to obtain reliable price information in the market (Goodrich, slip op. at 87-88; Goodrich F 211-15, 219-21; Goodrich ID at 93-94).

654. Record evidence in this case, as discussed infra, confirms that reliable price information is available to PVC producers in each of the relevant markets.

G. Price Protection Classes in Each of the Relevant PVC Markets Reduce the Incentive To Cheat on a Collusive Agreement

655. Most contracts in each of the relevant PVC markets contain two forms of price protection clauses: meeting competition clauses and clauses requiring advance notice of price increases (Goodrich, slip op. at 86; Goodrich F 237-38; Goodrich ID at 94). These clauses facilitate collusion by reducing the incentive to cheat on a collusive agreement (Goodrich, slip op. at 86) .

656. "Price protection" clauses include most-favored-nations clauses, and meeting competition clauses (also known as meet-or-release clauses) (Goodrich F 237; *See* Klass Dkt. 9159, 5695, 5704). They also include clauses requiring advance notice of price changes. As a matter of economic theory, these price protection clauses can facilitate collusion by reducing the potential gain from cheating on a collusive arrangement (*See* Klass Dkt. 9159, 5695-5704).

657. Most contracts in the PVC industry contain meeting competition clauses (Goodrich, slip op. at 87; Goodrich F 211, F 237). Furthermore, in most supplier-customer relationships without written contracts, customers bring competitive offers to other suppliers in the same way as would occur under a meeting competition clause (Goodrich, slip op. at 87-88; Goodrich F 237).

658. The existence of meeting competition clauses deters cheating because it encourages the customer to transmit information regarding a competitive offer to its regular supplier. Thus, the clause leads to detection of discounts (Goodrich, slip op. at 87; *See* Kaserman Dkt. 9159, 2394-96; *See also* Hirschleifer, *Price Theory and Applications*, 309-311 (1984); Salop, "Practices That (Credibly) Facilitate Oligopoly Coordination," *New Developments in the Analysis of Market Structure* 280 (Stiglitz, ed. 1986).

659. Most contracts in the PVC industry contain clauses requiring advance notice of price increases (*e.g.*, 30 days) (Goodrich

F 238). These clauses formalize the practice of giving advance notice of price increases. By giving advance notice, a supplier is able to ascertain whether its competitors are following a price increase prior to its effective date. Absent the advance notice, a period of time is necessary for other firms to discover and react to the price increase. During this lag time, the supplier that initiates a price increase may lose sales to those suppliers who have yet to react and raise prices. Thus, absent advance notice, there is an incentive not to be the first supplier to raise price and, therefore, an incentive against price increases occurring (*See* Areeda, *Antitrust Analysis* 274 (1981); Posner, *Antitrust Law: An Economic Perspective* 61 (1976); Stigler, *The Organization of Industry* 42-43 (1976); F.M. Scherer, *Industrial Market Structure and Economic Performance* 222-25 (2d ed. 1981); J. Bain, *Price Theory* 273-283 (1952)).

H. Anticompetitive Conduct in the Relevant PVC Markets Would Not Be Threatened By Rapid Technological Change

660. Market power may be harder to exercise or less likely to endure in the face of rapid technological change. New technology may signal that the market is being transformed, which may result in new entry, declining concentration, or unstable market shares.[36] Conversely, the absence of rapid technological change in a market may decrease the threats to the maintenance of a collusive agreement, and may thereby increase the likelihood that collusion will endure should it occur (*See* Klass Dkt. 9159, 5426-29).

661. None of the relevant PVC markets is currently undergoing rapid technological change (Goodrich ID at 94; Goodrich F 232; JX 3, PX 8 at 86 ln. 24 - 87 ln. 7; CPF 719-720). [##] (Goodrich F 223-226; *See* H. Wheeler Dkt. 9159, 734-35; Dkt. 9159 CX 515G; Dkt. 9159 RX 639H, R *In Camera*), and the development and implementation of vinyl chloride emission control technology to comply with newly-instituted environmental and worker safety regulations (Goodrich F 227-231; *See* Dkt. 9159 CX 642 U-V; Dkt. 9159 CX 597 A-E). Today, these changes have been largely implemented (Goodrich F 232).

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[36] *FTC Merger Statement*, (CCH) ¶ 4,516 at 6,901-3.

662. The initial growth and development of mass and suspension PVC as a product in the 1950's and 1960's occurred as flexible (plasticized) PVC resin found markets in wire and cable, calendered sheet, and specialty applications (Goodrich F 222; *See* DiLiddo Dkt. 9159, 3106-08; Dkt. 9159 CX 53D). [##] (Goodrich F 222; Dkt. 9159 RX 639H *In Camera*).

