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UNITED STATES DISTRICT COURT

FOR THE CENTRAL DISTRICT OF CALIFORNIA

UNITED STATES, THE STATES OF CALIFORNIA, DELAWARE, FLORIDA, ILLINOIS, INDIANA, NEVADA, NEW MEXICO, NEW YORK, and TENNESSEE, THE COMMONWEALTHS OF MASSACHUSETTS AND VIRGINIA, and THE DISTRICT OF COLUMBIA ex rel. JOHN HENDRIX, Plaintiffs, vs. J-M MANUFACTURING COMPANY, INC., d/b/a JM Eagle, a Delaware corporation, and FORMOSA PLASTICS CORPORATION, U.S.A., a Delaware corporation, Defendants.	Case No.: ED CV06-00055-GW **FIFTH AMENDED COMPLAINT FOR VIOLATION OF FEDERAL AND STATE FALSE CLAIMS ACTS** JURY TRIAL DEMANDED REDACTED VERSION **CERTAIN EXHIBITS FILED UNDER SEAL PURSUANT TO PROTECTIVE ORDERS DATED SEPTEMBER 22, 2006 AND OCTOBER 19, 2011**

Volume 1 of 2

I. INTRODUCTION

1. This action is based on a massive fraud Defendants J-M Manufacturing Company, Inc. ("J-M"), currently doing business as JM Eagle™, and Formosa Plastics Corporation, U.S.A. ("FPC") perpetrated for well over a decade on the federal, state, and local governments to whom they sold polyvinyl chloride ("PVC") pipe. This fraud, described in detail herein, constitutes a violation of the federal False Claims Act ("FCA") and the various False Claims Acts of the states included in this Third Amended Complaint (the "Complaint"). This fraud has caused federal, state, and local governments to purchase and install PVC pipe that has only a fraction of the strength and endurance Defendant J-M represented it to have. This, in turn, has caused failures of the PVC pipe in the field and has resulted in PVC pipe in the ground that will need to be replaced in a fraction of the time that Defendant represented it would last, and that the federal, state, and local governments, relying on those representations, expected it to last. Defendant perpetrated this fraud through the following actions, among others:

a) using poor quality materials in the recipe of the PVC pipe, substituting those cheaper materials for better materials that were used previously;

b) running the manufacturing process, called extrusion, at speeds that damaged the quality of the PVC pipe while failing to properly maintain the manufacturing equipment;

c) cherry-picking, rather than randomly selecting, PVC pipe for testing, thus ensuring that the test provided no result representative of the quality and strength of the PVC pipe sold to the federal, state, and local governments;

d) consistently misrepresenting the quality and strength of the PVC pipe on the pipe itself, as well as in corporate and sales literature;

e) presenting and causing its distributors to present false claims to the federal, state, and local governments herein.

2. This action seeks to recover damages and civil penalties on behalf of the United States, the States of California, Delaware, Florida, Illinois, Indiana, Nevada, New Mexico, New York, and Tennessee, the Commonwealths of Massachusetts and Virginia, the District of Columbia, and numerous political subdivisions and public water and sewer agencies located within these States/Commonwealths/District (collectively the "real parties in interest" or "Real Parties") arising from false statements and claims made, and caused to be made, by Defendant J-M in violation of the federal FCA, 31 U.S.C. §§ 3729 *et seq.*, and the following State False Claims Acts: California False Claims Act, Cal. Gov't Code §§ 12650 *et seq.*, Delaware False Claims And Reporting Act, 6 Del. C. §§ 1201 *et seq.*, District of Columbia False Claims Act, D.C. Code §§ 2-308.13 *et seq.*, Florida False Claims Act, Fla. Stat. Ann. §§ 68.081 *et seq.*, Illinois Whistleblower Reward and Protection Act, 740 Ill. Comp. Stat. Ann. §§ 175/1 *et seq.*, Indiana False Claims and Whistleblower Protection Act, Ind. Code Ann. §§ 5-11-5.5-1 *et seq.*, Massachusetts False Claims Law, Mass. Gen. Laws Ch. 12 §§ 5A *et seq.*, Nevada False Claims Act, Nev. Rev. Stat. Ann. §§ 357.010 *et seq.*, New Mexico Fraud Against Taxpayers Act, N.M. Stat. Ann. §§ 44-9-1 *et seq.*, New York False Claims Act, N.Y. State Fin. §§ 187 *et seq.*, Tennessee False Claims Act, Tenn. Code Ann. §§ 4-18-101 *et seq.*, and Virginia Fraud Against Taxpayers Act, Va. Code Ann. §§ 8.01-216.1 *et seq.* (collectively the "State FCAs"). In addition, FPC violated Cal. Gov't Code §§ 12651(a)(8), Mass. Gen. Laws Ch. 12 § 5B(9), Nev. Rev. Stat. Ann. §§ 357.040(1)(h), and Tenn. Code Ann. §§ 4-18-103(a)(8).

3. The Real Parties defrauded by Defendant J-M include, without limitation, the United States, the States of California, Delaware, Florida, Illinois, Indiana, Nevada, New Mexico, New York, and Tennessee, the Commonwealths of Massachusetts and Virginia, the District of Columbia, the political subdivisions and public water and sewer agencies set forth in **Exhibit 1**, incorporated herein, and all other political subdivisions and public water and sewer agencies within the States of

California, Delaware, Illinois, Indiana, Nevada, New Mexico, New York, and Tennessee, the Commonwealths of Massachusetts and Virginia, and the District of Columbia that purchased J-M's PVC pipe between January 18, 1996 and the present, except in the case of the Real Parties in New Mexico and New York, the purchases must have occurred between January 1, 2007 and the present.[1] The Real Parties injured by Defendant FPC's violations of the State FCAs are the States of California, Nevada, Tennessee, and the Commonwealth of Massachusetts, the political subdivisions and public water and sewer agencies of those states and Commonwealth set forth in Exhibit 1 (incorporated herein), and all other political subdivisions and public water and sewer agencies within the States of California, Nevada, Tennessee, and the Commonwealth of Massachusetts that purchased J-M's PVC pipe between January 18, 1996 and the present.

4. For the past 30 years, J-M has been in the business of manufacturing and selling PVC pipe for the transmission and distribution of water (potable and reclaimed) and for use in sewer systems. For 23 of those years, FPC was the sole owner of J-M and FPC employees and officers were involved in key aspects of J-M's business. Federal military bases, State Roads and Highway Projects, cities, public water distribution, and sewer collection agencies are the primary purchasers of J-M's PVC pipe. J-M sells to these entities by enlisting distributors to act as middlemen between J-M and its customers. J-M's PVC pipe products are designed almost exclusively for use in water or sewer transport systems so that even parts sold to distributors are eventually installed in such systems.

5. Defendants understand and intend that J-M PVC pipe will be sold to government entities, including Real Parties, and know that government entities are the biggest customers for J-M pipe. For example, J-M markets its products specifically to government entities and reaches out to municipalities, water districts,

[1] Underlined text added solely to comply with the Court's December 1, 2010 Order [Dkt. 317].

and water authorities, including Real Parties, for the purpose of selling its products and for the purpose of convincing those government entities to permit J-M pipe to be installed in the water and sewer systems of the government entity.

6. Defendants understand and intend that J-M pipe will be owned and maintained by government entities, including Real Parties, regardless of who installs it for the government entities. J-M is familiar with the specifications required by government entities, including Real Parties, for accepting PVC pipe into water and sewer systems and represents that its PVC pipe meets those specifications for the purpose of getting those government entities, including Real Parties, to purchase or acquire J-M pipe.

7. Defendants are also aware that many government entities, including Real Parties, have experienced physical failures with J-M pipe, and Defendant J-M is aware that the cause of these failures is a result of Defendant J-M's conduct.

8. J-M's PVC water pipe products are used primarily in the "water main," the artery that typically runs down the middle of the street and carries water to the service laterals that branch off from the main and supply the individual homes and businesses, and the "transmission line," the trunk line that transports water from the water treatment plant to the water mains. PVC pipe for use in water mains is between 4" and 12" in diameter, whereas PVC pipe for use in the transmission line is between 14" and 48" in diameter. J-M's PVC pressure pipe products for "reclaimed water" applications are used primarily to transport untreated water to or from water treatment plants. Unlike J-M's potable water pipe, which is blue in color, reclaimed water pipe is generally purple in color. J-M's PVC sewer pipe, which is green in color, is sold in a similar range of sizes to the range for water pipe. J-M sells two general types of sewer pipe: "forced-sewer" pipe designed for use in pressurized applications, and "gravity" sewer pipe for gravity-flow transport of wastewater.

9. To encourage and enable the Real Parties to purchase J-M pipe, J-M

provided the Real Parties with copies of J-M's catalogs describing J-M's PVC pipe products. J-M's outside salespeople visited the Real Parties regularly and brought new catalogs or updates to existing catalogs. J-M also provided the Real Parties with copies of "new product bulletins" and other sales literature describing J-M's products. J-M also provided copies of its catalogs and sales literature to distributors, who in turn provided these materials to end-users, including the Real Parties, to enable them to order J-M products through the distributor. In each of its sales documents, J-M made repeated representations that its PVC pipe products conform to applicable industry standards for PVC pipe.

10. Defendant J-M understood and intended that the Real Parties would rely on the materials J-M provided and the representations that J-M made for the purpose of making their decisions to purchase or acquire J-M pipe. Defendant J-M understood and intended that the Real Parties would receive materials and representations from distributors, contractors, and developers, who in turn were relaying materials and representations they had received from J-M, for the purpose of causing those Real Parties to purchase or acquire J-M pipe.

11. The Real Parties purchased, were deeded, or otherwise acquired ownership of J-M pipe in a variety of ways. For example, the Real Parties acquired J-M pipe through direct transactions with J-M. The Real Parties also acquired J-M pipe through transactions involving contractors who installed J-M pipe for the Real Parties, often through direct contracts with the Real Parties or through contracts with land developers who installed the pipe for the Real Parties. In each of these instances, Defendant J-M's false representations caused the submission of false claims and caused contractors, distributors, developers, and/or the Real Parties' engineers to falsely represent to the Real Parties that the pipe acquired by the Real Parties conformed to the Real Parties' specifications. Defendant J-M understood and intended that contractors, distributors, developers, and/or the Real Parties' engineers would unwittingly pass on these misrepresentations to the Real Parties for

the purpose of getting the Real Parties to purchase or acquire the J-M pipe in question, as well as induce them to make further acquisitions of J-M pipe. As a result, the Real Parties were deprived of money, property, and/or services that are recoverable under the applicable False Claims Acts alleged herein.

12. Contractors installed J-M pipe that is owned and maintained by the Real Parties principally in two ways. First, certain contractors installed pipe through direct contracts with the Real Parties. These projects, often referred to as "Capital Improvement Projects," are typically large-scale projects to install or update the Real Parties' water and sewer distribution systems.

13. The second way that contractors installed J-M pipe for the Real Parties was through contracts with developers. These projects, often referred to as "developer installs," typically involve contractors and/or developers installing pipe that will be owned and maintained by the Real Parties as a condition of the Real Party permitting the new land development and as a condition of the Real Party providing water and distribution systems to the new land development.

14. Typically the Real Parties will require that performance bonds be posted in connection with pipe being installed for the Real Parties through developer installs, in an amount equal to 100% of the projected cost of the installation for the Real Parties. In some cases, the Real Parties even pay for the costs of the materials being used in developer installs or even help offset the costs of installation. Because J-M is the largest supplier of PVC pipe in the world, and because its sales personnel routinely visit with the end-users of J-M pipe (including the Real Parties), J-M is familiar with these common practices. Because FPC is a leading supplier of PVC resin and owned and managed J-M for 23 years, it is also familiar with these practices. Defendant J-M understands and intends that the Real Parties will be required to provide money, property, and/or services as a direct result of the installation of pipe for the Real Parties by the developers who install it. Defendant J-M understands and intends that a demand for money, property, and/or services is

being made on the Real Parties as a direct result of these installations for the Real Parties. This demand includes, inter alia, the release of the Real Parties' monetary interest in those performance bonds, the provision of water services to the new land development, and the costs involved in overseeing and regulating the installation of the pipe by the developers for the Real Parties.

15. Developers and contractors know that the installation of pipe for the Real Parties through developer installs is strictly regulated by the Real Parties because developers know that the PVC pipe is being installed to become part of the Real Parties' water and sewer distribution systems. Accordingly, developers and contractors intend and represent, directly passing on representations made by Defendant J-M, that the pipe installed for the Real Parties through developer installs will meet the specifications set forth by the Real Parties for installation of PVC pipe in their water and sewer distribution systems.

16. As with Capital Improvement Projects and the contractors who install them, only upon receiving certification from the developer that the project installed by the developer for the Real Party was completed in accordance with the Real Parties' specifications will the Real Party relinquish its monetary interest in performance bonds and provide water and water maintenance services to the new land development. In addition, as part of this process, a demand is made of the Real Party by the developer, and the Real Party in fact expends money and/or property and/or provides services in connection with regulating the pipe and other parts installed by the developer for the Real Party.

17. Even upon the release of the performance bond, some of the Real Parties additionally require that developers post a warrant bond, normally in the amount of 5% to 10% of the performance bond. These Real Parties will typically relinquish their monetary interest in this warrant bond after one year.

18. As with Capital Improvement Projects, Defendant J-M's conduct in connection with developer installs caused the submission of false claims in violation

of 31 U.S.C. § 3729(a)(1)(A), as well as similar provisions of the State FCAs at issue in this litigation. At all times relevant to this action, section 3729(a)(1)(A) provided for liability for "any person who ... A) knowingly presents, or causes to be presented, a false or fraudulent claim for payment or approval." As a direct result of Defendant J-M's misconduct described herein, Defendant J-M "cause[d] to be presented a false or fraudulent claim for payment or approval" by developers who installed pipe for the Real Parties. Defendant J-M's conduct in supplying these developers with pipe that did not meet the standards affixed to the pipe, despite Defendant J-M's representations to the contrary, caused the developers to present false or fraudulent claims for payment or approval. As a result, the Real Parties were deprived of money, property, and/or services that are recoverable under the applicable False Claims Acts as alleged herein.

19. As with Capital Improvement Projects, Defendant J-M's conduct in connection with developer installs also caused a false record or statement material to a false or fraudulent claim to be made or used in violation of 31 U.S.C. § 3729(a)(1)(B), as well as similar provisions of the State FCAs at issue in this litigation. At certain times relevant to this action, section 3729(a)(1)(B), which was then designated as section 3729(a)(2), provided for liability for any person who "knowingly makes, uses, or causes to be made or used, a false record or statement to get a false or fraudulent claim paid or approved by the Government." At other times relevant to this action, section 3729(a)(1)(B) provided for liability for "any person who ... B) knowingly makes, uses or causes to be made or used, a false record or statement material to a false or fraudulent claim." Defendant J-M's false representations caused developers, their contractors, and/or the Real Parties' engineers to falsely represent to the Real Parties that newly constructed subdivisions and other private projects were equipped with PVC pipe conforming to the Real Parties' specifications. As a result, the Real Parties were deprived of money, property, and/or services that are recoverable under the applicable False Claims Acts

as alleged herein.

20. Starting in at least 1991, J-M began knowingly to manufacture substandard PVC pipes, selling them through distributors to military bases, State Roads and Highway Projects, and public agencies, as well as to contractors installing portions of the water distribution and sewer systems. J-M falsely represented to its customers, including the Real Parties, that the PVC pipe products sold to them conformed to applicable industry standards when in fact the products were made using inferior materials, processing, and tooling that resulted in their having substandard tensile strength, as measured by various tests. In making its false representations to its distributors, contractors, and ultimate end-users, J-M intended that its false representations be used to induce the Real Parties to purchase its products. As a result, the Real Parties have suffered, and will continue to suffer, substantial damage.

21. Starting in at least 1991, a substantial percentage of the PVC pipe J-M supplied had tensile strengths below the minimum required by applicable industry standards and the Real Parties' contracts and specifications. As a result of the diminished tensile strength, J-M's PVC pipe will have a shorter life span, be more likely to swell and leak, and need to be replaced more quickly than pipe manufactured to specification.

22. The federal FCA and State FCAs provide that any person who knowingly submits or causes to be submitted a false or fraudulent claim to a governmental entity for payment or approval is liable for a civil penalty of up to $12,000 for each such claim, plus three times the amount of the damages sustained by the government. The Acts allow any person having information regarding a false or fraudulent claim against the government to bring an action on behalf of himself (the "qui tam plaintiff" or "relator") and the government and to share in any recovery.

23. Based on these provisions, qui tam plaintiff John Hendrix ("Hendrix")

seeks to recover damages and civil penalties arising from: (a) Defendant J-M's actions in presenting, or causing to be presented, false claims; (b) Defendant J-M's actions in (i) presenting, or causing to be presented, false records and statements to federal, state, and local governmental entities to get false claims paid, or (ii) knowingly making, using, or causing to be made or used, a false record or statement material to a false or fraudulent claim; and, in the case of certain State FCAs, (c) Defendant FPC's actions as the beneficiary of inadvertent submissions of false claims that Defendant FPC subsequently discovered were false but failed to disclose as false within a reasonable time.

II. PARTIES

24. Qui tam plaintiff Hendrix ("Relator") is a resident of Colonia, New Jersey. After graduating from college in December 2001, Relator began working for Defendant J-M on July 8, 2002 in its corporate headquarters in Livingston, New Jersey, as an engineer in J-M's Product Assurance Division. Throughout his employment at J-M, the majority of Relator's job duties involved advising J-M on the technical aspects of claims brought by J-M's customers for failing or non-conforming product. To a lesser degree, Relator's job also involved sales and customer service work, including advising current and prospective customers (primarily fellow engineers) on technical aspects of J-M's products. On November 9, 2005, a little over a week after Relator wrote a memo to J-M management highlighting the fact that the tensile strength of J-M's PVC pipe was below that required by Underwriters Laboratories Inc. ("UL") to qualify for the UL Mark stamped on its pipes, J-M terminated Relator's employment.

25. The Real Parties, on whose behalf Relator brings this suit, are the United States, the States of California, Delaware, Florida, Illinois, Indiana, Nevada, New Mexico, New York, and Tennessee, the Commonwealths of Massachusetts and Virginia, the District of Columbia, the political subdivisions and public water and sewer agencies set forth in Exhibit 1, and all other political subdivisions and public

water and sewer agencies within the States of California, Delaware, Illinois, Indiana, Nevada, New Mexico, New York, and Tennessee, the Commonwealths of Massachusetts and Virginia, and the District of Columbia, that purchased, or were deeded or acquired from others, between January 18, 1996 and the present (except in the case of the Real Parties in New Mexico and New York, the purchases must have occurred between January 1, 2007 and the present),[2] certain types of J-M's PVC pipe at issue in this litigation, as described more fully herein. Exhibit 1 identifies by name, without limitation, some examples of the Real Parties that purchased, were deeded, or otherwise acquired J-M's PVC pipe between at least 1996 and the present. **Exhibit 2**, incorporated herein, sets forth examples of federal projects for which the United States of America purchased, was deeded, or acquired J-M PVC pipe during that same period. **Exhibits 3(a) through 3(l)**, incorporated herein, set forth examples of the purchase, deeding, or acquiring of J-M PVC pipe by the Real Parties other than the United States of America.

26. Defendant J-M is a Delaware corporation. Prior to approximately 1990, J-M had its headquarters in Stockton, California. From 1990 until October 2008, J-M had its headquarters at Nine Peach Tree Hill Road, Livingston, New Jersey. Since October 2008, J-M has had its headquarters at 5200 West Century Boulevard, Los Angeles, California. J-M still maintains a regional office in Livingston, New Jersey.

27. During the relevant period, J-M manufactured its PVC pipe in at least 11 plants, including the following locations: Fontana and Stockton, California; Pueblo, Colorado; Adel, Georgia; Wilton, Iowa; Batchelor, Louisiana; Winnebago, Minnesota; Butner, North Carolina; McNary, Oregon; Meadville, Pennsylvania; and Wharton, Texas.

28. As of June 22, 2007, J-M completed the acquisition of PW Eagle Inc.,

[2] Underlined text added solely to comply with the Court's December 1, 2010 Order [Dkt. 317].

North America's second largest producer of PVC pipe, for approximately $400 million. The new company has operated under the trade name JM Eagle™ since the merger. (References to J-M herein after June 2007 are intended to and should be deemed to refer to JM Eagle as appropriate.) With billions of dollars in annual sales, J-M was and remains the largest manufacturer of PVC pipe in the United States and the world at all times relevant hereto.

29. Defendant FPC was formed in 1978 as a Delaware corporation, having its headquarters at Nine Peach Tree Hill Road, Livingston, New Jersey.

III. JURISDICTION AND VENUE

30. This Court has jurisdiction over the subject matter of the federal FCA action pursuant to 28 U.S.C. § 1331 and 31 U.S.C. § 3732(a), which specifically confers jurisdiction on this Court for actions brought pursuant to 31 U.S.C. §§ 3729 and 3730. This Court has jurisdiction over the subject matter of the State FCA actions pursuant to 28 U.S.C. § 1367 and 31 U.S.C. § 3732(b) because the State FCA actions arise from the same transactions or occurrences as the federal FCA action.

31. This Court has personal jurisdiction over Defendants J-M and FPC pursuant to 31 U.S.C. §3732(a), which provides that "[a]ny action under section 3730 may be brought in any judicial district in which the defendant, or in the case of multiple defendants, any one defendant can be found, resides, transacts business or in which any act proscribed by section 3729 occurred." Section 3732(a) also authorizes nationwide service of process. During the relevant period, J-M operated a foundry in Fontana, California, at which many of the fraudulent practices occurred, and in October 2008, J-M moved its corporate headquarters to Los Angeles, and thereby J-M transacted business in the Central District of California.

32. Venue is proper in this district pursuant to 31 U.S.C. §3732(a) because J-M can be found in, resides in, and/or transacts business in the Central District of California and because many of the violations of 31 U.S.C. §3729 described herein

occurred within this judicial district.

IV. THE CREATION OF FPC AND FPC'S CREATION OF J-M

A. The Creation of FPC

33. FPC was formed in 1978 as a Delaware corporation with its headquarters at Nine Peach Tree Hill Road, Livingston, New Jersey.

34. At all times relevant to this Complaint, FPC was a privately held, for-profit corporation.

35. From the time of its creation in 1978, Y.C. Wang installed himself as Chairman of the Board of FPC. Y.C. Wang remained in this position until his death in 2008. As the Chairman of FPC, Y.C. Wang viewed the development of the business of FPC in the United States as an important priority.

36. Y.C. Wang appointed his children to serve as executives at the companies he controlled, including at the two defendants in this action, FPC and J-M. To this day, Defendants FPC and J-M are run by the children of Y.C. Wang.

37. Toward that end, in 1981, FPC acquired a vinyl chloride monomer plant in Baton Rouge, Louisiana. That same year FPC purchased a PVC plant in Delaware from Stauffer Chemical. In total, FPC bought 14 American PVC processors from 1980 to 1988. In 1988, acquisition of over 200 oil wells, a gas processing plant, and a pipeline company from Aluminum Company of America extended FPC's vertical line of production upward to the basic ingredient of plastic: petroleum.

B. FPC's Creation of J-M

38. In December 1982, FPC purchased the pipe division of the Johns-Manville Corporation (including eight PVC pipe manufacturing plants) as part of the bankruptcy proceedings of Johns-Manville.

39. For the next 23 years, from December 1982 through November 2005, FPC owned the PVC pipe manufacturing business it had acquired from Johns-Manville and then expanded.

40. FPC was the sole stockholder in the corporation it created, J-M Manufacturing Company, as part of the acquisition of the pipe division of Johns-Manville. At relevant times, J-M was and is the world's largest manufacture of PVC pipe.

41. For a time, J-M's management consisted largely of former Johns-Manville employees who reported to a Board of Directors appointed and controlled by FPC. However, beginning in the early 1990s, most of these management employees began to leave or retire, and employees from FPC or sister companies of FPC were brought in to work at J-M.

42. In 1990, the Chairman of FPC installed his youngest son, Walter Wang, at J-M. Walter was only 25 years old, had graduated from college only three years before, and had little to no practical experience in managing a company, let alone the world's largest manufacturer of PVC pipe. In the three years between graduating college and joining J-M, Walter Wang had spent time at FPG as a factory machinery operator, a floor supervisor, and an internal corporate consulting project leader.

43. J-M, whose Board members were substantially the same as the Board members of FPC, appointed Walter Wang as a Vice President of J-M in 1994, an Executive Vice President in 1996, and President of J-M in 2000. However, during the 1990s, Walter Wang signed certain internal memoranda as "president" and issued communications from "the President's Office." He took over the position of CEO from his father shortly after 2000 and remains J-M's President and CEO today. Walter Wang was unqualified by education and training to assume these various senior positions, which he was given because he was Chairman Y.C. Wang's son.

44. Shortly after Walter Wang joined J-M, FPC required J-M to move its headquarters from California and merge its headquarters operations into FPC's existing headquarter operations at Nine Peach Tree Hill Road in Livingston, New Jersey. FPC and J-M shared these headquarters, in a building that FPC purchased in 1982, for at least the next 18 years. As set forth in detail in Section D. below, at

headquarters FPC provided many administrative and support functions for its wholly owned subsidiary, J-M.

C. FPC Intended to Run and Did Run J-M as a Vertically Integrated Business from 1982 until at least 2005

45. As the President and CEO of J-M acknowledged in 2005: "since the inception of Formosa Plastics our business strategy has place[d] tremendous emphasis on vertical integration. This vertical integration is the basis which keeps the upstream and down stream strongly competitive vs our competitors in the industry. This is a daily competitive stance that Formosa Plastics persist [sic] on everyday."

46. FPC established a corporate governance and management structure at J-M that overlapped with its own.

47. This was far from the only overlap in key executives. J-M and FPC had numerous overlapping management and common executive personnel. Moreover, like Walter Wang, many of these overlapping executives were selected because they were members of FPC Chairman Y.C. Wang's family and were expected to conduct their operations consistent with the direction of FPC Chairman Y.C. Wang and FPC. During time periods relevant to this Complaint, persons holding executive or management positions simultaneously in both J-M and FPC include the following:

a) Y.C. Wang, Walter Wang's father, was the Chairman of the Board of Directors of J-M and FPC. Y.C. Wang was also sometimes listed in public filings as J-M's CEO.

b) Y.T. Wang, Y.C. Wang's brother and Walter Wang's uncle, was a Director of both J-M and FPC and Vice Chairman of J-M.

c) C.S. Wang was a Director of both J-M and FPC.

d) C.T. Wang was a Director of both J-M and FPC.

e) Susan Wang, Y.C. Wang's daughter and Walter Wang's sister, was a Director of both J-M and FPC. She also served at various times as Vice President and Assistant to the President of FPC, and was the de facto head of FPC.

f) William Wong, Y.C. Wang's nephew and Y.T. Wang's son, was a Director of both J-M and FPC.

g) C.T. Lee was a Director of both J-M and FPC as well as President of FPC.

h) Charles McAuliffe was corporate secretary of both J-M and FPC.

i) Alice Nightingale replaced McAuliffe as corporate secretary of both J-M and FPC and, as FPC in-house counsel, provided legal services to both companies.

j) H.C. Lee was treasurer for both J-M and FPC.

D. FPC Intertwined J-M's Business Operations With Its Own

48. From 1990 to 2008, J-M occupied the same office building in Livingston, New Jersey as FPC and several other FPC subsidiaries and shared significant support services.

49. FPC's consolidated financial statements included J-M's audited financial information. FPC could not issue its audited financial statements until J-M had supplied FPC with J-M's audited financial statements.

50. Until October 2008, senior J-M and FPC Finance personnel met together at least two to three times per week.

51. FPC's personnel reconciled the books of the various FPC entities, including intercompany transactions, on a daily basis. At the end of every business day, J-M transferred its profits to FPC. This daily transfer, which did not include amounts retained for regular expenditures, occurred until at least November 1, 2005.

52. FPC loaned significant funds to J-M. For example, as of December 2004, J-M was financed by FPC under an informal loan arrangement that provided

for interest at LIBOR plus an applicable margin (approximately 2.51% at December 31, 2004). The obligation was unsecured and payable on demand, except for a portion ($50 million) that was due after December 31, 2005.

53. J-M received legal services from FPC's in-house lawyers, including Alice Nightingale. Indeed, prior to Fernando Cruz joining J-M's in-house legal department in 2004, J-M had no in-house legal counsel, and FPC lawyers had complete responsibility for and authority over all of J-M's needs for legal advice that were not referred to outside counsel.

54. FPC provided various insurance programs for J-M. J-M was named as an additional insured on many of FPC's insurance policies, not only before the 2005 sale to Walter Wang but at least through June 30, 2006.

55. FPC arranged for and administered property insurance for J-M facilities. For example, in November 2004, Norberto J. Torres (FPC's Director of Finance and Risk Management) advised all J-M plant managers of the need for property insurance appraisal visits. All reports of such visits to J-M plants were thereafter sent to Mr. Torres at FPC.

56. FPC was responsible for the insurance side of defective pipe claims made by customers purchasing J-M pipe. Thus, FPC was acutely aware that J-M was manufacturing pipe that was defective and non-conforming. Mr. Torres, FPC's Director of Finance and Risk Management, interacted on a regular basis with J-M personnel, including Relator and Kaushal Rao, regarding pending claims and litigation. For example, in April 2003, Mr. Torres contacted Mr. Rao regarding the U.S. Filter litigation because AIG wanted information about J-M's self-insured retention. Mr. Torres asked Mr. Rao for "an up to date accounting of the current Legal Bills on this case."

57. As another example of FPC's monitoring of J-M's customer claims, Ken Nasto, J-M Director of Finance, sent a March 21, 2006 email to multiple J-M and FPC personnel about a new customer claim. In the email, Nasto states: "From

what I can gather from the below emails, a section of our 10" DR18 pipe exploded resulting in one injury and undisclosed (as of yet) property damage. I am notifying Norberto Torres of this as well given the fact that at present our liabi[]lity coverage is still under the control of FPC, at which point I am sure that a representative from our insurance carrier will be dispatched to monitor our liability . . . ."

The Claims Review Process

58. The Product Assurance Department of J-M and FPC's Finance and Risk Management Department worked very closely in monitoring and resolving a number of claims made for substandard pipe. In so doing, and as discussed in more detail below, FPC's Finance and Risk Management Department had been told and therefore knew all of the following during the Relevant Period: (a) J-M sold large quantities of PVC water and sewer pipe with the intention that this pipe ultimately would be purchased and acquired by government users, including the Real Parties named in this case; (b) J-M did in fact sell large quantities of PVC water and sewer pipe ultimately purchased and acquired by government users, including the Real Parties named in this case; (c) some of these government users experienced problems with this pipe and claims were made for reimbursement; (d) FPC was involved with several of these claims and had been told and was aware that the reason why these government users experienced problems with this pipe was because J-M's representations on the pipe itself concerning the quality of the pipe were false; (e) J-M pipe was stamped with the UL mark, but FPC was told that none of J-M's pipe had satisfied the UL requirements for some time, and that J-M was, as of 2003, incapable of satisfying those requirements for any of its C900, C905, or ASTM D2241 pipe; and (f) despite this knowledge, FPC did nothing to stop false claims from being submitted to the government entities, including the Real Parties.

