal footing competitively with what Exide knew MPLP to be before it was acquired by Daramic. (Gillespie, Tr. 3028-3030, *in camera*). MPLP was better situated than all of the potential {REDACTED} suppliers in terms of {REDACTED} (Gillespie, Tr. 3028-3036, *in camera*).
961. According to Exide, {REDACTED} is not on equal footing with MPLP. (Gillespie, Tr. 3033-3034, *in camera*).
962. The length of the supply chain is an important reason why MPLP was advantaged over any Asian suppliers. A lengthy supply chain involves risk. With MPLP's US facility being only a "stone's throw" from Exide Bristol facility, MPLP was capable of providing a very short supply chain, thereby significantly reducing risks from supply disruptions. (Gillespie, Tr. 3029-3036, *in camera*). MPLP was also capable of providing technical support in a matter of hours to address any issues that might arise in real time. When Exide contemplates local supply, disruptions are dealt with in "hours and days" as opposed to months when dealing with a supply chain stretching halfway around the world. This potentially amounts to the difference between shutting a plant down for an hour or for a month. (Gillespie, Tr. 3035-3036, *in camera*).
963. Exide typically compensates for the risk of a lengthy supply chain by seeking cost savings from offshore suppliers. Exide has a general rule that it will only outsource supply offshore if it can get the outsourced product for {REDACTED} than local supply. The {REDACTED} compensates Exide for the "risk or headache that you have to go through by elongating that supply chain." (Gillespie, Tr. 3036, *in camera*). The Asian suppliers {REDACTED} (Gillespie, Tr. 3029-3031, *in camera*).
964. MPLP had some of the lowest defect rates on their separators, in contrast to the {REDACTED} (Gillespie, Tr. 3027-3029, *in camera*).
965. The {REDACTED} from a manufacturing operations perspective. It has been Mr. Gillespie's experience that the {REDACTED}

{REDACTED} than US separator manufacturers. (Gillespie, Tr. 3031-3032, *in camera*). According to Mr. Gillespie, the majority of separators manufactured in Asia are manufactured for the Chinese market, {REDACTED}

{REDACTED} (Gillespie, Tr. 3032, *in camera*).

966. EnerSys does not consider {REDACTED} to be on the same footing as MPLP was prior to the acquisition. As Mr. *Burkert* testified, "I think they're both shaky at best as far as options." (*Burkert*, Tr. 2363, *in camera*). In addition, {REDACTED} is not a domestic supplier, which raises concerns about having stock, interruptions in shipments, weather delays and other interruptions in supply. (*Burkert*, Tr. 2365, *in camera*).
967. Asian firms do not compare favorably to the former Microporous. {REDACTED} {REDACTED} (Axt, Tr. 2221, *in camera*). Microporous's motive product was approved at EnerSys {REDACTED} (Axt, Tr. 2222, *in camera*). Because {REDACTED} are located in {REDACTED} technical visits are more difficult and time consuming, as well as additional transportation costs and times, duties, and extra inventory. (Axt, Tr. 2223, *in camera*). {REDACTED} (Axt, Tr. 2223, *in camera*).
968. Mr. Kung believes {REDACTED} {REDACTED}. (PX0907 (Kung, Dep. at 79), *in camera*).
969. EnerSys believes that an important engineer at {REDACTED} is likely to retire soon. (*Burkert*, Tr. 2363, *in camera*). {REDACTED} has the expertise in making separators and setting up lines. {REDACTED} is a risky supplier without {REDACTED} because without him there will be nobody of his caliber to handle technical issues. (*Burkert*, Tr. 2364, *in camera*).
970. EnerSys does not consider {REDACTED} to be on the same footing as MPLP was prior to the acquisition. As Mr. *Burkert* testified, "I think they are shaky at best as far as options." (*Burkert*, Tr. 2363, 2366, *in camera*). In addition, {REDACTED} has language barrier issues, the same logistics concerns, is unable even to estimate what its prices will be, and is unable to locate a manufacturer of calender rolls on its own. (*Burkert*, Tr. 2366, *in camera*).
971. EnerSys does not believe that there is anybody who is on an equal footing with the pre-acquisition Microporous or Daramic today, and there will not be any entity that will be the equivalent of the pre-acquisition Microporous or Daramic two years from now. (*Burkert*, Tr. 2366-67, *in camera*).

972. In general, Asian PE producers { } to service battery manufacturers in Europe and North America. (PX0907 (Kung, Dep. at 87), *in camera*). { }
{ }
(PX0907 (Kung, Dep. at 87), *in camera*)).
973. Scale economies are a "major issue" that differentiates { }
{ }. With mass production on its "very big" PE lines, { }
{ }. (PX0907 (Kung, Dep. at 189), *in camera*)).
974. { }
{ } (PX0907 (Kung, Dep. at 117), *in camera*)).
975. { }
{ } (PX0907 (Kung, Dep. at 110), *in camera*)). In addition, { } was not organized, and it had an old PE line in a dirty facility. (PX0907 (Kung, Dep. at 110), *in camera*)). Mr. Kung has been to { }
(PX0907 (Kung, Dep. at 119), *in camera*)).
976. { } several years ago about purchasing them. (PX0907 (Kung, Dep. at 120), *in camera*)). At such time, Mr. Kung examined their financials and saw they were { }
{ }. (PX0907 (Kung, Dep. at 119-20), *in camera*)).
977. { } (PX0907 (Kung, Dep. at 42), *in camera*)). { } does not have sufficient quantity and quality on its engineering team to meet the standards of American PE separator companies. (PX0907 (Kung, Dep. at 49-50), *in camera*)).
978. Mr. Kung knows a lot about the capabilities and operations of { }
{ }. (PX0907 (Kung, Dep. at 51-53, 279), *in camera*)). He built their PE line, and he maintains contact with the engineers that he trained at { }
{ }
{ }. (PX0907 (Kung, Dep. at 42-43, 51-53), *in camera*)).
979. { }
(PX0907 (Kung, Dep. at 277-278), *in camera*)). { }
{ }
(PX0907 (Kung, Dep. at 278), *in camera*)).
980. Most Chinese battery manufacturers are "very small" and their PE separator order volumes are similarly very small. (PX0907 (Kung dep. at 69-71), *in camera*)). The manufacturing costs involved in serving smaller customers and making multiple tooling

changes make it disadvantageous for a new entrant to construct a high-volume (e.g., 20 million sq. meter annual production capacity) PE line in China. (PX0907 (Kung, Dep. at 116-117, *in camera*)).

981. Asian manufacturers of separators for SLI batteries supply their local markets only. (Gilchrist, Tr. 307-08, 430). Many of their production lines (*i.e.*, those designed by James Kung) are { [REDACTED] }. (Gilchrist, Tr. 390-91, 505, *in camera*).

982. EnerSys made several attempts to contact a company { [REDACTED] } by mail, email, and phone, to determine its interest in supplying EnerSys, but never received any response from the company. (Burkert, Tr. 2359, *in camera*). EnerSys will not be doing business with { [REDACTED] } (Burkert, Tr. 2360, *in camera*).

1. { [REDACTED] }

983. { [REDACTED] } (Hall, Tr. 2771-2773, *in camera*). Even at its current production capacity, BFR has { [REDACTED] } (Hall, Tr. 2771-2776, *in camera*).

984. Material produced on the { [REDACTED] } (Hall, Tr. 2771-2772, *in camera*). { [REDACTED] } (Hall, Tr. 2772, *in camera*). { [REDACTED] } (Hall, Tr. 2774-2776, *in camera*). JCI's Shanghai production facility also { [REDACTED] } (Hall, Tr. 2774, *in camera*). Mr. Hall described BFR's { [REDACTED] } (Hall, Tr. 2776-2777, *in camera*).

985. { [REDACTED] } (Hall, Tr. 2772-2773, *in camera*). { [REDACTED] } (Hall, Tr. 2772, *in camera*).

986. According to Mr. Hall, { [REDACTED] } (Hall, Tr. 2772-2773, *in camera*). Mr. Hall believes that { [REDACTED] } (Hall, Tr. 2773-2774, *in camera*). { [REDACTED] }

[REDACTED]
(Hall, Tr. 2776-2777, *in camera*).

i) Daramic documents recognize that barriers to entry exist

987. { [REDACTED] } (PX0265 at 004, *in camera*). { [REDACTED] } (PX0265 at 011, *in camera*).
988. Mr. Graff, chairman of the board of Polypore, was a member of the Warburg Pincus team that conducted the due diligence to determine whether to invest in Polypore. (Graff, Tr. 4851). { [REDACTED] } (Graff, Tr. 4900; PX0746 at 002, *in camera*).
989. In order to get money to fund the acquisition of Polypore, Mr. Graff and other managing directors from Warburg Pincus went to banks and various credit rating agencies such as Standard & Poors and Moodys. (Graff, Tr. 4900-01, *in camera*). At the presentations made to the credit rating agencies, Mr. Graff and the other Warburg directors are attributed with providing the "Sponsor Remarks and Investment Considerations" where they stated that "High barriers to entry due to significant upfront capital costs, industry/technical expertise, and high customer switching costs" are among the "[f]avorable market dynamics" that should be considered. (PX0982 at 002, 008; PX1720 at 002, 008; PX1722 at 002, 006).
990. Similar to Warburg Pincus's findings prior to its investment into Polypore, IGP determined that flooded lead acid battery separator markets are characterized by high barriers to entry. A document prepared by IGP prior to its investment in Microporous gives an "Executive Summary" of Microporous's including an assessment of its strengths. (PX1124; PX2300 (Heglie, IHT at 119), *in camera*). Under "strengths," the document states

High barriers to entry/high switching costs

> Major capital costs and know-how required to enter the market. . . .

- Limited market size detracts potential entrants.
- It generally takes 1-2 years within the lead acid battery industry to complete the design-in, full testing and final acceptance of a new separator into a battery.

(PX1124 at 001).

991. Polypore's CEO recognizes that barriers to entry exist in Daramic's business. { [REDACTED] } (PX1715, *in camera*; Toth, Tr. 1415, 1458-1459, *in camera*). { [REDACTED] } The e-mail was sent on February 26, 2007 at 11:26 pm. (PX1715 at 001-003, *in camera*; Toth, Tr. 1459, *in camera*).
992. Mr. Dossani's told Mr. Toth that { [REDACTED] } (PX1715 at 002, *in camera*; Toth, Tr. 1464, *in camera*).
993. Mr. Toth responded to Mr. Dossani on February 27, 2007. (PX1715 at 001, *in camera*). Mr. Toth stated that that he was meeting with his staff that morning and would provide { [REDACTED] } (PX1715 at 001, *in camera*; Toth, Tr. 1467-68, *in camera*).
994. That same day, Polypore held a senior leadership team ("SLT") meeting. Mr. Toth's notes on the agenda for the SLT meeting are { [REDACTED] } : "Be clear that price was out in front and consistent with cost escalation ... no more price erosion;" "Barriers to entry - 'technology' - global scale/infrastructure, low-cost, grades/product development, and low cost %, but functional." (Toth, Tr. 1421; PX0485 at 001). Mr. Toth testified that he { [REDACTED] } (Toth, Tr. 1463-65, *in camera*).
995. Polypore had a deck with the title "Initial Public Offering" which Polypore used with a variety of investors in June 2007. (Toth, Tr. 1424-25; PX3015, *in camera*). Investors were able to look at this deck, and Mr. Toth understood that it was very important to be as accurate as possible to investors. (Toth, Tr. 1427-28). { [REDACTED] } (Toth, Tr. 1428-29; PX3015 at 017, *in camera*).

996. Daramic's Corporate Strategy Workshop report states that { [REDACTED] } (Hauswald, Tr. 804-05, *in camera*; PX0194 at 025, *in camera*). Furthermore, the report stated that { [REDACTED] } (Hauswald, Tr. 805, *in camera*; PX0194 at 025, *in camera*). In addition, the report found that the value of { [REDACTED] } (Hauswald, Tr. 805:17-20; PX0194 at 025, *in camera*).

2. MPLP also recognized barriers to entry

997. Mr. Heglie testified that high barriers to entry and the size of the market are important to IGP because "the fewer competitors in a market, the higher potential profitability is." (PX2300 (Heglie, IHT at 126-27), *in camera*). Likewise, he testified that the long time it takes to design in and test a product is an important consideration to IGP because "it would delay . . . a new competitor to get into the market." (PX2300 (Heglie, IHT at 127), *in camera*).

998. IGP viewed Microporous's CellForce as proprietary and differentiated. (PX2300 (Heglie, IHT at 119), *in camera*; PX1124 at 001). Microporous's patent protection for CellForce until 2019, and Microporous's significant know-how and process intellectual property in the production of all its products, was viewed by IGP as one of the company's strengths when it evaluated acquiring the company. (PX1124 at 001).

999. Microporous's management believed that its significant capital investment and strong employee base creates formidable barriers to entry into the markets in which it competed. (Trevathan, Tr. 3665; RX00741 at 048-049).

i) Risk of acquisition by Daramic is a barrier to entry.

1000. Even if a customer sponsors entry into one of the PE separator markets, it still faces the risk that the entrant could be acquired by Daramic. With Respect to NSG ("Nippon"), EnerSys related its own experience in this regard:

{ [REDACTED] }

(Axt, Tr. 2305, *in camera*).