663. [##] (Goodrich F 223; Dkt. 9159 RX 639H *In Camera*; *See* Eades Dkt. 9159, 1464-65; McMath Dkt. 9159, 1893, 1922; Dkt. 9159 RX 639H *In Camera*). [##] (Goodrich F 223; Dkt. 9159 RX 639H, P *In Camera*). As demand for mass and suspension PVC resin shifted toward large volume, commodity grade end-use applications, PVC producers began to install large reactors of 18,000-35,000 gallon capacity to serve this demand; accompanying technology, such as computerization to ensure consistency in resin quality and efficiency in resin production using large-batch processes, was also developed (Goodrich F 223; Dkt. 9159 Disch 641, 648-53).

664. [##] (*See* Dkt. 9159 CX 42A-Z64 *In Camera*; Dkt. 9159 RX 639H, *In Camera*). [##] (Eades Dkt. 9159, 1464-65; Dkt. 9159 RX 639H *In Camera*).

665. Large reactors in use in the United States today range in size from 18,000 gallons to about 40,000 gallons in capacity; reactors of 50,000 gallon capacity are in use in Europe (Goodrich F 224; *See* Dísch Dkt. 9159, 638-40; Schaefer Dkt. 9159, 1213-14). Small reactors range in size from 2,000 to 5,000 gallons in capacity (Goodrich F 229; Schaefer Dkt. 9159, 1213).

666. Large reactor technology increased the efficiency of PVC production, reduced labor costs, and provided economies of scale above that available from small reactor technology (Goodrich F 225; Disch Dkt. 9159, 643; Schaefer Dkt. 9159, 1140; *See* Dkt. 9159 CX 515G). The cost disadvantage of using a small reactor production configuration compared to that of a large reactor production configuration can be quite significant for commodity applications (Goodrich F 225; *See, e.g.*, H. Wheeler Dkt. 9159, 1734; Eades Dkt. 9159, 1463-65).

667. [##] (Goodrich F 226; *See* H. Wheeler Dkt. 9159, 1720-21, 1725; Dkt. 9159 RX 639D, H *In Camera*; Dkt. 9159 CX 515G; *See also* Eades Dkt. 9159, 1479-80). Many of the remaining small reactor PVC plants are still used to manufacture specialty PVC resin

grades (H. Wheeler Dkt. 9159, 1757-58; Schaefer Dkt. 9159, 1078-79; Becker Dkt. 9159, 1263- 64). However, it is unlikely that new small reactor capacity would be built by a producer today (Goodrich, slip op. at 79, n.178; Goodrich F 226; H. Wheeler Dkt. 9159, 1758; Disch Dkt. 9159, 640).

668. [##] (Schaefer Dkt. 9159, 1212; H. Wheeler Dkt. 9159, 1735-36; Dkt. 9159 RX 53I *In Camera*).

669. The mid-to-late 1970's were also a period of fundamental changes in the regulatory environment facing the PVC and VCM industries, a factor which had a profound effect on the technological design, siting, and operation of plants, capital costs, and the structure of the markets (Goodrich F 227; *See* Dkt. 9159 CX 642Z5-Z6; Dkt. 9159 CX 504D-O; Dkt. 9159 CX 597A-E; Dkt. 9159 CX 505S-U). While regulations promulgated by both federal and state agencies during this period affected all aspects of the PVC and VCM businesses, environmental regulations had the greatest overall impact (Goodrich F 227; *See* Dkt. 9159 CX 597C). Following the finding that VCM was a specific cause of liver cancer, the Occupational Health and Safety Administration (OSHA) promulgated a standard in 1975 to reduce occupational exposure to VCM; in 1976, the Environmental Protection Agency (EPA) promulgated a standard to reduce atmospheric VCM emissions (Goodrich F 227; *See* Dkt. 9159 CX 642U). Additional environmental regulations affecting other aspects of PVC and VCM/EDC production facilities were subsequently promulgated, (Goodrich F 227; Dkt. 9159 CX 597C-D; Dkt. 9159 CX 642Z164-Z177).

670. [##] (Goodrich F 228; Dkt. 9159 CX 200L *In Camera*; Dkt. 9159 CX 642Z5). Most of the requirements regarding VCM control technology pertain to PVC plants because these facilities contribute proportionately more emissions than VCM/EDC plants as a result of characteristics inherent in the batch process (Goodrich F 228; Dkt. 9159 CX 842).