59. Complaints and claims related to J-M pipe usually originated in a phone call to a J-M salesperson. Upon receiving such a call, the J-M salesperson would fill out certain portions of a standard form called a Complaint Report, noting

basic information about the claim and the claimant. See **Exhibit 4**, incorporated herein [FILED UNDER SEAL],[3] for an example. The salesperson then delivered the Complaint Report to the Product Assurance Department for follow-up action.

60. After receiving a Complaint Report, the Product Assurance representative would call the contact person at the complainant and get further details about the nature of the complaint or claim, recording the information learned on the Complaint Report. The Product Assurance representative would create a hard-copy file and also create an electronic record in J-M's AS400 system, called a "Customer Claim Data Entry" form. In addition, depending upon where the pipe had been manufactured, a Quality Control Supervisor at that plant might also supply certain additional information that Quality Control at headquarters would input into this electronic form. See **Exhibit 5**, incorporated herein [FILED UNDER SEAL], for a sample. In this way, every claim for which a file was opened at J-M was recorded in an electronic database. The database was continually updated and reports of open claims could be printed from it as needed.

61. During the Relevant Period, the Product Assurance Department reported to the Vice President of Sales (Kai Cheng). At various times relevant to the Complaint, the employees of the Product Assurance Department included Doug Boitz, Alwyn Go, Michael Pereira, Mai Huynh, and the Relator, John Hendrix. The procedures for claims handling used by the Product Assurance Department during the Relator's period of employment with J-M (2002-2005) dated back at least to the mid-1990s.

62. At least once every three months, employees from J-M's Product Assurance Department met with and reported to FPC's Finance and Risk

[3] Where exhibits hereto are noted as "FILED UNDER SEAL," that is done because J-M and/or FPC have marked such documents "Confidential." Those exhibits have been filed under seal – and placeholders included in the public version of this pleading – pursuant to the Court's Stipulation and Order of September 22, 2006 and the Joint Stipulation and Order of October 19, 2011, governing confidentiality of documents, pending discussions with Defendants.

Management Department any open claims for defective, sub-standard, and non-conforming pipe that represented a potential exposure of more than $15,000, or open claims in any amount that might lead to litigation. To prepare for such meetings, the Product Assurance representative ran and printed reports on the AS400 system for active claims for defective and non-conforming pipe in excess of $15,000. For each claim, the report set forth information for various fields, including those also included in the Customer Claim Data Entry form. The Product Assurance representative then pulled the hard-copy files that corresponded to each of the open claims on the report and reviewed the documentation to determine J-M's likely exposure.

63. The Product Assurance representatives then met with Mr. Norberto Torres, Director of FPC's Finance and Risk Management Department, in FPC's office for several hours to review each claim on the report, one by one. For each claim, the Product Assurance representatives explained and discussed with Mr. Torres background on the claim (including the owner and end user of the pipe, the amount, value, and location of the defective and non-conforming pipe), a status update, findings about the pipe at issue, conclusions and recommendations as to whether the claim should be denied or allowed, and other relevant details of the claim. They also discussed the likelihood of litigation emanating from any of the claims, as well as the status of ongoing litigation matters. The information contained in the AS400 report and the hard-copy claims files themselves were routinely shared with Mr. Torres.

64. In turn, Mr. Torres would sometimes discuss certain of these claims with other J-M employees and officers, including Kai Cheng, the head of Sales for J-M, and also with Walter Wang, the President and CEO of J-M.

65. If a claim resulted in litigation, Mr. Torres was the person responsible for monitoring and managing the handling of the claim with the insurance company, including negotiating and ultimately approving settlements of the claims. These

practices continued even after J-M hired its own in-house lawyer, Fernando Cruz, in 2004.

Some Specific Examples of Claims FPC Knew Were Government Claims

66. As a result of these meetings every three months between Mr. Torres of FPC and J-M's Product Assurance representatives, Mr. Torres was specifically aware that J-M had been selling, and was continuing to sell, sub-standard PVC pipe that was intended to be sold and acquired, and in fact was being sold to and acquired by, government entities, including those government entities running state and municipal water and sewer systems. For example, Mr. Torres was told about and was therefore aware of the following claims, as well as many of the details of those claims, including that the ultimate end users of the J-M pipe in question was a government entity:

a) Q05-H-23 Las Vegas, Nevada (High Desert Prison Project where the State of Nevada was the end user) – 18" DR 25 AWWA C905 PVC Pipe – 10,000 feet installed at the Southern Nevada Correctional Center. The State of Nevada Public Works complained that the main waterline direct to the prison for 3000 inmates, which was constructed in 1999 and placed in service in September 2000, had failed five times since April 2005. See **Exhibit 6** [JME00060277/3], incorporated herein [FILED UNDER SEAL] and paragraphs 67-93, infra .

b) Q00-L-02 Otay Water District, Chula Vista, California (public water system) (16" Water Mains Project) – 16" DR 18 AWWA C905, 16" DR 25 AWWA C905, 12" DR 14 AWWA C900, 8" DR 14 AWWA C900, 12" DR 18 AWWA C900, 10" DR 18 AWWA C900, 8" DR 18 AWWA C900 – more than 20,000 feet installed – evolved into litigation asserting claims for breach of contract and negligence, seeking at least $2.5 million for defective, leaking pipe. FPC's files

contained numerous documents confirming its awareness of this claim and lawsuit, and Mr. Torres was intimately involved in handling the insurance aspect of this litigation. See **Exhibit 7** [FPCUSA0025245-51; 25255-56; 25266-70; 25291; 25294; 25297-99; 25302-11; 25330-43], incorporated herein [FILED UNDER SEAL] and paragraphs 94-121, infra.

c) Q99-391 Sampson County Water System Improvement Project for Water and Sewer District No. 2, County of Sampson, North Carolina (public water system) – 12" RT 200 D2241 PVC pipe – evolved into litigation asserting claims for breach of contract in connection with defective ASTM D-2241 pipe, alleging among other things that "the J-M Manufacturing Quality Control Representative [who supplied the pipe] stated that some of the pipe delivered to the project had been rejected at the plant and should never have been shipped to the project." See **Exhibit 8** [Third-Party Complaint; Verified Complaint; JMM109650, incorporated herein [FILED UNDER SEAL]; see also paragraph 124, infra.

d) Q98-280/A City of Bradenton, Florida – 18" DR 25 PVC pipe – 15,300 feet reclaimed water transmission main installed in 1993 – J-M Internal Recommendation and Authorization recommended payment of $107,284.80 in reimbursement of pressure testing costs related to defective pipe. See **Exhibit 9** [FPCUSA0034029-30; 34078; 34114-40], incorporated herein [FILED UNDER SEAL, EXCEPT FOR 34119-22 AND 34125-40].

e) Q97-288 Westmoreland County, Pennsylvania (public water system) (O'Barto claim) – 8" DR 14 PVC pipe – pipe explosion resulted in personal injury litigation. FPC's files contained numerous documents confirming its awareness of this claim and lawsuit. See **Exhibit 10**

[FPCUSA0025391-95; 25401; 25405-06; 25344-66; 25369; 25389-90; 25396-400; 33769-70], incorporated herein [FILED UNDER SEAL]; see also paragraphs 126-127, infra.

f) Q02-G-23 Sewerage Works Improvements, Town of Andover, Massachusetts (public water and sewer system) – 18" SDR 35 PVC Pipe – replacement of pipe on River Road – claim submitted for $15,421.96 for out-of-spec pipe. See **Exhibit 11** [JMM041683; 041670-74], incorporated herein [FILED UNDER SEAL].

Details of Example paragraph 66(a): Nevada Public Works Department High-Desert Prison Project

67. On or about November 6, 1998, the State of Nevada Public Works Board entered into a contract with Sletten Construction of Nevada, Inc. to commence work on Project Nos. 95-G1 & 97-C1, Men's Prison No. 7 (Cold Creek State Prison), Phase I; see **Exhibit 12**, incorporated herein. The contract award amount of this project was over $83,000,000. Id. at 1.

68. Construction on Phase II commenced on October 11, 1999; this phase of the project was known as Men's Prison No. 7 (High Desert State Prison), Phase II, Project No. 99-C1 (Phase I and Phase II collectively, the "High Desert Prison Project").

69. The High Desert Prison Project was an extensive public-works project that included some 34,650 linear feet of PVC pressure pipe, serving as the main waterline supply for a 3,000-bed prison.

a) Phase I of this project included the construction of all mass earthwork, building pads, finish grading, associated site work, concrete walkways, asphalt and/or gravel roadways, parking lot, and on-and off-site utilities. Utilities included an extensive water distribution system, three water storage tanks, and a gravity sanitary sewer system. Construction also included Core Facilities that consisted of an Outside

Administration Building, Entrance Building, Security Administration Building, Program Services Building, Inmate Services & Culinary Building, Medical/Intake Building, and Maintenance/Central Plant Building, four housing units, and the perimeter fencing. The contract also included the relocation on-site and the monthly watering of 1,200 large Joshua & Yucca trees and 1,500 small cacti plants. See Exhibit 12 at 13, incorporated herein.

b) Phase II included construction of four additional housing units, four security towers, general warehouse/motor pool, lethal security fence, and installation of site utilities for the Phase II works.

70. The construction specifications for the water systems for the High Desert Prison Project included "water systems piping for potable water service and fire protection service outside the building." See **Exhibit 13** at 3, incorporated herein.

71. The water main to be constructed was both for potable water and for fire suppression, specifically including a sprinkler system. The specifications incorporate the drawings and general provisions of the contract, "including General and Supplementary Conditions and Division 1 Specification Sections." Id.; **Exhibit 14**, incorporated herein (State Public Works Board's General and Supplementary Conditions). The construction specifications require PVC pipe to meet "AWWA C900; Classes 150 and 200" standards. Exhibit 13 at 5.

72. Further, the specifications require compliance "with standards of authorities having jurisdiction for fire protection systems," which, in this case, was the Nevada Fire Marshal. Exhibit 13 at 4; see also Exhibit 14 at 8 ("The Laws of the State of Nevada and the applicable rules and regulations of its departments, agencies and institutions shall govern the Project and the Work.").

73. Per the fire marshal's codes and requirements as described above, the pipe used for this project was required to comply with NFPA 24, UL, and/or FM

standards. As described above, J-M Pipe could meet such standards only through its claimed compliance with UL 1285 (and sometimes FM 1610/1612).

74. As with all public works projects in the State, pursuant to NRS 339.025 the State required the contractor for the High Desert Prison Project to post a performance bond in the sum of the contract amount to assure, inter alia, that funds would be available to correct any failure by the contractor to complete the project in accordance with the specifications.

75. Pursuant to the statutory requirement and the General Conditions of the Contract (Exhibit 63 at 24), the contractor for this project posted a performance bond for the contract award price of over $83,000,000. Exhibit 61 at 8.

76. Only upon inspection to confirm that the project was completed in accordance with specifications would the project be accepted, final payment made to the contractor, and water and water maintenance services provided pursuant to the project. Subsequently, upon completion of the project, the performance bond would be released, provided that the State did not discover during that time any failure by the contractor to complete the project in accordance with the specifications.

77. J-M's material specifications and other important information, commonly known as "cut sheets," were submitted by the contractor to the Nevada State Public Works Board for review and approval. The approved "cut sheets" submitted by the contractor in the High Desert Prison Project identify J-M as a manufacturer of the PVC pipe to be installed in the project. The J-M cut-sheets are for its C900 "Blue Brute" and C905 "Big Blue" pipe. The cut-sheets are replete with representations that the pipe "meets AWWA C900," is "Underwriters Laboratories and NSF Listed, Factory Mutual Approved," "are listed for critical use in firelines and water mains and are F/M approved," and "Meets Accepted Standards AWWA C905, Underwriters Laboratories." **Exhibit 15**, incorporated herein.

78. The State, through its retained consultant, accepted and authorized the acquisition of J-M Pipe in the High Desert Prison Project based upon review, inspection, and approval of the contractor's submittal of J-M C900/905 pipe, and upon a State employee's inspection of the J-M Pipe as installed.

79. All told, some 34,650 linear feet of J-M pipe was shipped to the High Desert Prison Project, and the pipe was installed beginning in late 1999 or early 2000. The project utilized both J-M C900 and C905 pipe in several different sizes.

80. The contractor demanded payment from the State of Nevada in the total amount of $2.2 million in connection with the Project site utilities, which included the acquisition and installation of the waterline using J-M pipe and related sewer work. At the time the contractor demanded payment from the State of Nevada, the contractor did not know that the representations on the "cut sheets" and stamped on the pipe itself were false. Therefore, the contractor inadvertently submitted one or more false claims to the State of Nevada. J-M caused each of these false claims to be presented to the State of Nevada.

81. The State of Nevada paid the contractor $2.2 million in connection with the Project site utilities, which included the acquisition and installation of the waterline using J-M pipe and related sewer work.

82. The State Public Works Board accepted the water-system work completed by the contractor and issued Certificates of Substantial Completion, effective June 6 and June 7, 2000. **Exhibit 16** (copies of the certificates), incorporated herein. The State issued these certificates with the understanding, and pursuant to the representation, that the waterlines were installed in conformance with specifications and requirements, and that the contractor had fulfilled all contractual obligations.

83. The water system was placed into service in approximately September 2000. During the one-year warranty period after completion of the water main for

the High Desert Prison Project (approximately June 2000 to June 2001), the contractor made three repairs to the pipeline.

84. From April 2005 to August 2005, the installed J-M pipe failed five more times, specifically on May 27, 2005, July 13, 2005, July 18, 2005, July 20, 2005, and August 8, 2005. At that point, the State notified J-M of the failures.

85. Thereafter, the J-M Pipe failed at least another four times – on September 26, 2005, March 3, 2006, March 22, 2006, and April 10, 2006. **Exhibit 17** (photos), incorporated herein.

86. In September 2005, J-M sent samples of some of the pipe that failed in the High Desert Prison Project to CRT Laboratories for testing. One of the tests CRT conducted was a longitudinal tensile strength test per ASTM D638 and ASTM D1784. See **Exhibit 18** at 6, incorporated herein. The industry standards UL 1285, FM 1612, and AWWA C900 and C905, which standards were incorporated into the contracts and requirements of the High Desert Prison Project, require that the longitudinal tensile strength of the pipe equal or exceed 7,000 psi. The lab tested five specimens for tensile strength, and each and every specimen failed to meet the minimum of 7,000 psi. The average tensile strength of the specimens was only 6,349 psi, substantially below the 7,000 psi minimum required. Id.

87. By May 2007, the J-M pipe in the ground from the High Desert Prison Project had failed a total of at least 17 times. At least one of the water-main breaks, which occurred on April 27, 2007, caused the Nevada Department of Corrections to shut-off the water supply to the 3,000-bed prison for two days, requiring water to be hauled in on 8,000-gallon water trucks. The Department of Corrections faced the prospect of no water at this desert facility during summer months, and paid to repair the numerous breaks to the line. **Exhibit 19**, incorporated herein.

88. After these and other failures, the Nevada State Public Works Board decided to replace the water line completely and abandon the existing J-M pipe pipeline in the ground. The State entered into a contract to replace the line for a

contract price of $630,000, which new waterline was ultimately installed. **Exhibit 20**, incorporated herein.

89. In 2005, the State of Nevada Public Works Department complained to J-M's distributor, Standard Wholesale Supply, about failures of J-M pipe related to the High Desert Prison Project. The distributor informed a J-M salesperson of the complaints, who referred the matter and the name of the Nevada contact person (Dan Howerton) to the Product Assurance Department. J-M's Product Assurance Department opened a customer claims file, assigned number Q04-H-23, for the High Desert Prison Project in 2005. Both relator John Hendrix and his colleague in the Product Assurance Department, Mai Huynh, discussed this claim file with FPC during 2005. During those discussions with Mr. Torres, Mr. Hendrix and Mr. Huynh talked about the specifics of the claim (including the amount and type of J-M pipe used in the Project), who else was supplied by the affected waterline in addition to the prison, whether there were alternative sources to get water to the prison, test reports related to external and internal testing of pipe from the Project, recommendations from personnel at the plant and at Headquarters concerning how to handle the claim, and the various internal reports in the claims file.

90. These conversations about the High Desert Prison Project pipe failures, involving J-M C900 and C-905 pipe, took place after FPC learned from Hendrix, as corroborated by other sources, about J-M's tensile strength problems with its C-900 and C-905 pipe that rendered the pipe non-compliant with the certifications J-M claimed to be met.

91. Through these conversations with Mr. Hendrix and Mr. Huynh, FPC learned that: (a) the State of Nevada had installed J-M pipe in the High Desert Prison Project; (b) the State of Nevada had paid its primary contractor, Sletten Construction of Nevada, for such J-M pipe; (c) J-M used its distributor, Standard Wholesale Supply Co., to sell pipe to the installing contractor, Acme Underground, for use in the High Desert Prison Project; (d) the State of Nevada had experienced

multiple failures involving J-M pipe used in the High Desert Prison Project; (e) the J-M pipe used at the High Desert Prison Project was the same type of pipe that Hendrix had previously informed FPC suffered from tensile strength problems; and (f) the State of Nevada had suffered damages in connection with the failures of J-M pipe.

92. Acme Underground inadvertently submitted false claims to the State of Nevada related to J-M pipe, and the State of Nevada paid those claims. Acme Underground paid J-M's distributor, Standard Wholesale Supply Co., for the pipe that Acme Underground sold to the State of Nevada. The distributor paid J-M for the pipe that it sold to Acme Underground. J-M transferred its excess cash to FPC on a daily basis. Therefore, FPC benefitted from Acme Underground's inadvertent submission of one or more false claims to the State of Nevada.

93. FPC never disclosed to the State of Nevada that the contractor had inadvertently submitted one or more false claims to the State of Nevada in connection with the High Desert Prison Project.

Details of Example in paragraph 66(b): Otay Water District Project in Chula Vista, California

94. The Otay Water District, a publicly owned water and sewer service agency, provides water to approximately 6,000 homes and businesses, serving the needs of approximately 191,000 people in a service area of approximately 125 square miles. It also owns and operates a wastewater collection and treatment system.

95. In early 2000, the Otay Water District entered into an agreement with Archer Western Contractors, Ltd. ("Archer Western"), a contractor, for construction of the Otay Water District's "Otay Lakes Road and Telegraph Canyon Road 16 inch Recycled Water Mains Phases 1, 2, 3, 4 Paseo Ranchero 10 inch Recycled Water Main" project in Chula Vista, California (the "Project"). The contract award amount was $3,600,000.

96. The public works Project primarily consisted of the installation of 20,000 linear feet (LF) of 16" reclaimed water PVC pipe. The 16" PVC pipe would be installed in Phases I through IV and 10" PVC diameter pipe would be installed in Phase IV.

97. On or about March 6, 2000, Archer Western entered into an agreement with U.S. Filter Distribution Group, Inc. ("U.S. Filter"), a national pipe supplier, for the purchase of PVC pipe. **Exhibit 21** [JMM 121391-400], incorporated herein. In February 2000, U.S. Filter placed an order for all of the requisite PVC pipe for the Project from J-M. Exhibit 7 [FPCUSA0025338-25343].

98. The construction specifications for the Project incorporated Otay Water District's specifications, including the Otay Water District Standard Specifications for Water, Sewer and Reclaimed Facilities, which required that the reclaimed water pipe was manufactured per AWWA C900 and AWWA C905.

99. As with all public works projects in the Otay Water District, the District required the contractor for the Project to post a performance bond in the sum of the contract amount to assure, inter alia, that funds would be available to correct any failure by the contractor to complete the project in accordance with the specifications.

100. Only upon inspection to confirm that the project was completed in accordance with specifications would the project be accepted, final payment made to the contractor, and water and water maintenance services provided pursuant to the project. Subsequently, upon completion of the project, the performance bond would be released.

101. J-M's material specifications and other important information, commonly known as "cut sheets," were submitted by the contractor to Otay Water District for review and approval. The approved "cut sheets" submitted by the contractor in the Project identify J-M as a manufacturer of PVC pipe to be installed in the project. The J-M cut sheets are for its C900 "Blue Brute" and C905 "Big

Blue" pipe. The cut sheets are replete with representations that the pipe "meets AWWA C900," "are listed for critical use in firelines and water mains and are F/M approved," "meets the requirements of AWWA C905," "and "Meets Accepted Standards AWWA C905, Underwriters Laboratories."

102. Otay Water District accepted and authorized the acquisition of J-M pipe in the Project based upon review, inspection, and approval of the contractor's submittal of J-M C900/C905 pipe, and upon its inspector's witnessing the installation process and the pressure testing of the J-M pipe as installed.

103. All told, over 20,000 LF of J-M pipe from the Pueblo, CO and Fontana, CA plants was shipped directly to the job sites at Otay Lakes Road and Fenton Street. Exhibit 7 [FPCUSA0025338-25343]. The project utilized both J-M C900 and C905 pipe in different diameters.

104. Archer Western demanded payment from Otay Water District in connection with the J-M pipe. At the time Archer Western demanded payment from Otay Water District, Archer Western did not know that the representations on the "cut sheets" and stamped on the pipe itself were false. Therefore, Archer Western, the contractor, inadvertently submitted one or more false claims to Otay Water District. J-M caused each of these false claims to be presented to the Otay Water District.

105. Otay Water District paid Archer Western $ 4.7 million in connection with the J-M pipe that was installed in the Project.

106. Nearly four miles of J-M pipe was installed, buried underground, and the road was paved over. **Exhibit 22** [JME00104536], incorporated herein. The pressure-line was hydrotested in accordance with Otay Water District's Standard Specifications and 45 leaky joints were discovered. These leaks were discovered at various pressures and various locations along the water main. Id. Crew leaders at the job site cut out the leaky joints and took them to the yard for examination and testing. Id. A repair joint was then installed for the leaky joint. Id.

107. As a result, Archer Western, and thus Otay Water District, incurred substantial additional costs to excavate in order to acquire access to the J-M pipe, labor and materials to replace the J-M pipe, and backfilling operations. Exhibit 7 [FPCUSA0025266].

108. Otay Water District formally accepted the water-system work completed by Archer Western.

109. John Orkish of DOT Sales, the outside sales representative for J-M, and the distributor, U.S. Filter, became aware of the joint leaks. J-M was notified by J-M's distributor, U.S. Filter, of the joint leaks on or about December 4, 2000 and opened a customer claims file, assigned number Q00-L-02, for the Project. This claim, including the resulting litigation, was discussed between J-M's Product Assurance Department and FPC from 2001 to 2005.

110. On December 6, 2000 three leaky joints were brought to the Fontana, CA plant for analysis. Exhibit 22 [JME00104536]. The joints were disassembled and cleaned. Id. After being cleaned, one joint was reassembled and withstood a pressure test. Id.

111. In a December 20, 2000 letter to U.S. Filter, J-M stated that "[s]ubsequent to the testing conducted at our Fontana facility on December 6th, it is apparent that the results were not enough to fully address the multiple leaks encountered with the 16" DR25 pipe in this project." **Exhibit 23** [JME00104534], incorporated herein.

112. In January 2001, two leaky joint samples were sent to Exponent Laboratories for evaluation. Exhibit 22 [JME00104536]. Both of the joint samples failed pressure testing and leaks were observed. Id.

113. Between February 14 and 15, 2001, a J-M representative met with representatives from Archer Western and observed joint sample testing at the Fontana, CA plant and at the job site. In a report to Barry Lin, J-M's Director of Production, the J-M representative noted that at Fontana he observed "seeps

develop" and that "there [were] visible leaks in other areas." **Exhibit 24** [JME00180084], incorporated herein. Further, the J-M representative also observed a leak at the job site. Id.

114. In an April 17, 2001 letter to U.S. Filter, J-M referenced a test report from Hauser Laboratories and stated "[a]ll *re-tests with the joints cleaned and re-assembled passed.*" **Exhibit 25** [JME00104535], incorporated herein. The letter did not point out that each sample leaked when tested in an "as received" condition.

115. Archer Western filed a complaint for negligence and breach of contract against U.S. Filter on June 11, 2001 claiming over $2 million dollars in damages and costs. U.S. Filter subsequently filed a cross-complaint for indemnification against J-M on or around September 17, 2001.

116. In a July 30, 2002 email from Terry J. Allen of Paul Hastings Janofsky & Walker LLP, the law firm representing J-M in the lawsuit, to J-M's insurance carrier, with a copy to Norberto Torres of FPC, Mr. Allen wrote that "[s]ix of the 10 joints were tested. They were tested first in an 'as is' condition and 4 of the 6 leaked. They were then disassembled, cleaned up, and reassembled – they all passed with no leaks." **Exhibit 26** [FPCUSA0025327-28], incorporated herein.

117. FPC managed the insurance coverage aspect of the Archer Western litigation for J-M. On multiple occasions J-M employees in the Product Assurance Department, including John Hendrix and Kaushal Rao, discussed the Archer Western litigation with Mr. Torres of FPC. During the discussions with Mr. Torres, Mr. Hendrix and Mr. Rao spoke about the identity of the ultimate claimant being the Otay Water District, the amount of the claim, negotiations with the parties about the claims (including the identities of the persons involved in the negotiations), the merits of the claim from J-M's point of view, and the responses of Archer Western to J-M's positions. Some of these conversations about the Project's 45 pipe leaks, involving J-M pipe, took place after FPC learned from Hendrix, as corroborated by

other sources, about J-M's tensile strength problems with its C-900 and C-905 pipe that rendered the pipe non-compliant with the certifications J-M claimed to be met.

118. Through its management of the insurance aspect of the Archer Western litigation and its conversations with J-M's Product Assurance personnel, FPC learned that: (a) Otay Water District had contracted for the installation of J-M pipe in the Project; (b) Otay Water District had paid its contractor, Archer Western, for such J-M pipe; (c) J-M used DOT Sales as an outside sales representative to sell pipe to J-M's distributor, U.S. Filter, to provide to the contractor, Archer Western, for use in the Otay Water District; (d) Otay Water District had experienced numerous joint leaks involving J-M pipe used in the Project; and (e) Otay Water District suffered damages in connection with the joint leaks experienced with the J-M pipe.

119. FPC was aware that the J-M pipe installed in the Otay Water District had suffered a number of joint leaks and was involved in the matter for several years, as evidenced by:

a) An undated letter to FPC from its insurer, AIG, stating that after reviewing the documents exchanged in discovery the "documents indicate that all or most of the damages being sought from J-M arose out of and were attributable solely to the repair and/or replacement of PVC pipe allegedly manufactured and supplied on the project by J-M." Exhibit 7 [FPCUSA0025255].

b) An April 22, 2003 letter from AIG to FPC pointing out that "[i]n the underlying Complaint, Archer Western has asserted . . . claims against U.S. Filter based upon U.S. Filter allegedly '...providing pipes which were not "fit" for the intended purpose and which leaked.'" Exhibit 7 [FPCUSA0025266].

c) A November 5, 2004 email from FPC to Kaushal Rao, J-M's Assistant Direct of Production, stating: "As per our conversation we are working

very diligently with AIG to have this matter [Archer Western – Unpaid Bills] resolved by the end of the year." Exhibit 7 [FPCUSA0025303].

d) A June 16, 2005 email from J-M to AIG, copying FPC, stating: "As you are well aware, Norberto Torres currently serves in that capacity [Risk and Insurance Manager] at the Formosa level and to this point has handled all the insurance matters for subsidiaries of FPC operating in the U.S." **Exhibit 27** [JME00291466], incorporated herein.

120. The contractor, Archer Western, inadvertently submitted false claims to Otay Water District related to J-M pipe and Otay Water District paid those claims. Archer Western paid J-M's distributor, U.S. Filter, for the pipe that the contractor sold to Otay Water District. J-M transferred its excess cash to FPC on a daily basis. Therefore, FPC benefitted from Archer Western's inadvertent submission of one or more false claims to Otay Water District.

121. FPC never disclosed to Otay Water District that Archer Western had inadvertently submitted one or more false claims to Otay Water District in connection with the Project.

122. In addition to knowing the specific identity of government entities to whom claims for payment of J-M pipe had been submitted, FPC also knew that federal, state, and municipal entities were a substantial part of J-M's customer base. For example:

a) As early as 1997, in one of its marketing brochures, FPC delineated: (1) its familiarity with the standards to which J-M manufactured PVC pipe that federal, state, and municipal entities required; and (2) set forth J-M's "major PVC pipe product lines" by reference to "Municipal Water Pressure Pipe" subject to "Specifications & Approvals" including ASTM D2241, NSF, AWWA C900, UL, FM, and AWWA C905. See **Exhibit 28** [FPCUSA0034154-56; 34181-83], incorporated herein.

b) In a November 14, 2001 letter to Walter Wang as President of J-M, FPC's Dick Heinle, Vice President/General Manager, Vinyl Division, expressed concern about "the future viability of the PVC pipe demand/industry" and sought Mr. Wang's knowledge of "industry intelligence" concerning projected demand. Mr. Heinle wrote: "For example, if J-M continued at 30 million pounds, Formosa must continue at idled capacity. However, **if J-M has knowledge of upcoming municipal projects that would consume large quantities of PVC pipe**, J-M may need to increase intended volumes [of resin purchase]." See **Exhibit 29** [FPCUSA0001678], incorporated herein [FILED UNDER SEAL]; emphasis added.

c) In an email written by FPC Director Norberto Torres on January 20, 2004, copying others at FPC, entitled "JM Claims Update," Torres referred to a mediation that had occurred in a matter involving defective J-M pipe where "**the City**" had made a significant demand for payment because of the defective pipe. See **Exhibit 30** [FPCUSA0033778], incorporated herein [FILED UNDER SEAL]; emphasis added.

123. In addition to knowing specifically and generally that claims were being submitted to government entities, Mr. Torres was fully aware that these claims were false, as Relator comprehensively informed Mr. Torres about the manufacturing deficiencies that resulted in substandard and non-conforming pipe. During these discussions, Relator regularly provided FPC with reports of test results performed on failing pipe from claims, including those where government entities were the end-users of J-M pipe. Indeed, Relator specifically provided Mr. Torres with reports of test results that showed that J-M pipe had failed critical tensile strength test requirements mandated by the very standards that J-M affixed to its

pipe so it could sell its pipe to government entities that required these standards to be met.