1001. Daramic is involved in a joint venture with NSG with regards to a PE separator manufacturing plant in Tianjin, China. (Thuet, Tr. 4324). Daramic holds 60% of the capital in the Tianjin joint venture. (Thuet, Tr. 4324). Along with the majority ownership in the Tianjin joint venture, Daramic has the final decision on the pricing of PE separators that are manufactured in the Tianjin facility. (Thuet, Tr. 4402).
1002. Daramic continues to seek new acquisitions in Asia in order to grow its market share in the Asian market. Daramic currently has an option to buy the remaining 40% of the Tianjin joint venture from NSG. (Thuet, Tr. 4402). Daramic has also pursued discussions with { [REDACTED] } (Thuet, Tr. 4410, *in camera*). Daramic has also attempted to gain further market share in Asia { [REDACTED] } (Thuet, Tr. 4410-4411, *in camera*).
- ii) IP and Proprietary Technology are barriers to entry
1003. In order to have the competitive advantage of meeting the widest range of customer needs, Daramic has patents and know-how, product customization, technical support, sales, support, and battery expertise. (Hauswald, Tr. 825-26, *in camera*; PX0194 at 036, *in camera*).
1004. Daramic claims that the Jungfer process is a Daramic trade secret. (Hauswald, Tr. 1153). { [REDACTED] } (Hauswald, Tr. 1153-54; PX2241 at 7, *in camera*). Daramic considers every aspect of the technology and equipment that Daramic bought from Jungfer to be a Daramic trade secret. (Hauswald, Tr. 1155).
1005. Daramic was { [REDACTED] } (PX0246, *in camera*; Hauswald, Tr. 831-32, *in camera*).
1006. Daramic owns 18 active patents, which is more than any other battery separator manufacturer. (PX2074).
1007. Daramic has a patent on HD. (Gilchrist, Tr. 382; PX2166).
1008. Microporous has a patent on CellForce, a battery separator which can be used for deep-cycle, industrial and SLI battery applications. The patent relates to the ingredients used to make the separator. (Gilchrist, Tr. 335; PX2161). The CellForce patent is valid until 2017 or 2018. (Gilchrist, Tr. 382). The validity of the CellForce patent has never been

challenged in patent litigation. (PX0920 (Gilchrist, IHT 40), *in camera*). CellForce is still a patent protected technology, and its specific formulation is intellectual property that MPLP, and now Daramic, protect. (Trevathan, Tr. 3716-3717).

iii) Battery separator manufacturing equipment and experienced personnel are not readily available

1009. { [REDACTED] } (Weerts, Tr. 4498, *in camera*). { [REDACTED] }
[REDACTED] } (Weerts, Tr. 4498-4499, *in camera*).
1010. The Technology for Producing PE Separators is Confidential. Microporous considers the specifications it gives its machine suppliers proprietary to Microporous. (Gaugl, Tr. 4612; PX0905 (Gaugl, Dep. at 77), *in camera*). Microporous had its machine suppliers sign non-disclosure agreements that prevent the machine suppliers from giving the specifications of the machines that it was ordering to Microporous's competitors. (Gaugl, Tr. 4612).
1011. { [REDACTED] } (PX0590 (Gaugl, Arb. Dep. at 158-59 *in camera*)).
1012. Daramic protects its PE line equipment specifications and considers these specifications Daramic's intellectual property. (PX0924 (Jensen, Dep. at 24-25, *in camera*)).
1013. While he worked for Jungfer, Peter Gaugl considered the Jungfer PE battery separator process to be confidential. (Gaugl, Tr. 4630; PX0590 (Gaugl, Arb. Dep. at 158-59, *in camera*)).
1014. { [REDACTED] } (PX0919 (Riney, IHT at 453, *in camera*)).
1015. Mr. Gaugl testified that the manufacturing process for making PE separators "is not available to everybody." (Gaugl, Tr. 4547). However, he did identify James Kung, two former Jungfer employees – Dr. Winkler and Mr. Duya – and "certain people at Daramic as well as at Entek" that he believed could put together and design a line. (Gaugl, Tr. 4642).

1016. Daramic planned to install a Jungfer style line for its planned Brazilian expansion. (PX0653 at 002; PX0924 (Jensen, Dep. at 112, *in camera*)). Even though Mr. Jensen's duties included purchasing and installing production line equipment, Daramic intended to have Dr. Winkler the former head of Jungfer, order, install and start-up the line. (PX0653 at 002). { [REDACTED] }
{ [REDACTED] }
(PX0924 (Jensen, Dep. at 114, *in camera*)).
1017. { [REDACTED] }
(PX2237 at 002, *in camera*). { [REDACTED] }
{ [REDACTED] } (PX0533 at 003, *in camera*).
1018. { [REDACTED] } (PX0907 (Kung, Dep. at 92, *in camera*)).
1019. Daramic Purchased Jungfer in 2001, acquiring its two production lines in Austria at the time. (PX0924 (Jensen, Dep. at 7, *in camera*)). Daramic operated those lines in Austria until 2005 when both were transferred to Prachinburri, Thailand as part of the Rama II project. (PX0924 (Jensen, Dep. at 7-8, 12, *in camera*)).
1020. { [REDACTED] }
{ [REDACTED] } (PX0641 at 012;
PX0924 (Jensen, Dep. at 45, *in camera*)).
1021. When Daramic decided to relocate the Jungfer lines from Austria to Thailand, it sent former Jungfer personnel from Austria who were familiar with the equipment and had experience setting up PE lines of that type. (PX0924 (Jensen, Dep. at 20, *in camera*)).
{ [REDACTED] }
{ [REDACTED] } (PX0924 (Jensen, Dep. at 21, *in camera*)).
1022. { [REDACTED] }
{ [REDACTED] } (PX2124 at 002, *in camera*).
1023. The process Mr. Gaugl installed at Piney Flats for Microporous was basically the Jungfer process. (Gaugl, Tr. 4627). { [REDACTED] }
{ [REDACTED] } (PX2237 at 006, *in camera*).

1024. { [REDACTED] } (PX2236 at 031, *in camera*).

1025. { [REDACTED] } (PX2237 at 006, *in camera*). { [REDACTED] } (PX2237 at 007, *in camera*)

1026. { [REDACTED] } (PX2237 at 003, *in camera*).

1027. { [REDACTED] } (PX0533 at 003, *in camera*).

1028. { [REDACTED] } (PX2235 at 009, *in camera*).

1029. { [REDACTED] } (PX2238, *in camera*).

3. Scale is required for sufficient entry

1030. For entry to be sufficient, it must replace the competition lost through the merger or acquisition. (Simpson, Tr. 3204, *in camera*; Merger Guidelines §3.4). Dr. Simpson explained that since this acquisition eliminated Microporous as a competitor, sufficient

entry would need to replace Microporous as a competitor to be sufficient. (Simpson, Tr. 3205, *in camera*).

1031. At a July 2007 corporate strategy workshop for the senior leadership team of Polypore, the Daramic group concluded that “{ [REDACTED]

[REDACTED]”
(Hauswald, Tr. 802, *in camera*; PX0194 at 018, *in camera*). For scale-based benefits, Mr. Hauswald agreed that the { [REDACTED] } (Hauswald, Tr. 804-05, *in camera*; PX0194 at 025, *in camera*). At the time of the corporate strategy workshop, Mr. Hauswald acknowledged that { [REDACTED] } (Hauswald, Tr. 934, *in camera*).

1032. Daramic’s manufacturing facility in Thailand is far and away the largest PE battery separator manufacturing facility in Asia with four manufacturing lines and a total production capacity approaching 80 million square meters a year. (Thuet, Tr. 4320-4023, 4425). Daramic’s Thai facility also has the two largest PE separator manufacturing lines in Asia. (Thuet, Tr. 4400).

1033. { [REDACTED] } (RX01497 at 01, *in camera*).
{ [REDACTED] } (PX0919 (Riney, IHT at 420-421, *in camera*)).

1034. Daramic represented to EnerSys in May 2006 that it was { [REDACTED] } (PX1201 at 001, *in camera*).

1035. One of Daramic’s strategies has been to { [REDACTED] } (RX01498 at 001, *in camera*). { [REDACTED] } (RX01497 at 01-02, *in camera*).

1036. { [REDACTED] } (RX01497 at 01, *in camera*). The large capacity { [REDACTED] } (RX01497 at 01, *in camera*).

L. Battery manufacturers are not likely to vertically integrate into separator manufacturing

1037. It is not practical for battery manufacturers to manufacture their own separators. Manufacturers such as Bulldog Battery do not have the know-how needed to manufacture separators, including knowledge of the compounds used and the methodologies for controlling porosity and curing the separator material. Additionally, a single manufacturer such as Bulldog Battery does not have sufficient volume requirements to run a separator line. Finally, the equipment and tooling needed to manufacture separators would require a big investment which would be difficult to justify. (Benjamin, Tr. 3527-3529).
1038. Customers' statements reflect the barriers to entry. East Penn has never considered investing capital in an Asian supplier of PE. (Leister, Tr. 4036). East Penn does not have any current plans to sponsor the entry of a new battery separator manufacturer. (Leister, Tr. 4037-4038). Nor does East Penn have any plans to invest capital in a battery separator manufacturer or to vertically integrate and manufacture separators in-house. (Leister, Tr. 4038).
1039. Since the acquisition, Trojan has looked into vertically integrating into the manufacture of deep-cycle battery separators and determined that it was not feasible due to the cost and resources required to run a battery separator manufacturing facility. (Godber, Tr. 229-30). The equipment would cost approximately \$8 million and because the process is unique, Trojan would need the right personnel to set up and run the facility, which it does not have. (Godber, Tr. 230-31).
1040. EnerSys { [REDACTED] } (Craig, Tr. 2644, *in camera*; Burkert, Tr. 2363, 2365, *in camera*). While Mr. Craig has spoken to other industry CEOs about the possibility of vertical integration, { [REDACTED] } (Craig Tr. 2643-45, *in camera*). EnerSys would not put money in to { [REDACTED] } (Burkert, Tr. 2463, *in camera*).
1041. JCI has not considered building its own PE separator manufacturing lines to manufacture separators for internal use. (Hall, Tr. 2703). Nor does JCI have the competency to build and run a separator manufacturing line on its own. (Hall, Tr. 2703).
1042. Exide is not interested in vertically integrating into the separator industry by making separators for internal use. (Gillespie, Tr. 2983-2984). In the past, Exide had manufactured separators, but got out of that business because it was not a "core competency" for Exide. (Gillespie, Tr. 2983-2984). Subsequently, Exide has "never had any intention of going back into that business." (Gillespie, Tr. 2983).

1043. Exide has never considered entering a joint venture with any separator manufacturer. (Gillespie, Tr. 2984). Nor is Exide interested in investing money into a battery separator manufacturer. (Gillespie, Tr. 2984-2985). Exide's work with MPLP included an obligation for MPLP to shoulder the capital costs related to supply of Exide. (Gillespie, Tr. 3088).

VIII. Respondent has no failing firm defense.

1044. Microporous was not a failing firm. Microporous was a profitable company. (Trevathan, Tr. 3652). Prior to the acquisition, Microporous was profitable and growing its business as the result of the addition of a new plant. Mr. Gilchrist, Microporous's CEO described the firm's near term business prospects as "all upside potential for us." (Gilchrist, Tr. 403).

1045. At the time of the acquisition, Microporous had multiple offers for backfilling its CellForce production line at Piney Flats, including offers from C&D Dynasty for a UPS application, EnerSys, Trojan, Crown Battery and East Penn. (Gilchrist Tr. 397-98, 402-403, 467, *in camera*; RX00207). The contract with EnerSys/Hawker filled one line at Feistritz, while Microporous was making "a very concentrated effort" to sell PE separators from the second Feistritz line to several SLI battery manufacturers. In addition to Exide and Johnson Controls, there were 35-40 smaller SLI battery manufacturers in Europe many of whom were good customer prospects because they liked Microporous's PE technology which was based on Jungfer's technology. Some of these manufacturers had formerly purchased separators from Jungfer when it was still in business. (Gilchrist Tr. 344-347).

1046. { [REDACTED] } (RX00207, *in camera*). EnerSys is a significant customer, with approximately a 40 percent market share in motive battery sales worldwide. (Axt, 2227). { [REDACTED] } (Axt, Tr. 2151, *in camera*).

1047. { [REDACTED] } (Axt, Tr. 2210-11, *in camera*).

1048. There was a restructuring plan within MPLP to address the deteriorating margins (Trevathan, Tr. 3773-3774; RX00283).

1049. IGP never "seriously entertained" a sell to other potential buyers. (PX2300 (Heglie, IHT at 217-18)). According to Mr. Heglie, "with the magnitude of what we had going on with the company and the demands on management time, we thought it was unrealistic to

bring any kind of buyers that weren't already familiar with the company or its markets into a process." (PX2300 (Heglie, IHT at 217-18)).

1050. { [REDACTED] } (PX0433 at 001, *in camera*). { [REDACTED] }
{ [REDACTED] } (PX0904 (Seibert, Dep. 40), *in camera*). { [REDACTED] }
{ [REDACTED] } (PX0911 (Roe, Dep, 226-227), *in camera*). { [REDACTED] }
{ [REDACTED] } (PX0911 (Roe, Dep, 226-227, *in camera*); Roe, Tr. 1211-1212).

IX. Efficiencies

1051. { [REDACTED] } (Simpson, Tr. 3240, *in camera*). Dr. Kahwaty { [REDACTED] }. (Kahwaty, Tr. 5249-5250, *in camera*).

1052. { [REDACTED] } (PX0033 at 11, *in camera*; PX0950 at 59-60, *in camera*; PX0912 (Riney, Dep. 53, 54, 71, 77), *in camera*).

1053. { [REDACTED] } (PX0950 at 060, *in camera*). Daramic last updated its interrogatories on March 17, 2009. (PX0952, *in camera*).

1054. { [REDACTED] } (PX0950 at 059-060, *in camera*; PX0912 (Riney, Dep. at 53, 54, 71, 77, 82, 87-90, 95, 104, 106, 108, 112), *in camera*). { [REDACTED] } (Riney, Tr. 5025, *in camera*).

1055. { [REDACTED] } (Riney, Tr. 5027, *in camera*).

1056. { [REDACTED] } (Riney, Tr. 5025, *in camera*). { [REDACTED] }
{ [REDACTED] } (Riney, Tr. 5031, *in camera*).

1057. Daramic never discussed with Trojan potential cost savings from its acquisition of Microporous. (Godber, Tr. 220). Daramic has not offered to pass on any cost savings from its acquisition of Microporous to Trojan. (Godber, Tr. 221).

X. Monopolization

A. Existing Market Power

1058. [REDACTED] (Simpson, Tr. 3226, *in camera*).

1. { [REDACTED] }:

1059. Exide currently pays Daramic { [REDACTED] } for automotive separators in North America. (Gillespie, Tr. 3018-3020, 3059, *in camera*).