671. Changes brought about by the promulgation of the VCM emissions standard were felt most acutely by the older PVC plants that had to retrofit their processes with new controls (Goodrich F 229; Dkt. 9159 CX 642Z5). As a result of the stringent requirements, seven PVC plants were forced to close down, three on a permanent basis (Goodrich F 229; Dkt. 9159 CX 642Z6). [##] (CX 5D-E *In*

Camera). Several PVC and VCM/EDC plants were still in the design phase during development of the regulation, and the engineering had to be altered to accommodate the new requirements (Goodrich F 229; Dkt. 9159 CX 642Z5; *See, e.g.*, Dkt. 9159 CX 505 S-U; Dkt. 9159 CX 504D-O). PVC producers also noted a 10% to 12% average loss in capacity as a result of compliance requirements (Goodrich F 229; Dkt. 9159 CX 642Z5; *See e.g.*, Dkt. 9159 CX 447J). This capacity loss was mainly due to the time needed to clean reactors and purge systems after each batch in an effort to reduce VCM emissions (Goodrich F 229; Dkt. 9159 CX 642Z5 - Z6).

672. The total cost of compliance for producers affected by the federal VCM atmospheric emissions standard alone for the 10-year period 1977 to 1986 is estimated to be $765.7 million (in 1977 dollars), including investments, capital, operating, and maintenance costs for new and existing plants (Goodrich F 230; Dkt. 9159 CX 642Z5).

673. The technological trend in the PVC industry throughout the 1970's toward large reactors, automation, computerized control of production, and decreased emphasis on the production of specialty PVC resins was partly promoted by, and greatly facilitated compliance with, the various environmental regulations (Goodrich F 231; Dkt. 9159 CX 642Z6, Z49-Z137). Current technology is well-established and stable (Goodrich F 232; Dkt. 9159 CX 642Z50-Z51). At the present time, nearly all PVC plants have completed the modifications necessary for compliance (Goodrich F 232; Dkt. 9159 CX 642Z6).

674. Thus, product and process technology is now considered to be stable and unlikely to undergo any significant change in the mass and suspension PVC market, the suspension PVC copolymer market and the dispersion PVC market (JX 3, PX 8 at 86 ln. 24 - 87 ln. 7; *See* Goodrich, slip op. at 78).

675. Because rapid change in process, environmental, or product technology in each of the relevant markets is unlikely to occur in the foreseeable future (*See* Klass Dkt. 9159, 5427-29), collusive behavior is less likely to be threatened by new entry and therefore more likely to endure should it arise.

I. The Declining Rate of Growth in Demand for Each of the Relevant Products Facilitates Anticompetitive Pricing

676. In markets where demand growth is rapid, a firm can cheat on a collusive agreement by discounting price to capture the new orders and new customers, made available as demand increases, without signaling this fact to other members of the collusive group, because they will not detect a loss of existing customers (Kaserman Dkt. 9159, 2424). In markets where demand growth has slowed, however, there will no longer be a large inflow of new buyers to which secret discounting can be directed. Additional sales must be gained at the expense of other firms in the market, thus making it easier for members of a collusive group to detect cheating. A slower rate of growth in demand facilitates the monitoring of cheating on a collusive agreement, and thus contributes to its stability (Kaserman Dkt. 9159, 2424).

677. A slower rate of growth in demand can also operate to change the expectations of incumbent firms with respect to new entry. If demand growth has slowed, is stable, or is declining, incumbent firms may be less concerned with the threat of entry of new firms than if demand growth were rapid, and may therefore be more inclined to engage in anticompetitive behavior (Kaserman Dkt. 9159, 2425, 2429-30).

678. Thus, a slower rate of growth in demand in a market tends to promote the formation and maintenance of collusive agreements (Kaserman Dkt. 9159, 2425, 2429-30).

679. The overall rate of growth in demand for mass and suspension PVC resin is expected to be much lower in the 1980's and in the future than it was in the 1960's and 1970's (Goodrich slip op. at 90, 94; Goodrich F 233; Goodrich ID at 94; DiLiddo Dkt. 9159, 3107-14, 3119; Disch Dkt. 9159, 691-92; Schaefer Dkt. 9159, 1122 Becker Dkt. 9159, 1265-68; Dkt. 9159 CX 64U; *See also* Liao Dkt. 9159, 1518-19).

680. [##] (Goodrich, slip op. at 90; Goodrich F 234; *See* Dkt. 9159 CX 64U; Dkt. 9159 CX 185D *In Camera*). [##] (Goodrich, slip op. at 90; Goodrich F 234; *See* DiLiddo Dkt. 9159, 3110; Becker Dkt. 9159, 1265-66; Dkt. 9159 CX 14F *In Camera*; Dkt. 9159 CX 67Z8 *In Camera*). [##] (Goodrich F 234; *See* Dkt. 9159 RX 639H *In*

Camera). [##] (Goodrich, slip op. at 90; Goodrich F 234; *See* DiLiddo Dkt. 9159, 3109-10; Dkt. 9159 CX 67Z8, *In Camera*). Rapid growth through the 1960's and early 1970's was sustained as more and more uses were found for PVC. Its versatility as a product also enabled PVC to replace traditional materials in a multitude of applications (Goodrich F 234; Disch Dkt. 9159, 719; Schaefer Dkt. 9159, 1154-55; DiLiddo Dkt. 9159, 3108; Becker Dkt. 9159, 1268-70; Dkt. 9159 CX 53D). Beginning in 1979, however, actual average growth rates declined to the 3%-4% range (Goodrich, slip op. at 90; Goodrich F 234; *See* H. Wheeler Dkt. 9159, 1731-32; Becker Dkt. 9159, 1265-66; *See also* Eades Dkt. 9159 1471).