124. In early 2003, in discussions involving Relator, Kaoshal Rao of J-M, and Mr. Torres of FPC, Relator specifically told Mr. Torres that J-M had not met for some time, and was currently not capable of meeting, the UL Standard 1285 ("UL 1285") requirement for Longitudinal Tensile Strength for all C900, C905, and ASTM D 2241 pipe being manufactured **across the entire company**. The discussion grew out of litigation filed against J-M by Sampson County, North Carolina, involving defective and non-conforming ASTM D2241 pipe that the County had installed. The primary issue in the Sampson County litigation involved the tensile strength of the pipe, which failed tensile strength testing with results less than 7,000 psi. As Relator knew and discussed with Mr. Torres, ASTM D2241 pipe was manufactured from the same materials using the same process as C900 and C905 pipe. Therefore, the failing results on the tensile strength tests performed on pipe samples portended massive problems not only with ASTM D2241 pipe, but also with the tensile strength of J-M's C900 and C905 pipe.

125. Accordingly, FPC knew, no later than early 2003, that J-M's past and continued use of the UL 1285 stamp on any of its C900 and C905 PVC pipe constituted a misrepresentation of fact. And as discussed above, FPC also knew that claims for payment were being submitted to government end-users for C900 and C905 pipe that bore the UL 1285 stamp. Knowing that false claims were being submitted to government entities, FPC did nothing to try to stop J-M from causing the submission of those false claims to government entities, including the Real Parties.

126. In addition, during the Summer of 2003, Relator discussed with Mr. Torres a claim involving J-M pipe that exploded and caused serious personal injury to a person named Richard O'Barto. The O'Barto claim involved an explosion that occurred in 1997 while Mr. O'Barto was laying J-M C900 pipe for the Derry Area

Water System (a public water system) project in Westmoreland County, Pennsylvania. The explosion caused serious injuries to Mr. O'Barto, including brain damage. A personal injury lawsuit seeking $10 million was brought against J-M in Pennsylvania state court in 1999. Relator was later consulted in connection with that ongoing lawsuit. Relator was asked to read and comment on plaintiff's expert report, which opined that the cause of the pipe explosion was locked-in stresses created during the pipe manufacturing process, which reduced the strength and viability of the pipe. Relator located in J-M's files, and discussed with Mr. Torres, reports prepared by Johns-Manville discussing locked-in stresses that supported Mr. O'Barto's theory of liability. (In fact, following the issuance of those reports, Johns-Manville created and implemented quality control tests at the plants to measure locked-in stresses – tests J-M dropped and no longer performed after buying the business from Johns-Manville.) Relator also became aware that the defective pipe that injured Mr. O'Barto was UL-listed pipe that failed tensile strength testing performed after the explosion, the very same tests that Relator had discussed with Mr. Torres in connection with Sampson County earlier in 2003.

127. Relator discussed the O'Barto lawsuit with Mr. Torres on multiple occasions. During those discussions, Relator discussed with Mr. Torres the J-M-Pipe defects due to excessive locked-in stresses and explained to him that the most likely cause was that J-M ran its extruders at an accelerated rate. Relator also discussed with Mr. Torres the failing tensile strength results on the C900 pipe, as well as observations and comments made by Mr. Fassler and Mr. Yang concerning the inability of J-M to conform to the tensile strength requirements of the standards. Relator discussed all this information with Mr. Torres on multiple occasions in the context of the O'Barto litigation because Relator was concerned that the facts would come to light in the lawsuit and thereafter become public information, thereby raising the prospect that other PVC pipe previously sold and still being sold by J-M would be revealed as sub-standard.

128. As a result of the communications detailed in paragraphs 58-127 above, at the very latest FPC had clear knowledge by 2003 that J-M had sold and was continuing to sell defective and substandard pipe that was being purchased or otherwise acquired by government entities through claims that were being submitted to these government entities. Despite this knowledge, FPC took no steps to disclose this knowledge to any such government entity at any time thereafter.

129. FPC was further aware of J-M's common practices of failing to acknowledge non-conformities to complaining customers and of falsely denying claims that in fact involved defective product.

E. FPC's Sale of J-M to Walter Wang, the CEO of J-M Appointed by FPC

130. FPC owned J-M for a period of 23 years, until November 2005. On November 1, 2005, Walter Wang, the President and CEO of J-M, purchased J-M from FPC for a purported sale price of $100 million, using two holding companies he created for that purpose.

131. Since FPC's sale to Walter Wang was a private transaction, there is little documentation publicly available about it, although FPC's own auditors apparently considered the sale price to have been less than the full market value for the company. Walter Wang's subsequent acquisition of J-M's smaller competitor, PW Eagle, for $400 million within two years of his acquisition of J-M also suggests that FPC likely agreed to sell J-M to Walter Wang at less than fair market value. The available public record shows that as part of FPC's 2005 sale to Walter Wang, J-M borrowed $300 million from a third-party lender, a portion of which was used to repay borrowing from and other amounts that were due to FPC of approximately $176 million. Loan proceeds of $70 million were used to pay a portion of the purchase price to FPC and the balance of the purchase price of $30 million was funded by a capital contribution by one holding company (Guiding Light Ventures, Inc.) to the other (Pipe Dream Acquisition, Inc.).

132. In connection with this transaction, the Chairman of FPC guaranteed a $30 million loan to help Walter Wang finance his purchase of J-M from FPC.

133. Even after Walter Wang purchased J-M, J-M still represented itself as part of the FPG family and emphasized vertical integration. For example, in a presentation to United Pipe & Supply dated February 1, 2006, the Agenda included:

- Formosa Family
  - Formosa Corporate Overview
  - Vertical Integration
- J-M Manufacturing
  - Introduction
  - JMM Overview
  - New Corporate Identity
  - Comprehensive Product Line
  - VIP Program

134. Likewise, in April 2006, months after he had purchased J-M from FPC, Walter Wang still introduced himself to customers such as Home Depot as follows: "My name is Walter Wang. I am the president and CEO of J-M Manufacturing and one of the owner of Formosa Plastics Corporation (J-M's parent company) – even though Formosa Corporation had a revenue of 45 billion US dollars last year, we certainly see Home Depot as a company we need to learn from...."

F. FPC Was Involved In and Aware of the Formulation and Testing of J-M Pipe and Its Components

135. FPC was not merely a supplier of raw materials to J-M, as were Georgia Gulf Chemicals & Vinyls, and Shintech, Inc. Rather, FPC was deeply involved in and aware of the formulation, testing, and marketing of J-M pipe and its components.

136. J-M purchased PVC resin from several suppliers, including an FPG affiliate in Taiwan, but the primary supplier to the majority of J-M's plants was

FPC, which serviced those plants from its facilities in Baton Rouge, Louisiana and Point Comfort, Texas. For example, according to a property insurance survey at the Wharton plant performed by Starr Technical Risks Agency, Inc., "[t]his plant is highly dependent on the Formosa petrochemical complex nearby in Point Comfort for the receipt of the majority of its PVC resin feedstocks." As of February 2007, the primary source of resin for J-M facilities that made small diameter products was FPC Baton Rouge (for Adel, Georgia; Batchelor, Louisiana; McNary, Oregon; and Stockton, California) and FPC Point Comfort (for Stockton, California and McNary, Oregon).

137. When one of J-M's other resin suppliers had problems servicing their obligations to J-M, FPC rearranged its business plan to accommodate the unreliability of service from the other supplier and took steps to supply J-M.

138. According to Will Fassler ("Fassler"), a former employee and senior engineer in the Research and Development Department in J-M's Stockton, California plant, at FPC's request and for FPC's convenience, the formula data sheets for PVC compounds from FPC were generalized and reduced in number. This generalized FPC blend code system failed to identify significant changes in additive suppliers. These unidentified material changes sometimes caused problems and made troubleshooting difficult.

139. Walter Wang expected FPC to supply the majority of its resin needs, and FPC did supply the majority of J-M's resin needs. As relevant herein, FPC supplied J-M with F622 resin, which was the primary ingredient in J-M's PVC compound for PVC pressure pipe. During the relevant period, J-M purchased up to 90 million pounds of resin per month from FPC.

140. J-M frequently reported problems with the quality of FPC resin. For example, in June 2004, Jeff Hsu informed Walter Wang that: "Since May 19, Formosa resin has been having a quality problem. Starting June 5, we have had a problem again. The pipe ID became rough and we were forced to slow the

machines down 20-30 percent. Also, it generated 33,070 pounds of scrap. On Monday, we called Pt. Comfort and had an emergency meeting with them. We showed the FPC representatives the samples we submitted to R&D as well as the R&D report showing that the resin in abnormal. The report showed normal fusion torque at 1900 with the questionable resin fusion torque in the 1700 resin. We will summarize all the scrap due to this resin problem plus total loss of production."

141. In order to manufacture PVC pipe, PVC resin must be combined with other ingredients (e.g., waxes, stabilizers, colorants, and other additives) to form a compound that is then extruded into pipe. At all times relevant hereto, the industry standard formulation for PVC compound was published by the Plastic Pipe Institute ("PPI").

142. With FPC's knowledge and assistance, J-M used a proprietary, less expensive compound called JM90, rather than manufacturing compound based on the PPI formula. JM90 compound was J-M's "special range formulation for PVC pressure pipe" and was composed of designated PVC resins, stabilizers, fillers, paraffin wax, multi-wax, polyethylene wax, titanium oxide, impact modifiers, heat stabilizers, and colorant. Using their own compound allowed FPC and J-M to control the type and quality, and therefore the cost, of ingredients that make up the compound.

143. J-M and FPC were the only entities that were permitted to make JM90. FPC was responsible for manufacturing pre-mixed JM90 compound and shipping it to J-M plants where it could be formed into pipe. At times during the relevant period, FPC produced 800,000 to 1 million pounds of JM90 compound per day for J-M.

144. As a cost-saving measure and as explained in more detail in Section V.B., infra, J-M and FPC began to substitute cheaper and lower-quality ingredients in their JM90 compound. Specifically, J-M and FPC replaced two primary classes of ingredients in JM90 – resin and additives (such as wax and stabilizers) – with

cheaper, inferior-grade brands. They replaced the more expensive, higher viscosity resin (which had a viscosity rating of 0.92), with a lower-grade resin (which had a viscosity rating of 0.88). FPC was the primary supplier of resin to J-M, and most of the resin at issue was produced by FPC. In addition to supplying the resin, which is a vital ingredient in JM90, FPC regularly mixed and prepared JM90 compound and shipped it to numerous J-M plants where it was used to manufacture J-M PVC pipe.

145. Both FPC and J-M were aware that the switch in ingredients in the JM90 formula would result in an inferior quality pipe. FPC knew from meetings and communications with J-M that FPC's resin contributed to the deficiencies in J-M's pipe and would result in an inferior quality pipe. A memorandum dated May 23, 2002, sent from Fassler in R&D to David Chen ("Chen") (Stockton Plant Manager), K.C. Yang ("Yang") (J-M's Corporate Quality Control Supervisor), Lenor Jang, Angela Yen, and Steven Rios (the "May 23 Memo") detailed a conversation Fassler had with representatives of FPC. The May 23 Memo explained that FPC wished to change three of the specifications for its F622 resin: lowering the inherent viscosity range from 0.90-0.94 to 0.89-0.93, relaxing the PVC resin contamination count, and modifying the particle size distribution requirements. The memo also recited FPC's "surprise" that J-M's then-current bulk density range was 0.54 to 0.58 because FPC apparently believed that J-M had agreed to lower the bulk-density range to 0.52 to 0.62 at a meeting between FPC and J-M R&D in early 2000. However, Fassler's May 23 Memo noted the absence of any documentation in J-M's files concerning any purported bulk-density agreement between J-M and FPC in 2000.

146. According to the May 23 Memo, Fassler told FPC of potential problems with pipe created with these specifications, including problems with the resin that may result in decreased pipe strength and burning in the production process. Notwithstanding these perceived problems, in April 2004 J-M "temporarily agreed to 0.52-0.60" for the bulk density range, which was then revised slightly to

0.53-0.58 in June 2004. With regard to inherent viscosity, notwithstanding Mr. Fassler's expressed concerns, in April 2004 FPC lowered the inherent viscosity range of the resin it was supplying to J-M to 0.89-0.93. Fassler's memo explained that he told FPC of problems with the pipe that would be created with this new formulation. Specifically, the memo noted that because the new resin would have a lower inherent viscosity, it could result in pipe having decreased strength. The memorandum further noted concerns of burning and problematic pipe as a result of the proposed modification to the resin by FPC. As the memo explained, the subsequent modification of particle size distribution, as a result of the proposed modification to the resin by FPC, also equated with extrusion problems.

147. Further, FPC purchased additives that were not produced to industry or J-M specifications. Such nonconforming materials were marketed to J-M and FPC (as part of FPC's PVC resin blends sold to J-M) as "off-spec" or "wide-spec" products, available for a reduced cost. J-M repeatedly utilized such off-spec materials in manufacturing J-M pipe to even further reduce its costs of production. FPC was aware that the materials were not to specification because, among other things, they were expressly described in communications with FPC and J-M as "off-spec" or "wide spec." J-M and FPC knew that use of such non-conforming materials violates industry standards and J-M manufacturing specifications, resulting in poor-quality and non-conforming pipe.

148. FPC was also aware through several means that the erosion of the quality of J-M pipe caused by FPC's lower viscosity resin and substandard additives did not just make the pipe weaker but also caused the pipe to fail to meet required specifications. As alleged in paragraphs 56-66 above, Relator specifically told Mr. Torres, FPC's Director of Finance and Risk Management, that J-M was receiving claims for defective pipe because J-M's manufacturing process failed to produce in-spec pipe.

149. FPC also knew that J-M pipe failed to meet specifications because FPC was directly involved in the testing of non-conforming J-M pipe. In late 2004 or early 2005, J-M Quality Control and R&D personnel informed Relator that FPC had tested J-M pipe when FPC was experiencing problems with its compounds that included Luxco multi-wax. FPC investigated several batches of multi-wax and found that they did not contain the amount of calcium stearate required by J-M's approved formula. Moreover, the proportion of calcium stearate was highly variable between batches.

150. In addition, FPC witnessed through direct testing that J-M pipe made with Luxco multi-wax had greatly varying physical properties, resulting in non-conforming pipe. As explained infra, this inconsistency, in part, contributed to the hydrostatic design basis ("HDB") failures prominent during the development of the No-Thickened-Section pipe. J-M used Luxco multi-wax for many years.

151. Finally, FPC was also aware that J-M pipe failed to meet specifications because, as alleged in detail above, FPC employees and officers were involved in key aspects of J-M's business.

V. FRAUD AGAINST THE REAL PARTIES

A. Walter Wang's Leadership

152. Under Walter Wang's leadership, J-M implemented a series of cost-cutting measures that undermined the quality of J-M's PVC pipe products. At Walter Wang's direction, the outgoing former Johns-Manville managers were replaced by individuals with significantly less experience and fewer credentials. For instance, the Director of Production, who formerly had been a senior engineer, was replaced by Barry Lin ("Lin"), an accountant from FPC's management center with no engineering background. The new Director of Engineering, Kaider Liao, did not have an engineering degree. The new Quality Control Manager, Jack Hwang ("Hwang"), was an electrical engineer with no experience or formal training in failure analysis. After Hwang left the Quality Control Manager post in 2004, the

position was later filled in 2005 by a recent college graduate.

153. Backed by this group of inexperienced managers, Walter Wang shifted J-M's focus away from product quality to a single-minded mission of gaining market share and improving the bottom line without regard to quality.

154. Consistent with this cost-cutting governing principle, Walter Wang micro-managed J-M. For example, resolution of all customer claims valued over $15,000 had to be cleared by him personally, and certain employees' hotel upgrades had to be reviewed by him as well.

155. Under the direction of Walter Wang and his new managers, J-M implemented three cost-cutting measures that seriously compromised the tensile strength of the majority of its PVC pipe.

B. FPC and J-M Substituted Inferior Ingredients in J-M's PVC Compound

156. As noted previously, as a cost-saving measure, J-M and FPC began to substitute cheaper and lower-quality ingredients in JM90 compound. Specifically, J-M and FPC replaced two primary classes of ingredients in JM90 – resin and additives (such as wax and stabilizers) – with cheaper, inferior-grade brands.

157. In addition to being cheaper to make and purchase, the use of a lower viscosity resin allowed pipe to be manufactured more quickly and with less processing, thereby allowing J-M to increase its production rates and output.

158. The poor quality of the ingredients used in the JM90 compound, including the resin produced by FPC and lower-grade brands of additives such as waxes and stabilizers, has resulted in the JM90 compound having a decreased overall tensile strength. This is exemplified by testing conducted by NSF International ("NSF") (formerly known as the National Sanitation Foundation) in 2003 at the McNary, Oregon Plant. As set forth in more detail below, see Section VII, on or about September 25, 2003, NSF required that J-M pipe be subjected to HDB testing for the pipe to maintain its NSF certification. NSF observed that the

Product Sample Form for the 1" pipe being tested showed that it contained FPC resin. This pipe failed HDB testing with a long-term hydrostatic strength ("LTHS") of 3,608, meaning that it had less than a 20% useful life when compared to pipe that passed HDB testing.

159. The corresponding increase in production rates resulting from the switch to a lower viscosity resin further contributed to pipe made with the JM90 compound having a decreased overall tensile strength. Because the lower viscosity resin was a more ductile material, it required more processing to achieve the required tensile strength. Instead of slowing its production rates to account for the lower viscosity resin, J-M increased its production rates to increase its output of PVC pipe.

160. With regard to the inferior pipe quality that resulted from the switch in ingredients:

a) Brian Wang, former manager of three plants, has acknowledged that in order to increase profits, J-M management began using cheaper compound ingredients, including wax lubricants, stabilizers, and resin.

b) Yang has acknowledged that in order to increase profits, Defendants' management ordered the use of compound ingredients from a company called Luxco. These ingredients were inferior, and shortly after the changeover to Luxco, pipe manufactured by J-M could no longer meet the UL 1285 requirement of 7,000 psi. Yang has further acknowledged that Defendants' management refused to allow him to pursue the Luxco quality issue.

c) John Nagode ("Nagode"), former Quality Control Supervisor at the McNary, Oregon Plant, has acknowledged that changes in the quality of the compound being used by J-M caused test failures on a regular basis. Nagode has acknowledged that the compound ingredients were changed because J-M management did everything on the cheap.

d) Fassler has acknowledged that in order to reduce the cost of material it used, J-M switched from paraffin wax to multi-wax. The multi-wax had extreme variations and inconsistencies. Eventually the company had to switch back because of the serious quality problems with these ingredients.

e) Fassler has further acknowledged that, in the year 2000, J-M switched to a lower viscosity resin and that this decision was made by J-M senior management in order to save money. Fassler strongly opposed the change-over because the reduced viscosity reduced tensile strength, but the change was made nonetheless.

f) In a memorandum to Chen created on May 23, 2002, Fassler stated: "Lower IV [inherent viscosity] means lower physical strength (lower tensile strength, lower hoop stress, lower impact resistance). For JM90 the safety factor for tensile strength and hoop stress is already small. For electrical conduit, well casing, and foam core DWV the impact resistance test is already critical. Lower IV resin would decrease the safety factor for these products."

C. Accelerating Production Rates

161. In addition to degrading the ingredients that make up its JM90 compound, J-M began to make changes to its manufacturing process that further eroded the tensile strength and caused the finished PVC pipe to be out-of-specification.

162. PVC pipe is manufactured by extrusion. Broadly described, extrusion involves the following steps. The ingredients that make up the PVC compound (e.g., base resin and additives like paraffin wax and calcium stearate) are weight-measured out of silos and poured into a hopper where they are mixed. The mixed PVC compound is then poured into the extruder, where it is melted and formed by being forced (by a barrel and screw acting as an auger) through an orifice known as

the die that creates the shape and dimensions of a pipe. Once out of the extruder and die, the hot PVC pipe is then cooled in a series of water cooling tanks.

163. To meet an ever-increasing demand for PVC pipe, J-M began to increase production rates in each of its 11 plants that produced PVC pipe. Instead of investing in more extruders, replacing outdated extruders, or building more plants, J-M started running its existing extruders (many of which were over 30 years old) at speeds that exceed the extruders' rated capacity. Each extruder has a recommended maximum output measured typically in pounds per hour, and J-M began running its extruders at 20 percent above the rated capacity.

164. As a result of the increased speed of J-M's production line, more torque and higher temperatures were needed to melt the JM90 compound and, once melted, the PVC material received less processing time in the extruder and die as it was being formed into pipe. The temperature of the water being sprayed on the pipe in the cooling baths had to be lowered to counteract both the increased temperature of the pipe emerging from the extruder and the fact that the pipe was spending less time in the cooling baths. To adjust the temperature of the cooling baths, the number of sprayers was increased or decreased. (Since the cooling baths occupy a fixed distance on the production line, the increased production rates had the pipe moving more quickly over this and all other parts of the production line.)

165. Not surprisingly, the effect of this accelerated manufacturing process (in addition to increased output) was to further decrease the tensile strength of J-M's PVC pipe. Like a cake baked for eight minutes at 800 degrees and then quickly cooled in a freezer, the PVC pipe being produced at the accelerated production rate was not as strong as pipe that was afforded proper processing time and conditions. Having been subjected to a quick burst of cooling, the surface of the outside of the pipe was hard, whereas the portion of pipe below the surface, not having had adequate time to cool and form, was soft. The accelerated manufacturing process also created huge variations in the temperatures of the inside and outside diameter of

the pipe and the rate at which each cooled. The effect of these differential temperatures and cooling rates was to further weaken the pipe and create locked-in stresses in the pipe that increase the likelihood the pipe will catastrophically rupture when it is tapped.

166. With regard to the accelerated production process described above:

a) Brian Wang has acknowledged that Barry Lin and Walter Wang repeatedly increased production quotas in order to maximize profits. The increase forced plant managers to speed up the extruders, which put stress on them.

b) Yang has acknowledged that J-M management constantly increased production quotas, causing plants to ramp up the speed at which the extruders were run.

c) Nagode has acknowledged that extruders at J-M's plants were always run at faster than rated capacity, resulting in non-conforming pipe, including non-conforming tensile strength.

d) Fassler has acknowledged that, over time, extrusion goals were increased significantly. This caused plant managers to increase the speed at which the extruders were run. This in turn made it more difficult to keep the manufactured pipe within specification.

D. <u>Improper Tooling and Maintenance of Extruders</u>

167. During the relevant time period, with the exception of its newer plants in Adel, Georgia, and Meadville, Pennsylvania, in each of its remaining PVC plants, J-M had many extruders that were over 30 years old. Rather than invest in new extruders, J-M placed a new, high-output die on the end of the older extruders to keep up with the accelerated production schedule set by Walter Wang. However, because J-M's lower-quality PVC compound required more processing time and the older extruders were not able to work the PVC compound enough for the high-output die, the tensile strength of the pipe produced by the combination of older

extruder and high-output die was further diminished.

168. In late 2004, J-M began receiving complaints from customers regarding a certain type of PVC pipe (IPS white pipe) produced at its plant in Stockton, California. The combination of increased production rates, higher temperatures, and high-output dies on older extruders had caused the pipe to burn, turning it yellow in color, instead of the white color characteristic of this particular type of pipe. To remedy the problem, Yang instructed the Stockton plant to use a regular die for this product. In an email dated January 4, 2005, Yang instructed Stockton's Superintendent of Production, Jim Reichert, that: "PST [Plant Stockton] should use regular die for IPS white products when high-output die cause burning. If necessary, PST should request new IPS die." **Exhibit 31**, incorporated herein.

169. By increasing its production rates to speeds exceeding the extruders' rated capacity, J-M accelerated the wear on its extruders. Moving parts like the extruders' screw and barrel were most affected by the added wear. However, rather than increase the amount of maintenance to account for more wear, J-M abandoned its former practice of regularly monitoring and replacing the screw and barrel unit when it fell below a certain tolerance and decided instead to amortize the unit over a given time period (such as one year) and replace it only at the end of that time period.

170. J-M managers like Fassler began to observe that, under the increased production rates, the screw and barrel unit was exceeding the old tolerances and needing replacement after only six months. Nevertheless, under its new amortization policy, J-M continued to use the screw and barrel unit for another six months before it was replaced. Experienced J-M engineers like Fassler were well aware that the PVC material extruded in the second half of the unit's amortized life with the underperforming screw and barrel unit had reduced tensile strength. See **Exhibit 32** (Relator's notes dated 11/3/05), incorporated herein.

171. In a discussion with Relator on November 3, 2005, Fassler explained

that the reason for the decrease in tensile strength stems from the proximity of the screw and barrel to each other. For instance, a new screw and barrel unit, which fits closely together, will generate more shear and yield better mechanical properties in the finished pipe. See Exhibit 32. However, as the unit wears, the fit loosens and the shear decreases, which compromises the processing and decreases the tensile strength of the PVC material. Id. Despite this knowledge, J-M failed to replace its underperforming screw and barrel units after the first six months of use and allowed them to be used for an additional six months in spite of the detrimental effect on the pipe's tensile strength.

172. The combined effect of J-M's substitution of inferior ingredients, increased production rates, and improper tooling and maintenance of its extruders caused J-M to produce PVC pipe that failed to meet the tensile strength requirements set forth by UL, the American Water Works Association ("AWWA"), ASTM International ("ASTM") (originally known as the American Society for Testing and Materials), and FM Approvals, a division of FM Global (formerly Factory Mutual) ("FM").

173. With regard to the improper tooling and extruder issue:

a) Brian Wang has acknowledged that the increased speed of the extruders caused the screw and barrel units to wear out faster, but maintenance and replacement schedules were not modified to take increased wear and tear into account.

b) Yang has acknowledged that J-M's screw and barrel units were constantly wearing out because of the high extruder speeds, and J-M did not replace them often enough. This contributed significantly to producing non-conforming pipe. Yang further acknowledged that J-M far exceeded the screw and barrel life expectancy, and J-M management would not allow replacement often enough.

c) Fassler has acknowledged that the screw and barrel units were replaced

according to an amortization schedule. This was an improper approach and led to the use of worn screw and barrel units. In fact, J-M far exceeded the life expectancy of the units; J-M management overruled plant managers who tried to replace the units.

VI. J-M SELLS SUBSTANDARD PVC PIPE BEARING UL MARK DESPITE KNOWLEDGE THAT THE PIPE DOES NOT QUALIFY FOR UL LISTING

A. J-M PVC Pipe Does Not Meet UL's Longitudinal Tensile Strength Requirement

174. UL is a not-for-profit corporation that tests and certifies a wide range of products for public safety. Once a product is tested and found to conform to UL's safety requirements, that product becomes UL-certified and is eligible to bear the UL Mark. A product bearing a UL Mark is universally accepted as being safe.

175. UL has promulgated a safety standard governing PVC pipe for use in underground fire service systems. UL 1285 lists a variety of requirements that must be met for PVC pipe to be UL-certified and bear the UL Mark. Specifically, UL 1285 requires that "[r]epresentative samples of each class, pressure rating and size of PVC pipe . . . shall be subjected to the tests described in Sections 11 – 20." **Exhibit 33**, incorporated herein. One of those tests, Section 17, is the Longitudinal Tensile Strength ("LTS") Test, which provides that "[m]achined specimens from the pipe shall have a minimum tensile strength of 7,000 psi." Id.

176. J-M has undergone only two rounds of LTS Tests for UL on its PVC pipe products. The first round was on its founding in 1982 when J-M had to initially qualify its PVC pipe products for UL listing. The second round was in the mid-1990s when J-M sought to change its PVC pipe compound and begin making pipe out of its newly created JM90 compound. J-M passed both of these tests and received UL listing for its PVC pipe products.

177. Once it has certified a product, UL does not require that the product

undergo the Performance Tests listed in Sections 11 through 20 of UL 1285, including the LTS Test, unless and until there has been a material change in the product's materials, design, or processing. While UL requires manufacturers to "conduct the necessary production control, inspection, and tests" as they produce the pipe, these routine Manufacturing Tests are much less stringent than the Performance Tests UL 1285 requires to initially qualify the PVC pipe. Exhibit 33.

178. UL operates on an honor system. Once a product is UL-listed, UL relies on manufacturers to notify it of any material changes to the product's materials, design, or processing. By requiring "***representative*** samples of each type of PVC pipe" for qualification testing, UL conditions its ongoing certification of the product on the understanding that all future pipe will be made in a manner that is not materially different from the samples submitted to UL to qualify the pipe. Exhibit 33 (emphasis added). In the Foreword, UL 1285 specifically states that "[t]he observance of the requirements of this Standard by a manufacturer is one of the conditions of the continued coverage of the manufacturer's product." Id.

179. By at least 1991, J-M's cost-cutting practices of substituting inferior ingredients in its compound, accelerating production rates, and improperly tooling its extruders were well-established and had seriously degraded the tensile strength of J-M's PVC pipe. By this time, J-M had begun to receive LTS Test results (from J-M's internal testing and testing performed by customers in connection with claims for failing pipe) showing that more than 50 percent of the time J-M's PVC pipe failed to meet the minimum LTS requirements set forth in UL 1285.

1. Results of Internal LTS Testing Trouble Relator

180. Fassler ordered all of the LTS Tests that J-M requested from 1996 through 2005. Based on his review of these test results, Fassler estimated that J-M's PVC pipe failed LTS requirements 70 percent of the time.

181. In 2002, while working on two large claims against J-M for failed PVC pipe, Relator was asked to review the results of all internal LTS Tests J-M had

performed on PVC pipe manufactured between 1998 and 1999, the time period when the failed pipe was produced. In so doing, Relator was able to review the results from six LTS Tests that had been performed on J-M's PVC pipe. Of the six tests, Relator observed that four failed the LTS requirements and only two passed.

182. At various times, together and separately, Fassler, Yang, and Relator each have expressed concern to Lin about the large percentage of failing LTS Test results on J-M's PVC pipe. Lin has responded by saying that the failures were "an acceptable risk to meet company goals," failures were normal, and not every piece of pipe would always meet specification. **Exhibit 34** (Relator's notes dated 9/12/05), incorporated herein.

183. After seeing a subset of the results of J-M's LTS testing in which 60 percent of the samples failed and after learning from Fassler that the collective results of the past nine years showed an overall failure rate of 70 percent, Relator was no longer comfortable signing his name to customer certifications and letters to claimants representing that J-M's pipe complied with the UL Standard. On August 23, 2005, Relator told Lin about his concerns and said he would not sign any more letters without first seeing copies of all of the results of J-M's LTS testing.

