



submitted or caused to be submitted in connection with the sale of defective Zylon body armor, primarily ballistic "bulletproof" vests, to the United States and to state, local and tribal authorities funded in part with federal grant funds. The United States alleges that the Defendants knew, within the meaning of the FCA, that the Zylon body armor was defective and that the Zylon fiber and the fabric made therefrom of which the body armor was made degraded substantially more quickly (and thus provided less protection to the wearer) than Defendants had represented, warranted and/or were required by contract specifications. As a result of the Defendants' conduct and representations, the United States paid for defective Zylon body armor. Additionally, several police officers were seriously injured while wearing Second Chance Zylon bulletproof vests.

2. In particular, Defendants knew that Second Chance Zylon body armor was defective in that its ballistic performance was compromised because it contained Zylon fiber which was unfit for use in ballistic applications because it was inherently susceptible to rapid and unpredictable degradation and strength loss due to hydrolysis or the occurrence of Red Thread. The Second Chance Zylon body armor was defective in that it did not and would not meet the following benchmarks of ballistic performance: (1) the ballistic performance guarantee in the Second Chance warranty that the vests would continue to meet the National Institute of Justice (NIJ) Certification V-0 reference velocity speeds for five years; (2) the ballistic performance guarantee of no loss of ballistic performance of more than 6% over five years in Second Chance's catalogs; (3) the industry standard of maintaining ballistic performance over five years; (4) the Workmanship Clause of the Second Chance-GSA contract in that the vests did not perform the functions of their intended use; (5) the New Material Clause of the Second Chance-GSA contract in that the vests were so deteriorated as to impair their usefulness or safety; and (6) the Government's expectations that they would continue to meet the minimum standard set forth

in NIJ Standards 0101.03 and 0101.04 for the performance period set in their warranties (5 years).

3. Defendants knowingly submitted or caused to be submitted false claims for payment or made false statements about the defective Second Chance Zylon vests. These claims were factually false because the Second Chance Zylon vests for which these claims were submitted were defective and thus, in each instance, the contracted-for item – a non-defective Zylon bulletproof vest – was never delivered. Because the Second Chance Zylon vests did not meet the foregoing requirements and expectations, the vests were defective and the United States did not get what it bargained and paid for – non-defective Zylon bulletproof vests. As a result, the claims for payment submitted by Second Chance and caused to be submitted by Toyobo for these defective Zylon vests were factually false.

4. These claims were also legally false in that the five-year warranties of ballistic performance were incorporated into the relevant contracts, and both the United States and Defendants understood that, as a condition of payment, the vests were required to satisfy their five-year warranties by remaining fit for use as body armor for five years. Further, Defendants fraudulently induced the United States' purchases by withholding data and information about the defectiveness of the Second Chance Zylon vests and conspired to withhold data and information about the defectiveness of the Second Chance Zylon vests, which also rendered each and every claim for payment for Second Chance Zylon vests sold to the United States or paid, in whole or in part, with federal funds, false. Had the United States known that the Second Chance Zylon vests were defective, the United States would not have paid for the Second Chance Zylon vests.

5. At the time that Defendants manufactured and sold the Second Chance

Zylon vests and the Zylon fiber utilized in those vests, they possessed a wealth of scientific data showing that Zylon was inherently susceptible to rapid and unpredictable degradation and strength loss due to, *inter alia*, hydrolysis and the occurrence of Red Thread. Defendants understood that this degradation would negatively impact the ballistic performance of bulletproof vests containing Zylon so that over a short period of time these vests would no longer be fit for use as body armor. Defendants understood that the Zylon manufacturing processes were not sufficiently in control, so that they could not prevent hydrolysis, nor avoid the spontaneous creation of low strength Red Thread Zylon. Defendants also understood that Second Chance sold Zylon vests to the United States and to state, local, and tribal authorities, who paid for vests in part with federal funds, that Second Chance offered its customers a five-year warranty and a guarantee of ballistic performance on all of its Zylon vests and that, due to the degradation problems, the Second Chance Zylon vests would not protect the end user for five years from rounds the vests were certified to stop. Had the United States known of the defective nature of the Zylon vests it would not have purchased them for use in the ballistic protection of law enforcement officers. Defendants did not inform the United States of the defects in Zylon and in the Second Chance Zylon vests and instead took affirmative steps to cover up those risks.

#### **JURISDICTION**

6. This Court has jurisdiction over this action pursuant to 28 U.S.C. §§ 1345 & 1331. The Defendants are doing and/or previously did business within this District.

#### **VENUE**

7. Venue is proper in this District pursuant to 28 U.S.C. § 1391 and 31 U.S.C. § 3732(a). The Defendants are doing and/or previously did business within this District.

#### **PARTIES**

**The United States of America**

8. The plaintiff is the United States of America. The United States brings this lawsuit on behalf of its agencies, including, but not limited to, the Department of Justice (DOJ), the General Services Administration (GSA), the Department of Defense (DoD), the Treasury Department, the Department of Homeland Security (DHS), and other federal agencies or divisions who purchased, or provided funds for the purchase of, ballistic vests made, in whole or in part, with Zylon from the Defendants.

9. The Relator Aaron J. Westrick (Westrick or Relator) filed his original *qui tam* complaint under the FCA in February 2004. From 1996 to 2004, Westrick was an employee of Second Chance.

**The Defendants**

10. Defendant Second Chance Body Armor, Inc. (SCBA) is a Michigan corporation which at all times relevant to the complaint did business in this District. SCBA's last known business address is 7915 Cameron Street, Central Lake, MI 49622. At all times relevant to this complaint, SCBA was the United States' largest manufacturer of bulletproof vests. On or about Sunday October 17, 2004, SCBA filed for the protection of the bankruptcy court by submitting a petition pursuant to Chapter 11 of the Bankruptcy Code. In re Second Chance Body Armor, Inc. (Bk. W.D. Mich. 04-12515), now In re SCBA Liquidation, Inc.. On September 12, 2005, the United States timely filed its proof of claim in that proceeding. On or about November 22, 2005, Second Chance's bankruptcy proceeding was converted from a Chapter 11 to a Chapter 7 proceeding. SCBA is now known as SCBA Liquidation, Inc. On or about May 5, 2011, the United States filed an amended proof of claim in In re SCBA Liquidation, Inc. On or about

January 24, 2012, the United States' proof of claim was deemed allowed.<sup>1</sup>

11. Defendant Second Chance Armor, Inc. (SCA) is a Michigan corporation which at all times relevant to the complaint did business in this District. SCA's last known business address is 1501 West Magnolia, Geneva, AL 36340. SCA is a wholly owned subsidiary of SCBA.

12. Defendant Second Chance Shield, Inc. (SCS) is a Michigan corporation which at all times relevant to the complaint did business in this District. SCS's last known business address is 404 Nash Road, New Bedford, MA 02746. SCS is a wholly-owned subsidiary of SCBA.

13. Defendant Second Chance International, Inc. (SCI) is a Michigan corporation which at all times relevant to the complaint did business in this District. SCI's last known business address is 7919 Cameron Street, Central Lake, MI 49622.

14. Defendant Second Chance Body Armor Canada, Co.(SCBAC) is a Canadian corporation which at all times relevant to the complaint did business in this District. SCBAC is located in Winnipeg, Canada. SCBAC is a wholly-owned subsidiary of SCBA.

15. Defendant Second Chance Body Armor GmbH, (SCBAG) is a German corporation which at all times relevant to the complaint did business in this District. SCBAG is located in Brandenburg, Germany. SCBAG is a wholly-owned subsidiary of SCBA. In or about January 2005, SCBAG became subject to a German receivership/bankruptcy proceeding for the sale of defective Zylon bulletproof vests to the German government.

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<sup>1</sup> The United States anticipates no further litigation against Second Chance but has retained them as a defendant in this complaint in an abundance of caution. Upon distribution of the Second Chance bankruptcy estate, the United States anticipates dismissing Second Chance as a party under Fed. R. Civ. Proc. 41.

16. Defendant Second Chance Body Armor UK, Ltd. (SCBAUK) is a British corporation which at all times relevant to the complaint did business in this District. SCBAUK is located in Glasgow, Scotland. SCBAUK is a wholly-owned subsidiary of SCBA.

17. Defendant IAG Manufacturing s.a.r.l. (IAG) is a Moroccan corporation which at all times relevant to the complaint did business in this District. IAG is located in Tangier, Morocco. IAG is a wholly-owned subsidiary of SCBA. Defendants SCBA, SCA, SCS, SCI, SCBAC, SCBAG, SCBAUK, and IAG will be referred to collectively as "Second Chance."

18. Defendant Toyobo Co., Ltd. (Toyobo) is a Japanese corporation doing business in this District. Toyobo's last known business address is 2-8 Dojima-Hama 2-chome, Kita-ku, Osaka 530-8230, Japan.

19. Defendant Toyobo America, Inc. (Toyobo America) is a New York corporation doing business in this District. On information and belief, the United States alleges that Toyobo America is a wholly owned subsidiary of Toyobo. Toyobo America's last known business address is 950 Third Avenue, 17th Floor, New York, NY 10022. Defendants Toyobo and Toyobo America will be referred to collectively as "Toyobo" or the "Toyobo Defendants."

20. Defendant Thomas Edgar Bachner, Jr. a/k/a "Ed" Bachner is an individual who resides in the State of Michigan and who does business in this District. Bachner's last known address is 3020 Torch Point Lane, East Port, Michigan 49627. Since at least 1996, Bachner was an officer and director of Defendant SCBA and also served on the Executive Committee of SCBA. At times relevant to the allegations in this complaint, Bachner was also Second Chance's Group Vice President in charge of technology, product insurance, special projects, and corporate development. At all times relevant to the allegations in this complaint, Bachner's responsibilities at Second Chance included designing and developing the specifications for Second Chance body

armor. At all times relevant to these allegations, Bachner was a member of Second Chance's Executive Committee.