681. [##] (Goodrich, slip op. at 90; Goodrich F 235; Goodrich, ID at 94; Becker Dkt. 9159, 1266-67 Eades Dkt. 9159, 1470; L. Wheeler Dkt. 9159, 941; DiLiddo Dkt. 9159, 3112-14, 3324-25; Dkt. 9159 CX 16Z11 *In Camera*; Dkt. 9159 CX 513C *In Camera*; Dkt. 9159 CX 374E-G, L *In Camera*; Schaefer JX 1, 585 ln. 2 -587 ln. 20; JX 3, PX 8 at 18 ln. 7-15, 80 ln. 20-24, 89 ln. 1-5; JX 3, PX 9 at 100 ln. 24 - 101 ln. 8; 125 ln. 15-17; JX 3, PX 6 at 82 ln. 11-23; JX 3, PX 10 at 1154 ln. 18 - 1157 ln. 8; JX 3, PX 11 at 691 ln. 15-23; JX 3, PX 13 at 452726). As observed by Dr. DiLiddo of Goodrich, "The world is changing, the PVC business is maturing, the opportunities for new markets . . . have been defined to a very large degree" (Goodrich F 235; DiLiddo Dkt. 9159, 3324-25).

682. [##] (CX 43E; RX 1L *In Camera*). [##] (CX 43L; CX 166; RX 1L *In Camera*; RX 300B; RX 307A; RX 312J; Donnelly CX 176D ¶ 4 *In Camera*; Heath CX 178E ¶ 8 *In Camera*). Demand for both suspension PVC copolymer and dispersion PVC is expected to grow at a slower rate than growth in demand for mass and suspension PVC (JX 3, PX 6 at 82 ln. 11-23; JX 3, PX 8 at 89 ln. 1-10; JX 3, PX 9 at 100 ln. 24 - 101 ln. 8).

683. [##] (RX 1L *In Camera*; CX 43G-I). This does not suggest, however, that demand for PVC resin in the relevant markets will grow in the future at a rate close to the rate at which it grew in the 1960's and 1970's. On the contrary, the rate of growth in demand for PVC resin in the relevant markets for the decade and beyond is, as Mr. Disch and others have testified, likely to be much closer to GNP than it is to a much higher level (Disch Dkt. 9159, 691; *See* CPF 725).

684. Increases in demand observed in recent years in the relevant markets reflect recovery of the PVC industry from the recession of the early 1980's. Also, the PVC industry has benefitted from strength in particular segments of the economy. While, in addition, PVC has grown in a limited number of newer applications, this growth is clearly of a much lesser magnitude than the type of explosive growth that the PVC industry enjoyed in the 1960's and 1970's, as noted in the Goodrich proceeding (Goodrich F 234).

685. From 1979 to 1987, aggregate PVC demand grew at a compound annual rate of 3.4 percent (compare CX 213C and Dkt. 9159 CX 672Z5). [##] (*See* RX 1L, RX 1V *In Camera*; RX 43C, RX 43E *In Camera*).

686. (Goodrich F 236; *See* Liao Dkt. 9159, 1517-19; Dkt. 9159 RX 639H *In Camera*). The slower rate of growth since 1979 discouraged entry into the relevant markets (Goodrich F 236; *See* Eades Dkt. 9159, 1468-69).

687. Moreover, the perception by PVC producers that demand for PVC will grow only slowly in each of the relevant PVC markets is acknowledged by producers in the industry to have an impact on their expectations regarding new entry (Goodrich F 236; *See, e.g.*, Schaefer JX l, 585 ln. 2 - 587 ln. 20; Schaefer Dkt. 9159, 1133; H. Wheeler Dkt. 9159, 1736; *See also* Eades Dkt. 9159, 1486-87).

688. Thus, a slower rate of growth in demand in the future for PVC resin in each of the relevant markets will make entry less likely to occur, affects the expectations of incumbent firms regarding new entry, and thereby tends to increase the likelihood of collusion (Kaserman JX l, 322 ln. 20 - 323 ln. 10; Kaserman Dkt. 9159, 2429-30).