1060. As early as January 2007, Exide approached Daramic and indicated that it would { [REDACTED] } (Bregman, Tr. 2900-2901, *in camera*). At that time, Exide was willing to contemplate { [REDACTED] } (PX1063 at 001, *in camera*).

1061. { [REDACTED] } (PX1026 at 001-002, *in camera*). In the proposal, Daramic boasted that it was { [REDACTED] } (PX1026 at 001, *in camera*).

1062. Daramic's proposal included a { [REDACTED] } Price reductions would { [REDACTED] } (Gillespie, Tr. 3018-3020, *in camera*; PX1026 at 001-002, *in camera*).

1063. To Exide, it appeared that { [REDACTED] } (Bregman, Tr. 2901, *in camera*). Mr. Gillespie viewed this proposal as { [REDACTED] } (Gillespie, Tr. 3020, *in camera*).

1064. Mr. Bregman subsequently informed Mr. Hauswald that Exide would { [REDACTED] } (Bregman, Tr. 2901, *in camera*). Mr. Hauswald's response to Mr. Bregman was { [REDACTED] } (PX1050, *in camera*; Bregman Tr. 2901-2902, *in camera*).

1065. { [REDACTED] } (Bregman, Tr. 2903-2905, *in camera*). { [REDACTED] } (Bregman, Tr. 2902, *in camera*).

1066. { [REDACTED] } (PX1040 at 002, *in camera*). Because Exide is such a large purchaser, { [REDACTED] } (PX1040 at 002, *in camera*; see also PX1085 at 002 (discussing engineering conclusion that fully replacing Daramic material with alternative separator material is not possible; "there is significant volume that can not be replaced within the two year time frame available" before the contract expired)).

1067. Exide believes that negotiations with Daramic are { [REDACTED] } (Gillespie, Tr. 3002, *in camera*). From 2005 to the present, Exide { [REDACTED] } (Gillespie, Tr. 3000, *in camera*). Cumulatively, this means { [REDACTED] } (Gillespie, Tr. 3000, *in camera*). Exide does not feel that it has many negotiating levers when dealing with Daramic. (Gillespie, Tr. 3066-3067). Exide lacks pressure points in negotiations with Daramic and therefore is unable to exert its will on Daramic to get price decreases as it is able to do with many other suppliers. (Gillespie, Tr. 3097-3098).

1068. { [REDACTED] } (Gillespie, Tr. 2999, *in camera*; see also PX2050 at 038-039,

in camera; PX2052 at 005-006, *in camera*). Daramic has { [REDACTED] } (Gillespie, Tr. 2999, *in camera*).

2. { [REDACTED] }

1069. Daramic responded to Exide's 2007 RFP by quoting prices for { [REDACTED] } (Gillespie, Tr. 3011, *in camera*; PX1028, *in camera*). Exide found it very unusual that { [REDACTED] } (Gillespie, Tr. 3017-3018, *in camera*).

1070. The exclusive supply offer from Daramic provided { [REDACTED] } (Gillespie, Tr. 3011-3012, *in camera*; PX1028 at 041-046, 058-060, *in camera*). Under Daramic's proposal, Exide's pricing, payment terms, credit limit and other terms { [REDACTED] } (Gillespie, Tr. 3016, *in camera*; PX1028 at 058-059, *in camera*).

1071. Under Daramic's proposal, Exide would { [REDACTED] } (Gillespie, Tr. 3142, *in camera*). For example, under Daramic's proposal, Exide's total spend at Daramic for golf cart separators would { [REDACTED] } (Gillespie, Tr. 3139-3140, *in camera*).

1072. By { [REDACTED] } Daramic structured its pricing proposal to Exide to prevent them from taking advantage of the benefits of multi-sourcing. If Exide chose to purchase { [REDACTED] } Exide would pay a penalty of approximately { [REDACTED] } (PX1036 at 002, *in camera*). Whereas, Exide analysis indicated that if it was able to multi-source { [REDACTED] } of its separator needs, Exide could actually save upwards of { [REDACTED] } (PX1036 at 003, *in camera*).

1073. { [REDACTED] } (PX1028 at 58-60, *in camera*; Roe, Tr. 1785-1786, *in camera*). { [REDACTED] } (PX1028 at 58, *in camera*; Roe, Tr. 1360, *in camera*). Exide understood { [REDACTED] } (PX0228 at 02, *in camera*).

1074. { [REDACTED] }
(PX0228 at 02, *in camera*; PX0922 (Roe IHT, 237), *in camera*; Roe, Tr. 1361-1363, *in camera*).
1075. { [REDACTED] }
{ (Roe, Tr. 1363-1364, *in camera*; PX0922 (Roe IHT, 239), *in camera*). }
{ [REDACTED] }
{ (PX1028 at 59). }
1076. Daramic's response to Exide's RFP { [REDACTED] } (Gillespie, Tr. 3012, *in camera*).
1077. { [REDACTED] } (PX0261, *in camera*). { [REDACTED] }
{ (PX0261, ({ [REDACTED] }
{ [REDACTED] }) *in camera*). }
{ [REDACTED] } (Roe, Tr. 1775-1776, *in camera*).
1078. { [REDACTED] } (Roe, Tr. 1786-1787, *in camera*). Despite this belief that { [REDACTED] }, Daramic indicated to Exide that it expected prices to { [REDACTED] } and offered to limit Exide's { [REDACTED] } in return for a contract extension covering 100% of Exide's business. (PX0261 at 003, *in camera*; Roe, Tr. 1786, *in camera*). Most of the remaining cost savings offered to Exide were simply proposals to { [REDACTED] } (PX0261 at 002-007, *in camera*; Roe, Tr. 1788, *in camera*).

3. Daramic believes it had pricing power

1079. Every quarter, Mr. Toth does an internal call for people inside the company, which is designed to be a motivational message to the organization. (Toth, Tr. 1439, *in camera*). A document from the March 2006 conference call with Mr. Toth's handwritten notes entitled "Bob Toth Talking Points – 4Q/Year-end 05 Internal Call," states: "Specifically, we will continue demonstrating pricing power in the market, not only to stay ahead of rising costs, but to capture the value we bring to our customers." (PX0938 at 002; Toth, Tr. 1439-1440). With corrections and additions in Mr. Toth's handwriting, this bullet point goes on to say, "I have a fundamental belief that we are woefully undervalued in everything we do, so there should be some upside given our scale and the certainty of supply that we bring to the market." (PX0938 at 002; Toth, Tr. 1440-1441; *see also* PX0831 at 003 "Pricing power to capture the value we bring to customers;" Toth, Tr. 1447).
1080. Similarly, a document entitled "Internal Call Agenda: March 16, 2006" contains opening remarks and a script for a call. (PX0832 at 002-011; Toth, Tr. 1448). Again, the script states that Daramic will "expand its solid market leadership" because it "will continue demonstrating pricing power in the market regardless of movements in material and energy costs." (PX0832 at 004).
1081. Mr. Hauswald noted feedback from Mr. Toth { [REDACTED] } (Hauswald, Tr. 1182-83, *in camera*; PX0093 at 101, *in camera*). Mr. Hauswald's { [REDACTED] } (PX0093 at 101, *in camera*; Hauswald, Tr. 1182-1183, *in camera*).
1082. { [REDACTED] } (Hauswald, Tr. 797, 800, *in camera*). The executive summary of the report, concluded that { [REDACTED] } (PX0194 at 018, *in camera*). The body of the report also states: { [REDACTED] } (PX0194 at 022, *in camera*).
1083. Daramic's Strategy Audit notes that { [REDACTED] } (PX0265 at 4, *in camera*).
1084. Exide lacks buyer power despite its large size. Exide is the first or second largest battery manufacturer in the world in each market that it participates in. (Gillespie, Tr. 2930). Exide purchases a little over 70 million dollars of battery separators annually. (Gillespie, Tr. 2929).

1085. EnerSys does not consider itself to be a power buyer in the markets for separators. (Craig, Tr. 2565). As Mr. Craig points out, EnerSys's purchases from Daramic in 2008 were approximately \$13 million. (Craig, Tr. 2565). EnerSys estimates that Daramic's revenues were approximately \$348 million in 2008. (Craig, Tr. 2565). Thus EnerSys purchases make up approximately 3.6 or 3.7 percent of Daramic's sales. (Craig, Tr. 2565). In contrast, 50% of EnerSys's revenues, or \$1 billion dollars, depends on EnerSys's receipt of a steady supply of separators from Daramic. (Craig, Tr. 2557).
1086. In response to questions about who has the "upper hand" in negotiations between Daramic and EnerSys, Mr. Craig testified that Daramic has the strength in the negotiations,

{ [REDACTED] }

They clearly have the upper hand because this is not a competitive market. There's only one source available to us. (Craig, Tr. 2567, *in camera*).

1087. "In October of 2006, Daramic was able to force EnerSys to sign a contract because as Mr. Craig explained, "they knew that we had no other options, they knew that we had no other choices at that time but Daramic. They knew that if they turned us off, shut us off, that it would have a catastrophic impact on our business. They had all the cards in their hand." (Craig, Tr. 2596-97). EnerSys has no options but to purchase from Daramic today. (Craig, Tr. 2611).

1088. { [REDACTED] } (PX0922 (Roe, IHT at 25-26, *in camera*)). { [REDACTED] } (PX0784; Riney, Tr. 5011, *in camera*). { [REDACTED] } (PX0784; Riney, Tr. 5011, *in camera*). { [REDACTED] } (PX0784; Riney, Tr. 5012, *in camera*).

- B. In 2007, Daramic solicited Microporous's agreement to not enter the SLI separator market in exchange for Daramic's deep-cycle technology

1. Market conditions were favorable for using exclusive contracts to impede entry.

1089. [REDACTED] (Simpson, Tr. 3209, *in camera*).

1090. Daramic documents show that [REDACTED] [REDACTED]. (PX0694; PX0097; PX0245 at 015,017; PX0246, *in camera*; PX0238; PX0922 (Roe, IHT 173-174), *in camera*, 362-633, *in camera*; PX0433; PX0168 at 002). [REDACTED] (PX0211, *in camera*; PX0212, *in camera*; PX0255, *in camera*; PX0257, *in camera*; PX0258; PX0744). [REDACTED] (PX0265 at 011, *in camera*; PX0218). [REDACTED] (PX0241, *in camera*; Simpson, Tr. 3232-3233, *in camera*). [REDACTED] (PX0241 at 001, *in camera*).

1091. Daramic strategy for maintaining its duopoly with Entek in North America and Western Europe is to execute long-term supply agreements with customers in those markets. (PX0171 at 004).

1092. [REDACTED] (Simpson, Tr. 3227, *in camera*). [REDACTED] (Simpson, Tr. 3227, *in camera*). [REDACTED] (Simpson, Tr. 3227, *in camera*). [REDACTED] (Simpson, Tr. 3227-3228, *in camera*).

1093. [REDACTED] (Simpson, Tr. 3227-3228, *in camera*). [REDACTED] (Simpson, Tr. 3227, *in camera*; PX0265 at 004, *in camera*; PX0595, PX0835 at 003, *in camera*). [REDACTED] (Simpson, Tr. 3227, *in camera*). (Simpson, Tr. 3227-3228, *in camera*). [REDACTED] (Simpson, Tr. 3228, *in camera*).

[REDACTED] } (Simpson, Tr. 3228, *in camera*).

1094. { [REDACTED] } (Simpson, Tr. 3229, *in camera*).
{ [REDACTED] } (Simpson, Tr. 3229, *in camera*). { [REDACTED] } (Simpson, Tr. 3229, *in camera*).

2. Market share discounts can have similar effects as exclusive contracts.

1095. Dr. Simpson used a hypothetical example to show how offering a market share discount to customers can have an exclusive effect. (Simpson, Tr. 3256-3261). In the hypothetical example, Daramic offers to sell a customer 100 percent of its needs at some per-unit price (1P) and offers to sell this customer 75 percent of its needs at a per-unit price that is 14 percent higher (1.14P). (Simpson, Tr. 3256). If the customer buys the last 25 percent of its requirements from Daramic, the effective per unit price for these units is 1P. (Simpson, Tr. 3258). However, if the customer buys the last 25 percent of its requirements from another firm at a price of P, its effective per unit price for this last 25 percent is 1.42P since this customer must pay a 14 percent penalty on the 75 percent of its requirements that it still obtains from Daramic. (Simpson, Tr. 3259). If the entrant were to try to absorb the cost of this penalty, so that the customer pays an effective price of P for the last 25 percent of its requirements, it would need to set a price equal to 0.58P. (Simpson, Tr. 3259 - 3260).
1096. Daramic sued Microporous when it began building its Feistritz, Austria plant over a non-compete agreement originally between Microporous and Jungfer related to Microporous's purchase in 1999 of Jungfer's PE technology and production equipment. Subsequent to the purchase, Daramic acquired the remaining assets of Jungfer and became a party to the non-compete. (Gilchrist, Tr. 391-92).
1097. On August 2, 2007, under the guise of a "mediation" meeting about the then pending arbitration proceeding, Daramic and Microporous business people met to discuss "possible cooperative scenarios between our two companies where both sides would benefit." (PX1103 at 001). It was Mr. Gilchrist's impression that Daramic was very concerned that it would lose in the arbitration process and that Microporous would soon enter the SLI market in Europe. (Gilchrist, Tr. 431-32).
1098. During this meeting at Daramic's Charlotte headquarters on August 2, 2007, Pierre Hauswald and Tucker Roe offered to settle a lawsuit over a non-compete agreement affecting the SLI separator market in Europe by giving Daramic's deep-cycle technology

to Microporous in exchange for its agreement to stay out of the SLI separator market. The offer was made to Mr. Gilchrist, Larry Trevathan of Microporous and an attorney representing Microporous. (Gilchrist, Tr., 426-27, 431-32, 575-76; Trevathan, Tr. 3707-3708; PX0077, *in camera*; PX1103 at 001).

1099. Microporous's Michael Gilchrist reported back that at the meeting Daramic "offered us basically all of their industrial business!!! . . . All of that was prefaced by them for us staying out of automotive. Amazing conversation." (PX1103 at 001). In reporting the meeting to Mr. Heglie, Mr. Gilchrist stated that "Daramic is definitely looking for a solution that keeps us out of automotive and/or takes us completely out of the game." (PX1103 at 002).