21. Defendant Richard C. Davis (Davis) is an individual who resides in the State of Michigan and who does business in this District. Davis' last known address is P.O. Box 577, Central Lake, MI 49622. Davis, the founder of Second Chance, served as its president from its founding in 1971 through the Summer of 2003. Davis served as chairman of the Second Chance board of directors from 1998 to at least September 29, 2004. At all times relevant to these allegations, Davis was a member of Second Chance's Executive Committee.

22. Defendant James Larry McCraney (Larry McCraney) is an individual who resides in the State of Florida and who does business in this District. Larry McCraney's last known address is 700 La Peninsula Blvd., #404, Naples, FL 34113. Since at least 1996, Larry McCraney was an officer and director of Defendant SCBA and also served on the Executive Committee of SCBA. At all times relevant to these allegations, McCraney was a member of Second Chance's Executive Committee.

23. Defendant Karen McCraney f/k/a Karen Davis (Karen McCraney) is an individual who resides in the State of Florida and who does business in this District. Karen McCraney's last known address is 700 La Peninsula Blvd., #404, Naples, FL 34113. Since at least 1996, Karen McCraney was an officer and director of Defendant SCBA and also served on the Executive Committee of SCBA. At all times relevant to these allegations, McCraney was a member of Second Chance's Executive Committee.

#### **Alter Ego Relationships**

##### **Second Chance**

24. At all times relevant to the allegations herein, Defendants SCBA, SCA, SCS, SCI,



SCBAC, SCBAG, SCBAUK, and IAG were acting as alter egos of each other and are jointly and severally liable in this action for each other's conduct. Second Chance created these separate legal entities, generally subchapter S corporations, and used them in connection with the manufacture and sale of Second Chance Zylon bulletproof vests.

25. Defendant SCBA manufactured and sold Zylon body armor through SCA, SCS, SCI, SCBAC, SCBAG, SCBAUK, while dominating and controlling them, operating them in an integrated manner, and disregarding their separate corporate form. On information and belief, the United States alleges that these entities shared common ownership, board membership and management, as well as corporate, group and divisional resources to perform operational, administrative, manufacturing, and financial functions. SCBA precluded these entities from conducting business other than that which was directed by and in the interests of the ultimate owner, SCBA. SCBA operated these entities as mere shell corporations through which corporate directives flowed from SCBA to SCA, SCS, SCI, SCBAC, SCBAG, SCBAUK, and IAG, and profits and other revenue flowed between SCBA and SCA, SCS, SCI, SCBAC, SCBAG, SCBAUK, and IAG.

**Toyobo Co. Ltd. and Toyobo America, Inc.**

26. At all times relevant to the allegations herein, Defendants Toyobo and Toyobo America were acting as alter egos of each other and are jointly and severally liable in this action for each other's conduct. Toyobo created a separate legal entity, Toyobo America, Inc. The United States anticipates that a reasonable opportunity for further investigation and discovery will establish that the purpose of this separate corporation was to insulate Toyobo, and its principals, officers and shareholders from any scrutiny of its business decisions and practices.

27. Defendant Toyobo created separate corporate entities, including but not limited to

Defendant Toyobo America, whereby Toyobo ultimately provided Zylon to Second Chance, while it dominated and controlled Toyobo America, operated Toyobo and Toyobo America in an integrated manner, and disregarded Toyobo America's corporate form. Toyobo Japan utilized Toyobo America to play a key role in the marketing and importation of Zylon fiber in the United States. On information and belief, the United States alleges that Toyobo and Toyobo America shared common ownership, board membership and management, as well as corporate, group and divisional resources to perform operational, administrative, manufacturing, and financial functions. Toyobo precluded Toyobo America from conducting business other than that which was directed by and in the interests of the ultimate owner, Toyobo. Toyobo operated Toyobo America as a mere shell corporation through which corporate directives flowed to Toyobo America and profits and other revenue flowed from business operations to Toyobo.

## **BACKGROUND**

### **A. The False Claims Act**

28. The FCA provides, in pertinent part that:

(a) Any person who (1) knowingly presents, or causes to be presented, to an officer or employee of the United States Government or a member of the Armed Forces of the United States a false or fraudulent claim for payment or approval; (2) 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; (3) conspires to defraud the Government by getting a false or fraudulent claim paid or approved by the Government; . . .

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is liable to the United States Government . . . .

(b) For purposes of this section, the terms "knowing" and "knowingly" mean that a person, with respect to information (1) has actual knowledge of the information; (2) acts in deliberate ignorance of the truth or falsity of the information; or (3) acts in reckless disregard of the truth or falsity of the information, and no

proof of specific intent to defraud is required.

31 U.S.C. § 3729.<sup>2</sup>

**B. GSA Program**

29. The General Services Administration (GSA) is an agency of the federal government with responsibility for administering the Multiple Award Schedule (MAS) contracting program.

30. Under the MAS program, GSA negotiates contracts for commonly used, commercial off-the-shelf items with contractors. Federal agencies can then purchase products under MAS contracts directly from contractors at pre-negotiated prices and terms and conditions. Products are grouped under predesignated Special Item Numbers (SINs) which connote broad categories of commercial products or services.

31. The GSA Schedule included vests manufactured and sold by Second Chance Body Armor, Inc. From approximately 1998 to 2005, the United States Government purchased at least 38,983 Zylon bulletproof vests from Second Chance pursuant to the supply schedule under Contract No. GS 07F-8799D, including Ultima, Ultimax, Bi-Flex, Tri-Flex, and Simulite models of vests. Second Chance submitted at least 4,044 invoices to the United States seeking payment for these vests under the GSA contract. The United States paid over \$23 million for these Zylon vests purchased from the GSA Schedule. All Second Chance Zylon vests carried a five-year warranty of ballistic performance, as well as other warranties and guarantees. By the actions set forth in this Complaint, Defendants knowingly submitted or caused all of these claims

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<sup>2</sup> The False Claims Act was amended by the passage of the Fraud Enforcement and Recovery Act of 2009 (FERA). The language cited herein, however, is to the unamended False Claims Act. In 2010, this Court determined that the amendments to Section 3729(a)(2) did not apply retroactively. Dkt. No. 228.

for reimbursement for false claims to be presented. The claims for payment for each and every Second Chance Zylon vest sold to the United States under the GSA Schedule by Second Chance were false claims in that the Zylon in those vests was defective and degraded substantially, quickly and unpredictably, and, thus, did not meet their five-year warranty. For the reasons set forth in Paragraphs 2-5 of this Complaint, Defendants knew that the Zylon in these vests was defective and degraded substantially, quickly and unpredictably, and did not comply with their five-year warranty. For these reasons, Defendants knowingly submitted or caused all of these claims for reimbursement for false claims to be presented.

32. As alleged herein, all of the Second Chance Zylon vests sold to the United States under the GSA Schedule were defective in that their ballistic performance was compromised because it contained Zylon fiber which was unfit for use in ballistic applications because it was inherently susceptible to rapid and unpredictable degradation and strength loss due to hydrolysis and the occurrence of Red Thread. The Second Chance Zylon vests sold to the United States under the GSA Schedule were defective in that they did not and would not meet the following benchmarks of ballistic performance: (1) the ballistic performance guarantee in the Second Chance warranty that the vests would continue to meet the NIJ Certification V-0 reference velocity speeds for five years; (2) the ballistic performance guarantee of no loss of ballistic performance of more than 6% over five years in Second Chance's catalogs; (3) the industry standard of maintaining ballistic performance over five years; (4) the Workmanship Clause of the Second Chance-GSA contract in that the vests did not perform the functions of their intended use; (5) the New Material Clause of the Second Chance-GSA contract in that the vests were so deteriorated as to impair their usefulness or safety; and (6) the Government's expectations that they would continue to meet the minimum standard set forth in NIJ Standards 0101.03 and

0101.04 for the performance period set in their warranties (5 years). Had the United States known that the Second Chance Zylon vests were defective, the United States would not have paid for the Second Chance Zylon vests under the GSA Schedule, nor would they have remained on the GSA Schedule for purchase.

33. As detailed above, each and every claim for payment for Second Chance Zylon vests sold under the GSA schedule was factually and legally false. Further, Defendants fraudulently induced the United States' purchases under the GSA Schedule by withholding data and information about the defectiveness of the Second Chance Zylon vests and conspired to withhold data and information about the defectiveness of the Second Chance Zylon vests, which also rendered each and every claim for payment for Second Chance Zylon vests sold to the United States under the GSA Schedule false. Had the United States known that the Second Chance Zylon vests were defective, the United States would not have paid for the Second Chance Zylon vests under the GSA Schedule, nor would they have remained on the GSA Schedule for purchase.

34. Had the United States known of the defective nature of the Second Chance Zylon vests it would not have purchased them for use in the ballistic protection of law enforcement officers. But Defendants did not inform the United States of the defects in Zylon and instead took affirmative steps to cover up those risks. Had the United States known that the Second Chance Zylon vests were defective in that they failed to meet the benchmarks of ballistic performance enumerated above, the United States would not have paid for the Zylon vests it purchased off the GSA schedule, nor would they have remained on the GSA Schedule for purchase.

**C. The Bulletproof Vest Grant Partnership Act Program**

35. In late 1997, after two state troopers were killed, Congress created a grant program called the Bullet Proof Vest Grant Partnership Act (BVP), 42 U.S.C. § 3796ll, *et seq.* Under the BVP, the United States reimburses state, local and tribal authorities up to fifty percent of the cost of ballistic vests. The exact amount local, state and tribal law enforcement agencies are reimbursed for any specific vest varies based on the entitlement cap for each such agency for that fiscal year. The BVP grant program is administered by a division of the Department of Justice.

36. Purchasers under the BVP grant program included state, local and tribal law enforcement agencies. Under the applicable law, claims to the federal government for reimbursement by these purchasers could not be made until after the vests had been received by them. Additionally, law enforcement agency purchasers could only be reimbursed for vests replaced on a 5-year basis.