IX. MARKET CONDUCT

A. Monitoring Activity

689. [##] (Goodrich F 215; Klass Dkt. 9159, 4358; *See also* Weber Dkt. 9159, 1791-1803; Becker Dkt. 9159, 1246-48; Dkt. 9159 CX 138; Dkt. 9159 CX 141; Dkt. 9159 CX 143; Dkt. 9159 CX 148; Dkt. 9159 CX 163 *In Camera*; Dkt. 9159 CX 169I; Dkt. 9159 CX 228; Dkt. 9159 CX 234; Dkt. 9159 CX 238; Dkt. 9159 CX 239; Dkt.

9159 CX 241; Dkt. 9159 CX 242; Dkt. 9159 CX 243). As a result, these producers have a working knowledge of competitors' prices and price changes, and are aware of price changes in the industry (Goodrich F 215; JX 3, PX 136 at 116 ln. 17 - 117 ln. 4; JX 3, PX 10 at 1199 ln. 5-11, 1135 ln. 5 - 1137 ln. 18; JX 3, PX 8 at 116 ln. 8 - 118 ln. 11; JX 3, PX 7 at 157 ln. 10 - 160 ln. 23; JX 3, PX 9 at 77 ln. 5 - 79 ln. 73, 84 ln. 2 - 85 ln. l; H. Wheeler Dkt. 9159, 1749-50, 1768; Schaefer Dkt. 9159, 1199; Becker Dkt. 9159, 1338). Producers obtain competitive price information quickly (H. Wheeler Dkt. 9159, 1749; Weber Dkt. 9159, 1799). [##] (Goodrich F 215; Becker Dkt. 9159, 1248-49; Schaefer Dkt. 9159, 1135-37; H. Wheeler Dkt. 9159, 1747-48; McMath Dkt. 9159, 1897-98, 1901-09 *In Camera*; DiLiddo Dkt. 9159, 3124-27, 3128 *In Camera*).

690. Knowledge that a competitor is reducing price would facilitate collusive behavior in each of the relevant markets, by allowing rivals to detect and discipline any cheating on a collusive agreement, thus discouraging such cheating (Goodrich F 204; Kaserman JX l, 346 ln. 15 - 347 ln. 14). [##] (*See, e.g.,* CX 67A *In Camera*; CX 66A-B *In Camera*; CX 62 *In Camera*; CX 133 *In Camera*; CX 134 *In Camera*; CX 68B *In Camera*).

691. [##] (*See* CX 4A-Z518 *In Camera*; Goodrich F 215; JX 3, PX 136 at 119 ln. 25 - 120 ln. 9; JX 3, PX 9 at 78 ln. 12 - 79 ln. 13; JX 3, PX 10 at 1135 ln. 8 - 1137 ln. 18; JX 3, PX 8 at 117 ln. 9 - 118 ln. 11; JX 3, PX 7 at 160 ln. 7-22; *See, e.g.,* JX 3, PX 58; JX 3, PX 59; JX 3, PX 60; JX 3, PX 62; JX 3, PX 72; JX 3, PX 122; JX 3, PX 21; JX 3, PX 63; JX 3, PX 65; JX 3, PX 66; JX 3, PX 67; JX 3, PX 73; JX 3, PX 74; JX 3, PX 75; JX 3, PX 117; JX 3, PX 119; JX 3, PX 120; JX 3, PX 124). [##] (Kulkaski RX 255C ¶ 6 *In Camera*). By bringing competitive offers to their regular suppliers, pursuant to meeting competition clauses or in non-contract situations, buyers provide information about the prices of competitors (Goodrich F 212; Disch Dkt. 9159, 728; Becker Dkt. 9159, 1246-48; Weber Dkt. 9159, 1798-99; Schaefer Dkt. 9159, 1136-37; H. Wheeler Dkt. 9159, 1747-48).

692. [##] (*See, e.g.,* Goodrich F 213; RX 106 *In Camera*; RX 111B *In Camera*; RX l00 B *In Camera*; RX 105A *In Camera*; RX 139B *In Camera*; RX 141A *In Camera*; RX 169B *In Camera*; RX 216D *In Camera*; RX 216F *In Camera*), [##] (*See* CX 85; CX 86; CX

87; CX 88; CX 89; CX 90; CX 91; CX 92; CX 93; Goodrich F 213; Wheeler 1800; Dkt. 9159 CX 30Z7; Dkt. 9159 CX 32V-X; Dkt. 9159 CX 99 *In Camera*; Dkt. 9159 CX 124; Dkt. 9159 CX 127; Dkt. 9159 CX 131C-D; Dkt. 9159 CX 140; Dkt. 9159 CX 142C; Dkt. 9159 CX 144; Dkt. 9159 CX 145; Dkt. 9159 CX 128B-E; Dkt. 9159 CX 149; Dkt. 9159 CX 231; Dkt. 9159 CX 463; Dkt. 9159 CX 464; Dkt. 9159 CX 470; Dkt. 9159 CX 578 *In Camera*). [##] (Stuart CX 201C ¶ 6 *In Camera*).