184. Lin refused to provide Relator with the LTS Test results. Instead, he simply assured Relator that J-M's UL-listed products met all the requirements of UL and directed him to continue to certify this to J-M's customers. **Exhibit 35**, incorporated herein, is a copy of Relator's August 25, 2005, email to Lin asking him to acknowledge in writing his statements regarding J-M's compliance with the UL tensile strength requirement despite internal test results to the contrary. After having similar conversations with Yang, Kai Cheng ("Cheng"), J-M's Director of Product Assurance, and Mai Huynh, J-M's Product Assurance Manager, Relator sent similar emails to each of them. See id. None of the recipients provided a written acknowledgment to Relator.

2. Results of Testing Performed in Conjunction with Claims Against J-M

185. By at least 1991, J-M had received test results showing failing longitudinal tensile strength from its Product Assurance Department. J-M's Product Assurance Department handles all claims and complaints brought by J-M customers for failing pipe. Because LTS testing can be performed only by a certified independent laboratory and is expensive ($2,500 per specimen for the series of tests with which this test is packaged), it is typically requested only in the case of larger claims involving significant damages.

186. During Relator's three years in J-M's Product Assurance Department, LTS testing was performed in connection with only 14 of the claims. Of those 14 claims, Relator saw 12 instances in which the longitudinal tensile strength of J-M's PVC pipe was below the 7,000 psi minimum requirement and only two instances in which the PVC pipe met LTS requirements. By contrast, LTS testing of pipe manufactured by J-M's predecessor, Johns-Manville, ranged from 7,560 – 8,765 psi and always exceeded the desired level of 7,150 psi. **Exhibit 36**, incorporated herein, contains copies of some of the test results documenting the following failing longitudinal tensile strengths measured in pipe from four of the 14 claims:

Number & Name of Claim	Longitudinal Tensile Strength Required by UL 1285	Longitudinal Tensile Strength Measured in Sample of J-M PVC Pipe	Independent Laboratory That Performed the Test	Test Date
Q00-H-41 Ferguson Cities Supply Brigman Construction	7,000 psi	Hobbs B: 6,600 psi	Law Engineering and Environmental Services, Inc.	09/28/00
Q00-H-14 Tec Utilities	7,000 psi	Sample 2: 6,680 psi Sample 3: 6,750 psi Sample 4: 6,940 psi	Modern Industries, Inc.	10/31/00

Q02-J-40 Westgate Resorts	7,000 psi	6,833 psi	Bodycote Broutman, Inc.	10/01/02
Q05-C-08 Sheldon	7,000 psi	Sample 1: 6,777 psi Sample 2: 6,775 psi	CRT Laboratories	6/9/05

187. In his Internal Recommendation and/or Authorization ("IRA") advising J-M on how it should handle the Sheldon claim referenced in the chart above, Relator noted that: "CRT conducted testing on the pipe and found that the tensile strength of the pipe was below that required by the UL Listing Mark on the pipe on all samples tested." **Exhibit 37**, incorporated herein. Because of the pipe's substandard longitudinal tensile strength, Relator recommended that J-M offer the customer a settlement of $30,000. Id.

188. Cheng disagreed with Relator's recommendation and instructed Relator to "find a way to deny the claim and follow his thoughts, that J-M is not responsible even if we fail the test, and offer alternative theories as to the cause of failure for this case." **Exhibit 38** (Relator's notes dated 11/1/05), incorporated herein. In his conversation with Relator, Cheng also stated that he "knew that probably half of our pipe did not meet this requirement of UL [UL 1285 longitudinal tensile strength] and for all of our pipe to meet the standard we would have to be perfect in production and we could not always do that." Id.

3. Results of Internal LTS Testing of J-M's 30" and 36" Big Blue Pipe

189. Beginning in approximately 1999 with the opening of its new plant in Adel, Georgia, J-M added two new products to its Big Blue PVC pipe product line. J-M began manufacturing Big Blue PVC pipe with a pressure rating of 165 psi in both the 30" and 36" sizes in its Adel, Georgia and Fontana, California plants. Shortly after starting to manufacture these two products, J-M sent specimens from both pipes to an outside laboratory for LTS testing to see if they could qualify for UL listing. However, all of the specimens failed to meet the minimum longitudinal

tensile strength of 7,000 psi required by UL 1285.

190. Once it established a customer base for these two products, J-M introduced a second pressure class – one with a pressure rating of 125 psi – in both its 30" and 36" Big Blue PVC pipe. Again, J-M subjected samples from these two new products to LTS testing at an outside laboratory, and all of the samples had tensile strengths below 7,000 psi. Thereafter, J-M continued to test the LTS of its 30" and 36" Big Blue PVC pipe and received failing results. Without a passing result, J-M was unable to approach UL about qualifying these products, and they did not have a UL Mark until after the acquisition of PW Eagle.

191. Since J-M's 30" and 36" Big Blue PVC pipe is made using the same materials, equipment, and processing as all of J-M's UL-listed Big Blue and Blue Brute pipe, the substandard longitudinal tensile strengths reported on the 30" and 36" Big Blue pipes are representative of the longitudinal tensile strengths of all J-M UL-listed pipe. Like the results of other J-M internal LTS testing and its claims testing, the failing results for its 30" and 36" Big Blue pipe are further proof that J-M's cost-cutting measures of substituting inferior ingredients in its JM90 compound, accelerating its production rates, and improperly tooling its extruders reduced the longitudinal tensile strength of its PVC pipe.

B. J-M PVC Pipe Does Not Meet UL's Radial Tensile Strength Requirement, as Demonstrated by the "No Thickened Section" Project

192. In August 2003, Relator proposed a change to the bell design of J-M's Blue Brute and Big Blue PVC pipe. The two ends on a length of PVC pipe are called alternately the barrel end and the bell end. Under J-M's existing design, the bell end had a greater wall thickness than the remainder of the pipe. To make the bell walls, the extruder had to be slowed down and additional material added to increase the wall thickness. Under Relator's proposal, dubbed the "No Thickened Section" Project, the bell wall would not be thickened and would have the same

dimensions as the remainder of the pipe, thereby allowing the extruder to run at a nearly continuous speed, increasing output and reducing the amount of material needed per length of pipe.

193. Relator found support for his proposed design change in the AWWA standards governing PVC Pipe for Water Transmission and Distribution, AWWA C900 and C905. Under Section 4.3.2.2 of both AWWA C900 and C905, the pipe's bell end must meet one of two requirements. It must have the same wall thickness ratio as the barrel of the pipe, or it must be tested to ensure that the joint assembly qualifies for a HDB category of 4,000 psi. See **Exhibit 39**, incorporated herein. Whereas longitudinal tensile strength testing measures the tensile strength of the lengthwise portion of the pipe from end to end, HDB testing is one of several ways of measuring the tensile strength of the radial, circular, or hoop section of the pipe. Based on this Section, Relator concluded that the thickened bell could be omitted from the pipe design so long as a joint manufactured from the thinner bell could meet the required HDB category of 4,000 psi.

194. In his Project Initiation Form dated October 28, 2003, Relator estimated that by omitting the thickened bell section of its two most popular products, Blue Brute and Big Blue, J-M would save $3,000,000 a year in materials costs alone, not to mention the additional efficiencies to be gained from not having to slow down its extruders and running them at a continuous speed. See **Exhibit 40**, incorporated herein. Other managers, including Fassler, extolled the potential benefits of a "No Thickened Section" pipe. In an email to Hwang dated September 3, 2003, Fassler wrote: "The potential benefits are large: significantly reduced material usage; greatly reduced bell-end forming scrap; easier bell-end forming; better bell-end appearance." **Exhibit 41**, incorporated herein. On December 8, 2003, Walter Wang approved the "No Thickened Section" Project with a budget of $65,000 to cover the costs of designing and developing the new bell end and performing the various tests needed to gain UL listing. See Exhibit 40.

195. Since the thinner bell wall involved only a change in the pipe's design, as opposed to its materials or processing, J-M did not have to undergo many of the Performance Tests in UL 1285, including the LTS Test, to qualify the newly designed pipe for UL listing. Instead, to qualify the new design, UL required J-M to pass the following three strength tests, each of which measures the radial tensile strength of the newly designed bell end of the pipe: (1) a shortened HDB Test (2,000 hour test); (2) Sustained Pressure Test (1,000 hour test); and (3) Quick Burst Test (60 second test).

196. Since the newly designed, no-thickened-section pipe was made from the same materials and process as the existing thickened-section pipe, J-M experienced many of the same problems with the new pipe as it had with the existing pipe. For instance, J-M's three cost-cutting practices (substitution of inferior materials, accelerated production rates, and improper maintenance and tooling of its extruders), which caused J-M's existing pipe to fail the LTS Tests a majority of the time, also caused J-M to fail many of the above-referenced radial strength tests on the newly designed, no-thickened-section pipe.

197. In January 2006, after beginning production on no-thickened-section pipe, J-M tested at least one sample of current production pipe (4" Dimension Ratio ["DR"] 18 and 4" DR 25 pipe) from all of its plants. The results ranged from 6,670 – 7,060 psi for the DR 18 pipe and 6,660 – 6,680 psi for the DR 25 pipe. Fassler concluded that: "The apparent longitudinal tensile strength of four-inch DR 18 & DR 25 pipe at all facilities is below the desired level of 7,150 psi." In July 2006, J-M tested three runs of its 4" DR 25 pipe from Fontana. Each of the three runs failed LTS, with results ranging between 6,550 psi and 6,680 psi.

198. These failures, arising from the degrading of the manufacturing materials process, have resulted in a vastly different product than that manufactured by J-M's predecessor company, Johns-Manville. In 1974, LTS testing of Johns-Manville's pipe ranged from 7,560 – 8,765 psi and always exceeded the desired

level of 7,150 psi. By contrast, tests by J-M show results ranging from 6,349 – 7,060, nearly always below the desired level.

199. To gain UL listing for the new pipe design in the face of such failures, J-M resorted to a number of fraudulent practices, including without limitation:

(1) specially producing the UL specimens using higher quality ingredients and reduced production rates that are not representative of J-M's actual materials and process, including:

(a) changes to the extrusion process, such as: (i) increasing the shear/torque on the extruder to work the compound more thoroughly, (ii) slowing down the extruder speeds, and (iii) replacing used screw and barrel units with new ones;

(b) changes to specimen preparation, including: (i) changing the directional cut from tangential to radial, and (ii) changing the dimensions to equal the thickness of the pipe wall; and

(c) changes to compound, including: (i) using JM90R compound instead of JM90, (ii) eliminating the use of Luxco brand multi-wax, and (iii) using single-batch compounding instead of double-batch;

(2) concealing failing test results from UL;

(3) where early results indicated a specimen ultimately would fail, stopping long-term tests before they were completed and substituting new specimens; and

(4) making multiple specimens from one lot, and testing a subset of the specimens in advance to ensure that when the remaining specimens were tested for UL, they would pass the tests.

1. HDB Testing

200. As discussed above, the two AWWA standards governing PVC pressure pipe – AWWA C900 and AWWA C905 – both state at Section 4.3.2.2(b) that the joint assemblies of the pipe's bell must "qualify for a hydrostatic design

basis (HDB) category of 4,000 psi (2,758 MPa) when tested in accordance with ASTM D2837 as modified in ASTM D3139." Exhibit 39. ASTM D2837, in turn, provides the test method for obtaining the pipe's HDB. See **Exhibit 42**, incorporated herein.

201. The purpose of HDB testing is to determine the long-term radial strength characteristics of PVC pipe. Broadly described, HDB testing is performed by placing 10 specimens under varying degrees of pressure and recording the point in time, up to a maximum of 2,000 hours, when the joint fails. In a November 14, 2003 email to Hwang, Fassler described the HDB test as "the most stringent test of PVC pressure pipe quality." **Exhibit 43**, incorporated herein. Because HDB testing lasts 83.3 days and requires special equipment, it must be performed at an independent, certified testing laboratory. Given the length of the test, UL does not require that a UL representative be present to observe the testing.

202. Once the testing is complete, Section 5.4 of ASTM D2837 requires that the following three calculations be performed to determine a pipe's HDB: (1) the hydrostatic strength at 100,000 hours; (2) the hydrostatic strength at 50 years; and (3) the percent of circumferential expansion. Each of these calculations measures the pipe's long-term hydrostatic strength. To obtain an HDB category of 4,000 psi, the smallest of these three values must have a long-term hydrostatic strength between 3,830 and 4,800 psi. Exhibit 42 (at Table 1). However, in Note 7, ASTM D2837 notes that the expansion measurement is not required in North America because expansion strengths taken from North American stress-rated PVC materials have not been found to be "the limiting factor," i.e., the lowest of the three values described above.

203. From the beginning of the "No Thickened Section" Project, many of J-M's Quality Control managers expressed concern about the ability of J-M's pipe, thickened or not, to pass the required HDB category of 4,000 psi. In a November 14, 2003 email to Hwang, among the challenges J-M needed to overcome for the

Project to succeed, Fassler listed first J-M's "[i]ncreasing failure rates in long-term pressure tests." Exhibit 43. Fassler also cited three other obstacles: (1) the recent failure of J-M's pipe to pass Sustained Pressure Tests at NSF, which provides product testing and certification services for products in contact with potable water, (2) failing HDB testing, and (3) numerous joint specimen failures "where the pipe burst before the joint leaked." Id.

204. Given its history of problems with the tensile strength of its PVC pipe, J-M was dubious that no-thickened-section pipe produced at random on the same machinery using the same materials and process as its existing pipe would pass the HDB testing. To increase its odds of passing, J-M directed the Plant Managers preparing the no-thickened-section specimens to monitor the results of the daily Quick Burst Tests being performed on its existing pipe and only produce the specimens when those results were favorable.

205. In a December 9, 2003 email, Fassler, who was heading up specimen preparation for the Project, informed Stephen Yang, the Plant Manager at J-M's Fontana, California plant, that the Quick Burst Test data "is very useful in identifying pipe that has an elevated chance of failing HDB." **Exhibit 44**, incorporated herein. Fassler instructed Stephen Yang to consult that data in choosing when to produce the specimens. Id. ("We need to test the pipe before testing the joint because the pipe will limit the strength of the joint.") Similarly, in another email of the same date, Hwang notified Stephen Yang that: "We have to have a good test result within J-M before we send out for HDB test." Id.

206. Once the initial specimens were produced (using the Quick Burst data to increase its odds of passing HDB), J-M sent specimens of its no-thickened-section Blue Brute pipe (in size 4" DR 18) to Charles Stanley, the Director of Universal Laboratory in Garland, Texas, for preliminary testing. Before incurring the cost of 2,000 hours of testing as required by full-scale HDB testing, J-M instructed Mr. Stanley to first subject 10 specimens to a shortened HDB test of only

100 hours to give J-M a preview of how the pipe would likely perform.

207. The results of this testing, which J-M managers dubbed "Accelerated HDB Testing," were mixed. Approximately half of the 10 specimens had hydrostatic strengths that were well below the confidence limit and caused the entire lot to fail the HDB test. **Exhibit 45**, incorporated herein, is a copy of the notes Relator took as Mr. Stanley reported on the results of the HDB testing. Under item number three, Relator notes that the Blue Brute specimen in size 4" DR 18 failed the confidence limit under the Accelerated HDB testing. Id.

208. Notwithstanding these results, J-M instructed Mr. Stanley to begin the full-scale HDB testing. Early in the testing, J-M began to receive reports from Mr. Stanley that many of the specimens were exhibiting excessive swelling. While ASTM D2837 allows specimens to expand a maximum of five percent during HDB testing, several of J-M's specimens had swelled by as much as 33 percent. Having never seen such swelling before, Mr. Stanley sent several of the swollen specimens to Fassler and Relator for their review. (At the time Relator left J-M in November 2005, one of the swollen pipe specimens – a Blue Brute pipe in size 4" DR 18 – was still in J-M's literature room.)

209. Despite the fact that these specimens clearly showed a serious problem with excessive swelling, J-M continued to rely on Note 7 of ASTM D2837 (which provides that the expansion measurement is not required where the five percent expansion strengths are not the limiting factor) and refused to consider the expansion measurement in determining HDB. From the degree of swelling, J-M was aware that if Universal Laboratory had calculated it, the expansion measurement would have been the lowest value of the three calculations for determining long-term hydrostatic strength and would have caused the pipe to fail HDB. Instead, J-M continued to take only the lower of the first two calculations (hydrostatic strength at 100,000 hours and hydrostatic strength at 50 years) when calculating HDB.

210. Even with the advantage gained by omitting the expansion measurement, J-M repeatedly failed the HDB test when using the lower of the hydrostatic strength at 100,000 hours and at 50 years. Relator recalls four instances in which Blue Brute specimens failed HDB testing. Of the four sets of failing specimens, two were in size 8" DR 18, one was 4" DR 18, and one was 8" DR 14. See Exhibit 45. J-M had no reports documenting the failing results because it had instructed Mr. Stanley to prepare reports only for the passing results and to report the failing results orally. Relator recorded many of these failing results on a piece of paper as Mr. Stanley reported them to him. Id.

211. As discussed above, per ASTM D2837 (as modified by ASTM D3139), HDB testing is performed using 10 specimens that are subjected to varying pressures for varying lengths of time up to 2,000 hours. During its HDB testing at Universal Laboratory, J-M asked Mr. Stanley to notify it when early indications revealed that one or more of the 10 specimens, if tested to completion, would cause the overall HDB test to fail. In such instances, J-M instructed Mr. Stanley to stop the testing of those particular specimens (in order to avoid getting any bad data points) and substitute in a new specimen for the continuation of the HDB testing.

212. If the substitutions were unable to produce a passing result and the 10 specimens produced a failing HDB, J-M instructed its managers at the plants preparing the specimens to destroy all other specimens made from the failing lot. As was the case with the initial set of specimens, J-M had its Quality Control staff, including Fassler and Armondo Martinez ("Martinez"), Quality Control Supervisor at the Fontana, California Plant, oversee the production of additional specimens. To increase the odds of getting a passing result, J-M slowed its regular production rates and adjusted its typical temperatures and torque to allow for optimum processing of the specimens. To reduce the excessive swelling, J-M replaced the lower grade multiwax ordinarily used in its JM90 compound with a high-quality calcium stearate.

213. On July 5, 2004, after seven months of testing, J-M got its first passing result for HDB with tests performed on Blue Brute specimens in size 8" DR 18. However, one month later on August 31, Fassler wrote an email to Relator stating that: "The HDB testing so far has revealed material issues (excessive swelling) and workmanship issues (mid-wall void). The chances of two consecutive samplings passing HDB appear to be less than 50%." **Exhibit 46**, incorporated herein. As of August 2004, seven of eight samplings of no-thickened-section pipe had failed HDB testing. There were at least two more failures between December 2004 and December 2005. According to Fassler, the pipe failed testing seven times in a row and passed on the eighth try only due to luck of the draw. Eight months later, in an IRA recommending that J-M proceed with the production of no-thickened-section pipe, Fassler summarized the HDB testing as follows: "J-M submitted DR 14 & DR 18 joint samplings to Universal Laboratory for HDB tests per ASTM D3139-98. Some early samplings failed. Later submittals passed – confirming that with suitable materials and workmanship the design meets the requirements." **Exhibit 47**, incorporated herein.

214. By January 2005, after many intermittent failures, J-M had achieved passing HDB results in all three pipe sizes that UL required for its qualification of the new pipe design. J-M provided the passing results to UL. In so doing, however, J-M concealed from UL the following material facts: (1) J-M had conducted other HDB tests on each of these pipe sizes, all of which had failed; and (2) to achieve the passing results, J-M had consulted Quick Burst Test results in deciding when to produce the specimens, altered its regular materials and process, and prematurely stopped testing of specimens that would have produced failing results and substituted new specimens in their place.

2. <u>Sustained Pressure Test</u>

215. Another test that measures the long-term radial tensile strength of PVC pipe is the "Sustained Pressure Test" or "1,000 Hour Test." Unlike HDB testing,

which measures 10 specimens at varying pressures for varying lengths of time up to 2,000 hours, the Sustained Pressure Test measures five specimens at the same test pressure for 1,000 hours. To pass, the specimens must not "rupture, permanently distort, or weep" when subjected to the specified pressure for 1,000 hours. Exhibit 33. This test is far less onerous than the HDB test and provides little to no information about the radial tensile strength of the product being tested.

216. As described above, Sustained Pressure Testing is one of the three strength tests UL required J-M to perform to qualify its no-thickened-section pipe for UL listing. The requirements for Sustained Pressure Testing appear in Section 18 of UL 1285. Like LTS Testing, Sustained Pressure Testing is one of UL's Performance Tests and UL requires that the specimens tested must be representative of the manufacturer's materials, design, and processing. Like HDB Testing, Sustained Pressure Testing requires special equipment and is typically performed by an independent, certified laboratory.

217. In outlining its requirements for qualifying the no-thickened-section pipe, UL informed J-M that it would observe J-M's Sustained Pressure Testing. Because of the length of the test, which lasts 1,000 hours/41.6 days, UL only required a UL observer to be present at the beginning, middle, and end of the testing.

218. Because UL would be observing portions of the Sustained Pressure Tests, J-M wanted to ensure that the specimens it sent Charles Stanley at Universal Laboratory for testing would actually pass the test. To accomplish this, J-M made multiple specimens from each 20-foot section of no-thickened-section pipe it specially produced. J-M subjected the first 10 specimens from each lot to the HDB testing described above. If the specimens produced a passing HDB result, J-M would then send other specimens from that same lot to Universal Laboratory for the Sustained Pressure Testing. Since the specimens had passed HDB testing, which is the most demanding test of pipe quality, J-M could be confident that other

specimens from that lot would also pass the less onerous Sustained Pressure Testing.

219. Once it had passed HDB Testing for a particular size of non-thickened-section pipe, J-M sent to Universal Laboratory for Sustained Pressure Testing additional specimens from the same lot as the passing HDB specimens. In that way, J-M was able to pass all of the Sustained Pressure Tests witnessed by UL observers for the two pipe sizes UL required – Blue Brute 4" DR 14 and 4" DR 18.

220. At no time during the course of these Sustained Pressure Tests did J-M disclose to the UL observer that J-M had specially produced each of the test specimens using materials and processing that were not representative of J-M's actual manufacturing process. J-M also concealed from UL the fact that the test specimens had not been chosen at random but instead were selected from lots that had produced passing HDB test results.

3. Quick Burst Test

221. The third and final strength test that UL required for J-M to qualify its no-thickened-section pipe was the Quick Burst Test. The Quick Burst Test is designed to measure the short-term radial strength characteristics of the pipe. The requirements for the Quick Burst Test are contained in Section 4.3.3.2 of the AWWA C900 Standard. Broadly described, Section 4.3.3.2 provides that a pipe specimen must be able to attain a hydrostatic stress of 6,400 psi within 60 to 70 seconds of being pressurized. See Exhibit 39.

222. The Quick Burst Test is a routine quality control test that J-M is required to perform daily at each of its plants at the start-up of the extruder, every eight hours, and following any change in operating conditions. Given the frequency with which this test is required to be performed, J-M has test equipment in each of its plants and performs the tests itself.

223. In outlining the requirements needed to qualify J-M's no-thickened-section pipe, UL informed J-M that it would come to J-M's plant to observe each of the Quick Burst Tests on the various sizes of its Blue Brute DR 14 and DR 18 no-

thickened-section pipe. Because a UL representative would be observing the tests, J-M again took steps to try and ensure that the specimens would pass while UL was watching.

224. Because the Quick Burst Tests were the last of the three strength tests required for UL listing, at the time it performed the Quick Burst Tests, J-M had already received passing results in both the HDB and Sustained Pressure Testing. In choosing specimens for the Quick Burst Testing, J-M selected specimens from the same lots as the specimens that had produced the passing results on the HDB and Sustained Pressure Tests.

225. For added insurance, J-M also ran some internal Quick Burst Tests on a few of the specimens from the selected lots to be doubly certain that the specimens would pass while UL watched. J-M admitted pre-screening for 7,200+ psi Quick Burst results, despite having lowered its internal requirement to 6,400 psi for normal production pipe. There was extensive R&D involvement in preparing the sample pipe for these preliminary tests. Moreover, J-M manipulated the testing by replacing test specimens, terminating failing tests early, and stockpiling pre-screened lots. Using this approach, J-M eventually passed the Quick Burst Tests for all but one of the sizes of its Blue Brute DR 14 and DR 18 no-thickened-section pipe. In the case of the Blue Brute specimens in size 12" DR 14, however, J-M failed four consecutive Quick Burst Tests while UL observed before ultimately getting a passing result. On October 26, 2005, Fassler told Relator that J-M had obtained the passing result only by using a thickened-, instead of a no-thickened-, section pipe. See **Exhibit 48**, incorporated herein. According to Fassler, the pipe was measured "while UL wasn't really paying attention and the test pressure calc[ulation] wasn't properly computed on the accurate measurements." Id.

226. In short, J-M gained UL listing for the new design in size 12" DR 14 using a specimen from the old design. For the HDB testing of no-thickened-section pipe (18 total tests), the passing rate of the test samples was no greater than 64% and

more accurately 50% at best. UL did not see results for all sizes, but only three JM-selected passing results. J-M did not conduct quality testing or investigation in light of the high number of failures. It took six months for J-M to obtain passing Quick Burst results on all of its no-thickened-section pipe. Of 19 total tests witnessed by UL, J-M failed nine (at the 6,400 psi AWWA requirement). Against J-M R&D personnel recommendations, Walter Wang ordered all plants to produce no-thickened-section pipe in all sizes of DR 18 at a time when the HDB pass rate was 46% and the Quick Burst pass rate was 60%. J-M did not maintain any improved processes utilized to make no-thickened-section pipe that passed HDB.

227. To prevent UL from investigating the real source of these four failures (i.e., the various cost-cutting measures and their negative effect on tensile strength), J-M blamed the four failures on illusory problems with the test equipment. Specifically, J-M attributed the failures to the end caps that are inserted into either end of the specimen to create a seal so it can be pressurized. J-M told Jerry Kirkpatrick, UL's representative observing the tests, that the end caps had not sealed properly, were too old, and were not good for the new pipe design. All of these statements were false.

228. At no time during the Quick Burst testing did J-M inform UL's Jerry Kirkpatrick that it had prepared the specimens using materials and production rates that are not representative of J-M's manufacturing process or that it had not chosen the specimens at random but had instead selected them based on the fact that they came from lots that had already passed the HDB Test and Sustained Pressure Testing. Nor did J-M inform UL that it passed the fifth test only by using the original thickened-section pipe design (and an improperly calculated test pressure) as opposed to the new design. J-M also concealed from UL the real reason for the four tensile-strength failures, i.e., that J-M's cost-cutting measures had decreased the tensile strength of its pipe.

4. J-M Authorizes Production of No-Thickened-Section Pipe

229. In early 2005, shortly after he began raising concerns with J-M management about the excessive swelling and failing HDB test results of the no-thickened-section pipe and expressed doubts about the tensile strength of J-M's existing PVC pipe (which was made with the same process and compound), Relator was removed from the No Thickened Section Project. Over the intervening year before the Project was completed, Fassler and Yang continued to keep Relator apprised of the status of the Project, including the results of all of the testing performed after Relator was removed.

230. In the Spring of 2005, upon learning that J-M managers were about to recommend that J-M start to produce the no-thickened-section pipe in spite of all the failing results, Relator raised a series of objections to J-M management. Among other things, Relator cautioned several J-M managers that, at a minimum, the newly designed pipe should be produced only at the two plants that produced the passing results for UL and those two plants should use the same slow production rates and higher quality materials that they had used to specially produce the passing samples. Relator also insisted that, once it was produced and before it shipped, the new pipe must be subjected to a series of quality control tests to ensure its conformance to the tensile strength requirements. Given the force and strength of Relator's objections, some of Relator's managers ultimately were persuaded to include Relator's precautions in their recommendations for the production of the new no-thickened-section pipe.

231. On April 29, 2005, Fassler prepared an IRA recommending that J-M begin preparations to produce the no-thickened-section pipe starting on May 16. See Exhibit 47. By April 29, UL had given J-M oral approval to start producing on May 16 the no-thickened-section pipe in all sizes of Blue Brute DR 14 and DR 18, except for 12" DR 14. Because J-M had received so many failing test results in the process of obtaining the UL listing, Fassler was careful to point out that the no-

thickened-section pipe passed the tests only because of "suitable materials and workmanship" and implied that those same materials and level of workmanship should be used as J-M began to produce the newly designed pipe.

232. Lin and Kaushal Rao ("Rao"), J-M's Director and Assistant Director of Production, were equally cautious in their approvals of the new pipe. Both men gave their approval on the condition that J-M take certain precautions to protect against the tensile strength failures that the UL qualification testing had revealed. In the block provided on the IRA for his authorization and signature, Lin wrote: "In consideration of several test failures to non-thick-section project do propose to have PWI [J-M's Wilton, Iowa plant] & PFO [J-M's Fontana, California plant] to produce non-thick-section product first. After both plants successfully produce C-900 product, then do will apply to all plants." Exhibit 47. Similarly, in his signature/authorization block, Rao wrote: "R&D should also concentrate on one plant & test the pipe produced under different conditions such as regrind material used in prod.; various speeds & production rates for production & test the pipe on a continuous basis." Id.

233. On May 16, 2005, ignoring the reservations expressed by the three managers, J-M's President Walter Wang authorized production of no-thickened-section pipe for J-M's Blue Brute PVC pipe in size DR 18 at all of J-M's 11 PVC-producing plants starting June 1, 2005. See Exhibit 47. Despite explicit advice from Fassler, Lin, and Rao, Walter Wang did not limit the production to the two plants that had successfully produced the passing specimens. Nor did he seek to ensure that the pipe would be produced using the same materials and processing that J-M had used in producing the qualifying specimens or make any provision for testing the new pipe to monitor quality as it was being produced. Despite the fact that its new pipe had failed many of the qualifying tensile strength tests, J-M began manufacturing the new pipe without implementing a single safeguard. No-thickened-section pipe manufactured and tested after Luxco-multiwax was phased

out failed nine of 19 UL-witnessed Quick Burst Tests. Post-Luxco multiwax experienced at least two HDB failures in seven tests. J-M did not discontinue Luxco multiwax in IPS/ASTM D2241 pipe despite J-M's concerns with its use in the identically produced AWWA pipe.

5. UL's Qualification of J-M's No-Thickened-Section Pipe

234. On May 19, 2005, UL issued J-M its formal written "Notice of Authorization to Apply the UL Mark." **Exhibit 49**, incorporated herein. In this authorization, UL expressly states that its authorization to apply the UL Listing Mark extends only to those products that are constructed in a manner "identical to the subject models, which were submitted to UL for this investigation." Id. The letter goes on to say: "Products that bear the UL Mark shall be identical to those that were evaluated by UL and found to comply with UL's requirements. If changes in construction are discovered, appropriate action will be taken for products not in conformance with UL's requirements and continued use of the UL Mark may be withdrawn." Id.