37. From approximately 1999 to 2005, Second Chance sold a minimum of 38,451 vests to state, local, and tribal law enforcement agencies and Indian tribes under the BVP. The federal government reimbursed these state, local and tribal law enforcement agencies over \$12 million for these Second Chance Zylon vests under the BVP. At least 7,053 claims for reimbursement for Second Chance Zylon vests were submitted under the grant program during this time period. By these actions, Defendants knowingly submitted or caused all of these claims for reimbursement for false claims to be presented. The claims for payment for each and every Zylon vest presented to the United states by state, local and tribal law enforcement agencies pursuant to the BVP were false claims in that the Zylon in those vests was defective and degraded substantially, quickly and unpredictably and, thus, did not meet their five-year warranty. For the reasons set forth in Paragraphs 2-5 of this Complaint, Defendants knew that

the Zylon in these vests was defective and degraded substantially, quickly and unpredictably and did not comply with their five-year warranty. For these reasons, Defendants knowingly submitted or caused all of these claims for reimbursement for false claims to be presented.

38. As alleged herein, all of the Second Chance Zylon vests sold to the United States under the BVP were defective in that their ballistic performance was compromised because it contained Zylon fiber which was unfit for use in ballistic applications because it was inherently susceptible to rapid and unpredictable degradation and strength loss due to hydrolysis and the occurrence of Red Thread. The Second Chance Zylon vests sold to the United States under federal contracts were defective in that they did not and would not meet the following benchmarks of ballistic performance: (1) the ballistic performance guarantee in the Second Chance warranty that the vests would continue to meet the NIJ Certification V-0 reference velocity speeds for five years; (2) the ballistic performance guarantee of no loss of ballistic performance of more than 6% over five years in Second Chance's catalogs; (3) the industry standard of maintaining ballistic performance over five years; and (4) the Government's expectations that they would continue to meet the minimum standard set forth in NIJ Standards 0101.03 and 0101.04 for the performance period set in their warranties (5 years). Had the United States known that the Second Chance Zylon vests were defective, the United States would not have paid for the Second Chance Zylon vests under the BVP.

39. As detailed above, each and every claim for payment for Second Chance Zylon vests presented to the United States by state, local and tribal law enforcement agencies under the BVP was factually and legally false. Further, Defendants fraudulently induced the United States to reimburse state, local and tribal law enforcement agencies under the BVP by withholding data and information about the defectiveness of the Second Chance Zylon vests and conspired to

withhold data and information about the defectiveness of the Second Chance Zylon vests, which also rendered each and every claim for payment for Second Chance Zylon vests sold to the United States under the BVP false. Had the United States known that the Second Chance Zylon vests were defective, the United States would not have paid for the Second Chance Zylon vests under the BVP.

40. Had the United States known of the defective nature of the Second Chance Zylon vests it would not have purchased them for use in the ballistic protection of law enforcement officers. But Defendants did not inform the United States of the defects in Zylon and instead took affirmative steps to cover up those risks. Had the United States known that the Second Chance Zylon vests were defective in that they failed to meet the benchmarks of ballistic performance enumerated above, the United States would not have paid for the Zylon vests purchased under the BVP.

**D. Other Federal Purchases**

41. Federal agencies also purchased Zylon bulletproof vests directly from Second Chance or from Second Chance distributors, apart from the GSA Schedule. The claims for payment for each and every Second Chance Zylon vest purchased directly by federal agencies were false claims in that the Zylon in those vests was defective and degraded substantially, quickly and unpredictably and, thus, did not meet their five-year warranty. For the reasons set forth in Paragraphs 2-5 of this Complaint, Defendants knew that the Zylon in these vests was defective and degraded substantially, quickly and unpredictably and did not comply with their five-year warranty. For these reasons, Defendants knowingly submitted or caused all of these claims for reimbursement for false claims to be presented.

42. As alleged herein, all of the Second Chance Zylon vests purchased directly by



federal agencies were defective in that their ballistic performance was compromised because it contained Zylon fiber which was unfit for use in ballistic applications because it was inherently susceptible to rapid and unpredictable degradation and strength loss due to hydrolysis and the occurrence of Red Thread. The Second Chance Zylon vests purchased directly by federal agencies were defective in that they did not and would not meet the following benchmarks of ballistic performance: (1) the ballistic performance guarantee in the Second Chance warranty that the vests would continue to meet the NIJ Certification V-0 reference velocity speeds for five years; (2) the ballistic performance guarantee of no loss of ballistic performance of more than 6% over five years in Second Chance's catalogs; (3) the industry standard of maintaining ballistic performance over five years; and (4) the Government's expectations that they would continue to meet the minimum standard set forth in NIJ Standards 0101.03 and 0101.04 for the performance period set in their warranties (5 years). Had the United States known that the Second Chance Zylon vests were defective, the United States would not have paid for the Second Chance Zylon vests purchased directly by federal agencies.

43. As detailed above, each and every claim for payment for Second Chance Zylon vests purchased directly by federal agencies was factually and legally false. Further, Defendants fraudulently induced the United States' purchases by withholding data and information about the defectiveness of the Second Chance Zylon vests and conspired to withhold data and information about the defectiveness of the Second Chance Zylon vests, which also rendered each and every claim for payment for Second Chance Zylon vests sold to the United States under federal contracts, false. Had the United States known that the Second Chance Zylon vests were defective, the United States would not have paid for the Second Chance Zylon vests purchased directly by federal agencies.

44. Had the United States known of the defective nature of the Second Chance Zylon vests it would not have purchased them for use in the ballistic protection of law enforcement officers. But Defendants did not inform the United States of the defects in Zylon and instead took affirmative steps to cover up those risks. Had the United States known that the Second Chance Zylon vests were defective in that they failed to meet the benchmarks of ballistic performance enumerated above, the United States would not have paid for the Zylon vests purchased directly by federal agencies.

#### **THE DEFENDANTS' SCHEME**

45. Zylon is the trade name for a high-tensile strength fiber chemically known as poly p-phenylene-2,6-bisoxazole or PBO, which is commercially manufactured only by Toyobo in Osaka, Japan. Zylon is manufactured as a continuous filament yarn which is converted into fabric by weaving or into a laminated ballistic material by layering with resin. As part of the Zylon manufacturing process, Zylon, which is manufactured using poly-phosphoric acid, must be neutralized in alkali. Toyobo manufactured two types of Zylon – Zylon As Spun (AS) and Zylon High Modulus (HM). The bulk of the ballistic vests at issue in this case contained Zylon AS.

##### **A. Testing, Manufacturing and Marketing of Zylon for Ballistic Applications**

###### **(1) Toyobo-Dow Joint Development of Zylon**

46. In the mid-1990s, Dow Chemical Company (Dow) engaged in a Zylon joint development project with Toyobo. During the Dow-Toyobo development project, Dow informed Toyobo about the potential for hydrolysis, chemical decomposition in which a compound is split into other compounds by reacting with water.

47. From the Dow-Toyobo joint development period and prior to the commercialization of Zylon fiber, Toyobo understood that residual phosphorous compounds in

the fiber from the manufacturing process reduced Zylon fiber strength due to hydrolysis, exposure to light, exposure to humidity and exposure to elevated temperatures; the strength of the Zylon fibers was improved when the fibers were neutralized using sodium hydroxide; and hydrolysis of Zylon fiber during storage was a problem which reduced its strength prior to weaving and assembly of ballistic products. Toyobo did not effectively resolve these issues prior to the commercialization of Zylon in 1998.

48. In 1994, Dow decided not to proceed with the commercialization of PBO, withdrew from the joint development project and licensed its intellectual property rights in PBO to Toyobo. As part of this agreement, Dow provided Toyobo with copies of its research papers summarizing the Dow and Dow-Toyobo joint research on Zylon, including research relating to hydrolysis and degradation.

**(2) Toyobo's Pre-Commercialization Efforts and Knowledge**

49. On information and belief, the United States alleges that because of Zylon's high tensile strength, Toyobo actively pursued the American ballistic vest market as a market for Zylon. From 1998 to 2005, the ballistics market was the largest market for Zylon.

50. Beginning in or about February 1995, Toyobo began a test-weaving program for Zylon using a Japanese weaver. During its initial testing, Toyobo learned that weaving caused significant damage to Zylon warp thread (cross-wise thread) and the tensile strength of the Zylon fiber was reduced. By April 1997, Toyobo's research determined that there was severe damage to Zylon, caused by bending fatigue during the weaving process.

51. In or about November 1995, Toyobo began ballistic testing of woven Zylon. This

“V-50” testing<sup>3</sup> was done with both bullets and fragments for marketing and advertising purposes. Toyobo was familiar with the United States NIJ standards and the United States military standards for ballistic testing. Toyobo America paid for the ballistics testing that was done in the United States on Zylon fabric.

52. By September 7, 1995, Toyobo had significant knowledge about the methods of designing a bulletproof vest made of Zylon materials. On September 7, 1995, Toyobo filed a Japanese patent application for the use of Zylon in bulletproof vests.

53. Upon information and belief, Toyobo also sold Zylon for use in ballistic vests in Japan. Zylon fiber was woven by a Japanese weaver into fabric and either sold directly by that weaver or sold on commission for Toyobo. On information and belief, Toyobo also sold non-Zylon ballistic vests in Japan and outside the United States.

54. On information and belief, Toyobo did not conduct a sufficient durability evaluation of Zylon fiber prior to marketing Zylon for ballistic applications and commercializing Zylon in October 1998.

### **(3) The Trading Companies**

55. In 1995-96, Toyobo contracted with two trading companies, Itochu International, Inc. (Itochu) and N.I. Teijin Shoji Co., Ltd. (Teijin), both Japanese corporations, to import Zylon yarn into the United States to distribute to the weavers. As early as 1995 and 1996, Toyobo was

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<sup>3</sup> There are two commonly used methods of testing ballistic performance – V-0 testing and V-50 testing. V-0 testing determines that at a specific speed (in feet or meters per second) no rounds of a specified bullet will penetrate a ballistic material or create a backface signature beyond 44 mm (about 1.73 inches), a measurement of the blunt force trauma behind the vest, and is the method used by NIJ to certify new vests. V-50 determines the calculated speed at which 50% of the rounds of a specified bullet will penetrate a ballistic material. V-50 measurements in particular will vary slightly within a particular vest model.

working with Teijin and Itochu to develop the United States ballistic market for Zylon. From that point on, Itochu and Teijin played a critical role in the sales and marketing of Zylon for ballistic uses in the United States.