1100. At its Board of Director's meeting two weeks later, Microporous management reported the August 2 meeting to the full board. (PX1106 at 035). The handout for the board meeting discusses Daramic's offer to give Microporous its deep-cycle and industrial business "all in exchange for MPLP not participating in SLI markets." (PX1106 at 035 (emphasis in original)). Mr. Heglie testified that he was reasonably certain that the Board discussed Daramic's proposal, but that he did not recall anything specific outside of what was written in the Board presentation. (PX2301 (Heglie, Dep. at 81), *in camera*). He further testified that Daramic's offer "all in exchange for MPLP not participating in SLI markets," does not appear to be limited to a geographic area. (PX2301 (Heglie, Dep. at 81), *in camera*).

C. Daramic's Latest Effort to Block the MPLP Expansion – the MP Plan

(See CCFOF 725-747)

D. Exclusionary effects on MPLP.

1101. { [REDACTED] } (Simpson, Tr. 3209, *in camera*; PX0033 at 030, *in camera*). { [REDACTED] } (PX0033 at 025, *in camera*, 030, *in camera*). This delay imposed costs on Microporous. (PX1215).

1102. Michael Gilchrist, Microporous's President at the time, later wrote Mr. Axt: "We [Microporous] are taking a significant hit with the altered dates as our initial profitability and return on our capital is thrown off by almost a year later due to Daramic." (PX1215). { [REDACTED] } (PX0092 at 002; PX0089, *in camera*).

1103. { [REDACTED] } (Simpson, Tr. 3236, *in camera*; PX0033 at 046, *in camera*). { [REDACTED] }
(Simpson, Tr. 3230, *in camera*; PX0033 at 046, *in camera*).

E. Daramic did not need to use exclusive contracts to attain efficiencies.

1104. { [REDACTED] } (Simpson, Tr. 3230, *in camera*). { [REDACTED] }
(Simpson, Tr. 3231, *in camera*). { [REDACTED] }
{ [REDACTED] } (Simpson, Tr. 3232, *in camera*).

1105. { [REDACTED] } (Simpson, Tr. 3417, *in camera*). { [REDACTED] }
{ [REDACTED] } (Simpson, Tr. 3417, *in camera*).

1106. Some customers purchase separators pursuant to a written contract, while others purchase separators without a written contract. (Gilchrist, Tr. 614). Most MPLP customers did not have actual supply contracts with MPLP. (Trevathan, Tr. 3773). Some customers in fact “contributed over one million dollars in sales without contracts.” (Trevathan, Tr. 3775).

1107. Executing long term supply agreements with its battery manufacturer customers is one of Daramic’s primary strategies for achieving its income goals. (PX0171 at 002-003 (“Daramic 3-Year Strategy”)).

i) **Hard Ball:**

1108. The approach of playing hard ball with a customer and threatening to supply all or nothing was a favored tactic at Daramic. Daramic took this approach with JCI during the 2004 contractual negotiations, threatening to terminate supply to JCI in Europe if a contract was not signed. (Hall, Tr. 2677-2678; PX0820 at 014).

1109. Mr. Roe discussed the very same concept of an all or nothing relationship with regards to supply to C&D Battery when C&D's business was at risk of loss to MPLP in 2006. (PX0806 at 003; *see also* PX2060 at 001 (Daramic discussion of playing hard ball and stopping" consignment to C&D when faced with competition from MPLP in 2003)). When C&D continued to take a wait and see approach towards long term contracting with Daramic, Mr. Hauswald instructed to Mr. Roe to { [REDACTED] } (PX1793 at 001, *in camera*). Mr. Hauswald further told Mr. Roe to have { [REDACTED] } (PX1793 at 001, *in camera*).

1110. Mr. Toth also suggested playing hard ball with EnerSys when it refused to contract with Daramic just prior to the 2006 force majeure. (PX0456 at 001). In each instance where Daramic threatened or discussed the possibility of cutting off supply to a customer, the reason for Daramic to threaten all or nothing supply was to lock up business from MPLP. (PX1793 at 002, *in camera*; PX0456 at 001).

F. EnerSys Story

1111. EnerSys is one of the largest industrial battery manufacturers in the world, with plants in North America, Europe, and Asia. (Axt, Tr. 2108; PX1204 at 002-003, *in camera*).

1112. EnerSys produces batteries for both motive and UPS applications. (Axt, Tr. 2097, 2099-2100, 2114; Gagge, Tr. 2482, 2490-2491; PX 1204 at 002, *in camera*) EnerSys produces about 38 percent of the motive batteries in the North American market. (Axt, Tr. 2129).

1113. EnerSys manufactures motive power batteries in North America at facilities in Richmond, Kentucky; Ooltewah, Tennessee; and Monterrey, Mexico. (Axt, Tr. 2099-2100). It makes UPS batteries in North America at the Monterrey, Mexico plant and a facility in Hays, Kansas. (Axt, Tr. 2100).

1114. { [REDACTED] } (RX00964, *in camera*; PX1204 at 001, *in camera*; Axt, Tr. 2122). Daramic { [REDACTED] } in North America. (RX00964 at 002, *in camera* (" { [REDACTED] }"). *See also* (RX00208; RX00209, *in camera*; Axt, Tr. 2122, 2134, *in camera*).

1115. The expiration date for the EnerSys/Daramic agreement was { [REDACTED] }. (RX00964 at 001, *in camera*; Axt, Tr. 2122-2123, 2134, *in camera*). During this period, EnerSys { [REDACTED] } { [REDACTED] }. (PX1200 at 002, *in camera*; Axt, Tr. 2118, 2125-2127, 2141-2142, *in camera*).

1116. In late 2005 and early 2006, EnerSys { [REDACTED] } . (Axt, Tr. 2123-2124, 2129, 2166, *in camera*; Gilchrist, Tr. 309-310, 416, *in camera*).
1117. Daramic decided that it should fight this threat because “[w]e have a leverage saying that it is all or nothing, at least in the US, when our contract will be over (April 07).” PX0694 at 001.
1118. On February 10, 2006, { [REDACTED] } . (PX1200 at 001-005, *in camera*; Axt, Tr. 2140, 2145, *in camera*).
- a. { [REDACTED] } . (Axt, Tr. 2141-2144, *in camera*). { [REDACTED] } (PX1200, *in camera*; RX00206, *in camera*; Axt Tr. 2148-2149, *in camera*).
- b. The MOU specified { [REDACTED] } .” (PX1200 at 004, *in camera*).
1119. The overall goal of Microporous { [REDACTED] } was “to figure out a plan to get a facility in Europe { [REDACTED] } .” (Gilchrist, Tr. 310, *in camera*).
1120. The proposed timeline for expansion was to build two CellForce lines in Austria and to have them operating by February 2008. (PX0038 at 015.) EnerSys { [REDACTED] } . (Axt, Tr. 2148-2149, *in camera*).
1121. During early 2006, EnerSys was also in negotiations with Daramic concerning the future relationship between the companies. Daramic { [REDACTED] } . (Axt, Tr. 2118, 2164, *in camera*). Pierre Hauswald and Tucker Roe visited EnerSys in January 2006 { [REDACTED] } . (PX1289 at 001, *in camera*; Axt, Tr. 2160-2161, *in camera*).
1122. Mr. Roe followed up on the January discussions by submitting a written proposal to EnerSys on February 26, 2006. (PX1289 at 001-003, *in camera*). The proposal { [REDACTED] }

- [REDACTED] (PX1289 at 001, *in camera*).
1123. Mr. Axt compared the competing proposals from Daramic and Microporous, and [REDACTED]. (Axt, Tr. 2166, *in camera*). He then informed Daramic that [REDACTED]. (Axt, Tr. 2166, *in camera*).
1124. EnerSys did not [REDACTED], because [REDACTED]. (Axt, Tr. 2166-2167, *in camera*). In the following months, Mr. Axt continued [REDACTED]. (Axt, Tr. 2166-2167, *in camera*).
1125. In May 2006, [REDACTED]. (Axt, Tr. 2256, *in camera*; PX1200 at 004, *in camera*).
1126. On May 17, 2006, Tucker Roe of Daramic [REDACTED]. (PX1201 at 002, *in camera*; Axt, Tr. 2251-2252).
1127. EnerSys decided in June 2006 that it would move forward with Microporous. Mr. Axt scheduled a meeting with Daramic officials in Charlotte, North Carolina, because he "felt it important to tell them face to face" that EnerSys had decided to reject Daramic's proposal. (Axt, Tr. 2252-2253).
1128. At that meeting, which took place on July 6, 2006, EnerSys informed Daramic that certain battery plants then supplied by Daramic would, beginning in 2007, be transferred to Microporous. Specifically, [REDACTED]. (PX0986 at 001; Axt, Tr. 2128-2129, 2148, 2159, *in camera*).
1129. Mr. Roe related this news to Daramic management by email dated July 7, 2006. He concludes his internal communication this way: "Needless to say, this is not acceptable and we will respond accordingly." (PX0986 at 001).
1130. Daramic management then evaluated various strategies for blocking Microporous from proceeding with its expansion plans for Austria. One scheme was to [REDACTED] at the new plant. (PX0246, *in camera*; Hauswald, Tr. 831-832, *in camera*).

1131. A second scheme was to { [REDACTED] }. (PX0246, *in camera*; Hauswald, Tr. 831, *in camera*).
1132. Daramic employed a third strategy: { [REDACTED] }. (PX2237 at 006, *in camera*).
1133. Meanwhile, Daramic { [REDACTED] }, despite what Mr. Axt had told them in July. (Axt, Tr. 2260, *in camera*). On August 8, 2006, { [REDACTED] } Reading, Pennsylvania. (PX1204 at 001, *in camera*; PX1205; Axt, Tr. 2255-2256, 2260, *in camera*).
1134. Following the meeting, Daramic { [REDACTED] } on August 11, 2006. (PX1204, *in camera*). The { [REDACTED] }. (PX1204 at 001, *in camera*; Axt, Tr. 2258, *in camera*). Daramic again { [REDACTED] }. (PX1204 at 001-003, *in camera*; Axt, Tr. 2255-2256, 2257, 2260, *in camera*).
1135. Daramic gave EnerSys a deadline to respond of August 31, 2006. (PX1205; Axt, Tr. 2259, *in camera*). The deadline was later extended to September 15, 2006. (PX1205).
1136. Mr. Axt informed Daramic that { [REDACTED] }. (Axt, Tr. 2146, 2260, *in camera*).
1137. EnerSys sought assurances from Microporous that the Austrian plant was still "on target" to begin production in the first quarter of 2008. (Axt, Tr. 2180, *in camera*; PX1206). Microporous provided the desired assurances. (PX1206; Axt, Tr. 2180-2181, *in camera*).
1138. The September 15 deadline passed without a formal response from EnerSys. When informed of this development, Polypore CEO Robert Toth decided that Daramic "should pull our offer and force a decision. Unless I don't know or understand something, we should play hardball here." (PX0456 at 001).
1139. [REDACTED] { [REDACTED] }. (PX0694 at 001; PX1211 at 001, *in camera*; PX0456 at 001).
1140. At Daramic, { [REDACTED] }. (PX0258 at 001; PX0257 at 001, *in camera*). (See also PX0694 at 001; PX0852 at 001,

in camera (“{ [REDACTED] }.”)).

1141. On October 6, 2006, Daramic unleashed its hardball strategy. Daramic notified EnerSys by letter that evening (a Friday) that Daramic would not { [REDACTED] }. (Axt, Tr. 2146-2147, *in camera*; PX1207; PX1208). “[E]ffective immediately EnerSys will receive most likely 10 to 20%, if possible up to 50% of your normal material requirements for the next six to eight weeks.” (PX1207). This cut back in supply would apply to EnerSys battery plants in both Europe and the United States. (PX1207; PX1208).
1142. Daramic represented to EnerSys that this disruption in supply was necessary because of a force majeure event outside of Daramic’s control. Specifically, “an extensive fire in the production facility of [Daramic’s] key raw material supplier” would, going forward, “severely limit the amount of raw material available to Daramic.” (PX1207).
1143. EnerSys investigated Daramic’s claim, and determined that the asserted force majeure was a sham. (i) { [REDACTED] } (Axt, Tr. 2206, *in camera*; see also Hauswald, Tr. 1136, *in camera*). (ii) EnerSys contacted its second PE supplier, Microporous. On October 9, 2006, Microporous reported that in the United States no allocation was planned and that “U.S. supply positions are whole.” (PX1209). (iii) Mr. Craig contacted the CEOs of several other battery manufacturers, including East Penn, Trojan, and Exide. Each executive reported that his company had not been informed that there was a product shortage; further, these companies had not been informed that there would be a curtailment of supply. (Craig, Tr. 2558).
1144. Although letters concerning the force majeure were later received by a number of Daramic’s customers, Tucker Roe from Daramic “told most of them we will do everything possible to supply 100% of their current demand.” (PX0487; see also PX1048). However, he stated: “For EnerSys, the allocation is 10%.” (PX0487).
1145. In November 2006, a senior level Entek executive had a conversation with Mr. Hauswald of Daramic at the European lead acid battery conference. (PX1808). In that conversation, Mr. Hauswald informed the Entek representative that Daramic was “taking steps against [MPLP]” with regards to MPLP’s European expansion plans. (PX1808).
1146. After the acquisition of Microporous, Mr. Hauswald and Mr. Roe of Daramic told { [REDACTED] } (Gilchrist, Tr. 414, 621, *in camera*).
1147. The CEO of EnerSys, John Craig, called the CEO of Daramic, Bob Toth, shortly after the force majeure announcement. (Craig, Tr. 2556). Their conversation confirmed that the prospective curtailment was a ploy aimed at forcing EnerSys to enter into a new long

term contract for the majority of its requirements. Specifically, Mr. Toth threatened that Daramic was "going to stop shipping product to you [EnerSys] within two weeks if you don't sign a long-term contract. Correction. 10 to 20 percent in the next two weeks." (Craig, Tr. 2556-2559). Mr. Craig viewed the { [REDACTED] } (Craig, Tr. 2562-2563, 2570, *in camera*).