235. J-M began producing its Blue Brute DR 18 pipe on June 1, 2005. Although UL also had authorized J-M to apply the UL Mark to its Blue Brute PVC pipe in all sizes of DR 14 except for 12", J-M decided to wait until it received UL authorization for the remaining size before it commenced production of any DR 14 pipe. In October 2005, UL provided J-M with its authorization for 12" DR 14 pipe and J-M began producing all sizes of no-thickened-section DR 14 pipe immediately thereafter.

236. Having refused to adopt any of the precautions recommended by its managers, J-M began producing the new pipe using the same cost-cutting measures it had employed with its existing pipe. As the various test results revealed, pipe created using inferior ingredients, accelerated production rates, and improper tooling fails tensile strength testing a substantial percentage of the time. Had it been aware of the failing test results and J-M's tampering with the testing, UL would not have

given the pipe UL listing in the first place. Similarly, UL would have withdrawn any UL listing had it known that the precautions that had been taken to produce the passing results (slowing production rates and substituting higher quality ingredients) were not being taken with the daily production of the pipe.

C. J-M's False Representations Regarding UL Listing and UL Compliance

237. Despite its knowledge (beginning at least in 1991) that a substantial percentage of its PVC pipe failed to meet the LTS requirements of UL 1285 and its knowledge (as of at least June 1, 2005) that its new no-thickened-section pipe had a similar failure rate, J-M continued to represent to its distributors and customers, including the Real Parties, that its PVC pipe met the requirements of UL 1285. In its catalogs, J-M stated for both its Blue Brute and Big Blue PVC Pipe that it "is Underwriters Laboratories Listed" and has a tensile strength of 7,000 psi. **Exhibit 50**, incorporated herein. In one version of its website (dated 9/8/05), J-M stated that all classes of both its Blue Brute and Big Blue pressure pipe "are UL listed for water mains." **Exhibit 51**, incorporated herein. Except for those pipes painted purple for Reclaimed Water or green for Sewer, J-M continued to mark the outside surface of each length of its Blue Brute and Big Blue pipe with the UL Mark. See **Exhibit 52**, incorporated herein.

238. J-M also continued to provide certifications to its individual customers that its Blue Brute and Big Blue PVC pipe had been manufactured in accordance with the requirements of UL 1285. **Exhibit 53**, incorporated herein, contains examples of certification letters J-M provided its customers regarding Blue Brute's and Big Blue's compliance with the UL Standard and listing. At all times relevant to this Complaint, the Real Parties, like other government entities and water distribution systems, have required that all pipes for use in underground fire service systems be UL 1285 listed. **Exhibit 54**, incorporated herein, contains examples of specifications from various government entities in which UL listing is required for

pipe used in fire services. In addition to requiring UL listing for PVC pipe used in fire services, many of the Real Parties, like other government entities and water distribution systems, also require that all PVC pipe for use in their water distribution mains or water transmission lines shall be approved by UL and marked with the UL logo. **Exhibit 55**, incorporated herein, contains examples of specifications from government entities, including some of the Real Parties, for UL listing of PVC pipe used in water mains and transmission lines. Government entities, including the Real Parties, often require UL listing of J-M PVC pipe by requiring projects to comply with National Fire Protection Association ("NFPA") Standard 24, excerpts of which are attached hereto and incorporated herein as **Exhibit 56**, incorporated herein. For example, the federal Department of Defense global specifications for Fire Protection Engineering for Facilities require that water distribution systems be designed in accordance with "NFPA 24, Installation of Private Fire Service Mains and Their Appurtenances." **Exhibit 57** (Unified Facilities Criteria (UFC): Fire Protection Engineering For Facilities, Sept. 26, 2006, Section 3-7, "Water Distribution Systems," paragraph 3-7.1, "Distribution Mains"), incorporated herein. NFPA 24 applies to "combined service mains used to carry water for fire service and other uses." Exhibit 56 (NFPA 24 at § 1.1.2.). NFPA 24 requires that PVC pipe be "listed" for fire protection service and comply with certain standards, such as AWWA C900. See Exhibit 56, NFPA 24 at § 3.2.4, § 10.1.1 & Annex A § A.10.1.1. The requirement to be "listed" in this context means that the pipe must be inspected and tested by UL and FM for fire protection. See Exhibit 56, NFPA 24 at § 3.2.4 & Annex A § A.3.2.4; Exhibit 33, UL 1285 § 10.1 & § 21.1; **Exhibit 58**, FM 1612 §§ 1.1.1 & 1.1.2, incorporated herein. Many cities and government entities, including the Real Parties, require NFPA 24 compliance for fire protection service. See, e.g., **Exhibits** 54 & **59**, incorporated herein. The only means by which J-M can claim compliance with NFPA 24's "fire listing" requirement are through its claims of UL listing and/or FM approval (discussed in ¶ 408, infra).

VII. J-M SELLS SUBSTANDARD PVC PIPE THAT IT IMPROPERLY CERTIFIES AS MEETING CERTAIN NSF STANDARDS

239. NSF is a not-for-profit, non-governmental organization engaged in standards development, product certification, education, and risk-management for public health and safety.

240. To obtain certification under an NSF standard, the applicant must manufacture the pipe to be tested according to a defined formulation. The pipe is then tested according to the particular standard at issue. If the results are satisfactory, NSF authorizes use of that defined formulation to manufacture pipe that can be certified as complying with the particular standard. NSF also maintains a list of entities that have been authorized to designate their products as meeting NSF standards and uses that list to respond to inquiries regarding whether a manufacturer is NSF-compliant.

241. NSF Standard 14 is a performance standard that applies to both pressurized and non-pressurized pipe. NSF Standard 61 is a toxicology standard that applies to potable water pipe. NSF-PW is a designation J-M applied to its pipe that purported to satisfy both NSF Standard 61 for toxicology and NSF Standard 14 for performance.

242. Pursuant to NSF Standard 14, the pipes, couplings, and gaskets are all subject to testing. Specifically, in addition to other strength tests, tested pipe must pass an HDB Test component by achieving the HDB category of 4,000 psi. To achieve the HDB category of 4,000 psi, tested pipe must produce an LTHS of at least 3,830 psi.

243. Once NSF authorizes a manufacturer to designate a product as complying with a particular NSF standard, the manufacturer may designate a commercial product as complying with that standard only if the commercial product is manufactured using the same formulation and the same process that was used to produce the tested samples.

244. Among other types of pipe, J-M manufactured PVC pipe of two different types: C900 and ASTM D2241.

245. J-M certified that its C900 pipe complied with NSF Standard 61.

246. J-M certified that its ASTM D2241 pipe complied with both NSF Standard 61 and NSF Standard 14.

247. Following successful testing of the JM90 compound pipe pursuant to NSF Standard 61, NSF authorized J-M to designate that product, formulated with or without the use of A28 paraffin wax ("A28"), as complying with NSF Standard 61.

248. Following successful testing of the JM90 compound pipe pursuant to NSF Standard 14, NSF authorized J-M to designate that product, which was not formulated with A28, as complying with NSF Standard 14.

249. A28 was not a preapproved substitute ingredient for NSF 14 performance testing. In order to use A28 in NSF 14 certified products, a manufacturer must undergo testing at NSF to establish qualification. J-M never submitted ASTM D2241 pipe samples containing A28 to NSF for testing pursuant to NSF Standard 14, so NSF never authorized J-M to certify its ASTM D2241 pipe formulated with A28 as compliant with NSF Standard 14.

250. J-M nevertheless certified its ASTM D2241 pipe as complying with NSF Standard 14 by stamping the pipe with either an "NSF 14" or an "NSF PW" designation.

251. On August 4, 2003, an inspection conducted by NSF auditors at J-M's McNary, Oregon Plant ("McNary") uncovered J-M's unauthorized use of A28 in the formulation of certain of its JM90 PVC pipe that was certified to be "NSF 14" compliant.

252. As a result, NSF ordered J-M not to release approximately four million pounds of production pipe, which had been manufactured using A28 and was being stored at J-M's McNary warehouse (the "NSF Held Pipe").

A. J-M Responded to NSF Putting Four Million Pounds of Production Pipe on Hold at McNary by Releasing Non-Compliant Pipe and Cherry-Picking Samples to Secure NSF Certification by Fraudulent Means

253. As J-M is aware, PVC pipe specimens provided to NSF for certification testing must be "representative" of the production pipe to be manufactured. To be "representative," pipe specimens must be: (1) made using the same materials as in the actual pipe production; (2) produced in the same quantities as in the actual pipe production; and (3) formed using the same process as the manufacture of the actual pipe production. Offering pipe to NSF for certification testing that is not representative of the actual pipe production violates both the NSF guidelines generally and NSF Standard 14 specifically.

254. The purpose of the "representative" requirement is to prevent companies that manufacture PVC pipe, such as J-M, from manipulating the ingredients, formulae, or process when they manufacture specimen pipes for certification testing. In addition, these companies, including J-M, are also expressly prohibited from cherry-picking pipe specimens for testing by NSF when the companies know such test specimens are not representative of the production pipe they manufacture.

255. Only pipe that has the same ingredients, the same formula, and has been made using the same manufacturing process as specimen pipe certified by NSF as meeting the NSF Standard 14 requirements may be marked and sold as NSF Standard 14 pipe.

256. After NSF learned from its audit that A28 was being used as an ingredient in J-M pipe, the NSF auditor selected a 1" ASTM D2241 pipe specimen for testing from J-M's McNary plant. On information and belief, this 1" pipe specimen was production pipe manufactured at McNary in the normal course of its production operations.

257. On August 18, 2003, NSF representative Nasrin Kashefi ("Kashefi") emailed Hwang and Yang, noting the sample data for the 1" pipe did "not look good at all."

258. On August 20, 2003, Kashefi emailed Hwang and Yang, noting the sample data for the 1" pipe "still [did] not look good."

259. On August 29, 2003, Kashefi emailed Hwang and Yang, noting the sample data produced by the ongoing HDB test indicated that the 1" pipe would not meet the requirements to pass the HDB test.

260. An email sent on September 15, 2003 from Kashefi to Yang noted that the results for the 1" pipe were still not favorable.

261. As of September 15, 2003, data provided by NSF to J-M representatives indicated that the 1" pipe had an LTHS of 3,631 psi, and was thus unlikely to reach the requisite LTHS rate of 3,830 psi upon completion of the HDB test.

262. On September 22, 2003, J-M attempted to stop NSF testing of the 1" pipe by advising NSF that there was "foreign material" in the pipe being tested. J-M requested that NSF permit J-M to submit a different sample of 1" pipe for testing. NSF apparently denied this request.

263. On September 23, 2003, NSF issued a report on the 1" representative sample selected by the NSF auditor. The report concluded that the 1" pipe sample had an LTHS of 3,608 psi, and therefore had failed to meet the requirements of NSF Standard 14.

264. As a result of the obvious financial implications of not being able to sell four million pounds of pipe, J-M had a strong incentive to convince NSF that the NSF Held Pipe sitting in its warehouse did in fact meet the NSF Standard 14 requirements, and J-M promptly undertook steps to try to make this happen.

265. Upon learning of the hold implemented by NSF, J-M immediately dispatched Fassler to McNary to conduct an investigation.

266. Fassler reported to senior management of J-M that, among other things, the C900 pipe made with A28, though not subject to NSF Standard 14, was not compliant with manufacturing standards, but it had, nonetheless, been placed in the "shippable" inventory at McNary.

267. Fassler went on to report that he was unable to locate all of the rejected units of pipe made with A28.

268. On information and belief, the rejected pipe that Fassler was unable to locate in the warehouse had been shipped to customers.

269. Fassler reported to senior management that all production pipe – both C900 and ASTM D2241 varieties – at McNary was failing very basic Sustained Pressure Tests and, further, that production pipe showed defects in the form of pipe burning and non-conforming bell-ends.

270. Despite Fassler's report setting forth numerous, severe problems in the production of pipe at McNary, on August 6, 2003, Hwang sent an email to Kashefi requesting the release of all C900 production pipe sitting in the McNary warehouse – approximately 1-1.5 million pounds of pipe. J-M told Kashefi that because C900 pipe was not governed by NSF Standard 14, NSF had no basis to restrict its sale.

271. Though technically accurate, C900 pipe is still required to achieve the HDB category of 4,000 psi by producing an LTHS of at least 3,830 psi in compliance with NSF Standard 61. NSF Standard 61, in contrast to NSF Standard 14, does not require additional testing to ensure the HDB category was satisfied despite the introduction of A28 to the pipe formulation.

272. As a result, on August 7, 2003, with NSF's approval, J-M released 1.5 million pounds of the C900 pipe for sale, despite knowing from Fassler's investigation and J-M's own Quick Burst testing that the C900 pipe did not conform to basic industry standards.

273. Even after the release of the C900 pipe, there still remained 2.5 million pounds of ASTM D2441 pipe subject to NSF regulation (the "Remaining NSF Held

Pipe").

274. On information and belief, to this day, not one entity that purchased C900 pipe from J-M has been informed by J-M that: (1) Fassler's report found that production pipe produced at McNary was of inferior quality; (2) test results from the 1" pipe selected by NSF failed HDB testing; or (3) J-M attempted to cherry-pick pipe in an attempt to get the Remaining NSF Held Pipe released, as set forth in more detail below.

275. In addition to the reports J-M received from NSF and Fassler in the beginning of August as set forth in paragraphs 266-269, supra, J-M received additional reports from Fassler in late August that McNary's Quick Burst Test equipment was failing to properly identify pipe with compromised integrity – a point that Hwang acknowledged, stating that test equipment at McNary had needed to be upgraded "for a long time," and that the plant had lacked a meaningful quality control test "for a long time."

276. Despite receiving the aforementioned updates and reports from NSF about the failing test specimen, and despite Fassler's reports and Hwang's acknowledgement of serious problems with the production pipe at McNary, on September 2, 2003, Yang emailed NSF representative Kashefi, copying Hwang, and sought the release of the Remaining NSF Held Pipe, stating that J-M would take "full responsibility" for its release.

277. NSF refused to authorize the release of the Remaining NSF Held Pipe and made clear that J-M would need to pass certification tests on the pipe before NSF would lift its hold.

1. Unable to Convince NSF to Release the Hold Absent Passing Test Results, J-M Conspires to Supply NSF with Cherry-Picked Samples of the Remaining ASTM D2241 Pipe

278. Recognizing that NSF would not permit J-M to release the Remaining NSF Held Pipe without passing test results, J-M focused its efforts on attempting to

locate pipe that would pass. In order to do this, J-M senior managers decided that they would pre-test pipe before sending it to NSF for certification testing. J-M implemented a policy under which only those samples that passed J-M's pre-tests would be sent to NSF for testing.

279. Internal correspondence at J-M dated September 26, 2003 explained that the "fix" was to never send out a sample produced on a change-over day and, in the future, to cherry-pick samples and pre-test them to ensure that they will pass NSF's HDB test.

280. J-M pre-tested the pipe by subjecting samples to the Quick Burst Test – a test that can also be used to predict a pipe's ability to pass HDB testing. If a J-M pipe failed to reach a Quick Burst result significantly higher than 6,400 psi, the likelihood that it would fail HDB testing (which required 7,200 psi on Quick Burst for J-M pipe to pass HDB testing) increased dramatically.

281. J-M engaged in this practice of cherry-picking pipe despite knowing that doing so violated NSF Standard 14. At all times relevant to the Complaint, J-M knew that pipe undergoing certification testing had to be "representative" of production pipe and that J-M was not permitted to pre-test pipe.

282. In an effort to find pipe that might pass NSF certification testing, in late September 2003, J-M sent Yang, at that time head of Research and Development at J-M, to McNary to identify and test samples of pipe.

283. During his visit, Yang observed pipe of such poor quality that he could not, and did not, recommend a single pipe specimen for pre-testing.

284. J-M senior management displayed no concern for the poor quality of the pipe being manufactured at McNary. Instead, they demanded an immediate resolution to "this A28 issue," a resolution that would permit J-M to sell the Remaining NSF Held Pipe and continue to manufacture substandard pipe.

285. In late September 2003, Yang traveled to McNary to select and monitor Quick Burst testing on J-M 3/4", 1", and 1 1/2" PVC pipe samples prior to sending

them to NSF.

286. On September 25, 2003, internal J-M Quick Burst test results of Yang's hand-selected pipe were produced. Based on these results, J-M sent samples of J-M's 3/4" and 1 1/2" PVC pipe to NSF.

287. J-M did not send a sample of the 1" PVC pipe to NSF because the Quick Burst Test results indicated a strong likelihood that the sample would not pass NSF testing.

288. On October 14, 2003, preliminary NSF laboratory results of the HDB testing for both the 3/4" and 1 1/2" PVC pipe samples selected by Yang were produced. Both the 3/4" and 1 1/2" PVC pipe showed a likelihood of failing the HDB test, with an initial LTHS of 3,621 psi and 3,784 psi, respectively.

289. Despite these initial October 14, 2003 test results, J-M continued to press NSF to release the Remaining NSF Held Pipe in its warehouse.

290. NSF conveyed to J-M that all sizes of the Remaining NSF Held Pipe had to pass HDB testing, as provided by NSF Standard 14, before the pipe could be released.

291. Ultimately, in an October 20, 2003 email, Kashefi confirmed to Hwang that both the 3/4" and 1 1/2" PVC pipe samples selected by Yang produced failing HDB testing results with an LTHS of 3,672 psi and 3,792 psi, respectively.

292. Following Kashefi's email confirming the final test results for the 3/4" and 1 1/2" PVC pipe samples, Yang wrote an email to Hwang, dated October 21, 2003, questioning J-M's pipe quality in general. He wondered whether the source of the failures was a quality control problem limited to McNary, a "general problem all over J-M," or "a problem with A28 in [J-M's] formulation."

293. Additionally, since the 1 1/2" PVC pipe was close to meeting the HDB threshold of an LTHS of 3,830 psi, J-M sent an additional pre-screened sample of this size pipe to NSF, hoping that it would reach an LTHS of 3,830 psi.

294. While the 1 1/2" pipe sample was being tested by NSF, J-M sent a

second sample of the same size pipe from the same lot to Universal Laboratory.

295. J-M pressed NSF to accept an alternative result from Universal Laboratory in the event that the 1 1/2" pipe sample failed at NSF but the sample at Universal Laboratory passed.

296. In an email dated December 21, 2003, Kashefi told Yang that the 1 1/2" pipe would likely pass the HDB Test, indicating that J-M's cherry-picking had finally paid off.

297. Kashefi further stated that the release would apply only to the 1 1/2" pipe. She explained that the remainder must either be destroyed or J-M must submit a sample "for each size" for the HDB test.

298. Meanwhile, the 1 1/2" pipe sample sent to Universal Laboratory, despite being from the same lot as the sample sent to NSF, was on track to fail the HDB testing as of January 16, 2004.

299. Once NSF said that the 1 1/2" pipe sample tested was on track to pass HDB testing, Lin confirmed that the anticipated release by NSF for that pipe size applied to all classes of 1 1/2" pipe – not just the class of the passing samples. The ASTM D2241 pipe being subjected to NSF testing came in different classes based on the relative strength of the pipe. Each class must meet the established HDB testing requirement.

300. J-M's anticipated release of the 1 1/2" pipe applied to all the different classes of that size pipe, even though only one class had been subjected to NSF testing.

301. On March 5, 2004, NSF authorized the release of all 1 1/2" pipe and 4" pipe being held at McNary.

302. Ten days later, on March 15, 2004, Universal Laboratory sent a letter to J-M, noting that the 1 1/2" pipe sample had failed, with a result of 3,436 psi. J-M did not inform NSF of this failing result from the same lot that was being tested by NSF.

2. Impatient for the Release of Pipe, J-M Management Continued to Cherry-pick Samples for NSF Testing Throughout the Fall and Winter of 2003-2004

303. By December 2003, J-M had sent pipe specimens of 1" pipe, 3/4" pipe, and 1 1/2" pipe from McNary to NSF, all of which had failed NSF testing despite J-M's efforts to cherry-pick samples. Faced with approximately 2.5 million pounds of pipe in McNary's warehouse, J-M was desperate to find a way to release that pipe for sale, despite knowing from its own testing, and that of NSF, that much of the pipe was substandard and of poor quality.

304. On December 13, 2003, Lin emailed Yang and Hwang, pushing them to get NSF to release the Remaining NSF Held Pipe at McNary without regard to the integrity of the pipe subject to the hold.

305. Between December 27 and December 31, 2003, Yang went to McNary specifically to cherry-pick samples that could be pre-tested in private laboratories to determine whether they would pass NSF certification tests.

306. J-M concentrated its cherry-picking and pre-testing of samples on those pipe sizes affected most by NSF's hold, in order to gain the release of as much pipe as possible.

307. In trying to locate suitable samples that might eventually pass NSF testing, Yang determined that most of the PVC pipe that was 4" and larger might not be worth saving "since they [we]re out-of-spec" and/or had "low hoop stress."

308. As a result, Yang recommended that J-M McNary's 6", 8", and 10" pipe should be scrapped, as should the 4" pipe if that size did not pass pre-testing.

309. Yang's observations regarding the questionable pipe quality were passed on to Eric Dirks by Hwang. Hwang noted that J-M did not want to take the chance of having another pipe sample that was sent to NSF fail the HDB test.

310. With J-M's management seeking the immediate release of the Remaining NSF Held Pipe, Fassler again visited McNary from February 9 through

February 11, 2004, to observe pipe production and testing.

311. In his report to senior management, Fassler noted that with regard to the pipe production process, a "few defects ran for several hours, without correction," that "15% of pipe inventory measured had thin walls," and that there was a need to modify extrusion operating conditions to address the wall thickness issue – a problem that applied to several lines of production.

312. Fassler further reported that Quick Burst testing machines had not been updated to compliance with ASTM D1599-99, another regulatory standard governing JM-90 PVC pipe, despite his express directive several months earlier that this be done.

313. Concerned only with the bottom-line, on February 12, 2004, J-M's President, Walter Wang, emailed Lin wanting to know why McNary had so much non-shippable pipe.

314. Lin forwarded Walter Wang's email to Hwang and Yang and directed them to develop a timeline for resolving the pipe hold at McNary, expressing no concern for the integrity of the pipe J-M sought to reintroduce to commerce.

315. Four days later, on February 16, 2004, J-M received pre-test results from the pipes that it had selected for pre-testing at McNary. On this occasion, J-M had tested several size pipes, including 3/4", 1", 3", 4", 6", 8", and 10" pipe. Of all these pipe samples pre-tested by J-M, only the 4" sample was likely to be in compliance with NSF Standard 14 for HDB strength.

316. That same day, in response to the pre-testing results and concerned about the quality of the pipe at McNary, Hwang recommended that J-M senior management scrap all McNary pipe, with the exception of the 1 1/2" and 4" sizes.

317. Given the internal results of J-M's pre-testing, only the hand-picked sample of 4" PVC pipe was sent to NSF for testing.

318. The pre-tested 4" PVC pipe was able to pass NSF's HDB test. As a result, NSF released the hold on that size pipe. As of this time, NSF had authorized

the release of only the 1 1/2" and 4" PVC pipe.

319. J-M persisted with cherry-picking and pre-screening other sizes of J-M PVC pipe to try to obtain the release of additional pipe sizes from NSF.

320. For example, in early March 2004, J-M again pre-tested various sizes of J-M pipe at McNary with the hope of identifying samples it could send to NSF for additional testing. Of all the pipe sizes tested, J-M found that only the 1/2", the 1 1/4" and the 2 1/2" pipes passed J-M's internal standard of 7,200 psi for the Quick Burst test.

321. This Quick Bust testing resulted in multiple samples of 3", 6", and 8" pipe failing to meet the internal standards, as well as one sample of size 10" pipe that failed to meet internal standards.

322. Given the results of the pre-testing, in a last-ditch effort to secure the release of the pipe at McNary, in late March 2004, Yang directed plant personnel to send the "best" sizes of 6" and 8" pipe and to send 1/2", 1 1/4", 2 1/2", and 3" pipe to NSF for certification testing. Yang told also plant personnel to resample the 2" and 10" pipe.

323. In April 2004, NSF reported to J-M that the 3/4" pipe passed the HDB testing. However, this passing result was accomplished only by excluding certain data points. Had NSF included all the data points, the pipe would have failed.

324. Also in April 2004, Quick Burst Test results for various samples of 2" pipe from McNary were reported to Yang. Of those five samples, only one of the 2" pipe samples tested met J-M's Quick Burst Test standard of 7,200 psi.

325. Based on this data, Yang instructed McNary personnel that the one sample that had met the J-M Quick Burst standard should be the one to be sent to NSF for testing.

326. Also in April 2004, J-M performed internal testing on pre-selected 10" PVC pipe.

327. Though the average result for this test was only 6,806 psi, a sample of

this pipe was also sent by J-M to NSF for testing.

328. Ultimately, in June 2004, NSF confirmed that the 2" pipe failed to pass the HDB testing requirement with an LTHS of 3,559 psi. This test result indicates that the pipe would have less than 12% useful life as compared to a pipe that satisfied the NSF standard.

329. Also in June 2004, NSF confirmed that a 3" pipe sample sent by J-M to NSF in March failed with an LTHS of 3,753 psi.

330. On July 30, 2004, J-M's 10" pipe sample failed NSF testing with an LTHS 3,472 psi. This test result indicates that the pipe would have less than 7% useful life as compared to a pipe that satisfied the NSF standard.

331. On May 27, 2004, NSF informed J-M that the 8" sample provided to NSF by J-M in March of that year had passed the HDB testing. J-M subsequently released this pipe.

332. In June 2004, NSF authorized the release of the 6" pipe provided to NSF by J-M in March of that year.

333. Also in June 2004, NSF confirmed the release of 1 1/4" and 2 1/2" pipe, based on samples that J-M had pre-tested and sent to NSF for subsequent testing in March 2004.

334. In July 2004, NSF testing results for the 1/2" pipe that had been selected and pre-tested by J-M in March 2004 showed an LTHS of an abysmal 422 psi.

335. J-M pre-screened another pipe sample of this size and sent another sample in September 2004. In October 2004, NSF indicated to J-M that this later-provided sample of 1/2" pipe passed NSF testing.

336. An IRA dated November 18, 2004 suggested scrapping all 10" pipe. There is no indication that this was done. To the contrary, J-M continued to have a problem with "missing" rejected pipe, suggesting J-M continued to sell pipe that failed to meet NSF standards.

B. J-M's Problems at McNary were Well-Documented and Not Isolated

337. J-M was on notice of significant pipe production problems at McNary since at least 2000.

338. Through reports sent to senior J-M management dating back to September 30, 2000, J-M was aware that: (a) there was little to no quality control testing being done at McNary on the initial days of production; (b) there were unstable extrusion conditions in the pipe production process; and (c) there was poor monitoring of the pipe production process overall.

339. J-M was also aware as early as September 2000 that pipe classified as "shippable" inventory at McNary was not in fact suitable for sale.

340. J-M senior management were well aware of specific concerns raised by plant management at McNary that the hiring of inexperienced staff there in order to reduce labor costs was contributing to the poor pipe quality being manufactured at that plant.

341. J-M's reaction to McNary management's pleas for more experienced workers was to instruct plant management to push the employees harder and/or "write them up."

C. J-M's Conduct with Respect to the A28 Issue is Consistent with J-M's Corporate Culture

342. Yang has stated that J-M management tactics included attempts to block any investigation of the cause of pipe non-conformity, including withholding test results from company personnel.

343. Lin and Rao told J-M personnel to ignore all failing test results for pipe in the quality assurance tests.

344. Yang was told by J-M management, Rao and Lin, to falsify his analysis of claims by customers so as to make it look as though J-M were not at fault. Lin and Rao would then sign off on his reports, aware that they were falsified.

345. Employees who brought issues of pipe quality to management's attention were labeled as "trouble-makers."

346. Yang quit his position at J-M because management would not let him do his job properly and cared only about profit and not whether the pipe that was shipped was NSF-compliant.

347. J-M had a practice of re-introducing rejected product into the shippable inventory.

VIII. J-M'S SALE OF SUBSTANDARD PVC PIPE THAT DOES NOT MEET AWWA AND ASTM D2241 REQUIREMENTS

348. AWWA, an organization of which J-M has always been a member, has promulgated standards governing the physical and chemical properties, including required tensile strength, of PVC pressure pipe for water (potable and reclaimed) and forced-sewer transport. AWWA Standard C900 applies to 4" through 12" diameter PVC pressure pipe for distribution, and AWWA C905 applies to 14" through 48" diameter PVC Pressure Pipe used for transmission and distribution. See Exhibit 39.

349. Before AWWA standards for modern urban projects came into prominence, the prevailing industry standard governing PVC pressure pipe was ASTM D2241. See **Exhibit 60**, incorporated herein. ASTM is one of the largest standards organizations in the world. ASTM's mission statement includes the development of standards to "promote public health and safety" and to "contribute to the reliability of materials, products, systems and services." ASTM standards are widely used and incorporated into other industry standards as well as government contracts and specifications. Many manufacturers, including J-M, represent that their products have been manufactured and tested in conformance with ASTM standards by so indicating on the product itself or in marketing or other labeling materials. J-M markets and sells its ASTM D2241 pipe both as "IPS" pipe (IPS refers to Iron Pipe Size), and "PIP" pipe (referring to Plastic Irrigation Pipe). This

Complaint refers to IPS pipe (which includes potable water, reclaimed water, and forced-sewer IPS pipe) and PIP pipe collectively as "ASTM D2241 pipe." Although AWWA controls most new urban piping installations, ASTM D2241 pipe continues to be used in substantial amounts, especially in rural applications.

350. Like AWWA C900, ASTM D2241 sets minimal requirements for the physical and chemical properties of PVC pressure pipe for water transport (potable and reclaimed) and for forced-sewer applications. For all purposes relevant to this Complaint, ASTM D2241 pipe is made with the same ingredients and processed in the same manner and on the same equipment as AWWA C900/C905 pipe. Moreover, the pertinent requirements of ASTM D2241 are substantively the same as the requirements of AWWA C900/C905, as further shown below. Therefore, the various J-M manufacturing practices that resulted in its failure to meet standards requirements apply equally to both AWWA C900/C905 and ASTM D2241 pipe. Relator has knowledge of J-M pipe manufacturing failures both in the field and in the laboratory for ASTM D2241 pipe as well as AWWA pipe.

351. At all times relevant to this Complaint, the Real Parties, like other government entities with water and sewer systems, have required that PVC pressure pipe for use in their systems comply with or exceed the standards described in AWWA Standards C900/C905 or ASTM Standard D2241. See **Exhibits** 55, **61, & 62**, incorporated herein. AWWA and ASTM D2241 Standards are the universal standards applied in the PVC pressure pipe industry. The standards organizations UL and FM (discussed infra) do not cover sewer and reclaimed-water pipe. J-M, therefore, does not mark its forced-sewer or reclaimed water pipe with UL or FM marks, but it does mark such pipe as compliant with AWWA C900, AWWA C905, or ASTM D2241. Compliance with the requirements of AWWA or ASTM D2241 is so consistent and widespread in this country that the requirement of compliance is understood by domestic purchasers and sellers of water works products regardless of whether it is stated expressly.