56. Itochu and Teijin served as information conduits between Toyobo and the weavers and the body armor manufacturers by forwarding Toyobo's technical information to the weavers and the body armor manufacturers, and relaying orders, technical questions and quality concerns back to Toyobo. Upon information and belief, Toyobo set all pricing on Zylon and controlled access to Zylon.

**(4) The Weavers**

57. There were ultimately three companies which wove Zylon fiber into fabric for use in Second Chance Zylon body armor sold in the United States: Hexcel Corporation (Hexcel), Barrday Corporation (Barrday) and Lincoln Fabrics, Ltd. (Lincoln). Itochu supplied the Zylon yarn to Hexcel and Lincoln, and Teijin supplied Zylon yarn to Barrday. Toyobo provided the weavers with information and advice about thread counts, weave patterns and fabric optimization for their work Zylon fiber.

**B. Toyobo and Second Chance Form a Partnership to Manufacture and Sell Zylon Body Armor**

58. During 1996 and 1997, Toyobo selected the body armor manufacturers who would be given access to Zylon, selected the weavers who would be authorized to purchase Zylon and to weave it into ballistic fabric, and the trading companies that would import it into the United States. Toyobo kept complete control over access to and use of Zylon for ballistic applications.

59. Beginning in about May 1996, Second Chance and Toyobo began what they

referred to as a "partnership" to use Toyobo's Zylon in Second Chance's bulletproof vests. From May 1996 until at least 2004, Second Chance and Toyobo were in frequent contact with each other, primarily by e-mail and facsimile transmissions. The primary point of contact with Toyobo for Second Chance was Bachner.

60. On or about August 7, 1996, a representative of Toyobo came from Japan to Second Chance's office in Michigan to discuss the suitability of Zylon for ballistic vests. Defendants Bachner, Larry McCraney and Karen McCraney were present at all or some of these meetings.

61. In or about September 1996, Second Chance and Toyobo entered into a confidentiality agreement to facilitate the exchange of information and fiber samples to evaluate the use of fibers in ballistic applications. Under this agreement, Toyobo had "sole discretion to select the composition, quantity and quality of fibers that it" supplied to Second Chance. By this agreement, Toyobo also prohibited for a period of time Second Chance from conducting any chemical analysis of Zylon fiber needed to determine any strength degradation.

62. During this development phase of Zylon body armor, Toyobo worked closely with Second Chance, Hexcel, and other weavers to design specifications to optimize weaves of Zylon fiber into ballistic fabrics.

63. In December 1996, representatives of Toyobo, Second Chance and Hexcel met in Austin, Texas, to discuss the joint development of Zylon bulletproof vests. During this meeting, they discussed the need for ballistic testing of the fabric. Bachner attended this meeting on behalf of Second Chance.

64. From 1996 on, Toyobo extolled the superiority of Zylon fiber properties,

durability, longer life cycle, and heat resistance, for use in body armor but, until about July 2001, made no mention of any fiber defects or heat and humidity degradation.

65. In 1998, Second Chance began advertising its Ultima bulletproof vest as the "world's thinnest, lightest, and strongest armor" and as being 35% lighter and thinner than Second Chance's earlier armor. Second Chance claimed that its Ultima vests featured proprietary technology and fabric made from the "world's strongest fiber," PBO Zylon.

66. In April 1998, Second Chance forwarded a draft of the critical materials specification for the Zylon fabric in its bulletproof vests to Toyobo and asked Toyobo to "fill in the blanks." Toyobo responded with input on the critical material standards. In July 1998, Second Chance faxed a revised critical material standard to Toyobo for comments.

67. Also in April 1998, Second Chance and Toyobo discussed Second Chance's ongoing ballistic testing of the Zylon bulletproof vests and fiber and Toyobo's participation therein.

68. On information and belief, due to the close relationship between the two companies, Toyobo's 1998 brochure for Zylon products featured a photograph of Relator Westrick, then an employee of Second Chance, in the bulletproof vest he had worn as a police officer. The photograph was furnished to Toyobo by Bachner on behalf of Second Chance.

69. Bachner designed all of the Zylon body armor sold by Second Chance from 1998 to 2004.

70. The Second Chance Zylon vest models were certified to the NIJ Level IIA to Level IIIA standards, with the higher levels corresponding to an ability to defeat greater ballistic threats. All Zylon body armor that Second Chance sold in the United States passed the NIJ

certification testing.

**C. Commercialization of Zylon fiber and Second Chance's Zylon Vests**

71. Toyobo expanded its production of Zylon fabric after completing construction of a multi-million dollar facility in Tsuruga, Japan. Commercial production of PBO Zylon fiber for use in, *inter alia*, body armor commenced October 1, 1998 at Toyobo's new Tsuruga Plant.

72. From October 1, 1998 to August 24, 2005, Toyobo did not control the ambient temperature and humidity of the Zylon manufacturing facility at Tsuruga, Japan.

73. In October 1998, representatives of Second Chance and Toyobo attended the International Association of Chiefs of Police Conference (IACP) in Salt Lake City, Utah where Second Chance introduced its Ultima product line of body armor and Second Chance and Toyobo promoted Zylon and the Second Chance vests which would utilize it.

74. In late 1998, Second Chance began to sell Zylon body armor to the federal government through GSA supply schedule contract No. GS-07F-8799D and direct sales. Second Chance provided a five-year warranty of ballistic performance and the protective integrity of the panels, as well as other warranties, guarantees and representations, to the federal government under the GSA contract for these Zylon vests. None of the product care tags on the Zylon vests or accompanying literature warned the purchaser or user not to expose the vest to light, heat or humidity.

75. The first vests sold were Second Chance's Ultima vests, which contained ballistic panels made of multiple layers of 100% woven Zylon fabric as their only ballistic component. Second Chance later added TriFlex (containing approximately 20 to 31% Zylon) and Ultimax or BiFlex (containing approximately 50% Zylon) vest model lines to its sales.



76. In early December 1998, Second Chance informed Toyobo that the early market reaction to the Zylon vests was "unprecedented." Toyobo and Second Chance entered into a one-year exclusivity agreement, whereby only Second Chance could use Zylon in body armor sold to state and local law enforcement authorities in the United States.

77. The Second Chance Ultima vests became very popular in the market because they were thinner, lighter, and more wearable than other body armor on the market. The Ultima vests were more expensive than many other body armor models; their premium price was due to the high cost of the Zylon fabric which made them thinner and lighter.

78. All Second Chance Ultima body armor was sold with a five-year express warranty on the ballistic performance and the protective integrity of the panels of the vest panels. This warranty guaranteed the vests would maintain ballistic performance equivalent to NIJ V-0 certification reference velocity speeds for five years.

79. The Second Chance body armor catalogs during the operative time frames stated that "Second Chance guarantees its vests to perform at this level [in V-50 ballistics performance] within normal statistical variation (+/-6% ) during the five-year guaranteed life of the vest." These catalogs were provided by Second Chance to the United States, including both the GSA and the federal agencies which purchased Zylon vests.

80. On information and belief, in setting these express and implied warranties, Second Chance performed no durability testing on its Zylon vests to verify the promised performance over time.

81. Second Chance based its five-year warranties for its Ultima vests on research done by Bachner in or about 1985. While working at DuPont, Bachner had written an article that

recommended replacing body armor in five-year cycles, based on Dupont's testing and experience with Kevlar body armor. While the recommendations in Bachner's article were based on an evaluation of the thicker and heavier Kevlar vests manufactured in the 1980s with the material then available, they became the basis for the five-year industry standard warranty and Second Chance's five-year warranty on its soft body armor, including its thinner and lighter Zylon vests.

82. On information and belief, all vest manufacturers between 1998 and 2004 offered at least a five year warranty on their bulletproof vests. Indeed, manufacturers of bulletproof vests did not believe their products would be competitive in the marketplace without a five-year warranty on the ballistic qualities of the panels. Thus, the idea that bulletproof vests would maintain their ballistic performance over five years was an industry standard.

83. GSA required that Second Chance provide warranties on its vests that were equal to those provided to its commercial customers and incorporated those warranties into the contract. The GSA-Second Chance contracts incorporated Second Chance's commercial warranties, as well as other warranties, guarantees and representations. Second Chance invoiced the federal agencies directly for the sales under the GSA contracts.

84. On multiple occasions, Second Chance provided GSA with its catalog, which stated that "Second Chance guarantees its vests to perform at this level [in V50 ballistics performance] within normal statistical variation (+/-6% ) during the five-year guaranteed life of the vest."

85. In or about October 1998, Second Chance sought a modification of its GSA MAS contract to add the Ultima Zylon vests to the contract, which was granted. In October 1999,

Second Chance sought a modification of the GSA contract to add the TriFlex vest, which was granted. In June 2002, Second Chance sought a modification of the GSA contract to add the BiFlex or Ultimex vests, which was granted. In connection with these modifications to add Second Chance vests to the GSA contract, Second Chance provided GSA with technical information concerning these vests, such as weights and performance information about Zylon. In July 2001, GSA extended the GSA contract for body armor with Second Chance from August 1, 2001 through July 31, 2006.

86. GSA's original 1995 solicitation for body armor contained clause 52.210-5 "New Material," that was agreed to by Second Chance. This clause stated, in pertinent part, "the Contractor represents that supplies and components are new, including recycled (not used or reconditioned) and are not of such age or so deteriorated as to impair their usefulness or safety." This clause was never modified.

87. Prior to the sale of any Zylon vests under the GSA contract, Second Chance's GSA contract was amended to add clause C-FSS-425 "Workmanship," which stated in pertinent part, "Each article must perform the functions of its intended use."