1148. When it informed Exide, a competitor of EnerSys, of the force majeure event on October 6, 2006, Daramic pledged to continue supplying Exide with "80% to 90%, and if possible up to 100%" of its normal requirements in the following weeks. (PX1048).
1149. During the force majeure period, Daramic "treated Exide very well," and "did a very good job" of supplying the separators Exide needed at that time. (Gillespie, Tr. 2985, 3095-3096.) Nobody from Daramic told Exide that their supply would be cut off or that Daramic would not sell to them during the force majeure. (Gillespie, Tr. 2985, 3155; PX1048).
1150. Microporous was "never affected by the same [limited PE supply] conditions" as Daramic claimed to be during October 2006, even though both companies obtained their PE stock for making separators from Ticona. (Gilchrist, Tr. 414-415; Trevathan, Tr. 3655).
1151. { [REDACTED] }. (Axt, Tr. 2182, *in camera*). No alternative source of supply was available to EnerSys. (Craig, Tr. 2557, 2598). After exhausting its separator inventories, EnerSys would be forced to shut down production at its plants. One half of the company's total revenues, or about \$1 billion in battery sales, were at risk. (Craig, Tr. 2561, 2598-2599). In addition, { [REDACTED] }. (Axt, Tr. 2182, *in camera*; Craig, Tr. 2561).
1152. Mr. Craig concluded that he had no choice but to accede to the Daramic demand. (Craig, Tr. 2562-2563). He instructed a senior manager at EnerSys "to get involved with this, get the contract worked out, do what we can, let's get so we don't shut ourselves down." (Craig, Tr. 2558).
1153. After a short period of negotiations, EnerSys and Daramic { [REDACTED] }. (Axt, Tr. 2193, *in camera*; PX1211, *in camera*; PX1224, *in camera*). EnerSys agreed to buy separators from Daramic exclusively for its North American and Chinese battery plants through May 2009, and for its Italian plant through December 2009. (Axt, Tr. 2114-2115).
1154. Daramic { [REDACTED] }. (Axt, Tr. 2206-2207, *in camera*). When { [REDACTED] }, Daramic { [REDACTED] }. (Axt, Tr. 2207, *in camera*; PX1211 at 002, *in camera* ({ [REDACTED] }).

[REDACTED] })).

1. The Impact of the Contract Extension with Daramic

1155. { [REDACTED] } (Axt, Tr. 2128-2129, 2148, 2159, *in camera*; PX1259, *in camera*).
1156. { [REDACTED] } (Simpson, Tr. 3230-3231, *in camera*). Without sufficient volume commitments, Microporous could not fully utilize its capacity when the new lines it was building became operational. (Gilchrist, Tr. 454).
1157. The force majeure event “delayed several pieces of business that Microporous was going to be granted, the timing of the Mexico business for our backfill, the timing of Italy. The Italian plant for EnerSys was also delayed and parts of the Tennessee business for EnerSys [were] delayed as well.” (Gilchrist, Tr. 413).
1158. With the potential for supplying significant PE volumes to EnerSys pushed out to June 2009 and beyond, Microporous needed to find additional customer orders to fill up its two new lines starting in March 2008, particularly the second PE line. (PX0089 at 002 (“The revenue gap will be over \$4,500,000 (approximately 2,800,000 square meters) that will be open until the backfill with EnerSys US can commence in 2009 (approximately fifteen months).”); Gilchrist, Tr. 454, *in camera* ({ [REDACTED] })).
1159. To be competitive against Daramic in motive, stationary and SLI applications, MPLP needed to operate its lines at an efficient scale. (Gilchrist, Tr. 422-424; RX00401 at 002 (“[T]he filling of these Austrian lines with solid, profitable business is an absolute requirement for the continued success and financial health of MPLP.”)).
1160. Operating at lower volume levels would { [REDACTED] } Daramic’s pricing. (Simpson, Tr. 3232-3233, *in camera*). Daramic recognized these economic realities. (Simpson, Tr. 3233, *in camera*; PX0241 at 001-002, *in camera*). Microporous recognized them as well. (Gilchrist, Tr. 508-509, *in camera* ({ [REDACTED] })).
1161. At the same time that Daramic was threatening to withhold separators from EnerSys due to Ticona’s European force majeure, Daramic also increased the pressure on C&D, whom

it was also in contractual negotiations with, by informing C&D that they too might get less than 50% their separator needs. (Roe, Tr. 1804).

1162. Less than one month later, Mr. Roe informed Mr. Hauswald that if a contract with C&D was not wrapped up within two weeks time, “we will play hard-ball and force them to accept 100% or nothing.” (PX0806 at 003).
1163. Daramic specifically intended to exclude Microporous from the relevant markets. In October 2005, Mr. Hauswald informed Mr. Nasisi, the former General Manager of Daramic, that he believed Microporous was going to build a PE line for EnerSys in Europe. (PX0694 at 002).
1164. After receiving this “bad news,” Mr. Nasisi warned Mr. Hauswald that Microporous could grow to be “another Entek,” and therefore Daramic “must do everything possible to stop this [expansion].” (PX0694 at 001). *See also* (PX0751 at 001, *in camera* ({ [REDACTED] }.”)).
1165. Mr. Hauswald understood that using “all or nothing” threats to prevent Microporous from gaining business at EnerSys might be effective in the short term, but in the long term, Daramic needed to “solve the [Microporous] case definitively.” (PX0694 at 001). { [REDACTED] } (PX0171-008; PX0751 at 001, *in camera*).
1166. Daramic employed the MP Plan as the next step in its strategy to marginalize Microporous and exclude it from the relevant markets. *See* (CCFOF 725-747). Entek believed that, based on a conversation between Mr. Hauswald and the head of Entek’s European operations, Daramic’s successful extortion of a long-term contract from EnerSys after the force majeure was intentionally designed to remove the economic justification for Microporous’s investment in a new PE facility in Austria. (PX1808).

XI. Hollingsworth & Vose

1167. Hollingsworth & Vose (“H&V”) manufactures absorptive glass mat (“AGM”) separators for sealed lead-acid batteries. (PX0094 at 001, *in camera*). It is the dominant AGM producer in North America, and is one of the largest AGM manufacturers worldwide. (PX0035 at 004; Roe, Tr. 1745; PX0011, *in camera*; RX01101 at 004).
1168. H&V is { [REDACTED] } (PX0925 (Porter, Dep. at 37)).

1169. In 1999, Exide Technologies ("Exide") owned and operated a PE separator manufacturing facility in Corydon, Indiana. (PX0726; PX0925 (Porter, Dep. at 35); PX0917 (Cullen, Dep. at 11, in camera). Exide manufactured separators at Corydon for some of its North American battery plants. (Gillespie, Tr. 2983-84).
1170. In 1999, Exide engaged the services of Bowles Hollowell Conner ("BHC"), a financial advisory firm, to assist it with selling the Corydon plant. (PX0724 at 002).
1171. In June 1999, BHC contacted H&V about the possibility of acquiring the Corydon plant. H&V was invited to submit a proposal to purchase the assets. (PX1368 at 001).
1172. H&V was { [REDACTED] } (PX0917 (Cullen, Dep. at 11)). Daramic was a competing bidder. (PX0726 at 006-008). Daramic was aware that H&V was interested in the Corydon facility. (Hauswald, Tr. 640-641; PX0169 at 001).
1173. On June 19, 1999, H&V received information by mail from BHC { [REDACTED] } (PX0925 (Porter, Dep. at 35)).
1174. { [REDACTED] } (PX0925 (Porter, Dep. at 37-38)).
1175. Second, at the time Exide was selling the Corydon plant, { [REDACTED] } (PX0925 (Porter, Dep. at 37)). Likewise, H&V believed that { [REDACTED] } (PX0925 (Porter, Dep. at 37)).
1176. { [REDACTED] } (PX0925 (Porter, Dep. at 42-43)). { [REDACTED] } (PX0925 (Porter, Dep. at 35)).
1177. On July 1, 1999, H&V submitted to BHC a proposal to acquire the Corydon plant for \$26,000,000 in cash, and to enter into a series of five-year agreements to supply PE and AGM battery separators to Exide. (PX1368 at 001-002).
1178. Ultimately, { [REDACTED] } (PX0727 at 002; Gillespie, Tr.

3070; (Roe, IHT at 224, *in camera*)). Daramic closed the transaction to purchase the Corydon facility from Exide { [REDACTED] } (PX2050 at 034, *in camera*).

1179. Daramic remained concerned that H&V would pursue an alternative strategy for entering the PE separator market. (PX0169 at 001; PX0035 at 005).

1180. { [REDACTED] } (PX0169 at 001; PX2143 at 001, *in camera*).
The core of this arrangement was a set of mutual promises to stay out of one another's markets. (PX0169 at 001; PX0094 at 002-003, *in camera*; PX0035 at 005-006; PX2150 at 001, *in camera*; PX1356 at 001).

1181. Daramic's anticompetitive strategy is described in an internal Daramic email:

"[Every time we] meet investors they ALL ask: what about AGM? Aren't you missing the boat? What do you do?"

Just a few words of history..

A few years ago, H&V announced that they want to go [in]to the PE business, and plan to make acquisition (it was Exide) or build their own plant.

In order to stop them, we made an (sic) written agreement with them, through a partnership, saying that:

- we will work together where ever possible
- they will not go in the PE business
- we will not go in the glass business (AGM)"

(PX0169 at 001).

1182. After some negotiations, { [REDACTED] } (PX0094, *in camera*). Daramic agreed therein { [REDACTED] } (PX0094 at 002-003, *in camera*).

1183. In addition, { [REDACTED] } (PX0094 at 002, *in camera*).

1184. The parties contemplated that { [REDACTED] } (PX0094 at 002, 003, 013-022, *in camera*; PX0925 (Porter, Dep. at 126-127) ({ [REDACTED] })); Roe, Tr. at 1746, 1811 (Daramic contemplated sales opportunities in "new markets, new territories" such as Eastern Europe or Asia, where H&V "may have better representation.")).

1185. Thus, virtually all collaboration in the United States was excluded. (PX0094 at 013, *in camera* { [REDACTED] }); PX1325 at 001 (virtually all potential customers in the Americas had 100% supply relationships with Daramic and/or H&V at the time the Agreement was entered); PX0925 (Porter, Dep. at 95-97, *in camera*) ({ [REDACTED] })).
1186. The sales agency was { [REDACTED] } (PX0923 (Hauswald, IHT at 280), *in camera* ({ [REDACTED] })). Daramic representatives have made a small volume of sales on behalf of H&V in Brazil and India, { [REDACTED] } over five years. (PX0014, *in camera*; PX2145 at 001-002)..
1187. In contrast, { [REDACTED] } (PX2150 at 001, *in camera*; PX1318). See also (RX00095 at 001, *in camera* ({ [REDACTED] })).
1188. In February 2003, Daramic and H&V considered expanding the Agreement to include Nippon Sheet Glass (NSG), a Japanese manufacturer of AGM separators and PE separators (through its subsidiary, Nippon-Muki). (PX1318). The three-way alliance idea did not come to fruition, but { [REDACTED] } (PX2150, *in camera*; PX2146).
1189. The original { [REDACTED] } (PX0094 at 002, 006, *in camera*). { [REDACTED] } (PX0158, *in camera*; PX2147). The parties agreed and understood that { [REDACTED] } (PX0094 at 002, *in camera*; RX01014; PX2150 at 001, *in camera*; PX0158, *in camera*).
1190. At the time that the parties { [REDACTED] } (PX0923 (Hauswald, IHT at 286), *in camera*).
1191. In considering { [REDACTED] } (PX0923 (Hauswald, IHT at 290), *in camera*). That { [REDACTED] } (PX0923 (Hauswald, IHT at 292, *in camera*)).

1192. The Agreement is not needed to put on customer appreciation events jointly. (Roe, Tr. 1811-1812; RX00370 at 002).
1193. Daramic and H&V did not { [REDACTED] } (PX0925 (Porter, Dep. at 107-108), *in camera*)).
1194. Joint technical collaboration { [REDACTED] } (PX1356 at 001) (Daramic and H&V each “will maintain [their] own intellectual property” under the Agreement).
1195. To the extent that the parties to the Cross Agency Agreement exchanged any confidential information, it was protected by non-disclosure provisions and other restrictions against improper use, { [REDACTED] } (PX0094 at 007-008, *in camera*; PX1356 at 001 (noting “[a] Confidentiality Agreement exists between [H&V/Daramic] and each of its employees” that covers exchanges between the companies and communications with customers in connection with activities contemplated by the Agreement)).
1196. During the life of the cross-agency agreement between Daramic and H&V, Daramic never paid any commissions to H&V because H&V never made any sales of PE during the course of the agreement. (Roe, Tr. 1810).

XII. Remedy

A complete divestiture is required to restore the competition that the merger eliminated

1197. Dr. Simpson testified that to restore the competition lost through Daramic’s acquisition of Microporous, a remedy would need to recreate a firm similar to the Microporous that would have existed but for the acquisition. (Simpson, Tr. 3262-3263). Dr. Simpson stated that, at a minimum, this would require recreating a firm with production facilities in both the United States and Europe, with intellectual property comparable to that of Microporous, a technical staff comparable to that of Microporous, a product mix comparable to that of Microporous, and intangible assets (knowledgeable and skilled workforce, industry reputation) comparable to that of Microporous. (Simpson, Tr. 3263).

A divestiture needs to include the former MPLP facilities and the business associated with those facilities to provide the scale needed to compete

1198. { [REDACTED] } (Simpson, Tr. 3418, *in camera*). { [REDACTED] }

[REDACTED] (Simpson, Tr. 3418, *in camera*). Mr. Gilchrist testified that Microporous [REDACTED] (Gilchrist, Tr. 525, 593-601, *in camera*). [REDACTED] (Simpson Tr. 3225-3226; 3229, 3233, *in camera*; Gillespie, Tr. 3053, *in camera*).

1199. [REDACTED] (Kahwaty, Tr. 5431-32, *in camera*).

1200. MPLP's PE separator lines were unique. All the PE lines installed or planned were designed specifically to be capable of producing PE or CellForce separators. All other PE separator lines elsewhere in the world are only capable of producing PE. (Trevathan, Tr. 3714).