352. Relator is unaware of any domestic PVC pipe manufacturer or distributor who openly offers to sell PVC pressure pipe in the DRs (dimension ratios) and standard dimension ratios ("SDRs") offered by J-M that does not claim to comply with AWWA Standards C900 or C905 or ASTM Standard D2241. Nor is Relator aware of any domestic water or forced-sewer system that knowingly permits the purchase of PVC pipe that does not comply with the tensile strength requirements of AWWA C900/C905 or ASTM D2241. The Real Parties would never have knowingly purchased PVC pressure pipe for use in their water and sewer systems that did not comply with AWWA or ASTM D2241 standards.

353. To be compliant with the standards, PVC pressure pipe must satisfy certain strength and extrusion-quality tests set forth in AWWA C900/C905 and ASTM D2241, including without limitation: (1) Cell Class Testing, (2) HDB Testing, (3) Sustained Pressure Testing, (4) Quick Burst Testing, and (5) Acetone-Immersion Testing. For all purposes relevant to this Complaint, the requirements of these tests are substantively identical for both AWWA C900/C905 and ASTM D2241. Broadly described, the purpose of these tests is to ensure PVC pipe will withstand varying pressures over both short and long periods without leaking. These tests are also meant to ensure that J-M's production pipe is representative of the pipe that originally qualified for the standards, as mandated within the requirements of AWWA C900/905 and ASTM D2241. However, because of its cost-cutting and productivity measures described in section V above, J-M repeatedly failed each of these tensile strength tests beginning in at least 1991.

A. <u>Cell Class Testing</u>

354. PVC compounds are identified by a numerical classification system in which each number corresponds to a cell in a Table that identifies the particular property and the minimum required value for that property. AWWA C900/C905 and ASTM D2241 require that the compound from which PVC pipe is made shall equal or exceed "cell class 12454" as defined in ASTM D1784. Exhibits 39 & 60.

In describing the classification system, ASTM D1784 states that the third number in the designation corresponds to the compound's tensile strength requirements. See **Exhibit 63**, incorporated herein. For cell class 12454, the third number of the designation is 4, which translates to a required tensile strength of 7,000 psi. Id.

355. In addition to providing the physical properties that each cell class must have, ASTM D1784 also prescribes the method by which the specimens for testing compliance with these requirements shall be prepared. Until February 1997, ASTM D1784 only provided one way of preparing the specimens and that was by compression molding. See **Exhibit 64**, incorporated herein. To prepare a sample by compression molding, separate sheets of PVC compound or pipe are pressed together between two metal drums to form a laminate.

356. However, beginning in February 1997, ASTM D1784 was revised to include two additional specimen preparation methods. Instead of just compression-molded specimens, ASTM D1784 provided that compliance with the cell classification requirements "shall be determined with compression-molded, extruded, or injection-molded test specimens for . . . tensile strength." **Exhibit 65** at Section 10, incorporated herein.

357. In the Spring of 1997, Doug Boitz ("Boitz"), J-M's former Product Assurance Manager, contacted members of ASTM D20.15, the Committee responsible for amending ASTM D1784, for guidance regarding the proper interpretation of the amendments to Section 10, the section on specimen preparation. Following his consultation with the Committee members, Boitz wrote an internal memorandum to Lin, discussing what he had learned. See **Exhibit 66**, incorporated herein.

358. In this memo, dated May 5, 1997, Boitz states that the Committee's intent for the change is "to create the ability for manufacturers of extruded or injection molded products to have samples of materials for testing that are representative of the products, which they are producing." Exhibit 66. In other

words, the Committee intended that manufacturers of extruded products use an extruded sample for testing, while manufacturers of compression-molded products use a compression-molded test sample. The Committee's reasoning, Boitz said, was "that the processing can greatly affect the properties and quality of the material or compound." Id. Since J-M produces its PVC pipe by extrusion, Boitz concluded that ASTM D1784 now required J-M to prepare its specimens by extrusion as well "so that the results obtained from finished products are not significantly different than the tested specimens." Id. At the end of the memo, Boitz recommends to Lin that J-M's Research and Development Department be notified of this issue so that it can amend J-M's sample preparation methods to include extruded samples. Id.

359. Despite this clear statement from the ASTM Committee Members that J-M, as a manufacturer of extruded pipe, must use extruded specimens for purposes of cell class testing, Relator has information and believes that J-M continued to use compression molding as one of the primary means of sample preparation for its cell class testing from and after February 1997. The reason for J-M's allegiance to the compression-molded specimens is that its JM90 compound performs better and yields higher tensile strength results under the compression-molding process than can be obtained via extrusion. With the use of compression-molded samples, J-M was able to artificially boost its tensile strength results and thereby conceal the fact that its actual tensile strengths were below the minimum 7,000 psi required by AWWA C900/C905 and by ASTM D2241.

360. Two third-party certifiers, International Association of Plumbing and Mechanical Officials ("IAPMO") and NSF, require J-M to submit to annual cell class testing, which includes tests to confirm that J-M's PVC pipe meets a minimum tensile strength of 7,000 psi. By contrast, AWWA and ASTM, which operate on an honor system, do not require manufacturers to submit to testing or audits. Relying on the good faith of the manufacturers, AWWA and ASTM operate on the assumption that a manufacturer that represents its parts as being compliant will have

regularly performed the necessary tests listed in the standards to ensure that its parts comply and will sell only compliant products.

361. In preparing its samples for the annual IAPMO and NSF cell class testing, J-M followed many of the same practices it had used in preparing samples for UL qualification of its no-thickened-section pipe. That is, J-M followed a manufacturing process that was not representative of the actual conditions under which its PVC pipe is ordinarily made. J-M had Fassler specially prepare the samples using compression molding, as opposed to extrusion, with an extraordinary degree of care and precision. As with its UL qualification testing of the no-thickened-section pipe, J-M prepared multiple specimens from each lot and sent a subset of these samples to outside laboratories to confirm that when IAPMO or NSF tested the other samples they would meet the required minimum tensile strength of 7,000 psi.

362. Even with the advantages gained by special preparation and use of compression-molded samples, J-M only barely met the minimum requirement of 7,000 psi in the 2005 annual cell class test performed for IAMPO, and J-M failed tensile strength in prior years' annual IAMPO and NSF testing. **Exhibit 67**, incorporated herein, is a copy of a test report from CRT Laboratories, Inc. describing cell class testing performed for IAPMO in June 2005 on J-M compression-molded samples. While the samples were found to meet the minimum cell class requirements of cell class 12464, the tensile strength results of 7,081 psi were only slightly above the minimum requirement of 7,000 psi. See Exhibit 67.

363. On multiple occasions, including on September 13, 2005, Yang told Relator that, without the benefit of compression molding and special preparation, J-M's PVC pipe compound actually has a maximum tensile strength of approximately 6,700 psi. Yang cited "extrusion conditions" (i.e., J-M's accelerated production rate and improper tooling and maintenance of its extruders) as the reason for J-M's inability to satisfy the tensile strength requirements of cell class 12454. **Exhibit 68**

(Relator's notes dated 9/13/05), incorporated herein.

B. HDB Testing

364. As set forth in section VI.B. (see ¶¶ 192-236, supra), to qualify J-M's new, no-thickened-section pipe for UL listing, UL required J-M to satisfy the HDB requirements specified in Section 4.3.2.2(b) of AWWA C900 and C905. As described herein at section VI.B.1. (¶¶ 200-214) and section VI.B.4 (¶¶ 229-233), J-M began producing no-thickened-section pipe on June 1, 2005 despite the fact that it had test results showing that the pipe failed the HDB testing required by AWWA C900 and C905 more than 50 percent of the time. As a result, it is more likely than not purchasers of J-M's no-thickened-section Blue Brute PVC pipe, including the Real Parties, received pipe that fails to comply with the HDB requirements of AWWA C900 and C905.

365. As applied to J-M's PVC pressure pipe, AWWA C900/C905 and ASTM D2241 contain the same HDB requirement: that the pipe be manufactured to meet an HDB category of 4,000 psi. See Exhibit 60. J-M's difficulties with satisfying the HDB requirements predate the production of its AWWA C900 no-thickened-section pipe. J-M also had difficulty satisfying the HDB requirements under J-M's original pipe design (i.e., J-M's thickened-section Blue Brute and Big Blue PVC pipe) and the HDB requirement of its ASTM D2241 pipe. For instance, as discussed in paragraph 151, on November 14, 2003, Fassler cited as one of the impediments to the success of the No Thickened Section Project the fact that J-M had been experiencing failures in the HDB testing on its existing pipe. See Exhibit 43. Relator has information and believes that despite these failing test results, J-M did not reject or scrap a PVC pipe for having failed HDB testing.

366. In the 1980s, the Plastic Pipe Section of Johns-Manville, the predecessor company to J-M, promulgated a series of product specifications, many of which were more stringent than applicable industry standards and customer specifications. Johns-Manville included assurances of adherence to these company

specifications in its express warranty. When it was founded in 1982, J-M continued to maintain the company specifications Johns-Manville had created and included them in its warranty.

367. One of these product specifications, J-M Specification No. PL-25 for 4" through 12" PVC Plastic Blue Brute pipe, required the pipe to meet a minimum quick burst stress of 7,200 psi, which was significantly higher than AWWA C900's requirement of 6,400 psi. J-M had the same requirement – a minimum quick burst stress of 7,200 psi – for its ASTM D2241 pipe. One of the primary reasons for the more stringent requirement was to ensure that J-M's PVC pipe would meet the required HDB tensile strength category. In other words, if the PVC pipe withstood a stress of 7,200 psi during the 60-second Quick Burst Test, it would be more likely to pass the required HDB category of 4,000 psi during the subsequent HDB testing. Conversely, if the PVC pipe failed below 7,200 psi during the Quick Burst Test, it would be at risk of failing to meet the HDB category of 4,000 psi. If the pipe failed below 7,000 psi during the Quick Burst Test, it probably would not meet the HDB category of 4,000 psi. As described in paragraphs 204-205 above, because the Quick Burst testing always precedes the HDB testing, the Quick Burst results can provide an early indication of whether the pipe will pass HDB.

368. In a December 11, 2001 email to Hwang, Fassler stated: "Historically, JM90 pipe that fails ASTM D1599 at less than 7200 psi hoop stress is questionable. JM90 pipe that fails ASTM D1599 at less than 7000 psi hoop stress is BAD PIPE."

369. J-M's normal production pipe typically ranges from 6,400 to 6,800 psi.

370. J-M considers anything below 7200 as a "fail." JM-90 pipe falling below a hoop stress of less than 7,200 psi is at higher risk of failing long-term pressure testing.

371. In an April 17, 2002 memorandum to Chen, Fassler stated: "The data on hand at R&D shows that sustained pressure & HDB test failures become likely in pipe giving QB hoop stresses below 7000 psi."

372. Fassler's PowerPoint Presentation on HDB at the November 11, 2004 Quality Assurance Meeting states: "When providing pipe samples to R&D and/or submitting the same to any outside agencies for testing: (c) Prepare specimens from pipe with a short-term burst pressure test result of 7200 psi or higher."

373. In a memorandum to Hwang regarding the "Benefits of Quick-Burst Testing to 7200 psi Hoop Stress" dated January 25, 2002, Fassler stated: "Bad pipe will almost always exceed 6400 psi hoop stress on the quick-burst test." Also, "PVC pipe that fails at less than 7200 psi hoop stress is poorly extruded. All the sustained pressure test failures and all the HDB (Hydrostatic Design Basis) test failures in recent years involved pipe that gave quick-burst test results of less than 7200 psi hoop stress. For the above reasons, I suggest that a quick-burst hoop stress result of 7200 psi hoop stress be set as the minimum acceptable level for J-M PVC pressure pipe. The outside agency standard minimums (typically based on 6400 psi hoop stress) can still be used to defend the Company against customer complaints. Deviations can be granted for pipe exceeding 6400 psi hoop stress."

374. However, on November 19, 2004, J-M revised Specification No. PL-25 to lower the short-term quick-burst pressure requirement to the 6,400 psi required by AWWA C900 because it could no longer meet the higher J-M pressure requirement of 7,200 psi. **Exhibit 69**, incorporated herein, is a red-lined copy of Specification No. PL-25 reflecting the revision to the lower 6,400 psi requirement. J-M also revised its quick-burst pressure requirement for ASTM D2241 pipe. J-M made this revision knowing that, by lowering the quick burst pressure requirement, it would no longer be able to meet the HDB test requirements of AWWA C900/C905 and ASTM D2241. Despite this knowledge, before making this revision, J-M did not perform any testing to determine its effect on HDB.

C. Sustained Pressure Testing

375. As described herein at section VI.B.2. (¶¶ 215-220), to qualify J-M's new, no-thickened-section pipe for UL listing, UL required J-M to demonstrate the

pipe could pass the Sustained Pressure Test specified in Section 18 of UL 1285. As further described in section VI.B.2. (¶¶ 215-220), J-M was only able to pass this test by resorting to the following fraudulent practices: (1) preparing its samples using materials and processing conditions that were vastly superior to those J-M actually used in its day-to-day manufacturing of pipe; (2) cherry-picking samples from lots that had produced passing HDB test results to increase the likelihood they would pass in front of UL; and (3) concealing these facts from UL, other standards and certifying organizations, and J-M's distributors and customers. Despite the fact it had improperly manipulated the test materials and conditions of the Sustained Pressure Tests to mask the underlying tensile strength problems with the pipe, J-M began producing no-thickened-section pipe on June 1, 2005.

376. The Sustained Pressure Test contained in Section 18 of UL 1285 is substantively identical to the Sustained Pressure Test required by sections 4.3.3.1 and 5.1.3 of AWWA C900. See Exhibits 33 & 39. Accordingly, in addition to violating UL 1285, J-M also violated AWWA C900 when it engaged in the three fraudulent practices described above while performing the Sustained Pressure Test on its new, no-thickened-section pipe. As a result of these practices, since June 1, 2005 (the date J-M began producing no-thickened-section pipe), it is more likely than not purchasers of J-M's no-thickened-section Blue Brute PVC pipe, including the Real Parties, received pipe that (when tested properly with representative samples) fails to comply with the Sustained Pressure Test requirements of AWWA C900.

377. Over a year before it performed the Sustained Pressure Tests described above on its no-thickened-section pipe, J-M had received reports of its existing PVC pipe failing Sustained Pressure Tests performed for NSF. NSF's and AWWA's C900/C905 Sustained Pressure Test requirement is substantively identical to the Sustained Pressure Test required by sections 6.2 and 8.4 of ASTM D2241. As discussed in paragraph 203, on November 14, 2003, Fassler cited as one of the

impediments to the success of the No Thickened Section Project the fact that "[r]ecently, pipe from some facilities has failed sustained pressure testing at NSF." Exhibit 43. Relator has information and believes that despite these failing test results, J-M has never rejected or scrapped a PVC pipe for having failed Sustained Pressure Testing.

D. Quick Burst Testing

378. As described herein at section VI.B.3. (¶¶ 221-228), to qualify J-M's new, no-thickened-section pipe for UL listing, UL required J-M to demonstrate the pipe could pass the Quick Burst Test specified in Section 4.3.3.2 of AWWA C900, which is substantively the same as Section 8.5 of ASTM D2241. As further described in section VI.B.3. (¶¶ 221-228), J-M failed several of the Quick Burst Tests and ultimately was only able to pass this test by resorting to the following fraudulent practices: (1) preparing its samples using materials and processing conditions that were vastly superior to those J-M actually used in its day-to-day manufacturing of pipe; (2) cherry-picking samples from lots that had produced passing HDB and Sustained Pressure Test results to increase the likelihood they would pass in front of UL; and (3) concealing these facts from UL, other standards and certifying organizations, and J-M's distributors and customers. Despite the fact it had improperly manipulated the test materials and conditions of the Quick Burst Test to mask the underlying tensile-strength problems with the pipe, J-M began producing no-thickened-section pipe on June 1, 2005. As a result, it is more likely than not purchasers of J-M's no-thickened-section Blue Brute PVC pipe, including the Real Parties, have received pipe that fails to comply with the Quick Burst requirements of AWWA C900.

379. Well over a year before it performed the Quick Burst Tests described above on its no-thickened-section pipe, J-M had knowledge that its existing PVC pipe was failing the Quick Burst Tests performed daily for purposes of AWWA C900 and ASTM D2241 at each of its 11 PVC pipe plants. By at least early 2004,

Relator, Yang, and Fassler began to receive word from the Quality Control Supervisors at J-M's 11 Plants producing PVC pipe that their respective Plant Managers were overriding reject tags and sending out PVC pipe that the Quality Control Supervisors had rejected for failing the daily Quick Burst Tests. Relator personally had received three such complaints from Michael Henderson (the Quality Control Supervisor at the Butner, North Carolina Plant), Armondo Martinez (the Quality Control Supervisor at the Fontana, California Plant), and Joe Soliz (the Quality Control Supervisor at the Wharton, Texas Plant).

380. To try and address this and other burgeoning quality-control problems, Yang, at that time J-M's newly appointed Corporate Quality Control Supervisor, called a meeting of all of the Quality Control Supervisors from each of J-M's 11 PVC-pipe Plants. In addition to Yang and the 11 Quality Control Supervisors, the other attendees were Relator, Rao, Fassler, and Beryl Nadia and Lenor Chang, both of whom worked for Fassler. At this meeting, which was held at J-M's Pueblo, Colorado Plant in the Spring of 2004, the Quality Control Supervisors told stories of having rejected PVC pipe for failing daily Quick Burst Tests and then being instructed by their respective Plant Managers to continue to test the pipe until they got a passing result. Since a pipe's tensile strength and other properties gradually increase or stabilize as it is allowed to cool and harden, it often took the Quality Control Supervisors several days and repeated testing to achieve a passing result. However, such repeated testing of individual samples is expressly prohibited by Section 5.1.3 of AWWA C900, which provides that specimens are to be tested "at the beginning of production of each specific material and each size" and thereafter every 24 hours. Exhibit 39. ASTM D2241 permits certain retesting only by agreement between the purchaser and seller of the pipe. Exhibit 60 at Section 9.1.

381. Once a passing result was obtained, the Quality Control Supervisors said the Plant Managers would instruct them to release and ship the pipe despite the fact that it may have failed four out of five Quick Burst Tests. J-M Plant Managers,

whose bonuses are based on the amount of pipe the plant produces, were loath to reject pipe since rejected pipe cannot be included in the plant's production figures and thereby had the effect of taking money out of their pockets.

382. At the Pueblo meeting, Yang and Frank Padilla ("Padilla"), Quality Control Supervisor at the Pueblo, Colorado Plant, provided the Quality Control Supervisors with a review of the proper test methods to be followed when performing the daily Quick Burst Test contained in standards AWWA C900 and ASTM D2241. (The standards, in turn, state that the testing must be performed in accordance with ASTM D1599.) This presentation focused on the method prescribed in ASTM D1599 for determining the amount of test pressure to apply to the pipe sample in order to achieve the required 6,400 psi of quick-burst stress in the pipe wall (hereafter "Calculated Test Pressure"). To determine the Calculated Test Pressure, Yang emphasized that ASTM D1599 required the Quality Control Supervisors to measure the minimum wall thickness of the actual pipe sample. See **Exhibit 70**, incorporated herein.

383. After setting forth these requirements, Yang quickly learned that except for Padilla, the Quality Control Supervisors at the remaining 10 Plants were all doing the calculation wrong. Instead of measuring the wall thickness of the actual pipe sample, the Quality Control Supervisors at the other 10 plants were simply relying on the minimum wall thicknesses listed in Table 1 of AWWA C900 and Table 2 of ASTM D2241 (collectively, "the Tables") for a generic pipe of the same size and pressure class as the sample. However, the wall of the pipe J-M produces invariably is thicker than that of a generic pipe listed in the Tables. Therefore, by relying on the measurement supplied in the Tables instead of actually measuring the wall thickness of the pipe sample, the Quality Control Supervisors of the 10 plants were subjecting the samples to a smaller Calculated Test Pressure than what is required by ASTM D1599.

384. When Yang informed the Quality Control Supervisors that they could

no longer rely on the minimum wall thicknesses supplied in the Tables and had to measure the actual pipe samples being tested, they strenuously objected. The Quality Control Supervisors admitted they had enough trouble achieving the required 6,400 psi of stress in the pipe wall even with the benefit gained from the smaller Calculated Test Pressure. If they performed the tests correctly (i.e., measured the minimum wall thickness of the actual pipe samples), the Quality Control Supervisors complained, they would stand little to no chance of achieving 6,400 psi and passing the Quick Burst Tests. As the comments of the Quality Control Supervisors make clear, J-M routinely caused PVC pipe to be shipped to its customers, including the Real Parties, that failed to meet the requirements of the Quick Burst testing specified in AWWA C900 and ASTM D2241.

385. Following this meeting, Yang sought to change the management structure to have the Quality Control Supervisors report to the Corporate Quality Control Supervisor instead of their respective Plant Managers. By so doing, Yang hoped to make it less likely that the Plant Managers would be able to override decisions by the Quality Control Supervisors to reject non-conforming pipe. Yang's request was denied. Despite the considerable problems raised by the Quality Control Supervisors at the Pueblo meeting regarding the short-term tensile strength of its PVC pipe, J-M did not take any steps to address the root cause of the problem and curb the cost-cutting measures described herein at section V. Yang left J-M in October 2005 out of frustration for repeatedly being stymied in his efforts to improve the quality of J-M's products.

E. Acetone-Immersion Testing

386. AWWA C900/C905 and ASTM D2241 require manufacturers to subject their PVC pipe to routine acetone-immersion testing as specified in ASTM D2152. Exhibits 39 & 60. Broadly described, Acetone-Immersion Testing measures "extrusion quality," i.e., how well the extruder processed the PVC compound in forming the pipe. Id. ASTM D2152 specifies that it is important to

dry the acetone properly and conduct the test in a sealed container because acetone rapidly absorbs moisture from the atmosphere. See **Exhibit 71**, incorporated herein. If the sample has been processed well, the acetone will not attack it. However, if the sample has been processed poorly, the acetone will cause it to flake. A sample that shows at least 50 percent attack of the inside, outside, or mid-wall surface of the sample or at least 10 percent attack on more than one surface of the sample has failed the test. Id.

387. Because it rapidly absorbs moisture from the air, acetone can quickly become diluted if it is left out in an unsealed container and exposed to air. As acetone is diluted, its ability to attack pipe samples decreases. ASTM D2152 specifies that the density of the acetone may be no greater than 0.7890 g/mL at 23°C, corresponding to approximately 1% water by mass. If a particular container of acetone has more than the prescribed amount of water, the test requires that the excess water be removed with a drying agent or that fresh acetone be used.

388. J-M did not take adequate safeguards to ensure the integrity of the acetone used in its routine Acetone-Immersion Tests. For instance, J-M regularly stored its acetone in drums with the lids off. Consequently, the acetone J-M regularly used for its testing contained an excessive percentage of water. Although J-M easily could have used a drying agent to remove the excess water, the Plant Managers typically did not want to spend the money for such reagents. Instead, by testing with diluted acetone, J-M was able to obtain passing test results for specimens that would have failed had they been tested using undiluted acetone.

389. Even with the benefit gained by using diluted acetone, J-M routinely failed its Acetone-Immersion Tests. At the Pueblo meeting described above, many of the Quality Control Supervisors reported repeated instances of their Plant Managers overriding reject tags and sending out PVC pipe that the Quality Control Supervisors had rejected for failing the routine Acetone-Immersion Tests required by the standards. Relator has information and believes that despite these failing test

results, J-M did not reject or scrap a PVC pipe for having failed Acetone-Immersion Testing.

F. J-M's False Representations Regarding AWWA and ASTM D2241 Compliance

390. As the world's leading supplier of PVC pipe, J-M is acutely aware of the importance of AWWA and ASTM D2241 compliance to its customers, including the Real Parties. In its product catalogs, sales literature, and on its website, J-M repeatedly describes its PVC pipe as meeting AWWA and ASTM D2241 requirements and a LTS of 7,000 psi. For example, in the section of its catalog dedicated to its Blue Brute PVC pipe, J-M references Blue Brute's compliance with AWWA C900 four times. On the cover page for this section, beside the words Blue Brute, J-M stated "Meets AWWA C900." Exhibit 50. The first line of the first page states "J-M's Blue Brute Pipe conforms to the AWWA C900 specification . . ." Id. That same page has a box that prominently states "MEETS AWWA C900." Finally, in a table entitled "Typical Physical and Chemical Properties and Capacities," J-M cited AWWA C900 as the standard governing its Blue Brute PVC Pipe and notes AWWA C900's tensile strength requirement of 7,000 psi. The section of J-M's catalog relating to its Big Blue PVC pipe follows an identical format to Blue Brute's, except that it references Big Blue's conformance with AWWA C905 as opposed to C900.

391. Similarly, in its catalogs for PVC IPS Pressure Rated Pipe, J-M references its claimed compliance with ASTM D2241 several times. On the cover page for this pipe, beside the words "I.P.S. Pressure," J-M states "MEETS ASTM D2241." **Exhibit 72**, incorporated herein. The first line of the first page describing the pipe states "J-M Manufacturing's (J-MM) I.P.S. Pressure PVC Pipe conforms to ASTM D2241." Id. In the catalog's Short Form Specification, J-M again states that the "pipe shall meet the requirements of ASTM D2241." Id. In a table entitled "Typical Physical and Chemical Properties and Capacities," J-M cites ASTM

D2241 as the government standard and notes the tensile strength requirement of 7,000 psi. Id. J-M's catalog for Irrigation PIP Pipe makes similar representations, including claimed compliance with ASTM D2241 and the 7,000 psi tensile strength requirement. **Exhibit 73**, incorporated herein.

392. As alleged in detail above, the statements in J-M's catalogs, websites, and sales literature regarding compliance with AWWA and ASTM D2241 standards and the tensile strength requirement of 7,000 psi were patently false. At no time did J-M ever distribute a catalog or sales or advertising literature that revealed its substandard tensile strength results in over half of the tensile strength tests performed since 1991. Nor did J-M otherwise inform its customers, including the Real Parties, of its substandard tensile strength.

IX. J-M'S SALE OF SUBSTANDARD PVC PIPE BEARING FM MARK DESPITE KNOWLEDGE THAT PIPE DOES NOT QUALIFY FOR FM LISTING

393. FM certifies a range of products that meet its approval standards for, inter alia, fire protection and loss prevention. Once a product is tested and found to conform to FM's requirements, FM issues the "FM APPROVED" mark for the product, signifying that it meets certain performance requirements. Entities that use FM-approved goods rely on the representation that the products and manufacturing practices conform to the standards and specification-testing required.

394. FM has promulgated a standard governing PVC pipe for use in underground fire service water mains. Until 1999, the pertinent FM Standard was FM 1610. **Exhibit 74**, incorporated herein. In 1999, FM updated the applicable standard, providing more detail and segregation of the various standards for underground plastic pipe; the updated standard was renumbered FM 1612. Exhibit 58. Because the pertinent requirements are substantially the same, FM 1610 and FM 1612 will be referred to collectively as "FM 1612." FM Standard 1612 (effective date April 30, 2000 for full compliance), "Approval Standard for

Polyvinyl Chloride (PVC) Pipe and Fittings for Underground Fire Protection Service," governs FM approval and listing of PVC pipe for fire service.

395. FM 1612 lists a variety of requirements that must be met for PVC pipe to be FM Approved, including initial qualification testing and ongoing manufacturing testing. Its requirements are categorized as General Requirements, Performance Requirements, and Operations Requirements. The standard requires that "[a]ll FM Approval testing is to be conducted on production samples," and "[i]t is the manufacturer's responsibility to submit samples representative of production." Exhibit 58 at Sections 1.2.3 & 2.3; see also Section 3.2.8 ("Testing shall use production pipe and fittings assembled according to the manufacturer's published instructions.").

396. One of FM's Performance Requirements is that the product meet the criteria of any other standards the product purports to satisfy, whether in "design, manufacture, or performance." Exhibit 58 at Section 4.2.1. A manufacturer must "submit to FM Approvals a copy of the relevant standard(s), along with drawings, specifications, and other documents necessary to confirm compliance [with the other standard(s)]. FM Approvals shall verify that all requirements of that standard are met." Exhibit 58 at Section 4.2.2. FM explains that "[t]he intent of the requirement is that PVC pipe and fittings conform to any recognized standard to which they are manufactured." Id. at Section 4.2.1. In this way, FM incorporates the pertinent requirements of AWWA, UL, and ASTM, and J-M's failures and deceptions with respect to those standards also constitute failures and deceptions with respect to FM. In addition to failing to comply with FM requirements through its other industry standard failures, J-M independently failed the substantive requirements of FM, as discussed below. During time periods pertinent to this Complaint, J-M represented that certain of its AWWA C900 and C905 pipe were legitimately FM Approved (as further detailed below).

397. FM's Operations Requirements include a demonstrated Quality Control

Program and Manufacturing and Production Tests that must be run at manufacturing sites. Exhibit 58 at Sections 5, 5.1, & 5.4. The manufacturer is also required to "notify FM Approvals of changes in product construction, design, components, raw materials, physical characteristics, coatings, component formulation or quality assurance procedures prior to implementation of such changes." Exhibit 58 at Section 5.3. Three of the quality-control manufacturing tests that FM requires are Extrusion Quality, Quick Burst, and Sustained Pressure, which are substantively identical to the tests described elsewhere in this Complaint. Id. at Sections 5.4.4, 5.4.5 & 5.4.6.

A. Cell Class Testing

398. Among the "General Requirements" for PVC pipe to be FM Approved is the requirement that the pipe "be Class 12454 A or B as defined in ASTM D1784." Exhibit 58 at Section 3.2.4. Class 12454 as so defined imposes a tensile strength requirement of 7,000 psi, as more fully described herein at paragraph 303. As fully described herein at Sections VI.A. through VI.A.3. (see ¶¶ 174-191, supra) and VIII.A. (¶¶ 354-363), J-M's manufacturing practices were such that its actual tensile strengths were below the minimum 7,000 psi required to qualify as Class 12454 and required to comply with UL 1285 (which requirements are incorporated into FM 1612), therefore violating FM 1612. Despite its knowledge of these manufacturing failures, J-M continued to produce its pipe under these conditions.

B. HDB Testing

399. Another FM 1612 General Requirement is that the pipe be assigned a certain HDB value as derived from tests conducted per ASTM D1598, and evaluated per ASTM D2837. Exhibit 58 at Section 3.2.3. FM's HDB requirements incorporate the HDB requirements contained in Section 4.3.2.2(b) of AWWA C900 and C905, described herein at Section VI.B.1. (¶¶ 200-214). Exhibit 58 at Sections 1.2.3 & 4.2. As described fully herein at Section VIII.B (¶¶ 364-374), J-M's manufacturing practices resulted in numerous repeated failures of HDB testing.