**D. Second Chance's and Toyobo's Knowledge of Problems with Zylon Vests**

**(1) Light Degradation**

88. In July 1998, Toyobo communicated to Second Chance that the exposure of Zylon to various types of light resulted in strength loss, and forwarded the test results to Second Chance. This information was faxed to Bachner, who the United States is informed and believes distributed it to others in Second Chance's management.

89. In August 1998, Toyobo informed Second Chance that the test results for the

exposure of Zylon fabric to light were worse than expected. Toyobo claimed this degradation was due to yarn damage to the Zylon fiber during the weaving process.

90. On or about December 18, 1998, Toyobo informed Second Chance that Toyobo's preliminary testing showed that the strength of Zylon fiber began to deteriorate rapidly when exposed to visible and fluorescent light. Toyobo told Second Chance that there was a 23% degradation of Zylon fabric when exposed to a fluorescent lamp for over 200 hours. Toyobo faxed this material to Bachner and Second Chance.

91. On or about December 23, 1998, Second Chance responded to the information about the light degradation of the Zylon fabric by telling Toyobo that they both "must avoid even the perception of a possible problem" with Zylon.

**(2) Early Knowledge of Red Thread Zylon**

92. In or about March 1999, Hexcel returned nine bobbins of Zylon to Toyobo and Itochu because they had "red streaks" in them.

93. Beginning in at least May 1999, Toyobo was aware that Red Thread was occurring in its Zylon fiber. Red Thread is a reddish, discolored section of Zylon fiber which has a reduced tensile strength and was caused by over-neutralization, a chemical condition occurring during the Zylon manufacturing process. On information and belief, Toyobo learned that Red Thread was created when Zylon fiber came into contact with sodium carbonate deposits on rollers in the Zylon manufacturing process. Toyobo initiated an extensive Red Thread countermeasures project in or about 1999, yet continued to sell weakened Zylon with Red Thread segments to weavers and body armor manufacturers. On information and belief, Toyobo found that Red Thread was difficult to detect on Zylon fiber spools or in woven Zylon fabric.

94. In or about September 1999, Toyobo executives Koygo, Shiga and Ichirya met to discuss Zylon. On information and belief, the United States alleges that during that meeting, Koygo stated that he did not think that Toyobo could make things right with Zylon and the attendees at the meeting discussed how Toyobo should not give out too much know-how about Zylon.

95. By November 1999, Toyobo's researchers had concluded that Red Thread could be used where strength requirements were "not severe."

96. Throughout 2000, Toyobo conducted more research into Red Thread and internally acknowledged that the low strength of the Red Thread fiber was a problem and that urgent countermeasures to combat the strength loss were necessary. On information and belief, concurrent with these reports, Toyobo reduced the amount of NaOH used in the neutralization process. At the time of this processing change, Toyobo knew its neutralization using NaOH was the key to controlling hydrolysis-induced tensile strength degradation in Zylon.

97. Over three years later, in May 2003, Toyobo falsely told Hexcel, as well as the American body armor manufacturers, that Toyobo had first manufactured Zylon containing Red Thread in October 2002. The United States alleges that Toyobo's internal "TOP SECRET" reports stated that Red Thread was first identified on or about May 10, 1999 to October 1, 1999.

98. On or about April 13, 2000, despite the implementation of Red Thread countermeasures in early 2000, Toyobo employees continued to find Red Thread in Zylon fiber.

99. In July 2001, the Japanese weaver, Sakai Sangyo, found Red Thread on the inner layer of a bobbin of Zylon. Two months later, Sakai Sangyo found more Red Thread.

100. Upon information and belief, the Red Thread problem re-occurred continually

during Toyobo's manufacture of Zylon and was never controlled or eradicated. Moreover, Toyobo's attempts to reduce the Red Thread by modifying the Zylon neutralization process resulted in additional problems in the Zylon fiber.

**(3) Zylon Rope Degradation Complaints**

101. By late 2000, Toyobo had learned that its Zylon rope customers had noticed strength loss even when the rope was shielded from light. A March 2001 Toyobo internal document indicated that coated Zylon rope which had been stored in a warehouse for one year, covered in black vinyl plastic, showed a strength loss of 20%. Based on the complaints from its rope customers, Toyobo began accelerated aging testing on Zylon fiber in or about April 2001. Internally Toyobo acknowledged that hydrolytic degradation may be the cause of the strength degradation. On or about June 21, 2001, Toyobo's internal research concluded that hydrolysis countermeasures for Zylon were "very poor."

102. Toyobo did not share the Zylon degradation information that it learned from the rope industry with its body armor customers, despite Toyobo's knowledge that the American body armor industry was using Zylon in life-and-death applications that required high strength and strength retention over time.

103. On or about June 22, 2001, an internal Toyobo document on "Zylon Strength Analysis" showed Toyobo's knowledge of strength degradation at ambient temperatures in storage, possibly caused by hydrolysis, as well as degradation in high temperature and humid conditions.

**E. Toyobo and Second Chance Engaged In A Conspiracy To Conceal Evidence of Zylon's Accelerated Degradation**

104. From October 1998 until at least July 2001, Toyobo and Second Chance kept

silent as to the ever-mounting information in their possession that the Zylon fiber and the fabric made therefrom degraded substantially faster than expected, especially when exposed to light, heat, and humidity. Second Chance continued to manufacture and sell these Zylon bulletproof vests to the United States, made with Zylon provided by Toyobo, knowing that these vests were defective.

105. During this period, Second Chance entered into contracts with the United States Government for the sale of ballistic Zylon vests, and with state, local, and Indian law enforcement agencies for the sale of Zylon vests that were reimbursed in part by the BPVGPA grant program. During this period, Second Chance and Toyobo knew that the vests that Second Chance was selling to the United States Government degraded when exposed to light, heat, and humidity but did not disclose this information to the United States Government.

106. Beginning in or about March 2001, DSM High Performance Fibers (DSM), a Netherlands-based ballistic material company that had been involved in the production of a Zylon-based laminated material called Z-Shield or UD-41, conducted accelerated aging testing on that product as part of DSM's normal manufacturing protocols. The test results showed substantial degradation of the ballistic performance of the material.

107. On July 5, 2001, Frank Schaap of DSM wrote to Messrs. Nojima, Saito and Kuroki at Toyobo in a facsimile letter entitled "URGENT, URGENT, URGENT, URGENT." DSM stated that it had "serious indications that the use of Zylon in bullet resistant vests may not be justified." (This facsimile is known as the "DSM Announcement.") DSM put on hold its market introduction of Z-Shield and ultimately never sold Zylon again. DSM suggested that Toyobo take all necessary precautions to avoid further potential risk of distribution of unjustified

Zylon.

108. Prior to July 5, 2001, a Zylon vest manufactured by Mehler, a German manufacturer, failed ballistic testing required by the Bavarian police.

**(1) Toyobo's Reaction to the DSM Announcement**

109. By letter dated July 5, 2001, Toyobo informed Second Chance and other body armor manufacturers that its internal testing of Zylon fibers indicated that Zylon lost strength at high temperature and humidity. On information and belief, Toyobo was able to assemble and release this degradation information so quickly after the DSM Announcement because, due to the complaints of its rope customers in 2000 and early 2001, Toyobo had been doing accelerated aging tests on Zylon fiber about two months before. Toyobo recommended that Second Chance reconfirm its product designs to insure that they met customer requirements and to determine product lifetime. Additionally, Toyobo informed Second Chance that Toyobo provided no warranty and assumed no liability for Zylon fiber. While Toyobo released this data, Toyobo withheld other data that was in its possession that would have shown the extent to which Zylon degraded and the fact that Toyobo's manufacturing process was out of control.

110. By letter dated July 6, 2001, Toyobo informed Second Chance and others that DSM had decided to put on hold its market introduction of PBO fiber containing Zylon. Toyobo assured Second Chance and others that it had not found any serious indication of Zylon strength degradation from its aging tests using Zylon fiber, but stated that it assumed no liability for any use of Zylon fiber.

111. On information and belief, the United States alleges that these Toyobo's representations were misleading, as Toyobo knew that its Zylon manufacturing process was



causing a loss of strength in Zylon and that Zylon was inherently susceptible to hydrolysis degradation. Toyobo knew of various problems with Zylon, including hydrolysis degradation, in 1998, before Second Chance sold its first Zylon vest. Additionally, Toyobo knew that exposure to light resulted in a loss of strength in Zylon.

112. Additionally, Toyobo had been performing degradation testing on fiber removed from fabric woven in Japan by Sakai Sangyo, starting in at least May 2001. By June 2001, Toyobo was aware that fabric degraded faster than fiber in heat and humidity due to the damage done to the fiber during the weaving process. However, Toyobo did not disclose the results of this testing to the American body armor industry until October 2003.

113. Likewise, from about 2001 on, Toyobo was performing cyclical testing on Zylon fiber where the temperature started at 20°C for 12 hours and was raised to 40°C for 12 hours and then was reduced back down to 20°C for 12 hours. This testing was not disclosed outside of Toyobo. Disclosing this information would have demonstrated that the degradation in a vest that was worn between 8 and 10 hours per day would have followed a similar pattern as Toyobo's continuous 40C/80RH testing.

114. On July 11, 2001, Toyobo met with DSM to discuss DSM's data. DSM disclosed to Toyobo that DSM had performed V50 testing on Z-Shield and saw a 7% reduction in ballistic performance. During this meeting, Toyobo informed DSM that due to the residual moisture of the Zylon fiber in the Z-Shield, the micro-atmosphere in the Z-Shield during DSM's testing could be similar to the high heat and high humidity conditions of Toyobo's own degradation testing.

115. DSM asked Toyobo to provide DSM with all of Toyobo's data on the stability and aging of Zylon fiber. While Toyobo provided some of its degradation testing, Toyobo did not

provide any of the information from the rope manufacturers about the degradation of their Zylon ropes.

116. After the DSM Announcement in July 2001, Toyobo and other participants in the Zylon manufacturing process knew that all Zylon vests were at risk and the entire Zylon ballistics market was at risk. Hexcel was concerned that the DSM Announcement “in the worst case could mean the total loss of our Zylon business.” Toyobo informed Itochu that it was concerned that, as a result of the DSM Announcement, the Zylon business in Germany would be cancelled, the Zylon business loss would spread to the United States, and the Zylon vest sales would be severely reduced.