1201. At the time of the acquisition, Daramic's profit margins on HD were [REDACTED] than the profit margins on CellForce and Flex-Sil. (Gilchrist, Tr. 467, *in camera*).

1202. Daramic views global scale as critical to success. On January 23, 2007, Mr. Toth made a presentation at the J.P. Morgan Annual High Yield Conference. (Toth, Tr. 1430-32; PX0484 at 001-002) The presentation to the J.P. Morgan meeting states that global scale is a "critical success factor." The narrative that accompanied the slide states: "To be the market leader in the lead acid separator market, you need several things: global scale and service ..." (PX0484 at 019; Toth, Tr. 1434; PX0483 at 013). Polypore's separator business was "positioned for growth" because it had "multiple sites that allow us to have the scale and critical mass to service customers on a global basis." (PX0483 at 013).

1203. Exide believes that an effective remedy in this matter would require [REDACTED] (Gillespie, Tr. 3051-3052, *in camera*).

[REDACTED] (Gillespie, Tr. 3051-3052, *in camera*). [REDACTED]

[REDACTED] (Gillespie, Tr. 3051-3054, *in camera*). [REDACTED]

(Gillespie, Tr. 3051-3054, *in camera*).

1204. Microporous believed that it was "imperative" to have an R&D and testing laboratory in order to be competitive. (Gilchrist, Tr. 327-328; see also Axt, Tr. 2109-2110 ("technical expertise" is important); Gillespie, Tr. 3051-3052, *in camera* ([REDACTED])).

1205. Support of a large battery manufacturer is important because when a battery separator manufacturer's customers are small companies, each time its customers order separators, the order is small, which affects production and efficiency costs. (PX0907 (Kung, Dep. at 70, *in camera*)). { [REDACTED] } (PX0907 (Kung, Dep. at 70, *in camera*)). { [REDACTED] } (PX0907 (Kung, Dep. at 70, *in camera*)). { [REDACTED] } (PX0907 (Kung, Dep. at 71, *in camera*)). { [REDACTED] } (PX0907 (Kung, Dep. at 70, *in camera*)).

A divestiture needs to include the former MPLP facilities in the US and Europe to attract global customers that seek multi-plant suppliers for global sourcing and surety of supply

1206. { [REDACTED] } (Gilchrist, Tr. 309-10, 456-57, *in camera*; PX207, *in camera*).

1207. { [REDACTED] } (Gillespie, Tr. 2969-2970; Gillespie, Tr. 3131-3132, *in camera*). MPLP responded positively to Exide's desire to have supply from one plant in the US and one in Europe. (Gillespie, Tr. 2970).

1208. Exide's experience in Daramic's handling of the strike at their Owensboro plant strike reinforced to Exide the need to have backup sources of separator supply in order to avoid supply disruptions. (Gillespie, Tr. 2992-2993).

1209. Sufficient entry would require an entrant to have two manufacturing facilities to replicate the redundancy and surety of supply provided by MPLP and Daramic. As Mr. Axt noted, { [REDACTED] } (Axt, Tr. 2143, *in camera*). It was critical for EnerSys that its suppliers have more than one plant. (Axt, Tr. 2129).

1210. Daramic emphasizes the importance of maintaining multiple separator manufacturing plants when dealing with customers. (Roe, Tr. 1318-1319). Daramic believes that having manufacturing facilities in various parts of the world provides security of supply to customers. (Roe, Tr. 1318-1319). Daramic views this as a "competitive advantage."

(Hauswald, Tr. 722, 726-727, 807, *in camera*). Daramic advertises to customers that it can give them local supply from a global company. (Hauswald, Tr. 711, 722; PX0582 at 018).

1211. { [REDACTED] } (PX0904 (Seibert, Dep. 187), *in camera*). { [REDACTED] } (PX0904 (Seibert, Dep. 187), *in camera*).
1212. The reason Microporous decided to open a second facility in Europe was twofold. A European facility would be close to EnerSys's European operations, and having a second facility in Austria provides backup for the United States if something were to happen at Piney Flats. (Gaugl, Tr. 4602).
1213. MPLP opening a European facility actually helped it expand its business in the United States. (Trevathan, Tr. 3773). The Feistritz expansion freed up CellForce capacity in the US. (Trevathan, Tr. 3774). Trojan Battery was interested in this excess capacity which would enable it to switch a million square meters of its Flex-Sil purchases to CellForce for deep-cycle batteries. (Trevathan, Tr. 3740) But the primary reason for the Austrian expansion was to service European customers from a European facility. (Trevathan, Tr. 3709).
1214. Trojan was very concerned about the fact that Microporous only had one manufacturing facility. (Godber, Tr. 225). Trojan believed it was important for Microporous to have more than one manufacturing facility for its separators so that if one facility was damaged by fire or some other cause product would still be available from another facility. (Godber, Tr. 225-26). "This scenario (single source/single site) really scares me – if something happened to your facility TBC would be out of business. We are looking to Amerace to come up with a plan here to minimize this risk." (PX1660 at 002-003).
1215. Microporous helped alleviate Trojan's concern because "now they had at least dual plants and there would be some protection." (Godber, Tr. 226).
1216. Having access to a separator supplier that has multiple plants is important for Crown in terms of surety of supply in the event of a work stoppage or other disruption to supply. (Balcerzak, Tr. 4127).
1217. The existing contract between Daramic and Crown contains a [REDACTED] } (Balcerzak, Tr. 4111, *in camera*; RX00994 at 009, *in camera*). { [REDACTED] } (Balcerzak, Tr. 4113, *in camera*). However, during the strike at Owensboro, { [REDACTED] }

[REDACTED] } (Balcerzak, Tr. 4117, *in camera*).

Allowing customers to terminate exclusive to new exclusive contracts will enable new entry to gain market share and scale

1218. Dr. Simpson noted that the remedy should also address Daramic's use of exclusive contracts by reducing the share of the market covered by Daramic's exclusive contracts. (Simpson, Tr. 3264).

XIII. Witness Backgrounds

1219. Richard R. Godber is CEO and president of Trojan Battery Company in Santa Fe Springs, California. (Godber, Tr. 133). Trojan Battery is the largest producer of deep-cycle batteries in the world. Trojan Battery has been in business for 84 years and has been producing deep-cycle batteries since 1952. (Godber, Tr. 133). As president and CEO, Mr. Godber is responsible for the overall operation of the company, including strategic planning. (Godber, Tr. 134). Mr. Godber is extensively involved in procurement of the three largest and most expensive parts of a deep-cycle battery, the lead, the plastic, and the separators. (Godber, Tr. 134). Mr. Godber personally negotiates the final pricing and contract terms with battery separator suppliers. (Godber, Tr. 135).
1220. Trojan has been Microporous's largest customer since it began doing business with Microporous a little over 20 years ago. (Godber, Tr. 156-57). At the time of the acquisition of Microporous by Daramic, Trojan was Microporous's largest customer. (Godber, Tr. 157). Microporous told Trojan that it was its largest customer. (Godber, Tr. 157).
1221. Michael Gilchrist was President and CEO of Microporous for about ten years at the time of the acquisition. Prior to becoming CEO, he was vice president of sales and marketing and general manager at Microporous. (Gilchrist Tr. 297-298, 301). Following the acquisition, Mr. Gilchrist worked at Daramic as Vice President of Product and Global Strategy. This position gave Mr. Gilchrist a perspective on Daramic's product strategy. (Gilchrist, Tr. 297; PX920 (Gilchrist, I.H. Tr. 44-45)). Mr. Gilchrist had professional interactions with Daramic for over twenty years. (Gilchrist, Tr. 298).
1222. Nawaz Qureshi is vice president of engineering and technology at U.S. Battery Manufacturing Company. (Qureshi, Tr. 1990). He has been involved in the battery industry for 42 years and has 23 years of experience in deep-cycle batteries. (Qureshi, Tr. 1990-91). Mr. Qureshi is primarily responsible for product design and development, but he also is responsible for quality control, manufacturing improvement, and customer service. (Qureshi, Tr. 1991). In designing and developing batteries for U.S. Battery, Mr. Qureshi is responsible for selecting and procuring battery separators. (Qureshi, Tr. 1992). In making a decision on what battery separator to use in a particular battery, Mr. Qureshi looks at the price of the battery separator in order to select the most cost-effective separator for that battery. (Qureshi, Tr. 1992).
1223. Pierre Hauswald has been at Daramic since 1981. In 2004, he was promoted to the position of Vice President and General Manager of Daramic. (Hauswald, Tr. at 629-630). Mr. Hauswald is the Chief Operating Officer of Daramic. (PX0923 (Hauswald IHT at 5)). Pierre Hauswald is the Vice President and General Manager of Daramic, LLC, and reports to Mr. Robert Toth. (PX0582 at 011). Mr. Hauswald is the person at Daramic who is principally responsible for strategy and strategic planning. Market intelligence is also a part of his job. (Hauswald, Tr. 630-631; PX0923 (Hauswald IHT at 17)).

[REDACTED] (PX0904 (Seibert, Dep. 148), *in camera*).

1224. Robert Toth is the Chief Executive Officer of Polypore, Inc. (PX0582 at 011). Mr. Bob Toth joined Polypore as CEO in 2005. (Hauswald, Tr. 13-15).
1225. Dr. George Brilmyer is an electrochemist formerly employed by Microporous and subsequently by Daramic. He resigned from Daramic in August of 2008 whereupon he began working for Atraverda Limited, a lead-acid battery manufacturer in the U.K., as VP of Business Development for North America. (Brilmyer, Tr. 1825-1826). Dr. Brilmyer worked for Johnson Controls for 10 years prior to joining Microporous. (Brilmyer, Tr. 1848). Prior to working for Microporous full time, Dr. Brilmyer consulted with Microporous in 1997 through 1998 working on its CellForce project. (Brilmyer, Tr. 1900). While employed by Microporous, Dr. Brilmyer held the position of Director of Research and Development. (Brilmyer, Tr. 1826). [REDACTED] (Brilmyer, Tr. 1879, *in camera*).
1226. John "Kevin" Whear is the vice president of technology for Daramic. (Whear, Tr. 4659). Along with product development, Mr. Whear is responsible for knowing how the separators Daramic sells are used, including, "applying the right [separators] to the right applications, and then if the customers are having trouble utilizing our products in their application or problems with the batteries, . . . address[ing] those as well." (Whear, Tr. 4661 (PX0913 at 002)).
1227. John Craig is the Chairman, President and CEO of EnerSys. He is responsible for all functions within EnerSys. Mr. Craig is knowledgeable about the import and export of batteries by EnerSys. (Craig, Tr. 2549).
1228. John Pharo Gagge, Jr. is the Senior Director of Engineering and Quality Assurance at EnerSys and has been with the company for 14 years. (Gagge, Tr. 2481). Mr. Gagge oversees all new product design development, troubleshooting of customer problems, warranty issues, designing new applications, developing batteries for new markets, supplier selection and control (including separators), and quality assurance. (Gagge, Tr. 2482-83).
1229. Larry Michael Burkert is the Senior Procurement Manager for EnerSys and reports to Mr. Axt. Mr. *Burkert* has been working in a purchasing role at EnerSys for 13 years and entered his current position in 1996. Mr. *Burkert's* responsibilities include support at a corporate level some of the factories in North America, and then globally responsibility for battery separators. He is responsible for negotiating prices with separator suppliers, including Daramic. Prior coming to EnerSys, Mr. *Burkert* worked at East Penn for two years. Mr. *Burkert* has a bachelor's degree from the University of Pittsburgh in mechanical engineering and a master's degree in mechanical engineering from Penn State. (*Burkert*, Tr. 2308-2310)

1230. Arthur T. Balcerzak began working as a consultant for Crown Battery in 1984-85. (Balcerzak, Tr. 4090). Mr. Balcerzak joined the buyout team in 1998 and became a ~ nine percent owner of Crown Battery while maintaining his consultancy. (Balcerzak, Tr. 4091- 4092).
1231. Crown Battery sells deep-cycle, motive power and SLI batteries. (Balcerzak, Tr. 4092). Fifty percent of its business is motive power battery sales. (Balcerzak, Tr. 4092).
1232. Gary Jensen is currently the Director of Engineering for Daramic, with responsibilities for worldwide capital equipment installation. (PX0924 (Jensen, Dep. at 5-6)).
1233. Steven McDonald became the director of sales fro MPLP in 2002. In that position he was in charge of worldwide sales fro MPLP. (McDonald, Tr. 3781). After the purchase by Polypore, Mr. McDonald became the director of sales for specialty products for the merged firm. (McDonald, Tr. 3782). And eventually Mr. McDonald was promoted to head of sales for the Americas for Daramic. (McDonald, Tr. 3783).
1234. Larry Trevathan is currently the Vice president of Operations at Daramic. He has responsibilities for worldwide quality and continuous improvement as well. (Trevathan, Tr. 3566). Mr. Trevathan began work at Microporous in November 2004, as Vice President of Operations. (Trevathan, Tr. 3568-3569). As VP of operations, Mr. Trevathan had responsibilities for all manufacturing at Piney Flats facility and had ultimate responsibility for purchasing. (Trevathan, Tr. 3571). After Microporous began its efforts at expansion, Mr. Trevathan was put in charge of the European arm of the expansion as co-managing director of Microporous products GmbH. (Trevathan, Tr. 3572).
1235. Eric Heglie is a principal at Industrial Growth Partners ("IGP"), a private equity firm that makes investments in industrial manufacturing companies. (PX2300 (Heglie, IHT at 7-8)). IGP purchased a controlling interest in Microporous in late 2006. (PX2301 (Heglie, Dep. at 8)). Mr. Heglie was the primary person at IGP involved in the purchase of Microporous. (PX2300 (Heglie, Dep. at 8)). Mr. Heglie served on the board of Microporous along with other IGP people and along with Mike Gilchrist, president of Microporous. (PX2300 (Heglie, IHT at 33-34)). Mr. Heglie was the primary point person at IGP for the Microporous investment. When Microporous management called in to IGP they were mostly speaking to Mr. Heglie. (PX2301 (Heglie, Dep. at 11-12))
1236. Mr. Don Wallace is VP of sales and marketing for U.S. Battery manufacturing in Corona, Ca. He has held that position for the last eight years, and has been with the company in different capacities since 1993. (Wallace, Tr. 1927-1928). Mr. Wallace serves on the board of directors for U.S. Battery. (Wallace, Tr. 1928). Mr. Wallace is in charge of domestic and international sales as well as serving on the new product development committee where he assists in the planning and development of new battery products US Battery intends to bring to market. In his capacity as a member of this committee he helps evaluate separators for new batteries. (Wallace, Tr. 1929).