Relator has information about the failed HDB testing, including knowledge of failures during the time period in which J-M was attempting to obtain FM Approval, and believes that despite these failing test results, J-M continued to release its pipe for sale and distribution.

C. Sustained Pressure Testing

400. FM requires the Sustained Pressure Test to be run on C900 products, per ASTM D1598, at pressures substantively identical to both UL's Sustained Pressure Test requirements (Section 18 of UL 1285) and AWWA's requirements (Sections 4.3.3.1 and 5.1.3 of AWWA C900). See Exhibits 33, 39 & 58 at Section 5.4.6. As explained more fully herein at Sections VI.B.2 (¶¶ 215-220) and VIII.C. (¶¶ 375-377), J-M was able to pass the Sustained Pressure Test to meet AWWA and UL requirements only by resorting to fraudulent practices such as using materials and processes vastly superior to their day-to-day manufacturing counterparts, cherry-picking samples from certain pre-tested production lots, and concealing these facts from standards organizations, distributors and other customers. See paragraph 376. Thus, in addition to violating UL 1285 and AWWA C900, J-M also violated FM 1612 when engaging in these fraudulent practices while performing the Sustained Pressure Test on its new, no-thickened-section pipe. See paragraph 377. J-M also failed the Sustained Pressure Test for its earlier, thickened-section pipe, but as described herein at paragraph 375, despite these failing test results, J-M did not reject or scrap a PVC pipe for having failed Sustained Pressure Testing.

D. Quick Burst Testing

401. FM 1612's Performance Requirements include the Quick Burst Strength Test. FM's Quick Burst Strength Test (described in Section 4.3 of Exhibit 58) for AWWA C900 product is substantively identical to the Quick Burst Test requirements contained in AWWA's C900 Standard, Section 4.3.3.2. J-M had knowledge at least since 1997 or 1998 that its pipe (both pre- and post-No Thickened Section Project) was regularly failing the daily Quick Burst Tests

required by AWWA C900 and FM 1612.

402. As described herein at Section VI.B.3 (¶¶ 221-228, supra), well after it knew of the continuing failures to pass the daily Quick Burst Tests, J-M resorted to fraudulent acts to manipulate a passing Quick Burst Test under UL observation for its no-thickened-section pipe. Such acts included substituting thicker pipe for the test, manipulating test pressure, pre-testing pipe, and selecting pipe from lots that had already passed other strength tests. Those lots, however, had produced passing results on other tests only because J-M fashioned "special run" conditions for optimal processing: slowing regular production rates and adjusting typical temperatures and torque. See ¶¶ 212, 218, 224, supra. J-M engaged in similar activity to "pass" FM's Quick Burst Tests from approximately 1997 through November 2000, when FM withdrew approval of J-M products.

403. FM 1612 also has a stand-alone Quick Burst Test for C905 pipe, which is larger in diameter than C900. The test for C905 pipe is very similar to the test for C900 pipe, but adjusts the hydrostatic pressure values required during the 60 to 70 seconds of the test. Exhibit 58 at Section 4.3.1 (Table 4.3.2b). J-M C905 pipe could not withstand the pressures required by the FM Quick Burst Test. For example, during the time J-M employed Relator, AWWA standards required J-M pipe to pass certain pressure tests on its C905 pipe joints per ASTM 3139, including subjecting the joints to pressures at the "quick burst" levels reflected in Table 4.3.2b of the FM requirements. Exhibit 58 at Section 4.3.1. The C905 joints shattered at these quick burst levels at least two times before J-M was able to obtain a passing result, which it obtained only through deviating production variables (extrusion conditions, materials), as fully explained above. The manufacturing problems that pertain to J-M's C900 product are even more pronounced in its larger-diameter C905 products. The larger diameter products require thicker walls, and the thicker the pipe, the more difficult it is to form the melted PVC compound and cool the pipe in the water tanks. As more fully described herein at Section V.C. (¶¶ 161-166, supra), J-M's

accelerated production rates resulted in less processing time in the extruder and die while the pipe was hot, and inappropriate duration in the cooling baths to form and strengthen. The result, in combination with J-M's additional cost-cutting measures (see ¶¶ 156-160, supra), was to further weaken the pipe and create locked-in stresses. See ¶ 165, supra. Whereas these processing deficiencies resulted in substandard C900 product, they resulted even more so in substandard C905 product.

404. Additionally, FM's quality control testing requirements demand the Quick Burst Test to be conducted per ASTM D1599 on AWWA C900 pipe, including the bell, at the beginning of production of each size and class of pipe, and thereafter every 24 hours. Exhibit 58 at Section 5.4.5. As described more fully herein at Sections VI.B.3 (¶¶ 226-228, supra) and VIII.D. (¶¶ 378-385, supra), rather than adjust manufacturing practices to meet the Quick Burst Test requirements, J-M violated the standards by, inter alia, knowingly continuing to miscalculate the test pressure required, repeatedly testing the same product over time, or overriding reject tags and releasing the non-conforming pipe (¶¶ 380-385, supra). J-M regularly failed to properly administer the routine Quick Burst Tests, had knowledge of such failures, and nonetheless released such product for sale.

E. Acetone-Immersion Testing

405. FM 1612's Extrusion Quality test is the acetone-immersion test that must be conducted as specified in ASTM D2152. FM requires this test to be run at the beginning of production of each size and class of pipe, and thereafter every 8 hours. Exhibit 58 at Section 5.4.4. For the reasons stated fully herein at Section VIII.E. (¶¶ 386-389, supra), J-M inadequately safeguarded the integrity of the acetone and regularly tested its C900 and C905 products with diluted acetone. J-M was thus able to "pass" specimens that would have failed had they been tested using undiluted acetone. See ¶ 388, supra. Even with diluted acetone, J-M routinely failed the acetone-immersion (Extrusion Quality) tests, overrode reject tags, and sent out the non-conforming pipe. See ¶ 389, supra.

406. For these reasons, J-M violated various FM 1612's manufacturing requirements for both AWWA C900 and C905 products. Despite its knowledge of the repeated manufacturing failures resulting in these violations, J-M continued to release such product for sale and distribution.

F. J-M's False Representations Regarding FM Listing and FM Compliance

407. Despite its knowledge (beginning at least in 1997) that much of its PVC pipe regularly failed to meet the various requirements of FM 1612 and its knowledge (as of at least June 1, 2005) that its new no-thickened-section pipe had a similar failure rate, J-M represented to its distributors and other customers, including the Real Parties, that its PVC pipe met FM requirements. J-M represented that its AWWA C900 pipe (DR 14 and DR 18) and C905 pipe (14" and 16" DR 18) met FM Approval standards from at least 1997 until November 2000, when J-M withdrew from the FM Approval listing for all of its PVC products. Further, in mid-2005, when its products were not listed as FM Approved, J-M represented on its website that some of its products were FM Approved; even after this misrepresentation was brought to J-M management's attention, J-M knowingly continued this false representation. When J-M obtained reinstatement of FM Approval for some of its products in or around December 2006, J-M began again to represent that its AWWA C900 (DR 14) PVC pipe was legitimately FM-compliant. See **Exhibit 75**, incorporated herein. J-M used the "FM APPROVED" mark on the pipe that it claimed complied with the FM standards. J-M also provided certifications to its individual customers that its Blue Brute and Big Blue PVC pipe has been manufactured in accordance with the requirements of FM 1612.

408. At times relevant to this Complaint, the Real Parties, like other government entities and water distribution systems, have required that pipes for use in underground fire protection service systems be FM Approved pursuant to the requirements of FM 1610 (prior to 1999) and/or FM 1612 (from 1999 to present).

Such government requirements include, but are not limited to, incorporation of FM requirements through NFPA 24's requirement of fire protection listing. See ¶ 238, supra. Thus, accuracy in FM listing representations is important because FM 1612 is one of the few standards approving pipe for fire protection. Many cities and government entities, including the Real Parties, require NFPA 24 and/or FM 1612 compliance for fire protection service. See, e.g., Exhibits 54, 55, & 59. The only means by which J-M can claim compliance with NFPA 24's "fire listing" requirement are through its claims of UL listing and/or FM approval.

X. FPC'S COMPLICITY IN THE FORMULATION, TESTING, AND SALE OF INFERIOR, NON-COMPLIANT PRODUCTS

A. FPC Was Directly Involved in the Formulation, Testing, and Sale of Inferior, Non-Compliant Products

409. As set forth in detail in paragraphs 135-151, supra, FPC was and is directly involved in the supply of materials to J-M that affected pipe quality. FPC was the primary supplier of resin and compound to the majority of J-M's plants. FPC's resin and materials, however, often do not meet J-M's quality specifications. FPC knows from meetings and communications with J-M that its materials contribute to the deficiencies in J-M's pipe.

410. For example, on or around May 23, 2002, J-M R&D and plant personnel, including Fassler, met with FPC to discuss problems with FPC's F622 resin and its compliance with J-M's specifications. Specifically, J-M expressed concerns about FPC's request to lower the resin's inherent viscosity range, permit more contamination, and modify the particle size distribution requirement, all of which would further degrade J-M pipe quality. In his memo about this meeting, Fassler wrote: "Lower IV [inherent viscosity] means lower physical strength (lower tensile strength, lower hoop stress, lower impact resistance). For J-M90 the safety factor for tensile strength and hoop stress is already small." Fassler also documented J-M's other concerns about FPC's F622 resin, which concerns were

also relayed to FPC. Relator learned from J-M personnel, including Hwang and Fassler, that J-M acceded to FPC's requests regarding J-M's use of its F622 resin, lowering its purchasing specifications to accommodate FPC. As a result, J-M could no longer reject FPC resin that previously J-M would have turned away as substandard. Throughout Relator's employment at J-M, the use of FPC's F622 resin was a continuing problem for J-M pipe quality.

B. FPC's Role As J-M's Parent

411. As discussed in detail in paragraph 47, supra, during the time period at issue, and in keeping with FPC's role as parent corporation of J-M, the members of FPC's Board of Directors were almost entirely also the members of J-M's Board of Directors. Likewise, there was significant overlap of executive officers.

- Y.C. Wang, Walter Wang's father, was the Chairman of the Board of Directors of J-M and FPC. Y.C. Wang was also sometimes listed in public filings as J-M's CEO.
- Y.T. Wang, Y.C. Wang's brother and Walter Wang's uncle, was a Director of both J-M and FPC and Vice Chairman of J-M.
- C.S. Wang was a Director of both J-M and FPC.
- C.T. Wang was a Director of both J-M and FPC.
- Susan Wang, Y.C. Wang's daughter and Walter Wang's sister, was a Director of both J-M and FPC. She also served at various times as Vice President and Assistant to the President of FPC, and was the de facto head of FPC.
- William Wong, Y.C. Wang's nephew and Y.T. Wang's son, was a Director of both J-M and FPC.
- C.T. Lee was a Director of both J-M and FPC as well as President of FPC.
- Charles McAuliffe was corporate secretary of both J-M and FPC.

- Alice Nightingale replaced McAuliffe as corporate secretary of both J-M and FPC and, as FPC in-house counsel, provided legal services to both companies.
- H.C. Lee was treasurer for both J-M and FPC.
- Walter Wang was reported to have been on the executive board of FPC while also serving as President, CEO, and Director of J-M. He also identified himself to J-M customers as one of the owners of FPC.

412. As discussed in detail in paragraphs 48-129, supra, in addition to this significant director and officer overlap, other indicia that FPC operated and managed J-M include the following:

- Until Walter Wang's purchase of J-M, J-M's audited financial information were reflected in FPC's consolidated financial statements.
- At the end of every business day, J-M transferred its profits to FPC. This daily transfer, which did not include amounts retained for regular expenditures, occurred until at least November 1, 2005.
- FPC loaned significant funds to J-M. For example, as of December 2004, J-M was financed by FPC under an informal loan arrangement that provided for interest at LIBOR plus an applicable margin (approximately 2.51% at December 31, 2004). The obligation was unsecured and payable on demand, except for a portion ($50,000,000) that was due after December 31, 2005.
- FPC arranged for and administered property insurance for J-M facilities.
- FPC managed customer claims for J-M. At least every quarter, J-M reported to FPC's Finance and Risk Management Department any open claims for failing pipe as to which J-M expected to pay over $15,000 or to litigate.

C. FPC Had First-Hand Knowledge that J-M Was Submitting False Claims to the Real Parties

413. As discussed in detail in paragraphs 48-129, supra, FPC had first-hand knowledge that J-M was submitting false claims to the Real Parties. FPC gained this knowledge through regular and periodic discussions between J-M and FPC's Finance and Risk Management Department about open claims and ongoing litigation, as well as through its own investigations and its communications with J-M's R&D personnel.

D. In the Alternative, FPC Is Liable as a Beneficiary of the False Claims Submitted to the Real Parties

414. FPC received the benefit of false claims submitted to the Real Parties, both by J-M and inadvertently by "downstream" entities, i.e., distributors, contractors, and developers. As discussed in detail above, J-M submitted false claims to the Real Parties, and the downstream entities inadvertently submitted false claims to the Real Parties as the downstream entities unwittingly passed on misrepresentations and were involved in the sale and installation of J-M pipe to the Real Parties that did not conform to the Standards and Specifications of the Real Parties. Therefore, when the downstream entities demanded money, property, or services for the J-M pipe from the Real Party, the downstream entity inadvertently submitted a false claim to the Real Party.

415. The downstream entities paid J-M for pipe that was acquired by the Real Parties in exchange for the Real Parties' money, property, or services. As the parent company of J-M, FPC received the profits from J-M's sales of non-conforming pipe. Specifically, at the end of every business day prior to Walter Wang's purchase of J-M from FPC, J-M transferred the surplus from its master cash account to FPC. This daily transfer did not include amounts retained for anticipated regular expenditures, but if J-M anticipated any extra expenditures above the regular amounts, it was required to obtain FPC's approval for them.

416. Prior to Walter Wang's purchase of J-M from FPC, J-M's financial statements were consolidated with those of FPC. Therefore, J-M's profits rolled up to FPC and were reported as FPC's profits. During the relevant period, FPC was the primary supplier of resin and JM90 compound to J-M. The more pipe that J-M was able to manufacture and sell to Real Parties, the more resin and compound J-M purchased from FPC.

417. As explained in detail above, until late 2005, the directors and officers of J-M substantially overlapped with those of its parent, FPC. As a result, the management of FPC knew, or must be charged with knowing, about how J-M was conducting its business operations. At a minimum, FPC discovered that J-M was submitting non-compliant pipe no later than FPC's discussion with Fassler in 2002 detailed in the May 23 Memo and Mr. Torres's 2003 discussions with Relator. Also, as discussed above, FPC knew that: (a) J-M used distributors to sell its water and sewer pipe to developers, contractors, and end-users of J-M pipe; (b) the distributors, contractors, and developers demanded money, property, or services in exchange for the J-M pipe they provided to the Real Parties; (c) the distributors, contractors, and developers were inadvertently submitting false claims to the Real Parties; and (d) the Real Parties provided money, property, or services to the distributors, contractors, and developers in exchange for the J-M pipe they acquired.

418. Beginning in at least 2002, FPC also knew that J-M: (a) had failed to re-certify or re-qualify certain of its PVC pipe products despite changes J-M had made in the formulation or manufacturing process; (b) was receiving customer claims alleging deficiencies in the performance of J-M PVC pipe; and (c) was continuing to sell PVC pipe that it knew or had reason to know was deficient and/or not properly certified to the Real Parties, which purchased J-M PVC pipe oblivious to its significant shortcomings.

419. Having been a beneficiary of the false claims to the Real Parties, defendant FPC failed to disclose what it knew about J-M's false claims and the false

claims inadvertently submitted by downstream entities to the Real Parties, within a reasonable time after FPC discovered the falsity of those claims.

XI. EMPLOYMENT DISCRIMINATION FOR ACTS IN FURTHERANCE OF FALSE CLAIMS ACT ACTION

420. Relator began working for J-M on July 8, 2002 as an engineer in its Product Assurance Department with an annual salary of $45,000. From July 2002 until he started complaining to his superiors about the impropriety of the fraudulent practices described above, Relator was regularly commended by his superiors on his job performance and received regular pay raises and good performance reviews.

421. For instance, in the Summer and Fall of 2003, Relator received considerable praise and notice from his superiors, including J-M's President Walter Wang, for his work in proposing a design change to J-M's two most popular products, Blue Brute and Big Blue, that would save J-M $3,000,000 a year in materials costs and allow J-M to increase its efficiency and output. Throughout the early stages of his work on the design change, dubbed the "No Thickened Section Project," Relator's currency within J-M as a rising star continued to grow.

422. However, by 2004, as J-M received results from the first round of full-blown HDB testing on the no-thickened-section pipe, Relator began to raise concerns with his superiors about the pipe's excessive swelling and inability to pass the HDB testing more than 50 percent of the time. After questioning what these results meant for the tensile strength of J-M's thickened-section pipe, which was made from the same materials and process, Relator was removed from the Project in early 2005 and began to experience a dramatic change in his employment conditions. Where previously he had been treated as part of the team, Relator suddenly was being shunned by his co-workers. For instance, Relator's access to testing and other sensitive information was severely restricted. Lin instructed staff in J-M's Research and Development and Corporate Quality Control Departments not to provide Relator any documents without first getting approval from Lin.

423. Over the intervening months, Relator became increasingly aware that J-M's tensile strength problems were not the result of inadvertence, but rather were part of a larger scheme to defraud its customers by implementing cost-cutting measures that decreased its pipe's tensile strength and then manipulating test methods, specimens, and data to conceal these strength problems from its customers and third-party certifiers and standards organizations like UL, NSF, FM, IAPMO, AWWA, and ASTM. Throughout this time, Relator continued to raise concerns with his superiors about the propriety of J-M's fraudulent practices. As the strength of his objections grew, Relator was met by J-M with increasingly adverse employment action.

424. For instance, in December 2004, at the same time Relator was raising concerns with his superiors about the tensile strength of J-M's UL-listed products, an opening became available in Relator's Department for the position of Product Assurance Manager. This position, which involved overseeing the handling of claims and lawsuits against J-M for non-conforming PVC pipe, had greater pay and responsibilities than Relator's current position. With a pending masters degree in structural engineering, associates and bachelors degrees in civil engineering, a bachelors degree in management and two years of experience handling PVC pipe claims and lawsuits for J-M, Relator was well-qualified for the job.

425. Relator was one of only two internal J-M candidates being considered for the job. The other candidate, Mai Huynh, had no engineering degrees or other formal training relevant to the job description and no experience with claims and lawsuits or PVC pipe. At the time he was being considered for the position, Huynh had worked only one year at J-M on tooling issues relating to J-M's high density polyethylene ("HDPE") pipe, the sales of which represent a small fraction of J-M's business. Despite his short tenure at J-M and complete lack of experience, J-M gave the position of Product Assurance Manager to Huynh.

426. In the summer of 2005, Relator objected strongly to his managers'

instructions that he deny a claim brought by customer Sheldon Site Utilities ("Sheldon") for defective Blue Brute pipe that had pinhole leaks and failed when it was pressurized. After sending samples from the two problem pipes to CRT Laboratories for testing, Sheldon presented J-M with test results showing that both samples had tensile strengths below the minimum requirement of 7,000 psi. See Exhibit 36. Despite Relator's recommendation that it should pay the Sheldon claim, Cheng and Lin instructed Relator to deny the claim on the grounds that the test results did not show that the pipe failed to comply with AWWA C900. Cheng and Lin argued that the CRT test results showing substandard tensile strengths were not valid because, as they interpreted it, AWWA C900 required that tensile strength testing be performed on specimens prepared from PVC compound, not finished PVC pipe, and the CRT testing had been performed on finished pipe. On July 19, 2005, Relator sent Sheldon a letter stating: "Since no manufacturing defect or non-conformance with the AWWA C900 standard was found within the samples sent to us or to CRT Labs we are regretfully denying your claim." **Exhibit 76**, incorporated herein.

427. Sheldon responded to J-M's denial by threatening to sue J-M for supplying defective product if it did not reconsider and agree to pay Sheldon's claim for $36,707.61. In discussing how to handle Sheldon's renewed claim, Cheng and Lin again sought to minimize J-M's responsibility by interpreting AWWA C900 as requiring that tensile strength testing be performed on samples prepared from PVC compound and declaring the CRT tests invalid because they were performed on finished PVC pipe. Stating that the CRT results were "not sufficient enough to conclude the failure of pipe sample reason to be 100% fall on J-M," Cheng recommended offering Sheldon a maximum of $10,000. See Exhibit 37.

428. Relator, however, recommended that J-M settle the claim for $30,000 based on the findings of CRT. Relator argued that even if Cheng and Lin's interpretation of AWWA C900 were correct, J-M could not ignore the fact that UL

1285 expressly states that tensile strength testing is to be performed on finished pipe. At a minimum, Relator concluded, the CRT test results show that J-M's Blue Brute pipe failed to meet the tensile strength requirements of UL 1285. In his IRA discussing his recommendation for how to handle the Sheldon claim, dated October 28, 2005, Relator listed as his basis for settling the claim for $30,000 that "CRT conducted testing on the pipe and found that the tensile strength of the pipe was below that required by the UL Listing Mark on the pipe on all samples tested." Exhibit 37.

429. On November 1, 2005, two business days after Relator distributed his IRA, Cheng called Relator into his office and reprimanded Relator for portraying J-M's liability for the Sheldon claim in his IRA as being "black and white" instead of trying to find a way to deny the claim or pass the blame to Sheldon. See Exhibit 38. Cheng faulted Relator for not supporting Lin's argument that the CRT testing was invalid under AWWA C900 because it was performed on samples prepared from finished PVC pipe as opposed to PVC compound. Id. When Relator tried to defend his position, Cheng told Relator that if he "could not find a way to deny the claim and follow his [Cheng's] thoughts that J-M is not responsible even if we fail the test, and offer alternative theories as to the cause of failure for this case, then you need to find another position in J-M where you will listen and follow instructions given and not disagree." Id.

430. The next day, Cheng again called Relator into his office to follow up on the previous day's discussion. See **Exhibit 77** (Relator's contemporaneous notes dated 11/2/05), incorporated herein. Cheng advised Relator that he needed to be "more political" and to try harder to make more friends at J-M "by avoiding sensitive issues where conflict may occur, such as [was] the case yesterday." Id. Cheng warned Relator that taking a close-minded position on issues, as he had done in the IRA on the Sheldon claim, was not appropriate and to be successful in J-M and in life Relator needed to "open [his] mind to all the possibilities, listen to the

others in the company more, regardless if [he] think[s] they are right or wrong, and avoid conflicts by not questioning their judgments and actions." Id.

431. Two days later, on November 4, when Relator refused to follow Cheng's advice and change his recommendation on the Sheldon claim, Cheng informed Relator that J-M was conducting an investigation into purported allegations that Relator had accepted kickbacks from Billy Sheldon, the owner of Sheldon Site Utilities, in exchange for Relator's increasing the amount he recommended J-M should pay Sheldon for his claim. Cheng sent Relator home and instructed him not to report to work until the investigation was complete. That same day, in response to these charges, Relator provided J-M with a four-page statement denying his involvement in any such improprieties. See **Exhibit 78**, incorporated herein. However, three business days later, on November 9, J-M terminated Relator for the stated reason that it had concluded that the allegations against Relator were "credible, sustainable and substantiated." **Exhibit 79**, incorporated herein.

432. As these circumstances clearly demonstrate, the reason J-M gave for terminating Relator – that Relator had increased the amount he recommended J-M pay to settle a claim as a result of having received a bribe from the claimant – was a pretext. The real reason J-M fired Relator – as is demonstrated by the close proximity between Relator's IRA stating that the J-M PVC pipe involved in the Sheldon claim had a tensile strength below that required by the UL Listing Mark on the pipe and J-M's charges of Relator accepting bribes from a claimant – was in retaliation for his investigating and raising concerns about J-M's fraudulent practices of knowingly selling PVC pipe with substandard tensile strength while falsely representing that it complied with industry standards.

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COUNT I

Substantive Violations of Federal False Claims Act

31 U.S.C. §§ 3729(a)(1)(A), (a)(1)(B) and 3732(b)

(Against Defendant J-M)

433. Relator realleges and incorporates by reference the allegations made in Paragraphs 1 through 419 of this Complaint.

434. This is a claim for treble damages and forfeitures under the Federal False Claims Act, 31 U.S.C. §§ 3729 *et seq.*, as amended.

435. Pursuant to 31 U.S.C. § 3729(a)(1)(A), through the acts described above, defendant J-M, its agents, employees and co-conspirators, knowingly presented and caused to be presented to officers, employees, and/or members of the Armed Forces of the United States, including, without limitation, the federal military entities set forth in Exhibit 2 (collectively, the "United States"), false and fraudulent claims, and knowingly failed to disclose material facts, in order to obtain payment and approval from the United States and its contractors, grantees, and other recipients of its funds, including without limitation the payments made by the United States set forth in Exhibit 2.

436. Pursuant to 31 U.S.C. § 3729(a)(1)(B), through the acts described above, defendant J-M, its agents, employees and co-conspirators, knowingly made, used and caused to be made and used false records and statements, which also omitted material facts, in order to induce the United States and its contractors and grantees to approve and pay false and fraudulent claims.

437. The United States was unaware of the falsity of the records, statements, and claims made and submitted by defendant J-M, its agents, employees, and co-conspirators, and as a result thereof, paid money that it otherwise would not have paid, and was deprived of money or property, as a result of Defendants' actions.

438. By reason of the payment made by the United States as a result of defendant J-M's fraud, the United States has suffered damages, and continues to be

damaged, in an amount to be determined at trial.

COUNT II

Substantive Violations of California False Claims Act

Cal. Gov't Code §§ 12651(a)(1) and (a)(2)

(Against Defendant J-M)

439. Relator realleges and incorporates by reference the allegations made in Paragraphs 1 through 419 of this Complaint.

440. This is a claim for treble damages and forfeitures under the California False Claims Act, Cal. Gov't Code §§ 12650 *et seq.*

441. Pursuant to Cal. Gov't Code § 12651(a)(1), through the acts described above, defendant J-M, its agents, employees and co-conspirators, knowingly presented and caused to be presented to officers and/or employees of the State of California and any political subdivision or public water authority thereof that purchased J-M PVC pipe between January 18, 1996 and the present, including, without limitation, the California political subdivisions and public water authorities set forth in Exhibit 1 (together with the State of California, the "California Real Parties"), and including, without limitation, those purchases set forth in Exhibit 3(a), false and fraudulent claims, and knowingly failed to disclose material facts, in order to obtain payment and approval from the California Real Parties and their contractors, grantees, and other recipients of their funds.

442. Pursuant to Cal. Gov't Code § 12651(a)(2), through the acts described above, defendant J-M, its agents, employees and co-conspirators, knowingly made, used, and caused to be made and used false records and statements, which also omitted material facts, in order to induce the California Real Parties and their contractors and grantees to approve and pay false and fraudulent claims.

443. The California Real Parties were unaware of the falsity of the records, statements, and claims made and submitted by defendant J-M, its agents, employees, and co-conspirators, and as a result thereof, paid money that they otherwise would

not have paid, and were deprived of money, property or services, as a result of Defendants' actions.

444. By reason of the payment made by the California Real Parties as a result of defendant J-M's fraud, the California Real Parties have suffered damages, and continue to be damaged, in an amount to be determined at trial.

445. The California Real Parties are entitled to the maximum penalty of $10,000 for each and every false or fraudulent claim made, used, presented or caused to be made used or presented by defendant J-M.

COUNT III

Substantive Violations of California False Claims Act

Cal. Gov't Code § 12651(a)(8)

(Against Defendant FPC)

446. Relator realleges and incorporates by reference the allegations made in Paragraphs 1 through 419 of this Complaint.

447. This is a claim for treble damages and forfeitures under the California False Claims Act, Cal. Gov't Code §§ 12650 *et seq.*

448. Pursuant to Cal. Gov't Code § 12651(a)(8), through the acts described above, defendant FPC, its agents, employees and co-conspirators became the beneficiaries of the inadvertent submission of false claims to the California Real Parties and subsequently discovered the falsity of the claims.

449. Defendant FPC failed to disclose the false claims to the California Real Parties within a reasonable time after discovery that the claims were false.

450. By reason of FPC's failures to disclose the false claims to the California Real Parties, those Real Parties have suffered damages, and continue to be damaged, in an amount to be determined at trial.

451. The California Real Parties are entitled to the maximum penalty of $10,000 for each and every false or fraudulent claim made, used, presented or caused to be made used or presented by FPC.

COUNT IV

Substantive Violations of Delaware False Claims And Reporting Act

6 Del. C. §§ 1201(a)(1) and (a)(2)

(Against Defendant J-M)

452. Relator realleges and incorporates by reference the allegations made in Paragraphs 1 through 419 of this Complaint.

453. This is a claim for treble damages and penalties under the Delaware False Claims And Reporting Act, 6 Del. C. §§ 1201 *et seq.*

454. Pursuant to 6 Del. C. § 1201(a)(1), through the acts described above, defendant J-M, its agents, employees and co-conspirators, knowingly presented and caused to be presented to officers and/or employees of the State of Delaware and any political subdivision thereof that purchased J-M PVC pipe between January 18, 1996 and the present, including, without limitation, the Delaware political subdivisions set forth in Exhibit 1 (together with the State of Delaware, the "Delaware Real Parties"), and including, without limitation, those purchases set forth in Exhibit 3(b), false and fraudulent claims, and knowingly failed to disclose material facts, in order to obtain payment and approval from the Delaware Real Parties and their contractors, grantees, and other recipients of their funds.

455. Pursuant to 6 Del. C. § 1201(a)(2), through the acts described above, defendant J-M, its agents, employees and co-conspirators, knowingly made, used, and caused to be made and used false records and statements, which also omitted material facts, in order to induce the Delaware Real Parties and their contractors and grantees to approve and pay false and fraudulent claims.

456. The Delaware Real Parties were unaware of the falsity of the records, statements, and claims made and submitted by defendant J-M, its agents, employees, and co-conspirators, and as a result thereof, paid money that they otherwise would not have paid, and were deprived of money or property, as a result of Defendants' actions.

457. By reason of the payment made by the Delaware Real Parties as a result of defendant J-M's fraud, the Delaware Real Parties have suffered damages, and continue to be damaged, in an amount to be determined at trial.

458. The Delaware Real Parties are entitled to the maximum penalty of $11,000 for each and every violation of 6 Del. C. § 1201 alleged herein.