117. Following the DSM Announcement, in the Fall of 2001, Allen Price, a long-time ballistics industry consultant who was also using Zylon in vests he had designed, called the National Law Enforcement and Corrections Technology Center (NLECTC) and informed the NLECTC Manager that the DSM Announcement was the result of a business dispute between DSM and Honeywell-Allied Signal in Europe. Additionally, Bachner spoke with the same NLECTC manager and conveyed the same sentiment, calling it “sour grapes” – that the DSM Announcement arose from a business dispute over Zylon distribution in Europe and did not indicate any serious degradation problem. On information and belief, the United States alleges that Price and Bachner knew that these statements were misleading and were designed to mislead NLECTC and the United States Government about the seriousness of the DSM Announcement.

118. On information and belief, the United States alleges that Toyobo was deeply concerned with DSM’s Announcement but tried to hide its concerns. Toyobo internally reported that the DSM Announcement had disturbed the Zylon market and met with companies in the

body armor industry to try to calm the market and keep Zylon sales going.

**(2) Second Chance's Reaction to the DSM Announcement**

119. On July 6, 2001, Second Chance issued a letter addressed "To Whom It May Concern" prepared and signed by Bachner and Davis which contended that the degradation tests on Zylon by Toyobo involved high temperatures and above normal use. Second Chance publicly reported that Toyobo's studies were not cause for concern, stating that "after five years of continuing testing and over two and a half years of field experience, we see no reason to suspect any premature decline in Zylon fiber properties" and that "Second Chance Body Armor remains confident that all of its body armor products will continue to meet or exceed design criteria well beyond their stated warranty period, so long as they are properly cared for." Second Chance's statement was false and, due to the information provided to Second Chance by Toyobo, Second Chance knew that this statement was false at the time it was made.

120. At the time of the July 6, 2001 letter, Second Chance had not begun its used Zylon vest testing program.

121. Contrary to Second Chance's public statements about Zylon, Second Chance internally was very concerned about the Zylon degradation. On July 8, 2001, the Second Chance Executive Committee met to discuss the new information about Zylon from DSM and Toyobo. Bachner's handwritten notes from the meeting describe DSM's testing as "shocking results," indicated a need for "further investigations," and noted that "if confirmed, therefore PBO fitness for use is questionable, such drastic reductions relate to stopping BLT [bullet]."

122. On or about July 12, 2001, Second Chance met with Toyobo, Itochu, and Hexcel to discuss these issues – the DSM Announcement, its potential impact on the Bavarian police's

purchase of Zylon vests, the test failure of the Mehler Zylon vest, and the decrease in strength of Zylon. During this meeting, Toyobo refused to accept any liability and refused Second Chance's request that Toyobo provide Second Chance with a ten-year warranty. Present at this meeting were Bachner, Davis, Larry McCraney and Karen McCraney. During this meeting, Second Chance informed Toyobo, Itochu and Hexcel that it would collect its used Ultima vests from the field and conduct ballistic testing on the vests to determine how they were performing in the field.

123. Following the DSM Announcement, Teijin arranged meetings between Toyobo and Barrday. In or about July 2001, Toyobo, Teijin and Barrday met to discuss the DSM Announcement and the Toyobo degradation data. Barrday concluded that: "Toyobo is panicking over the DSM letter but trying not to show it (bad actors)."

124. In July 2001, a Toyobo Monthly Sales Development Report by Kuroki (Toyobo's Zylon Marketing Manager) acknowledged that the hydrolysis problem with Zylon had surfaced, and reported that the market was confused by the DSM announcement. On information and belief, he went on to say, regarding the "long term stability of Zylon," that Toyobo would launch a project to investigate the possibility of improving Zylon, but that in the near term, customers may need to "design products with a 10 percent safety factor." On information and belief, he also stated that "It is extremely regrettable that sufficient study was not done in the development stage, and we feel responsible.

**F. Toyobo Released Information About the Degradation of Zylon, But Continued to Sell Zylon to Second Chance for Use in Bulletproof Vests**

125. On or about July 19, 2001, Toyobo released additional data that estimated a loss of less than 5 percent strength by Zylon over 10 years at ambient temperatures and humidity and

a loss of less than 10 percent strength of Zylon at 40°C and 80% relative humidity. This data conflicted with the additional evidence in Toyobo and Second Chance's possession concerning the degradation of Zylon when exposed to light, heat and humidity. Copies of this data and the accompanying letter were provided by Toyobo to Bachner, Larry McCraney and Karen McCraney.

126. Recognizing that Zylon's tensile strength degradation was a problem, Toyobo initiated a "ZKP" (Zylon Improvement Project) in July 2001, but still continued to sell unimproved Zylon to body armor manufacturers. One of the goals of the ZKP project was to bring Zylon's strength retention equivalent to the strength retention of Kevlar (a competing fiber for ballistic applications) under conditions of heat and humidity. The ZKP project also examined the effect of residual phosphoric acid as a possible factor affecting the strength retention behavior of Zylon.

127. On information and belief, internally, Toyobo's Director Nojima made a statement at the commencement of the ZKP project in July 2001, that Zylon had its "shortcomings." He said that Toyobo should make a "fresh start" by developing new Zylon which would withstand degradation in moist heat and over time, with strength equivalent to Kevlar. He stated, "Let's make a product that we can ship to the market with performance reassured."

128. At essentially the same time (July 2001), Toyobo technical staff made an internal presentation showing accelerated testing. Their data acknowledged the nonlinear degradation which was occurring in Zylon, but this was different from what Toyobo communicated to its customers – straight line degradation. Ignoring the nonlinear nature of the accelerated results in over-estimates of Zylon's strength.

129. The mechanism of chemical degradation in Zylon and its relationship to phosphorous, including residual phosphoric acid, and water in the fiber were understood by the Toyobo technical staff. Toyobo's research staff knew that Zylon degraded in the presence of water, including humidity, and the degradation was accelerated by the presence of either a base or an acid.

130. On or about July 30, 2001, a report was prepared at Toyobo which discussed the low strength of the over-neutralized Zylon, also known as Red Thread, and questioned whether such fiber was not at a greater risk of degradation when exposed to heat and humidity.

131. Despite knowing that it had internal research data and reports from Zylon users of serious strength degradation problems, Toyobo's public representations consistently suggested that Zylon fiber was suitable for ballistic applications.

**G. Second Chance's Used Vest Testing**

132. In the late summer of 2001, Toyobo and Itochu believed that the future of the sale of Zylon as a ballistic material was resting on the results of Second Chance's used vest testing. Toyobo, Itochu and Second Chance agreed to keep this essential information – Second Chance's used vest testing results – confidential from the rest of the ballistics industry and any ballistics end users, including the United States Government. Toyobo, Second Chance and Itochu entered into confidentiality agreements to prevent the disclosure of this information.

133. In or about August 2, 2001, management of Second Chance held an "Emergency Session" of the Executive Committee concerning the degradation of Zylon vests. Bachner's notes of the August 2, 2001 Executive Committee meeting state: "2-2 ½ yr. old vests showing consistent decline of 2-3% . . . Long Term: Possibility of going OS [outside] warranty in < [less

than] 5 years.” Bachner described the issue to the Second Chance Executive Committee as “not an officer safety issue (yet) but certainly a corp. [corporate] safety issue.”

134. On or about August 7, 2001, during a “Special Session” of the Second Chance Executive Committee, Bachner informed the Executive Committee that “2-2 ½ year old Zylon vests showing unexpected decay in ballistic performance” and “losses range from average three to eight percent.” Bachner reported to the Executive Committee that “this was a decay with use situation, not a shelf life issue.”

135. On or about August 7, 2001, Bachner also provided the Executive Committee with the results to date of his used Zylon vest testing and his handwritten notes reflect the results of this testing as: “5/18 vests (28%) @ ‘concern’ level.” Among the results from the used body armor tested in Zylon Study #2 (Pennsylvania) were declines in ballistics performance of 9% and 11% in two of these vests, which Bachner described as “alarming.” Bachner later testified that if the performance of the two Pennsylvania vests continued to decline, “[Second Chance] could reach a point of being inside V-0, where the vests would no longer stop the bullets that they were designed to stop.”

136. During this meeting, Bachner suggested that Second Chance augment or add layers to its vests if the degradation was due to hydrolysis.

137. The United States alleges, on information and belief, that on or about August 7, 2001, an executive of Second Chance informed Westrick that a test on Zylon vests used by Pennsylvania state troopers revealed that the Zylon fabric was degrading at a rate of 2 to 5 percent per year and that one such vest had lost 20 to 25 percent of its strength.

138. On or about August 8, 2001, Second Chance sought Toyobo's help in determining

the cause of the Zylon performance changes and proposed that Second Chance and Toyobo enter into a confidentiality agreement covering the Zylon used vest testing.

139. On or about August 20, 2001, Second Chance informed Toyobo that concerns by German vest manufacturers raised questions of the suitability of Zylon fiber for body armor. Second Chance cited to Toyobo's accelerated aging studies that indicated, under certain high temperature and humidity conditions beyond normal operating conditions, Zylon fiber lacked the same relative durability as other body armor fibers.

140. In August 2001, Bachner sent Toyobo an initial report on its used vest testing, reporting performance shifts of between 2 and 12 percent, and stating that "we too were surprised at the preliminary results."

141. On or about August 21, 2001, Second Chance sent Toyobo about 20 used Zylon vest panels so that Toyobo could test the tensile strength of the fiber in those vest panels. The next day, Toyobo agreed to perform the testing Second Chance requested. On September 12, 2001, Second Chance sent Toyobo eleven additional panels for testing.

142. On or about August 22, 2001, Toyobo prepared an experiment plan to determine the cause for the lowering of strength due to residual acid (hydrolysis). The chart attached to the plan showed a 40% strength loss when the fiber was exposed to 80 °C and 80% relative humidity over 100 days.