1237. US Battery had revenues of \$160 million in 2008 and \$130 million in 2007. Roughly 80-percent of US Batteries revenues are attributable to the deep-cycle category, and it spent approximately \$8million dollars last year on separators for its deep-cycle products. (Wallace, Tr. 1930-1931).
1238. Exide is the first or second largest battery manufacturer in the world in each market that it participates in. (Gillespie, Tr. 2930). Exide segments its business into two broad categories – transportation and industrial batteries. (Gillespie, Tr. 2930). Exide’s transportation business focuses on starting, lighting and ignition (SLI) batteries such as car and truck batteries. (Gillespie, Tr. 2930). The industrial business is further divided into two categories – motive power (mainly forklift batteries) and network power (backup battery systems). (Gillespie, Tr. 2930-2931).
1239. Mr. Douglas Gillespie is currently employed by Exide Technologies in the role of vice president of global procurement. (Gillespie, Tr. 2926). Mr. Gillespie has been employed by Exide since 2003. (Gillespie, Tr. 2928-2929). Mr. Gillespie has been involved in various procurement roles for over 18 years. (Gillespie, Tr. 2928-2929). As head of procurement at Exide, Mr. Gillespie’s role is to look for opportunities to manage and reduce Exide’s costs. (Gillespie, Tr. 2959). Mr. Gillespie believes that from a procurement prospective, there is an inherent risk in sole-sourcing. (Gillespie, Tr. 2945). Mr. Gillespie has been involved in the procurement of battery separators for his entire employment with Exide. (Gillespie, Tr. 2928-2929). Mr. Gillespie has been involved with negotiations with both Daramic and MPLP on numerous occasions. (Gillespie, Tr. 2929). Mr. Gillespie has been directly involved in managing Exide’s worldwide search for suppliers of battery separators. (Gillespie, Tr. 2929).
1240. Robert Cullen is Vice President of Sales and Marketing for the Battery Separator Business Unit of Hollingsworth & Vose (“H&V”). He has served in that capacity since mid-year 2001, prior to which he was Director of Sales at the company. (PX0917 (Cullen, Dep. at 11, 13), *in camera*).
1241. Kevin Porter is currently Director of Glass Technology at H&V. He was the Vice President of the Battery Separator Business Unit at H&V from January 1997 through September 2003. He then became Director of Research and Development for both the Battery Separator Business Unit and the Filtration Products Business Unit at H&V until the end of 2006. At that point, he changed positions and took on his current role as Director of Glass Technology. (PX0925 (Porter, Dep. at 9-15), *in camera*).
1242. James W. Douglas is the Executive Vice President of Douglas Battery Manufacturing Company in Winston-Salem, North Carolina. (Douglas, Tr. 4047-4048). Mr. Douglas is not directly involved in purchasing at Douglas Battery. (Douglas, Tr. 4087). Douglas Battery was founded in 1921. Douglas Battery produced SLI batteries through 2005, but exited that market, and now manufactures predominantly motive batteries, coal-mining batteries, and batteries for UPS and telecom. (Douglas, Tr. 4048).

1243. Guy Dauwe is currently the Managing Director at Amer-Sil. He has held that position since 2006. (PX0916 (Dauwe, Dep. at 8)). As the Managing Director, Mr. Dauwe is the head of Amer-Sil and is responsible for sales and marketing strategies and pricing strategy and policies. (PX0916 (Dauwe, Dep. at 9)). Mr. Dauwe was Amer-Sil's Executive Vice-President of Sales and Marketing from April 2005 until he became the Managing Director. (PX0916 (Dauwe, Dep. at 8-9)).
1244. Mr. James Kung has been designing and building PE separator manufacturing lines for many years and has more experience with the process than anybody else in the world. (PX0907 (Kung, Dep. at 57), *in camera*). Mr. Kung is a member of the BFR board of directors, and was involved in building all four of their production lines. (PX0907 (Kung Dep. at 59-61), *in camera*). Mr. Kung plans on { [REDACTED] } PX0907 (Kung Dep. at 92), *in camera*).
1245. EnerSys is a global manufacturer of industrial batteries. (Axt, Tr. 2097). EnerSys is broken up into three businesses: (1) motive power, consisting mainly of electric forklift batteries; (2) reserve power, consisting of UPS battery backup, specialty battery backup, telecom and utilities; and (3) aerospace and defense, consisting mainly of batteries that go into submarines, tanks, in addition to fighter jets and cargo aircraft. (Axt, Tr. 2097). EnerSys is the largest industrial battery manufacturer in the world, with plants in North America, Europe, and Asia. (Axt, Tr. 2115-16). EnerSys produces batteries for both motive and UPS applications. (Axt, Tr. 2097). EnerSys produces 38 - 40 percent of the motive batteries in the North American market. (Axt, Tr. 2226).
1246. Larry Axt has been the Vice president of Global Procurement at EnerSys for 9 years. (Axt, Tr. 2097). Mr. Axt is responsible for all global procurement of raw materials and finished goods in addition to indirect material, and capital equipment. (Axt, Tr. 2097-98). His responsibilities include selection of suppliers, negotiations, and supplier performance management. (Axt, Tr. 2098). Mr. Axt is responsible for supporting EnerSys factories with separators, and he handles the selection and negotiations of separator suppliers. (Axt, Tr. 2097).
1247. Mr. Mitchell Bregman is currently employed by Exide technologies in the role of president of Exide's industrial Americas division. (Bregman, Tr. 2898, *in camera*). In early 2007, Mr. Bregman was head of Exide's Global Purchasing council; a council of Exide's senior purchasing people from each division who coordinated global purchasing activities. (Bregman, Tr. 2898-2899, *in camera*). At that time, Mr. Bregman and Mr. Gillespie were responsible for negotiating With Daramic on Exide's behalf. (Bregman, Tr. 2924-2925, *in camera*).
1248. Rodger Hall is the global vice president for procurement at Johnson Controls Power Solutions ("JCI"). (Hall, Tr. 2662). Mr. Hall's responsibilities include the procurement of all purchased materials at JCI, including the purchase of PE separators. (Hall, Tr. 2663-2664). Mr. Hall is also in charge of JCI's global separator strategies. (Hall, Tr. 2664). Under Mr. Halls' leadership, JCI developed a separator sourcing strategy. (Hall, Tr. 2668). Mr. Hall sits on the board of BFR. As a board member, Mr. Hall is familiar

with the cost structure of BFR because he reviews financial summaries of BFR. (Hall, Tr. 2716). In addition to Mr. Hall, JCI has one other member of the BFR board. (Hall, Tr. 2716). This person acts as { [REDACTED] } (Hall, Tr. 2847, *in camera*).

**UNITED STATES OF AMERICA
BEFORE THE FEDERAL TRADE COMMISSION**

DOCKET NO. 9327

**IN THE MATTER OF
POLYPORE, INTERNATIONAL, INC.**

**COMPLAINT COUNSEL'S
PROPOSED CONCLUSION OF LAW**

1. The Federal Trade Commission ("FTC") has jurisdiction over the subject matter of this proceeding and over Respondent Polypore International, Inc. ("Daramic" or "Respondent"), pursuant to Section 5 of the Federal Trade Commission Act ("FTC Act"), 15 U.S.C. § 45, and Sections 7 and 11 of the Clayton Act, 15 U.S.C. §§ 18, 21(b).
2. The FTC has jurisdiction pursuant to Section 11 of the Clayton Act, 15 U.S.C. § 21, to bring this administrative proceeding against the Daramic/Microporous merger.
3. Daramic is a corporation, as "corporation" is defined in Section 4 of the FTC Act, 15 U.S.C. § 44.
4. Respondent was engaged in commerce, as "commerce" is defined in Section 1 of the Clayton Act, as amended, 15 U.S.C. § 12, and affected commerce, as "commerce" is defined in Section 4 of the FTC Act, as amended, 15 U.S.C. § 44.
5. Microporous was engaged in commerce, as "commerce" is defined in Section 1 of the Clayton Act, as amended, 15 U.S.C. § 12, and affected commerce, as "commerce" is defined in Section 4 of the FTC Act, as amended, 15 U.S.C. § 44.
6. The FTC is vested with authority and responsibility for enforcing, *inter alia*, Section 7 of the Clayton Act and Section 5 of the FTC Act. 15 U.S.C. § 21(a) and §45(a)(2).
7. On February 29, 2008, Daramic acquired Microporous Products L.P., ("Microporous"). The acquisition of Microporous ("the Acquisition") is a transaction subject to Section 7 of the Clayton Act, 15 U.S.C. § 18, and Section 5 of the FTC Act, 15 U.S.C. § 45.
8. Section 7 of the Clayton Act prohibits any acquisition of stock or assets "where in any line of commerce... in any section of the country, the effect of such acquisition may be substantially to lessen competition or to tend to create a monopoly." 15 U.S.C. § 18.
9. Section 7 is designed to arrest in its incipiency not only the substantial lessening of competition from the acquisition by one corporation of the whole or any part of the stock

of a competing corporation, but also to arrest in their incipency restraints or monopolies in a relevant market which, as a reasonable probability, appear at the time of suit likely to result at the time of the acquisition by one corporation of all or any part of the stock of any other corporation. *United States v. E.I. du Pont de Nemours & Co.*, 353 U.S. 586, 589 (1957).

10. A *prima facie* violation of Section 7: (1) the “line of commerce” or product market; (2) the “section of the country” or geographic market; and (3) the transaction’s probable effect on concentration in the product and geographic markets. *FTC v. H.J. Heinz Co.*, 246 F.3d 708, 713 (D.C. Cir. 2001); *FTC v. University Health, Inc.*, 938 F.2d 1206, 1218 (11th Cir. 1991); *United States v. Baker Hughes Inc.*, 908 F.2d 981 (D.C. Cir. 1990).
11. Finding a *prima facie* violation of Section 7 creates a rebuttable presumption of anticompetitive effects and shifts the burden of going forward with evidence to Respondent. Respondent have the burden of producing evidence that shows that the market share statistics supporting the *prima facie* case give an inaccurate account of the Acquisition's probable effects on competition. *Baker Hughes*, 908 F.2d at 982-83; *FTC v. Cardinal Health*, 12 F. Supp. 2d 34, 54 (D.D.C. 1998).
12. The appropriate lines of commerce within which to evaluate the probable competitive effects of the Acquisition are separators for flooded lead-acid batteries in the following markets: (1) deep-cycle; (2) motive; (3) Automotive (“SLI”); and (4) uninterruptable power supply stationary (“UPS”).
13. The appropriate geographic area within which to evaluate the probable competitive effects of the Acquisition is North America.
14. “Market shares which companies may control by merging is one of the most important factors to be considered” when analyzing the likely effects of a merger. *Brown Shoe Co. Inc., v. United States*, 370 U. S. 294, 343 (1962). A merger that significantly increases market shares and market concentration beyond already high levels is so inherently likely to lessen competition substantially that it is presumptively unlawful under Section 7 of the Clayton Act. *United States v. Philadelphia Nat'l Bank*, 374 U.S. 321, 363 (U.S. 1963); *Baker Hughes*, 908 F.2d at 982-83; *PPG*, 798 F.2d at 1502-03; *Cardinal Health*, 12 F. Supp. 2d at 52 (“under Section 7 of the Clayton Act, a *prima facie* case can be made if the government establishes that the merged entities will have a significant percentage of the relevant market - enabling them to raise prices above competitive levels”).
15. The Herfindahl-Hirschman Index (“HHI”) is an appropriate measure of market concentration. *E.g.*, *University Health*, 938 F.2d at 1211 n.12 (HHI is “most prominent method” of measuring market concentration); *FTC v. Staples*, 970 F. Supp. 1066, 1081-82 (D.D.C. 1997); *Ivaco*, 704 F. Supp. at 1419.
16. Complaint Counsel established its *prima facie* case by showing that the Acquisition produces a firm controlling a percentage share and HHI concentration levels in each of the four relevant markets that make the merger inherently likely to lessen competition

substantially, which means that the merger is presumptively unlawful under Section of 7 of the Clayton Act. *Brown Shoe*, 370 U.S. at 343.

17. Complaint Counsel established that Daramic and Microporous were the number one and two competitors in the deep-cycle, motive, and UPS markets and that no other company provides effective competition. Complaint Counsel established that Microporous was at least the third best alternative for customers in the SLI market. The acquisition of Microporous by Daramic significantly increased concentration in the relevant product markets in North America, and resulted in highly concentrated markets.
18. Having established a *prima facie* case, the burden of production and proof shifts to the defendants to rebut this presumption of anticompetitive harm. *United States v. Marine Bancorporation, Inc.*, 418 U.S. 602, 631 (U.S. 1974); *Heinz*, 246 F.3d at 715; *Baker Hughes*, 908 F.2d at 982-83. “The more compelling the *prima facie* case, the more evidence the defendant must present to rebut it successfully.” *Heinz*, 246 F.3d at 725 (quoting *Baker Hughes*, 908 F.2d at 991). Respondent has not demonstrated that the market share statistics give an inaccurate prediction of the Acquisition's probable effects on competition. “To meet their burden, the defendants must show that the market-share statistics . . . ‘give an inaccurate prediction of the proposed acquisition’s probable effect on competition.’” *Cardinal Health*, 12 F. Supp. 2d at 54 (quoting *Staples*, 970 F. Supp. at 1083); see *Baker Hughes*, 908 F.2d at 991.
19. Respondent may rebut the *prima facie* case by demonstrating that entry by other firms would likely avert the Acquisition's probable effects on competition by acting as a constraint on Daramic’s exercise of market power. For entry to rebut the presumption of anticompetitive effects, the evidence must show not merely that a firm might enter, but that “entry into the market would likely avert anticompetitive effects from [the] acquisition.” *Staples*, 970 F. Supp. at 1086 (quoting *Baker Hughes*, 908 F.2d at 989).
20. Entry must be timely, likely, and sufficient in its magnitude, character and scope to deter or counteract the competitive effects of a merger. *Merger Guidelines* § 3.0; *Chicago Bridge & Iron Co. N.V. v. FTC*, 534 F.3d 410, 427-429 (5th Cir. 2008); see also *Cardinal Health*, 12 F. Supp. 2d at 55-58 (adopting “timely, likely, and sufficient” test). In order for entry to be sufficient to restore competition, it must be entry that replaces the competition that existed prior to the acquisition and such entrants must be profitable at pre-merger prices. Even a showing of actual entry is insufficient to alleviate concern, unless that entry also indicates the likelihood of sufficient growth by the entrant to deter or counteract the anticompetitive effects of the merger. *Chicago Bridge & Iron Co.*, 138 F.T.C. 1024, 1067 (2005) (noting “new entrants and fringe competitors” might not replace lost competition), *aff’d sub nom. Chicago Bridge & Iron Co. v. FTC*, 534 F.3d 410 (5th Cir. 2008); see also *United Tote*, 768 F. Supp. at 1082 (“entry . . . would not constrain anti-competitive price increases by incumbents”). Respondent has offered no evidence to satisfy these requirements, and specifically have offered no evidence that any alleged entrant will enter the relevant product markets in the North America within two years, be profitable at pre-merger prices, and fully replace Microporous as a competitive force.