693. [##] (Goodrich F 211, F 238; *See, e.g.*, Dkt. 9159 CX 73H *In Camera*; Dkt. 9159 CX 76C *In Camera*; Dkt. 9159 CX 78B *In Camera*; Dkt. 9159 CX 84E *In Camera*; Dkt. 9159 CX 89C *In Camera*; Dkt. 9159 CX 152B *In Camera*). Suppliers usually give advance notice of price increases (Goodrich F 211). This practice permits rivals to determine, prior to the effective date, whether competitors are following the proposed increase, thereby reducing the risk of losing sales as a result of increasing prices. Although the information obtained from customers is not perfect, most information is considered to be reliable (Goodrich F 215; Becker Dkt. 9159, 1338; H. Wheeler Dkt. 9159, 1749-50, 1768). Sales and marketing personnel are trained to probe and check to improve the accuracy of the information received (Goodrich F 215; Schaefer Dkt. 9159, 1136-37; Weber Dkt. 9159, 1797-98; Becker Dkt. 9159, 1246-47). The incentive for a customer to provide inaccurate information is tempered by the fact that the customer risks its relationship with a supplier if caught (DiLiddo Dkt. 9159, 3258-59). Because of the large number of buyers and the regularity and frequency of transactions, suppliers are able to gauge the accuracy of particular items of information to spot trends in prices and the behavior of particular rivals (H. Wheeler Dkt. 9159, 1749-50, 1768; Schaefer Dkt. 9159, 1135-37).

694. PVC producers in each of the relevant markets monitor the trade press for price information. Price increases are routinely announced in the trade press one or two months in advance of their effective date, allowing rivals an opportunity to react to such increases, and to make similar announcements to their customers (CX 8; CX 9A; CX 168; Goodrich F 214; Dkt. 9159 Weber Dkt. 9159, 1799-1800; Dkt. 9159 Becker Dkt. 9159, 1248; Dkt. 9159 CX 98; Dkt. 9159 CX 131; Dkt. 9159 CX 139E; Dkt. 9159 CX 409; Dkt.

9159 CX 410; Dkt. 9159 CX 411; Dkt. 9159 CX 413; Dkt. 9159 CX 436; Dkt. 9159 CX 532; Dkt. 9159 CX 563; Dkt. 9159 CX 711; Dkt. 9159 CX 714; Dkt. 9159 CX 715; Dkt. 9159 CX 718; Dkt. 9159 CX 719A).

695. Monthly trade reports often report on market pricing, and, based on discussions with PVC producers, forecast prices into the near future, providing an effective vehicle which producers in each of the relevant markets can use as a basis for communication and possible agreement (*See* CX 45A; CX 46A; CX 18G; CX 21G; CX 22G; CX 23G; CX 24G; CX 25G; CX 26G; CX 27G; CX 28G; CX 29G; CX 30G; CX 31G; CX 32G; CX 33H; CX 34G; CX 35G).

696. Industry consultants are also a mechanism through which PVC producers in each of the relevant markets obtain price information. Producers regularly tell such consultants what they believe the market price is or should be, or whether the price should increase, and consultants, in turn, report this information to other producers (JX 3, PX 45; JX 3, PX 81).

697. [##] (*See* CX 95B *In Camera*). A Vista call report recounts a meeting between a Vista salesman and an Occidental salesman, in which the Occidental salesman "called on" a customer while the Vista salesman was there. At this meeting, the Occidental salesman "confirmed Oxy's $0.32 lb market price announcement for pipe grade resin effective March 1" and "related that Oxy's intentions are to move to a $0.34 lb market price for pipe grade resin on April 1" (CX 129A-B).

698. A Formosa call report recounts a meeting among sales and management personnel from a number of PVC producers at a golf outing held by one PVC customer. One subject of discussion at this meeting was the share of the customer's business held by each supplier (CX 123A). This particular gathering of PVC producers is an annual one (CX 123B).

699. In addition, vertically integrated PVC producers also exchange price information, which is routinely communicated to marketing management (JX 3, PX 53; JX 3, PX 55; JX 3, PX 56; JX 3, PX 57).

700. In addition, as the Commission demonstrated in Goodrich, PVC producers in the relevant markets may be able to obtain price information through their VCM "supply interrelationships" with

integrated PVC producers (Goodrich, slip op. 107).[37] (DiLiddo Dkt. 9159, 3310, 3315-16 *In Camera*; Schaefer Dkt. 9159, 1223 *In Camera*). [##] (DiLiddo Dkt. 9159, 3316 *In Camera*; *See* Schaefer 1223 *In Camera*).