143. On or about August 22, 2001, Toyobo prepared a report to Toyobo executives Tooru Kitagawa, M.L. Abe, Mr. Matsuoka, Kohei Kiriya, and Hiroki Murase which discussed the low strength retention of both under-neutralized and over-neutralized Zylon fiber.

144. On or about August 24, 2001, Bachner e-mailed Toyobo with additional



information from DSM. Bachner informed Toyobo that DSM had stated that the Zylon vest lost 20 percent of its strength under certain conditions when exposed to heat and humidity. Second Chance informed Toyobo that there was 100 million in marks in German business available, now that DSM had withdrawn its bid, and Second Chance was the only Zylon manufacturer poised to take that business. Second Chance noted that a large number of other manufacturers were "barking" about the Zylon problem and, if Toyobo did not respond to these attacks on Zylon, as stated in a Second Chance email, "the dogs will eat the golden rabbit."

145. Second Chance ultimately obtained a contract to supply Zylon armor to the German government. Second Chance added two layer upgrades to the German body armor for fear of vest failure, but did not add layer upgrades to body armor that it sold in the United States.

146. On or about August 28, 2001, Toyobo reported to Zylon vest manufacturers, including Second Chance, test data that showed a significant degradation in Zylon strength in less than 100 days at high temperatures and humidity. Toyobo stated that this result was a "little bigger strength drop than we expected." While Toyobo released this data, Toyobo withheld other data regarding Zylon that was in its possession that would have shown the extent to which Zylon degraded and the fact that Toyobo's manufacturing process was out of control.

147. On or about August 28, 2001, Second Chance informed Toyobo that while these issues were important, they were manageable. Additionally, Second Chance provided Toyobo with a more favorable interpretation of Toyobo's data and suggested that Toyobo had misread its own data. Second Chance offered advice on how Toyobo should respond to the crisis – and was emphatic that Toyobo should never release any of its degradation data charts to the public.

148. On August 28, 2001, Bachner sent a fax to Ohira of Toyobo, in reference to

Toyobo's having reported on July 12, 2001 that the tensile strength of Zylon leveled out during its shelf life. Second Chance was becoming "concerned," however, with Toyobo's provision of the August 28, 2001 data, since the data showed a slow and steady strength loss over time, rather than a leveling off. On information and belief, about two months later, an October 2001 Toyobo internal monthly report acknowledged, "There is no sign of [Zylon's] strength reduction leveling off."

149. On or about September 11, 2001, Second Chance's used vest testing results showed Zylon vests degrading at 3-9% per year, a rate of degradation that was three times that of non-Zylon vests. One of the vests had lost over 16 percent of its strength in over 2 years.

150. In September 2001, Toyobo attended a meeting with the German Police Research Institute concerning Zylon vests. Kuroki stated that the risk was too high for Second Chance given the 10% drop in ballistic performance seen in Second Chance's used vest testing. On information and belief, following that meeting, Kuroki informed Itochu that it was Toyobo's real opinion that Second Chance should add three layers to the German vests, not just two as Second Chance had proposed. On information and belief, the reason for the additional layer was Toyobo's assessment of Second Chance's safety margin – "it is unclear how much safety margin for V50 SCBA has accounted for, but looking at how panicked they are, it can be expected that they have counted almost none."

151. On or about September 12, 2001, Second Chance informed Toyobo and Itochu about the testing of two additional used Zylon vests which showed 3% and 10% ballistic performance losses. Second Chance personnel also reported to Toyobo and Itochu about additional Zylon degradation data from Europe, including that: (1) "We hear disturbing things

from Germany”; (2) another vest manufacturer, Prostyle's accelerated aging tests on Zylon vests showed a 12% ballistic performance loss; and (3) DSM had performed additional testing which showed a 22% loss. On or about September 11, 2001, Toyobo was informed that BSST had reported that its testing on aging Zylon Shield showed a strength loss of 22%.

152. Toyobo extracted Zylon yarn from some, but not all, of the used vests that Second Chance had shipped to Toyobo in late August 2001, measured the strength of the yarn, and compared the yarn from the used and unused vintage vests. On September 14, 2001, Toyobo sent Second Chance a report prepared by the Toyobo laboratory about the tensile strength reduction in the used Second Chance Zylon vests. These results were not released to other Zylon customers of Toyobo or to any end users of Second Chance Zylon vests. Toyobo stated that there was a 20 percent reduction in tensile strength between the used vest and the unused vintage vests. Thus, these test results confirmed that the problem was a degradation-with-use issue, not a shelf life issue.

153. On or about September 14, 2001, Toyobo published a technical bulletin. While Toyobo released this technical bulletin, Toyobo withheld other more damaging and more relevant data regarding Zylon that was in its possession that would have shown the extent to which Zylon degraded and the fact that Toyobo's manufacturing process was out of control.

154. Upon information and belief, on or about September 15, 2001, Dr. Ohta, head of the ZKP project, referred to the current level of Zylon strength as a "big problem."

155. On or about September 18, 2001, Second Chance decided to add two layers to the Zylon body armor marketed in Germany with a ten-year warranty, but not to the Zylon body armor marketed in the United States. In September 2001, Bachner “raised the issue” of adding

layers to the Second Chance Zylon body armor marketed and sold in the United States, but Second Chance never did so.

156. On or about September 18, 2001, Toyobo determined that Zylon's heat and humidity performance varied depending on spinning conditions; however, Toyobo concluded that it needed an additional six months to be able to control the performance of Zylon.

157. Upon information and belief, in September 2001, internal Toyobo memoranda disclosed how serious the hydrolysis problem was, particularly under "conditions of 40°C and humidification that is near usage environments" in bulletproof vests, which was acknowledged as a "major use" of Zylon. Additionally, Toyobo researchers were concerned about why Zylon had a strength retention problem at lower temperatures such as 40°C whereas Kevlar did not.

158. Upon information and belief, Toyobo was unable to resolve the hydrolysis problem in Zylon fiber without either sacrificing other properties of the fiber or without expending a great deal of money. The ZKP project lasted about five years, during which Toyobo had discovered methods to improve the strength retention of Zylon, but Toyobo decided that the various approaches that it examined were not commercially feasible and, hence, were never commercially implemented. Throughout this time (from 2001 to 2005), Toyobo continued to sell the current, unimproved, Zylon fiber to those in the Zylon ballistic vest manufacturing chain.

159. On October 9, 2001, Bachner led another meeting of the Second Chance Executive Committee where he presented more used vest testing results and testing by DSM, Profistyle, and Toyobo.

160. On or about October 19, 2001, during its monthly meeting, the Toyobo Research Center prepared a confidential experimental plan to search for a method to suppress hydrolysis.

While Toyobo confirmed that there was a reaction in the Zylon due to hydrolysis, it deemed controlling the reaction in the Zylon manufacturing process "difficult."

161. On information and belief, on or about September 25, 2001, Yasuo Ohta reported internally at Toyobo that at "room temperature" to 40°C, strength declined about 10 percent in 100 days. However, he indicated that the Business Department's "official opinion" should be used when communicating externally. The internal-only report went on to say that various customers had complained of a 10-20 percent drop in performance.

162. That same day, September 25, 2001, Toyobo's Business Department released its "Official Opinion" to standardize replies to overseas and domestic Zylon customers. On information and belief, they stated, "It has become clear that the strength of Zylon gradually decreases under high temperature and high humidity. The rate of decrease is estimated to be approximately 10 percent after 10 years under 40° C, 80 percent RH conditions." and "On the other hand, as a result of measuring fiber stored in our company's warehouse (less than 3 years), it is speculated that the 10-year reduction in strength is 5 percent or less." On information and belief, that same Official Opinion notes at the bottom that "recent hygrothermal processing data suggests that the rate of hygrothermal decline is higher than expected," but that Toyobo's official opinion may or may not be revised based on the addition of 10 new yarns about to be added into the testing matrix.

163. Prior to November 7, 2001, Toyobo informed Teijin that Toyobo recognized that the degradation issue was attributed to Zylon's particular composition. Moreover, Toyobo informed Teijin that it was running more tests of the fiber at 40° C, which were close to the human body temperature, and which were expected to be completed by December 2001.

164. On or about November 16, 2001 Toyobo informed a European ballistics manufacturer that it could estimate the lifetime of a ballistic vest by comparing the results of used vest testing with the accelerated aging testing.

165. On or about November 16, 2001, Kuroki contacted a European manufacturer of body armor and a customer of Zylon to discuss the customer's concerns about the long-term stability of Zylon fiber. Kuroki admitted that the most serious concern was the data arising from testing done at conditions of 40 °C and 80% relative humidity, which he admitted would be similar to the temperature of a police officer who was running.

#### **H. Worsening Degradation Data and The Zylon Cover-Up**

##### **(1) The November 26, 2001 Data**

166. On or about November 26, 2001, Toyobo released accelerated aging data in the form of a graph that showed a dramatic drop in Zylon fiber strength. This strength drop did not follow a logarithmic (or predictable) plot. Toyobo stated that the mechanism of the change was not clear. This data, taken at 40°C and 80% relative humidity, showed at least a 15% strength loss at 150 days and the last three data points on the graph showed an additional 8% loss in 50 days. While Toyobo released this data, Toyobo withheld other data regarding Zylon that was in its possession that would have shown the extent to which Zylon degraded and the fact that Toyobo's manufacturing process was out of control. Additionally, Toyobo did not disclose publicly the used Zylon vest testing results that it was receiving from Second Chance or the testing it had performed on the fiber removed from the fabric in Second Chance's vests.

167. Toyobo's November 26, 2001 data caused significant concern at Second Chance and caused Second Chance to request an in-person meeting with Toyobo.

168. On information and belief, on November 29, 2001, Second Chance's used Zylon vest testing results showed ballistic performance degradation at a rate of 9-13% over two years and that increased degradation occurred the longer the Zylon armor was worn. On information and belief, Westrick recommended that Second Chance recall all vests made of Zylon and Davis initially agreed.