COUNT V

Substantive Violations of District of Columbia False Claims Act

D.C. Code § 2-308.14(a)(1) and (a)(2)

(Against Defendant J-M)

459. Relator realleges and incorporates by reference the allegations made in Paragraphs 1 through 419 of this Complaint.

460. This is a claim for treble damages and penalties under the District of Columbia False Claims Act, D.C. Code §§ 2-308.13 *et seq.*

461. Pursuant to D.C. Code § 2-308.14(a)(1), through the acts described above, defendant J-M, its agents, employees, and co-conspirators, knowingly presented and caused to be presented to officers and/or employees of the District of Columbia and the District of Columbia Water and Sewer Authority that purchased J-M PVC pipe between 1997 and the present (together with the District of Columbia, the "District of Columbia Real Parties"), including without limitation those purchases set forth in Exhibit 3(c), false and fraudulent claims, and knowingly failed to disclose material facts, in order to obtain payment and approval from the District of Columbia Real Parties and their contractors, grantees, and other recipients of their funds.

462. Pursuant to D.C. Code § 2-308.14(a)(2), through the acts described above, defendant J-M, its agents, employees and co-conspirators, knowingly made, used, and caused to be made and used false records and statements, which also omitted material facts, in order to induce the District of Columbia Real Parties and their contractors and grantees to approve and pay false and fraudulent claims.

463. The District of Columbia Real Parties were unaware of the falsity of the records, statements, and claims made and submitted by defendant J-M, its agents, employees, and co-conspirators, and as a result thereof, paid money that they otherwise would not have paid, and were deprived of money, property or services, as a result of Defendants' actions.

464. By reason of the payment made by the District of Columbia Real Parties as a result of J-M's fraud, the District of Columbia Real Parties have suffered damages, and continue to be damaged, in an amount to be determined at trial.

465. The District of Columbia Real Parties are entitled to the maximum penalty of $10,000 for each and every false claim of D.C. Code § 2-308.14 alleged herein.

COUNT VI

Substantive Violations of Florida False Claims Act

Fla. Stat. Ann. § 68.082(2)(a) and (2)(b)

(Against Defendant J-M)

466. Relator realleges and incorporates by reference the allegations made in Paragraphs 1 through 419 of this Complaint.

467. This is a claim for treble damages and penalties under the Florida False Claims Act, Fla. Stat. Ann. §§ 68.081 *et seq.*

468. Pursuant to Fla. Stat. Ann. § 68.082(2)(a), through the acts described above, defendant J-M, its agents, employees and co-conspirators, knowingly presented and caused to be presented to officers, employees, and/or agencies of the Florida State Government, including officials, officers, commissions, boards, authorities, councils, committees, and/or departments of the executive branch of the Florida State Government, that purchased J-M PVC pipe between January 18, 1996 and the present (together with the State of Florida, the "Florida State Government"), and including, without limitation, the purchases set forth in Exhibit 3(d), false and

fraudulent claims, and knowingly failed to disclose material facts, in order to obtain payment and approval from the Florida State Government and its contractors, grantees, and other recipients of its funds.

469. Pursuant to Fla. Stat. Ann. § 68.082(2)(b), through the acts described above, defendant J-M, its agents, employees and co-conspirators, knowingly made, used, and caused to be made and used false records and statements, which also omitted material facts, in order to induce the Florida State Government and its contractors and grantees to approve and pay false and fraudulent claims.

470. The Florida State Government was unaware of the falsity of the records, statements, and claims made and submitted by defendant J-M, its agents, employees, and co-conspirators, and as a result thereof, paid money that it otherwise would not have paid, and was deprived of money, property or services, as a result of Defendants' actions.

471. By reason of the payment made by the Florida State Government as a result of defendant J-M's fraud, the Florida State Government has suffered damages, and continues to be damaged, in an amount to be determined at trial.

472. The Florida State Government is entitled to the maximum penalty of $11,000 for each and every violation of Fla. Stat. Ann. § 68.082 alleged herein.

COUNT VII

Substantive Violations of Illinois Whistleblower and Reward and Protection Act

740 Ill. Comp. Stat. Ann. §§ 175/3(a)(1) and (a)(2)

(Against Defendant J-M)

473. Relator realleges and incorporates by reference the allegations made in Paragraphs 1 through 419 of this Complaint.

474. This is a claim for treble damages and penalties under the Illinois Whistleblower Reward and Protection Act, 740 Ill. Comp. Stat. Ann. §§ 175/1 *et seq.*

475. Pursuant to 740 Ill. Comp. Stat. Ann. § 175/3(a)(1), through the acts described above, defendant J-M, its agents, employees, and co-conspirators, knowingly presented and caused to be presented to officers, employees, and/or members of the guard of the State of Illinois and any political subdivision or public water authority thereof that purchased J-M PVC pipe between January 18, 1996 and the present, including, without limitation, the Illinois political subdivisions and public water agencies listed in Exhibit 1 (together with the State of Illinois, the "Illinois Real Parties"), and including without limitation those purchases set forth in Exhibit 3(e), false and fraudulent claims, and knowingly failed to disclose material facts, in order to obtain payment and approval from the Illinois Real Parties and their contractors, grantees, and other recipients of their funds.

476. Pursuant to 740 Ill. Comp. Stat. Ann. § 175/3(a)(2), through the acts described above, defendant J-M, its agents, employees and co-conspirators, knowingly made, used, and caused to be made and used false records and statements, which also omitted material facts, in order to induce the Illinois Real Parties and their contractors and grantees to approve and pay false and fraudulent claims.

477. The Illinois Real Parties were unaware of the falsity of the records, statements, and claims made and submitted by defendant J-M, its agents, employees, and co-conspirators, and as a result thereof, paid money that they otherwise would not have paid, and were deprived of money or property, as a result of Defendants' actions.

478. By reason of the payment made by the Illinois Real Parties as a result of defendant J-M's fraud, the Illinois Real Parties have suffered damages, and continue to be damaged, in an amount to be determined at trial.

479. The Illinois Real Parties are entitled to the maximum penalty of $11,000 for each and every violation of 740 Ill. Comp. Stat. Ann. § 175/3 alleged herein.

COUNT VIII

Substantive Violations of Indiana False Claims and Whistleblower Protection Act

Ind. Code Ann. §§ 5-11-5.5-2(b)(1) and (b)(2)

(Against Defendant J-M)

480. Relator realleges and incorporates by reference the allegations made in Paragraphs 1 through 419 of this Complaint.

481. This is a claim for treble damages and penalties under the Indiana False Claims and Whistleblower Protection Act, Ind. Code Ann. §§ 5-11-5.5-1 *et seq.*

482. Pursuant to Ind. Code Ann. § 5-11-5.5-2(b)(1), through the acts described above, defendant J-M, its agents, employees, and co-conspirators, knowingly presented or caused to be presented to officers, employees, and/or agents of the State of Indiana and any agency of the state government that purchased J-M PVC pipe between 2005 and the present (together with the State of Indiana, the "Indiana Real Parties"), including, without limitation, the payments made by the Indiana Real Parties set forth in Exhibit 3(f), false and fraudulent claims, and knowingly failed to disclose material facts, in order to obtain payment and approval from the Indiana Real Parties and their contractors, grantees, and other recipients of their funds.

483. Pursuant to Ind. Code Ann. § 5-11-5.5-2(b)(2), through the acts described above, defendant J-M, its agents, employees and co-conspirators, knowingly made, used, and caused to be made and used false records and statements, which also omitted material facts, in order to induce the Indiana Real Parties and their contractors and grantees to approve and pay false and fraudulent claims.

484. The Indiana Real Parties were unaware of the falsity of the records, statements, and claims made and submitted by defendant J-M, its agents, employees, and co-conspirators, and as a result thereof, paid money that they otherwise would

not have paid, and were deprived of money or property, as a result of Defendants' actions.

485. By reason of the payment made by the Indiana Real Parties as a result of defendant J-M's fraud, the Indiana Real Parties have suffered damages, and continue to be damaged, in an amount to be determined at trial.

486. The Indiana Real Parties are entitled to a minimum penalty of $5,000 for each and every violation of Ind. Code Ann. § 5-11-5.5-2 alleged herein.

COUNT IX

Substantive Violations of Massachusetts False Claims Act

Mass. Gen. Laws ch. 12 §§ 5B(1) and 5B(2)

(Against Defendant J-M)

487. Relator realleges and incorporates by reference the allegations made in Paragraphs 1 through 419 of this Complaint.

488. This is a claim for treble damages and penalties under the Massachusetts False Claims Law, Mass. Gen. Laws ch. 12 §§ 5A *et seq.*

489. Pursuant to Mass. Gen. Laws ch. 12 § 5B(1), through the acts described above, defendant J-M, its agents, employees and co-conspirators, knowingly presented and caused to be presented to the officers, employees, and/or agents of the Commonwealth of Massachusetts and any political subdivision or public water authority thereof that purchased J-M PVC pipe between January 18, 1996 and the present, including, without limitation, the Massachusetts political subdivisions and public water agencies set forth in Exhibit 1 (together with the Commonwealth of Massachusetts, the "Massachusetts Real Parties"), and including, without limitation, those purchases set forth in Exhibit 3(g), false and fraudulent claims, and knowingly failed to disclose material facts, in order to obtain payment and approval from the Massachusetts Real Parties and their contractors, grantees, and other recipients of their funds.

490. Pursuant to Mass. Gen. Laws ch. 12 § 5B(2), through the acts described

above, defendant J-M, its agents, employees and co-conspirators, knowingly made, used, and caused to be made and used false records and statements, which also omitted material facts, in order to induce the Massachusetts Real Parties and their contractors and grantees to approve and pay false and fraudulent claims.

491. The Massachusetts Real Parties were unaware of the falsity of the records, statements, and claims made and submitted by defendant J-M, its agents, employees, and co-conspirators, and as a result thereof, paid money that they otherwise would not have paid, and were deprived of money or property, as a result of Defendants' actions.

492. By reason of the payment made by the Massachusetts Real Parties as a result of defendant J-M's fraud, the Massachusetts Real Parties have suffered damages, and continue to be damaged, in an amount to be determined at trial.

493. The Massachusetts Real Parties are entitled to the maximum penalty of $10,000 for each and every violation of Mass. Gen. Laws ch. 12, § 5B alleged herein.

COUNT X

Substantive Violations of Massachusetts False Claims Act

Mass. Gen. Laws ch. 12 § 5B(9)

(Against Defendant FPC)

494. Relator realleges and incorporates by reference the allegations made in Paragraphs 1 through 419 of this Complaint.

495. This is a claim for treble damages and penalties under the Massachusetts False Claims Law, Mass. Gen. Laws ch. 12, §§ 5A *et seq.*

496. Pursuant to Mass. Gen. Laws ch. 12 § 5B(9), through the acts described above, defendant FPC, its agents, employees and co-conspirators became the beneficiaries of the inadvertent submission of false claims to the Massachusetts Real Parties and subsequently discovered the falsity of the claims.

497. Defendant FPC failed to disclose the false claims to the Massachusetts

Real Parties within a reasonable time after discovery that the claims were false.

498. By reason of FPC's failures to disclose the false claims to the Massachusetts Real Parties, the Massachusetts Real Parties have suffered damages, and continue to be damaged, in an amount to be determined at trial.

499. The Massachusetts Real Parties are entitled to the maximum penalty of $10,000 for each and every violation of Mass. Gen. Laws ch. 12 § 5B alleged herein.

COUNT XI

Substantive Violations of Nevada False Claims Act

Nev. Rev. Stat. Ann. §§ 357.040(1)(a) and (1)(b)

(Against Defendant J-M)

500. Relator realleges and incorporates by reference the allegations made in Paragraphs 1 through 419 of this Complaint.

501. This is a claim for treble damages and penalties under the Nevada False Claims Act, Nev. Rev. Stat. Ann. §§ 357.010 *et seq.*

502. Pursuant to Nev. Rev. Stat. Ann. § 357.040(1)(a), through the acts described above, defendant J-M, its agents, employees and co-conspirators, knowingly presented and caused to be presented to officers, employees, and/or agents of the State of Nevada and any political subdivision or public water authority thereof that purchased J-M PVC pipe between January 18, 1996 and the present, including without limitation the Nevada political subdivisions and public water agencies set forth in Exhibit 1 (together with the State of Nevada, the "Nevada Real Parties"), and including without limitation those purchases set forth in Exhibit 3(h), false and fraudulent claims, and knowingly failed to disclose material facts, in order to obtain payment and approval from the Nevada Real Parties and their contractors, grantees, and other recipients of their funds.

503. Pursuant to Nev. Rev. Stat. Ann. § 357.040(1)(b), through the acts described above, defendant J-M, its agents, employees and co-conspirators,

knowingly made, used, and caused to be made and used false records and statements, which also omitted material facts, in order to induce the Nevada Real Parties and their contractors and grantees to approve and pay false and fraudulent claims.

504. The Nevada Real Parties were unaware of the falsity of the records, statements, and claims made and submitted by defendant J-M, its agents, employees, and co-conspirators, and as a result thereof, paid money that they otherwise would not have paid, and were deprived of money, property or services, as a result of Defendants' actions.

505. By reason of the payment made by the Nevada Real Parties as a result of defendant J-M's fraud, the Nevada Real Parties have suffered damages, and continue to be damaged, in an amount to be determined at trial.

506. The Nevada Real Parties are entitled to the maximum penalty of $10,000 for each and every violation of Nev. Rev. Stat. Ann. § 357.040 alleged herein.

COUNT XII

Substantive Violations of Nevada False Claims Act

Nev. Rev. Stat. Ann. § 357.040(1)(h)

(Against Defendant FPC)

507. Relator realleges and incorporates by reference the allegations made in Paragraphs 1 through 419 of this Complaint.

508. This is a claim for treble damages and penalties under the Nevada False Claims Act, Nev. Rev. Stat. Ann. §§ 357.010 *et seq.*

509. Pursuant to Nev. Rev. Stat. Ann. § 357.040(1)(h), through the acts described above, defendant FPC, its agents, employees and co-conspirators became the beneficiaries of the inadvertent submission of false claims to the Nevada Real Parties and subsequently discovered the falsity of the claims

510. Defendant FPC failed to disclose the false claims to the Nevada Real

Parties within a reasonable time after discovery that the claims were false.

511. By reason of FPC's failures to disclose the false claims to the Nevada Real Parties, the Nevada Real Parties have suffered damages, and continue to be damaged, in an amount to be determined at trial.

512. The Nevada Real Parties are entitled to the maximum penalty of $10,000 for each and every violation of Nev. Rev. Stat. Ann. § 357.040 alleged herein.

COUNT XIII

Substantive Violations of New Mexico Fraud Against Taxpayers Act

N.M. Stat. Ann. §§ 44-9-3(A)(1) and (A)(2)

(Against Defendant J-M)

513. Relator realleges and incorporates by reference the allegations made in Paragraphs 1 through 419 of this Complaint.

514. This is a claim for treble damages and forfeitures under the New Mexico Fraud Against Taxpayers Act, N.M. Stat. Ann. §§ 44-9-1 *et seq.*

515. Pursuant to N.M. Stat. Ann. § 44-9-3(A)(1), through the acts described above, defendant J-M, its agents, employees and co-conspirators, knowingly presented and caused to be presented to officers, employees, and/or agents of the State of New Mexico and any political subdivision thereof that purchased J-M PVC pipe between January 1, 2007[4] and the present, including, without limitation, the New Mexico political subdivisions set forth in Exhibit 1 (together with the State of New Mexico, the "New Mexico Real Parties"), and including, without limitation, those purchases set forth in Exhibit 3(i), false and fraudulent claims, and knowingly failed to disclose material facts, in order to obtain payment and approval from the New Mexico Real Parties and their contractors, grantees, and other recipients of their funds.

[4] Date changed from 1996 to 2007 solely to comply with the Court's December 1, 2010 Order [Dkt. 317].

516. Pursuant to N.M. Stat. Ann. § 44-9-3(A)(2), through the acts described above, defendant J-M, its agents, employees and co-conspirators, knowingly made, used, and caused to be made and used false records and statements, which also omitted material facts, in order to induce the New Mexico Real Parties and their contractors and grantees to approve and pay false and fraudulent claims.

517. The New Mexico Real Parties were unaware of the falsity of the records, statements, and claims made and submitted by defendant J-M, its agents, employees, and co-conspirators, and as a result thereof, paid money that they otherwise would not have paid, and were deprived of money, property or services, as a result of Defendants' actions.

518. By reason of the payment made by the New Mexico Real Parties as a result of defendant J-M's fraud, the New Mexico Real Parties have suffered damages, and continue to be damaged, in an amount to be determined at trial.

519. The New Mexico Real Parties are entitled to the maximum penalty of $10,000 for each and every violation of N.M. Stat. Ann. § 44-9-3 alleged herein.

COUNT XIV

Substantive Violations of New York False Claims Act

N.Y. State Fin. §§ 189(1)(a) and (1)(b)

(Against Defendant J-M)

520. Relator realleges and incorporates by reference the allegations made in Paragraphs 1 through 419 of this Complaint.

521. This is a claim for treble damages and forfeitures under the New York False Claims Act, N.Y. State Fin. §§ 187 *et seq.*

522. Pursuant to N.Y. State Fin. § 189(1)(a), through the acts described above, defendant J-M, its agents, employees and co-conspirators, knowingly presented and caused to be presented to officers, employees, and/or agents of the State of New York and any local government within the State of New York that

purchased J-M PVC pipe between January 1, 2007[5] and the present, including, without limitation, the New York local governments set forth in Exhibit 1 (together with the State of New York, the "New York Real Parties"), and including, without limitation, those purchases set forth in Exhibit 3(j), false and fraudulent claims, and knowingly failed to disclose material facts, in order to obtain payment and approval from the New York Real Parties and their contractors, grantees, and other recipients of their funds.

523. Pursuant to N.Y. State Fin. § 189(1)(b), through the acts described above, defendant J-M, its agents, employees and co-conspirators, knowingly made, used, and caused to be made and used false records and statements, which also omitted material facts, in order to induce the New York Real Parties and their contractors and grantees to approve and pay false and fraudulent claims.

524. The New York Real Parties were unaware of the falsity of the records, statements, and claims made and submitted by defendant J-M, its agents, employees, and co-conspirators, and as a result thereof, paid money that they otherwise would not have paid, and were deprived of money or property, as a result of Defendants' actions.

525. By reason of the payment made by the New York Real Parties as a result of defendant J-M's fraud, the New York Real Parties have suffered damages, and continue to be damaged, in an amount to be determined at trial.

526. The New York Real Parties are entitled to the maximum penalty of $12,000 for each and every violation of N.Y. State Fin. § 189 alleged herein.

COUNT XV

Substantive Violations of Tennessee False Claims Act

Tenn. Code Ann. §§ 4-18-103(a)(1) and (a)(2)

(Against Defendant J-M)

[5] Date changed from 1996 to 2007 solely to comply with the Court's December 1, 2010 Order [Dkt. 317].

527. Relator realleges and incorporates by reference the allegations made in Paragraphs 1 through 419 of this Complaint.

528. This is a claim for treble damages and penalties under the Tennessee False Claim Act, Tenn. Code Ann. §§ 4-18-101 *et seq.*

529. Pursuant to Tenn. Code Ann. § 4-18-103(a)(1), through the acts described above, defendant J-M, its agents, employees and co-conspirators, knowingly presented and caused to be presented to officers and/or employees of the State of Tennessee and any political subdivision or public water authority thereof that purchased J-M PVC pipe between January 18, 1996 and the present, including, without limitation, the Tennessee political subdivisions and public water authorities set forth in Exhibit 1 (together with the State of Tennessee, the "Tennessee Real Parties"), and including, without limitation, those purchases set forth in Exhibit 3(k), false and fraudulent claims, and knowingly failed to disclose material facts, in order to obtain payment and approval from the Tennessee Real Parties and their contractors, grantees, and other recipients of their funds.

530. Pursuant to Tenn. Code Ann. § 4-18-103(a)(2), through the acts described above, defendant J-M, its agents, employees and co-conspirators, knowingly made, used, and caused to be made and used false records and statements, which also omitted material facts, in order to induce the Tennessee Real Parties and their contractors and grantees to approve and pay false and fraudulent claims.

531. The Tennessee Real Parties were unaware of the falsity of the records, statements, and claims made and submitted by defendant J-M, its agents, employees, and co-conspirators, and as a result thereof, paid money that they otherwise would not have paid, and were deprived of money, property or services, as a result of Defendants' actions.

532. By reason of the payment made by the Tennessee Real Parties as a result of defendant J-M's fraud, the Tennessee Real Parties have suffered damages,

and continue to be damaged, in an amount to be determined at trial.

533. The Tennessee Real Parties are entitled to the maximum penalty of $10,000 for each and every violation of Tenn. Code. Ann. § 4-18-103 alleged herein.

COUNT XVI

Substantive Violations of Tennessee False Claims Act

Tenn. Code Ann. 4-18-103(a)(8)

(Against Defendant FPC)

534. Relator realleges and incorporates by reference the allegations made in Paragraphs 1 through 419 of this Complaint.

535. This is a claim for treble damages and penalties under the Tennessee False Claim Act, Tenn. Code Ann. §§ 4-18-101 *et seq.*

536. Pursuant to Tenn. Code Ann. § 4-18-103(a)(8), through the acts described above, defendant FPC, its agents, employees and co-conspirators became the beneficiaries of the inadvertent submission of false claims to the Tennessee Real Parties and subsequently discovered the falsity of the claims.

537. Defendant FPC failed to disclose the false claims to the Tennessee Real Parties within a reasonable time after discovery that the claims were false.

538. By reason of FPC's failures to disclose the false claims to the Tennessee Real Parties, the Tennessee Real Parties have suffered damages, and continue to be damaged, in an amount to be determined at trial.

539. The Tennessee Real Parties are entitled to the maximum penalty of $10,000 for each and every violation of Tenn. Code. Ann. § 4-18-103 alleged herein.

COUNT XVII

Substantive Violations of Virginia Fraud Against Taxpayers Act

Va. Code Ann. §§ 8.01-216.3(a)(1) and (a)(2)

(Against Defendant J-M)

540. Relator realleges and incorporates by reference the allegations made in Paragraphs 1 through 419 of this Complaint.

541. This is a claim for treble damages and penalties under the Virginia Fraud Against Taxpayers Act, Va. Code Ann. §§ 8.01-216.1 *et seq.*

542. Pursuant to Va. Code Ann. § 8.01-216.3(a)(1), through the acts described above, defendant J-M, its agents, employees and co-conspirators, knowingly presented and caused to be presented to officers and/or employees of the Commonwealth of Virginia and any political subdivision or public water authority thereof that purchased J-M PVC pipe between January 18, 1996 and the present, including, without limitation, the Virginia political subdivisions and public water authorities set forth in Exhibit 1 (together with the Commonwealth of Virginia, the "Virginia Real Parties"), and including, without limitation, those purchases set forth in Exhibit 3(l), false and fraudulent claims, and knowingly failed to disclose material facts, in order to obtain payment and approval from the Virginia Real Parties and their contractors, grantees, and other recipients of their funds.

543. Pursuant to Va. Code Ann. § 8.01-216.3(a)(2), through the acts described above, defendant J-M, its agents, employees and co-conspirators, knowingly made, used, and caused to be made and used false records and statements, which also omitted material facts, in order to induce the Virginia Real Parties and their contractors and grantees to approve and pay false and fraudulent claims.

544. The Virginia Real Parties were unaware of the falsity of the records, statements, and claims made and submitted by defendant J-M, its agents, employees, and co-conspirators, and as a result thereof, paid money that they otherwise would not have paid, and were deprived of money or property, as a result of Defendants' actions.

545. By reason of the payment made by the Virginia Real Parties as a result of defendant J-M's fraud, the Virginia Real Parties have suffered damages, and

continue to be damaged, in an amount to be determined at trial.

546. The Virginia Real Parties are entitled to the maximum penalty of $10,000 for each and every violation of Va. Code Ann § 8.01-216.3 alleged herein.

COUNT XVIII

Federal False Claims Act – Employment Discrimination

31 U.S.C. § 3730(h)

(Against Defendant J-M)

547. Relator realleges and incorporates by reference the allegations made in Paragraphs 1 through 432 of this Complaint.

548. This is a claim for damages under the Federal False Claims Act, 31 U.S.C. § 3730(h). Through the acts described above and otherwise, defendant J-M discriminated against Relator in the terms and conditions of his employment at J-M by, among other things, denying him a promotion and terminating his employment. Defendant J-M's stated reasons for terminating Relator regarding his accepting kickbacks from claimants were baseless and simply a pretext for the real reason for his termination – to retaliate against Relator for his investigation of defendant J-M's fraudulent practices in preparation for filing the above-captioned False Claims Act lawsuit.

549. By reason of defendant J-M's actions, Relator has been damaged in an amount to be determined at trial.

PRAYER

WHEREFORE, Qui Tam Plaintiff/Relator John Hendrix prays for judgment against Defendants J-M and FPC as follows:

1. That defendant J-M cease and desist from violating 31 U.S.C. §§ 3729 *et seq.* and the counterpart provisions of the state statutes set forth above;

2. That the Court enter judgment against defendant J-M in an amount equal to three times the amount of damages the United States has sustained as a result of defendant J-M's actions in violation of the Federal False Claims Act, as

well as a civil penalty of $11,000 for each violation of 31 U.S.C. § 3729;

3. That the Court enter judgment against defendant J-M in an amount equal to three times the amount of damages sustained by the California Real Parties as a result of defendant J-M's actions in violation of the California False Claims Act, as well as a civil penalty of $10,000 for each violation of Cal. Gov't Code § 12651;

4. That the Court enter judgment against defendant J-M in an amount equal to three times the amount of damages sustained by the Delaware Real Parties as a result of defendant J-M's actions in violation of the Delaware False Claims And Reporting Act, as well as a civil penalty of $11,000 for each violation of 6 Del. C. § 1201(a);

5. That the Court enter judgment against defendant J-M in an amount equal to three times the amount of damages sustained by the District of Columbia Real Parties as a result of defendant J-M's actions in violation of the District of Columbia False Claims Act, as well as a civil penalty of $10,000 for each violation of D.C. Code § 2-308.14;

6. That the Court enter judgment against defendant J-M in an amount equal to three times the amount of damages the Florida State Government has sustained because of defendant J-M's actions in violation of the Florida False Claims Act, as well as a civil penalty of $11,000 for each violation of Fla. Stat. Ann. § 68.082(2);

7. That the Court enter judgment against defendant J-M in an amount equal to three times the amount of damages sustained by the Illinois Real Parties as a result of defendant J-M's actions in violation of the Illinois Whistleblower and Reward and Protection Act, as well as a civil penalty of $11,000 for each violation of 740 Ill. Comp. Stat. Ann. § 175/3;

8. That the Court enter judgment against defendant J-M in an amount equal to three times the amount of damages sustained by the Indiana Real Parties as

a result of defendant J-M's actions in violation of the Indiana False Claims and Whistleblower Protection Act, as well as a civil penalty of $5,000 for each violation of Ind. Code. Ann. § 5-11-5.5-2;

9. That the Court enter judgment against defendant J-M in an amount equal to three times the amount of damages sustained by the Massachusetts Real Parties as a result of defendant J-M's actions in violation of the Massachusetts False Claims Law, as well as a civil penalty of $10,000 for each violation of Mass. Gen. L. Ch. 12 § 5B;

10. That the Court enter judgment against defendant J-M in an amount equal to three times the amount of damages sustained by the Nevada Real Parties as a result of defendant J-M's actions in violation of the Nevada False Claims Act, as well as a civil penalty of $10,000 for each violation of Nev. Rev. Stat. Ann. § 357.040(1);

11. That the Court enter judgment against defendant J-M in an amount equal to three times the amount of damages sustained by the New Mexico Real Parties as a result of defendant J-M's actions in violation of the New Mexico Fraud Against Taxpayers Act, as well as a civil penalty of $10,000 for each violation of N.M. Stat. Ann. § 44-9-3;

12. That the Court enter judgment against defendant J-M in an amount equal to three times the amount of damages sustained by the New York Real Parties as a result of defendant J-M's actions in violation of the New York False Claims Act, as well as a civil penalty of $12,000 for each violation of N.Y. State Fin. § 189;

13. That the Court enter judgment against defendant J-M in an amount equal to three times the amount of damages sustained by the Tennessee Real Parties as a result of defendant J-M's actions in violation of the Tennessee False Claims Act, as well as a civil penalty of $10,000 for each violation of Tenn. Code Ann. § 4-18-103(a);

14. That the Court enter judgment against defendant J-M in an amount

equal to three times the amount of damages sustained by the Virginia Real Parties as a result of defendant J-M's actions in violation of the Virginia Fraud Against Taxpayers Act, as well as a civil penalty of $10,000 for each violation of Va. Code Ann. § 8.01-216.3(a);

15. That the Court enter judgment against defendant FPC in an amount equal to three times the amount of damages sustained by the California Real Parties as a result of defendant FPC's actions in violation of the California False Claims Act, as well as a civil penalty of $10,000 for each violation of Cal. Gov't Code § 12651;

16. That the Court enter judgment against defendant FPC in an amount equal to three times the amount of damages sustained by the Massachusetts Real Parties as a result of defendant FPC's actions in violation of the Massachusetts False Claims Law, as well as a civil penalty of $10,000 for each violation of Mass. Gen. L. Ch. 12, § 5B;

17. That the Court enter judgment against defendant FPC in an amount equal to three times the amount of damages sustained by the Nevada Real Parties as a result of defendant FPC's actions in violation of the Nevada False Claims Act, as well as a civil penalty of $10,000 for each violation of Nev. Rev. Stat. Ann. § 357.040(1);

18. That the Court enter judgment against defendant FPC in an amount equal to three times the amount of damages sustained by the Tennessee Real Parties as a result of defendant FPC's actions in violation of the Tennessee False Claims Act, as well as a civil penalty of $10,000 for each violation of Tenn. Code Ann. § 4-18-103(a);

19. That Relator be awarded the maximum amount allowed pursuant to 31 U.S.C. § 3730(d) of the Federal False Claims Act, and the equivalent provisions of the state statutes set forth above;

20. That the Court enter judgment against defendant J-M as a result of its

actions in violation of 31 U.S.C. § 3730(h) as well as all relief necessary to make Relator whole, including reinstatement with the same seniority status Relator would have had but for the discrimination, not less than two times the amount of back pay, interest on back pay, and compensation for any special damages sustained as a result of J-M's employment discrimination, including litigation costs and reasonable attorney's fees;

21. That Relator be awarded all costs of this action, including attorneys' fees and expenses; and

22. That the Real Parties and Relator receive all such other relief as the Court deems just and proper.

JURY DEMAND

Pursuant to Rule 38 of the Federal Rules of Civil Procedure, Relator hereby demands trial by jury.

Dated: December 23, 2011

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