701. In determining the price of VCM, Goodrich and Occidental must first agree on the appropriate reference price for PVC. Indeed, as witnesses in Goodrich testified, the price of PVC is "the determinant of what the selling price for VCM is . . . " (DiLiddo Dkt. 9159, 3308, 3309 ("So, the price of PVC is driving the price of VCM")). [##] (*See* CX 79A *In Camera*).

702. These raw material supply relationships between the principal competitors in the mass and suspension PVC market, coupled with the agreement by producers to link higher VCM prices to higher PVC prices, increase the likelihood of coordinated price increases. As the Commission recognized in Goodrich, vertically integrated VCM/PVC producers "could create power over price in the PVC market by in effect creating an involuntary PVC cartel; that is, by forcing producers to raise price in a coordinated fashion, whether or not a voluntary PVC cartel could have formed" (Goodrich, slip op. at 104 n.220, 111-12 n.241).

703. Indeed, historical price data shows that, since the acquisition, PVC producers have succeeded in raising mass and suspension PVC prices by approximately twice the increase in VCM prices (CX 45A; CX 46A; CX 175). This suggests that the formula regarding VCM and PVC pricing (*i.e.*, the "Dow Air Products" formula) has not broken down.

704. [##] (Dkt. 9159 CX 252 *In Camera*; Dkt. 9159 CX 474 *In Camera*; Dkt. 9159 RX 35 *In Camera*), [##] (CX 54 *In Camera*), [##] (RX 258Z83 *In Camera*), [##] (CX 118 *In Camera*), [##] (CX 134 *In Camera*; CX 62 *In Camera*), [##] (RX 290B; RX 299B) [##] (CX 107 *In Camera*; Dkt. 9159 CX 30; Dkt. 9159 CX 31; Dkt. 9159 CX 32; Dkt. 9159 CX 215; Dkt. 9159 CX 424; Dkt. 9159 RX 296; Dkt. 9159 RX 297; Dkt. 9159 RX 298; Dkt. 9159 RX 299; Dkt. 9159 RX 302; Dkt. 9159 RX 303; Dkt. 9159 RX 304; Dkt. 9159 RX 311; Dkt.

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[37] *See* Motion and Supporting Arguments of Occidental Petroleum Corporation and Occidental Chemical Corporation for Reconsideration of Intent to Release *In Camera* Information, filed in Goodrich, Dkt. 9159, February 17, 1988.

9159 RX 314). The availability of this non-price market information enables competitors in each of the relevant markets to assess and predict the competitive strategies of their rivals, and facilitates the reaching and maintaining of an industry consensus with regard to market activities.

B. Signaling Activity

705. [##] (CX 66B *In Camera*). [##] (CX 67A *In Camera*). [##] (RX 93A *In Camera*).

706. [##] (Goldstein CX 180C ¶ 4 *In Camera*; Clark CX 193C-D ¶ 4 *In Camera*; Bendavid CX 194B-C ¶ 4 *In Camera*; Kulkaski CX 195B ¶ 3 *In Camera*; Alberti CX 199B ¶ 3 *In Camera*; Donnelly CX 176C ¶ 4 *In Camera*; Gmach CX 200C ¶ 3 *In Camera*). [##] (CX 133 *In Camera*).

707. In addition, PVC producers are quoted in the trade press or in monthly consultants' reports regarding their beliefs as to the likelihood that PVC prices will increase in coming months, thus signaling to their rivals their intention to maintain current prices or to support increased prices (CX 9; CX 18G-H; CX 27G-H). One "Contact Report," received by Occidental from an industry consultant, reported on a meeting between the consultant and Conoco Chemicals' General Manager for Plastics: "Conoco believes a price of 41 cents per pound for pipe resin is too high for C900 pipe and that 37 cents is an acceptable level for this type of pipe in 6 to 8 inch diameters" (JX 3, PX 82). The report goes on to note that "Conoco believes PVC volume and prices will be less depressed in 1984 than in 1983" (JX 3, PX 82).