21. Respondent has not demonstrated that actual or potential entrants constrain Daramic's exercise of market power. Due to high barriers, entry by new manufacturers or the expansion of existing manufacturers is not likely to avert the anticompetitive effects of the Acquisition in the relevant markets.
22. Respondent has not presented an efficiencies defense in support of the merger.
23. Respondent has not produced any significant evidence rebutting the presumption of a violation of Section 7 of the Clayton Act and Section 5 of the FTC Act. Because Respondent did not produce evidence sufficient to rebut the presumption of a violation of Section 7 of the Clayton Act, the burden of producing further evidence of anticompetitive effects did not shift to Complaint Counsel.
24. Although Complaint Counsel is not required to prove the existence of actual anticompetitive effects resulting from the merger, such evidence, either in the form of unilateral post merger price increases or coordinated interaction, negates any attempt to rebut the FTC's *prima facie* case, and independently establishes a violation of Section 7 of the Clayton Act and Section 5 of the FTC Act.
25. The Acquisition is likely to increase Daramic's ability to raise prices unilaterally in the relevant markets because the Acquisition eliminates competition from Microporous, Daramic's closest and only competitor in the deep-cycle, motive, and UPS markets, and eliminates a third competitor in the SLI market.
26. The acquisition is likely to give rise to coordinated anticompetitive effects through tacit or express collusion. Section 7 of the Clayton Act seeks to prohibit excessive concentration, and the oligopolistic price coordination it portends. Where rivals are few, firms will be able to coordinate their behavior, either by overt collusion or implicit understanding, in order to restrict output and raise price. See *Heinz*, 246 F.3d at 724-25; *University Health*, 938 F.2d at 1218 n.24.
27. Complaint Counsel need not show a likelihood of explicit collusion. A merger violates Section 7 of the Clayton Act if the remaining firms will be more likely to engage in conduct that is likely to result in higher prices, even if that conduct, in itself, would be entirely lawful. *Alcoa*, 377 U.S. at 280. Section 7 seeks to prevent a market structure that enhances the ability to engage in both explicit and tacit collusion. Absent extraordinary circumstances, a merger that results in an increase in concentration above certain levels "raise[s] a likelihood of 'interdependent anticompetitive conduct.'" *PPG Indus.*, 798 F.2d at 1503 (quoting *Gen. Dynamics*, 415 U.S. at 497; see also *FTC v. Univ. Health, Inc.*, 938 F.2d 1206, 1218 n. 24 (11th Cir.1991) (high concentration makes it "easier for firms in the market to collude, expressly or tacitly, and thereby force price above or farther above the competitive level"). The relative lack of competitors eases coordination of actions, explicitly or implicitly, among the remaining few to approximate the performance of a monopolist.

28. Complaint Counsel has offered substantial evidence of anticompetitive effects resulting from the merger, any of which would independently mandate a finding against Respondent as a matter of law.
29. The Acquisition violates Section 7 of the Clayton Act because "the effect of such acquisition may be substantially to lessen competition or to tend to create a monopoly." 15 U.S.C. § 18. The Acquisition also constitutes an unfair method of competition in or affecting commerce in violation of Section 5 of the FTC Act. 15 U.S.C. § 45.
30. Section 5 of the FTC Act prohibits "unfair methods of competition in or affecting commerce, and unfair or deceptive acts or practices in or affecting commerce." 15 U.S.C. § 45(a)(1) (2008).
31. Conduct that violates Section 1 or 2 of the Sherman Act is deemed to constitute an unfair method of competition and hence a violation of Section 5 of the FTC Act as well. *FTC v. Cement Inst.*, 333 U.S. 683, 694 (1948); *Fashion Originators' Guild v. FTC*, 312 U.S. 457, 463-64 (1941).
32. Prior to the Acquisition, Daramic engaged in agreements, contracts or combinations with other entities that constituted unfair methods of competition in violation of Section 5 of the FTC Act.
33. To meet its burden of proof under Count II of the Complaint, Complaint Counsel must establish three elements: 1) the existence of a contract, combination, or conspiracy among two or more separate entities, that 2) unreasonably restrains trade, and 3) affects interstate or foreign commerce. *See, e.g., Law v. NCAA*, 134 F.3d 1010, 1016 (10th Cir. 1998).
34. Under Section 5 of the FTC Act, Complaint Counsel makes out a *prima facie* case, and gives rise to a presumption of violation, by showing: 1) Daramic's substantial market power and the anticompetitive nature of the challenged restraint; or 2) the challenged restraint is "inherently suspect," *i.e.*, presumptively anticompetitive even without a showing of market power. *United States v. Visa U.S.A., Inc.*, 344 F.3d 229, 238 (2d Cir. 2003) (full rule of reason analysis); *PolyGram Holding, Inc. v. FTC*, 416 F.3d 29 (D.C. Cir. 2004) (inherently suspect restraint).
35. Respondent may rebut this presumption of violation by showing a pro-competitive justification for the restraint. If the restraint is not reasonably necessary to achieve the asserted justification, or those objectives may be achieved in a less restrictive manner, the Respondent's efficiency defense fails. *Visa*, 344 F.3d at 238; *PolyGram*, 416 F.3d at 36-38.
36. Daramic has not demonstrated a pro-competitive justification for the challenged restraint. Alternatively, the anticompetitive effects of the restraint outweigh the pro-competitive benefits of the challenged restraint.

37. Complaint Counsel has provided substantial evidence that Daramic has substantial market power, and that the challenged restraint is anticompetitive by nature, is "inherently suspect," and is not reasonably necessary to achieve its claimed objectives.
38. The agreement between Daramic and H&V is a contract, combination, or conspiracy among two or more separate entities that unreasonably restrains trade and affects interstate or foreign commerce, and constitutes a violation of Section 5 of the FTC Act.
39. Prior to the Acquisition, Daramic engaged in monopolistic conduct and/or attempts to monopolize, which constituted unfair methods of competition in violation of Section 5 of the FTC Act.
40. To meet its burden of proof under Count III of the Complaint, Complaint Counsel may establish an offense of monopolization or attempted monopolization patterned on standards of liability under Section 2 of the Sherman Act. *Cement Inst.*, 333 U.S. at 694.
41. Complaint Counsel makes out a *prima facie* case of monopolization, and gives rise to a presumption of violation, by demonstrating two elements: 1) the possession of monopoly power in the relevant market and 2) the willful acquisition or maintenance of that power as distinguished from growth or development as a consequence of superior product, business acumen, or historic accident. *United States v. Grinnell Corp.*, 384 U.S. 563, 570-71 (1966); *see also United States v. Microsoft Corp.*, 253 F.3d 34, 50 (D.C. Cir. 2001).
42. Complaint Counsel makes out a *prima facie* case of attempted monopoly maintenance, and gives rise to a presumption of violation, by demonstrating four elements: 1) that the defendant possesses monopoly power, and 2) has engaged in predatory or anticompetitive conduct with 3) a specific intent to monopolize, and 4) a dangerous probability of maintaining monopoly power. *Lorain Journal Co. v. United States*, 342 U.S. 143, 154 (1951).
43. Monopoly power may be inferred from Daramic's possession of a dominant share of one or more of the relevant markets defined herein, which are protected by entry barriers. *Microsoft*, 253 F.3d at 51 (citations omitted).
44. Conduct is exclusionary when it tends to exclude one or more competitors on some basis other than efficiency, *i.e.*, when it tends to impair the opportunities of rivals but either does not further competition on the merits or does so in an unnecessarily restrictive way. *Aspen Skiing Co. v. Aspen Highlands Skiing Corp.*, 472 U.S. 585, 605 & n. 32 (citations omitted).
45. Complaint Counsel bears the initial burden to show that Respondent's conduct impairs the ability of one or more significant rivals to compete effectively, and thus to constrain the exercise of monopoly power by the Daramic. If a *prima facie* case of competitive harm is successfully established, then Respondent may proffer a procompetitive

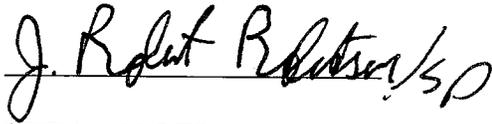
justification for its conduct. *United States v. Dentsply*, 399 F.3d 181, 187 (3d Cir. 2005); *LePage's Inc. v. 3M*, 324 F.3d 141, 164 (3d Cir. 2003); *Microsoft*, 253 F.3d at 69.

46. It is not necessary for Complaint Counsel to prove that a rival of Respondent has been entirely excluded from the market. It is instead sufficient to show that the competitive vigor of a significant rival has been impaired. *Microsoft*, 253 F.3d at 60; *Dentsply*, 399 F.3d at 191.
47. It is not necessary to show that the challenged agreements are completely exclusive; near exclusivity will suffice. *United Shoe Machinery Corp. v. United States*, 258 U.S. 451, 455 (1922); *Microsoft*, 253 F.3d at 68; *Masimo Corp. v. Tyco Health Care Group, L.P.*, 2006 U.S. Dist. LEXIS 29977 (C.D. Cal. March 22, 2006); *R.J. Reynolds Tobacco Co. v. Philip Morris Inc.*, 60 F. Supp.2d 502, 510-11 (M.D.N.C. 1999). Likewise, it is not necessary to show that any particular percentage of the relevant market has been foreclosed. Evidence of actual or likely competitive harm will suffice. *Microsoft*, 253 F.3d at 70; *Dentsply*, 399 F.3d at 185; *LePage's*, 324 F.3d at 157; *Conwood Co. v. United States Tobacco Co.*, 290 F.3d 768, 783 (6th Cir. 2002).
48. Daramic specifically intended that its conduct in negotiating with, and obtaining exclusionary contracts from, customers would raise its competitors' costs and impair their ability to constrain the exercise of market power by Daramic. Respondent's specific intent may be proven by direct evidence, or inferred from its egregious conduct. *Spectrum Sports v. McQuillan*, 506 U.S. 447, 454-55 (1993) ("Unfair or predatory conduct may be sufficient to prove the necessary intent to monopolize.").
49. Daramic was successful in exerting monopoly power that harmed competition and hence customers. *United States v. Dentsply*, 399 F.3d 181, 189-191 (3d Cir. 2005)
50. Daramic's conduct carried a dangerous probability of maintaining its monopoly power in the relevant markets defined herein.
51. Cognizable efficiencies are those that offer the prospect of lower prices, greater output, or other benefits to consumers. *See, e.g., Roland Mach. Co. v. Dresser Indus. Inc.*, 749 F.2d 380, 395 (7th Cir. 1984). Respondent failed to demonstrate that its challenged acts and practices produced any such efficiencies.
52. Daramic's exclusionary conduct meets the standards of liability for monopolization or attempted monopolization under Section 2 of the Sherman Act, and constitutes a violation of the FTC Act.
53. Complaint Counsel met its burden of proof in support of Count I, Count II, and Count III of the Complaint.
54. Divestiture is the proper remedy.

55. Complete divestiture of all assets acquired in the Acquisition is required to restore competition as it existed prior to the Acquisition. The Clayton Act requires that upon a finding of a Section 7 violation, "the Commission . . . shall . . . order . . . such person to cease and desist from such violations, and divest itself of the . . . assets, held." 15 U.S.C. § 21(b).
56. Relief designed to restore competition as it existed prior to the Acquisition is appropriate. "In Section 7 cases, the principal purpose of relief is to restore competition to the state in which it existed prior to, and would have continued to exist but for, the illegal merger." *In the Matter of B.F. Goodrich Co.*, 110 F.T.C. 207 at 345 (1988), (quoting *In the Matter of RSR Corp.*, 88 F.T.C. 800, 893 (1976)).
57. The Order entered hereinafter is necessary and appropriate to remedy the violations of law found to exist.

Dated: July 17, 2009

Respectfully submitted,

By: 

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Complaint Counsel

CERTIFICATE OF SERVICE

I hereby certify that on July 17, 2009, I filed *via* hand delivery an original and two copies of the foregoing public version of Complaint Counsel's Post-Trial Findings of Fact with:

Donald S. Clark, Secretary
Office of the Secretary
Federal Trade Commission
600 Pennsylvania Avenue, NW, Rm. H-135
Washington, DC 20580

I hereby certify that on July 17, 2009, I served *via* electronic mail and hand delivery two copies of the foregoing public version of Complaint Counsel's Post-Trial Findings of Fact with:

The Honorable D. Michael Chappell
Administrative Law Judge
Federal Trade Commission
600 Pennsylvania Avenue, NW, H-106
Washington, DC 20580
oyalj@ftc.gov

I hereby certify that on July 17, 2009, I served *via* electronic mail delivery and first class mail two copies of the foregoing public version of Complaint Counsel's Post-Trial Findings of Fact with:

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