708. The President of Occidental Chemical, Mr. J. Roger Hirl, has been quoted in the trade press as stating that "We're not willing to price below the perceived market to get share, but we do aggressively try to get accounts" (CX 44C). In addition, Occidental, as noted *supra*, receives "Contact Reports" from one industry consultant relating, in detail, conversations that consultant had with other producers. One "Contact Report" received by Occidental, reporting on a meeting with Georgia-Pacific PVC management, noted that "GP's current strategy is non-aggressive and conservative" (JX 3, PX 79). In another such "Contact Report," Occidental was

informed of Borden management's view that the problem in the PVC industry is the inability of PVC producers to move prices to the "published industry consensus" (JX 3, PX 45). According to the report, Borden attributed this problem to the fact that "Polymer producers continue to struggle to maintain market share as a quantity rather than being satisfied with maintaining a percentage of the market" (JX 3, PX 45). Occidental was similarly informed that "Conoco wishes other producers would not use aggressive pricing in periods of low demand in futile campaigns to increase market share. Mr. Flammer deplores the failure of intelligent people to use history and available statistics to their own advantage and for the good of the industry" (JX 3, PX 82).

709. PVC producers also provide signals to their competitors with regard to other non-price market activities. For example, producers announce their schedules for temporary plant shutdowns and scheduled maintenance (RX 290B; RX 299B). In addition, during 1987, some producers have announced to the trade press the projected magnitude of their anticipated incremental capacity expansions (*See, e.g.,* CX 165A; CX 166).

C. Competitive Performance in the Relevant Markets

710. During the early to mid 1980's, PVC producers exported PVC resin at a price lower than that at which they sold it in the United States, in order to avoid disrupting the domestic price structure (Schaefer Dkt. 9159, 1208; Schaefer JX l, 587 ln. 21-25; 589 ln. 1-14).[38] [##] (Alberti CX 199C ¶ 4 *In Camera*). [##] (CX 132 *In Camera*). [##] (CX 10 *In Camera*), [##] Industry newsletters document the pervasiveness of such economic discrimination in the mass and suspension PVC market (*See* RX 288F; RX 289F; RX 290F; RX 291F; RX 292F; RX 293F; RX 294F; RX 295F; RX 297F; RX 298F; RX 299H; RX 300J; RX 301F; RX 302F). [##] (CX 11 *In Camera*).

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[38] As a result of the decline in the value of the dollar relative to other currencies, PVC producers are today able to export PVC at a price significantly above the domestic price.

711. [##] (CX 112C *In Camera*; CX 113A *In Camera*; JX 3, PX 94; *Cf.* RX 206A *In Camera*). [##] (Lewis CX 204B ¶ 4 *In Camera*).

712. PVC producers in each of the relevant markets take care to assure that their pricing activity will not be perceived by their competitors as disruptive or aggressive, and exercise restraint in responding to efforts by their competitors' customers to seek a competitive source of supply. [##] (CX 44C), [##] (CX 57 *In Camera*). [##] (CX 57 *In Camera*; *See also* CX 56 *In Camera*). [##] (CX 12A *In Camera*).

713. In order to avoid competitive reactions from their rivals, PVC producers do not generally look to increase market share, or gain substantial amounts of new business in market segments in which they do not participate, or at accounts they have not traditionally served. Thus, for example, Vista pointed out to one customer that was interested in purchasing pipe-grade resin that "Vista is not currently trying to expand pipe grade resin sales and that we would not aggressively compete with his current suppliers" (CX 130B). [##] (CX 36B *In Camera*). [##] (CX 77B *In Camera*; *See also* CX 76A *In Camera*). Similarly, an Occidental memorandum following the company's acquisition of Firestone Plastics noted, "Price increases have been implemented in all PVC product lines in an effort to improve profit margins and outpace raw material price increases" (JX 3, PX 50 at 150572).

714. [##] (*See* Pflugrath CX 177F ¶ 9 *In Camera*; Heath CX 178D ¶ 6 *In Camera*; Wilhite CX 179C-D ¶ 4 *In Camera*; Bendavid CX 194B-C ¶ 4 *In Camera*; Rutland CX 196A-B ¶ 3 *In Camera*; Alberti CX 199C-D ¶ 5 *In Camera*; Gmach CX 200C ¶ 3 *In Camera*; Donnelly CX 176B-C ¶ 2 *In Camera*; Underwood CX 203D ¶ 8 *In Camera*; Hamilton CX 206F ¶ 10 *In Camera*). [##] (Wilhite CX 179D ¶ 4 *In Camera*). [##] (Alberti CX 199C ¶ 5 *In Camera*). [##] (Alberti CX 199C-D ¶ 5 *In Camera*). [##] (Heath CX 178D ¶ 6 *In Camera*). [##] (Pflugrath CX 177E ¶9 *In Camera*; *See also* Heath CX 178F ¶9 *In Camera*; Wilhite CX 179D ¶3 *In Camera*). [##] (Kulkaski RX 255C ¶ 6 *In Camera*). [##] (*See* RX 110A *In Camera*; RX 106 *In Camera*; RX 124 *In Camera*; RX 206A *In Camera*).

715. [##] (RX 1L *In Camera*). [##] (RX 1L *In Camera*).