169. On December 6, 2001, the Second Chance Executive Committee met again. Bachner reported to the Second Chance Executive Committee the poor results of the Second Chance used Zylon vest testing, including "perf[ormance] creep in Zylon 3-4% higher" and "perf[ormance] Summary: 1 in 10 of current concern." At this meeting, the Executive Committee also discussed potential actions Second Chance could take in response to the Toyobo degradation data and to the Second Chance used Zylon vest data, including "? Hold shipment ?," "Redesign Alternative," "? Change Warranty Period ?" Additionally, Bachner noted that "JLM [James Larry McCraney] needs to clean out 7<sup>th</sup> and 8<sup>th</sup> gen. [generation vests] and ship them NOW[.] Soon not viable."

170. By December 10, 2001, Bachner had redesigned a new Zylon Ultima vest with six additional layers as a possible response to the Zylon data and presented this re-design at a meeting on that date of the Second Chance Executive Committee. These vests, often referred to as "+6" or "Ultima 2002" vests, were never commercialized.

**(2) The "Zylon Crisis Management Meeting"**

171. On or about December 13, 2001, Second Chance, Itochu and Toyobo met in Los Angeles to discuss possible remedial steps in light of Toyobo's November 26, 2001 accelerated age Zylon fiber data and Second Chance's used Zylon vest test data. Bachner drafted the meeting

agenda, including the title of the meeting, the “Toyobo & Second Chance Zylon Crisis Management Meeting.”

172. Davis’ opening remarks stated that “11/26/01 Zylon update shocked SCBA and weaving industry,” “Zylon used vest test results disappointing and unexpected,” and “Toyobo and Second Chance must act together and immediately to deal properly with this industry problem.”

173. Attached to the meeting agenda that Second Chance provided to Toyobo were the updated results of Second Chance’s used vest testing, which Bachner presented at the meeting and which noted, among other things, that the “data/variable observations seem to fit Toyobo 11/26 update.” Second Chance’s summary of its used vest testing was troubling: It showed a ballistic strength loss of between 5-20% -- even for vests with moderate or “decent” care – and an average loss of 7%.

174. Bachner’s handwritten notes, made during the crisis meeting and appearing on the used vest data summary, stated that “decay rate [about] 3-3.5 X [times] that of aramids in use” and “[t]his will put us out of express warranty before 5 years . . . some vests already iffy on implied warranty and expectations.”

175. Second Chance also proposed potential “U.S. corrective actions” to Toyobo, including, among others, (1) “re-design Ultima 2002, compensate to - 3X decay rate vs. aramids . . . apply all known safeguards, process underway,” (2) “warranty adjustment program @ 3<sup>rd</sup> year,” (3) “aramid alternative when necessary,” (4) TriFlex alternative, and (5) upgrade pack fall back.”

176. Second Chance informed Toyobo that there were 186,000 Zylon vests in the field



and another 50,000 were expected to be fielded in 2002. Second Chance sought from Toyobo financial compensation and free Zylon for testing and re-design of the Second Chance Zylon vests. On information and belief, Itochu valued Second Chance's proposal as potentially costing Toyobo over \$38 million. Second Chance was surprised when Toyobo did not readily assist with the financing of their proposed remedies.

177. By the Zylon Crisis Management Meeting, at least, in December 2001, Toyobo and Second Chance were aware that Second Chance's used vest testing did not support Second Chance's continued use of Zylon in ballistic vests and that the costs of remedying the problem were enormous.

178. At the time of the Zylon Crisis Management Meeting, Second Chance never discussed or considered providing no-cost replacement vests of any kind – made of either Zylon or any other ballistic materials – or a "repair" that met the NIJ Compliance testing or the product weight specifications.

179. On information and belief, the United States alleges that immediately after the "Zylon Crisis Management Meeting," on December 14, 2001, Toyobo personnel decided to delete the lowest Zylon degradation data points from the November 2001 data.

180. On information and belief, on or about December 18, 2001, Davis told Westrick that Toyobo and Second Chance testing showed that the average degradation for Zylon vests was 3-5% per year, and as high as 9% per year. On information and belief, Davis also told Westrick that Vice Presidents Karen and Larry McCraney, and much of the Second Chance management group, wanted to conceal Zylon problems until the following year when Second Chance planned to become a publicly-held company. On information and belief, Davis told Westrick that

management did not want to conduct any recall of Zylon vests since 80,000 Ultima/Ultimax vests had already been sold and it would cost \$20 million to recall them.

181. On information and belief, on or about December 18, 2001, Westrick recommended to Davis that Second Chance immediately inform its customers of the Zylon degradation problems and cancel all pending orders for Zylon vests. Shortly after the Zylon Crisis Management Meeting, on or about December 18, 2001, Westrick, then a Second Chance employee, urged Davis to inform Second Chance' customers – law enforcement officers who were Zylon vests users – about the problem with the Ultima vests.

182. By a letter written by Davis dated December 20, 2001, Second Chance asked Toyobo to remedy the inherent problems with Zylon and proposed a three-part solution to the Zylon problem consisting of: 1) the recertification of new re-engineered Ultima/Ultimax 2002 vests with 6 extra layers to insure that protection would last five years, 2) offering Ultima/Ultimax owners a warranty adjustment after three years at discounts greater than 50% to buy new re-engineered Ultima/Ultimax 2002 vests, and 3) offering a pair of free six-layer upgrade pads in lieu of options 1 and 2. Second Chance stated that the Zylon problem was a "Toyobo problem" and that Zylon's failure to meet industry standards violated the warranty of merchantability. Second Chance stated that failing to take the foregoing steps would doom the Zylon product and that all other paths led to government interference and legal action.

183. On or about December 20, 2001, Toyobo e-mailed Larry McCraney of Second Chance and offered Second Chance a volume-based rebate program to encourage Zylon purchases until 2005, with an upfront payment for purchases already made. That program was eventually worth \$6 million to Second Chance.

**(3) Reaction of the Weavers and Others**

184. On information and belief, following Toyobo's announcement of the November 26, 2001 degradation data, Hexcel sought indemnification from Toyobo for its Zylon fiber. Hexcel had not sought indemnification from any other manufacturer for any other fiber. Additionally, Hexcel sought a refund in the event that its customers stopped using Zylon. On or about December 28, 2001, Toyobo and Itochu agreed to a refund in the event that Hexcel's customers stopped using Zylon but declined to provide Hexcel with the requested indemnification. This buy-back agreement was unique to Zylon, and its purpose was to keep Hexcel, the largest Zylon weaver, in the Zylon market.

185. On or about December 4, 2001, Barrday informed Toyobo that it would suspend direct sales of Zylon to ballistic vest manufacturers based on the November 26, 2001 Zylon degradation data from Toyobo. Barrday informed Toyobo that Toyobo should "be aware that we are concerned that the tests indicate that your product is no longer suitable for use in ballistic applications." Barrday asked Toyobo for technical information identifying the trigger for the degradation.

186. In order to get Barrday to resume weaving Zylon, Toyobo arranged to have Teijin retain title to the Zylon fiber after it was delivered to Barrday and while it was being woven, and then have Teijin sell the woven Zylon fabric directly to the body armor manufacturers. On or about December 20, 2001, Barrday offered to sell its Zylon inventory to Toyobo or Teijin so that they would sell the Zylon to body armor manufacturers, including Second Chance and Gator Hawk.

187. On information and belief, Teijin initially told Toyobo that it was not interested in

taking title to Barrday Zylon fabric because it could not establish the "technical safety factor" for products called for by Toyobo and was aware of the "uncertainty factor" due to Toyobo's November 26, 2001 data. In response to this position by Teijin, on or about December 26, 2001, Toyobo personnel met with Teijin employees and conveyed the message that if Teijin refused to take title to the Zylon fabric and sell it in place of Barrday, Toyobo at the very least would stop making all Zylon sales through Teijin and potentially would terminate its exportation and sale of all Toyobo products through Teijin. Teijin then agreed to do the Zylon transactions but only with the assurance that Toyobo would be ultimately responsible for any liabilities arising from the sale of the fabric. Teijin's willingness to sell Barrday's Zylon to the body armor manufacturers was due to Toyobo's provision of an "obeogaki"(a Japanese form of indemnification), and Toyobo's threat to withdraw all other Zylon business from Teijin.

188. On information and belief, Toyobo also told Teijin that Toyobo planned to inform the ballistic industry that Zylon degradation had no effect on its ballistic performance. Internally, at that time, Teijin was concerned about potential products liability exposure of Teijin in the event that Second Chance was sued for a failed vest.

189. Ultimately, Toyobo also provided Itochu with an "obeogaki," a Japanese form of indemnification, which covered any quality issues or defects in the Zylon.

190. On or about December 26, 2001, Toru Matsumoto of Toyobo met with Kinboshi Corp., a Japanese Zylon customer. Kinboshi asked Matsumoto for the latest data on deterioration by heat and humidity. On information and belief, the United States alleges that in his trip report, Matsumoto noted "we can no longer keep quiet like this."

191. On or about December 27, 2001, Toyobo prepared a ZKP Interim Report about

the problems with the stability of Zylon fiber. The report stated that the lowering of strength occurs over several weeks in normal storage and the lowering of strength occurs in a relatively short time during high temperature and humidity.

192. On December 27, 2001, Allen Price emailed Toyobo and Teijin offering to perform degradation testing on Zylon vests for Toyobo. Price warned Toyobo and Teijin that "if the NIJ were to get data that shows Zylon fiber to have a degradation problem, they will issue a warning to all US Law Enforcement Agencies. We will then be facing a possible recall situation on all vests containing Zylon."

**(4) Withdrawal of the November 26, 2001 Data**

193. On December 28, 2001, Toyobo sent Second Chance and other "important customers" revised accelerated aging data for Zylon fiber (dated January 1, 2002) (1) removing the problematic data points from the November 26, 2001 data, (2) explaining that "with respect to the earlier data we supplied on November 26<sup>th</sup>, we afterward have reviewed them intensively and carefully and have come to know that they are statistically not correct and not reliable," and (3) "regret[ting] that we have caused some confusion in the marketplace."

194. The deletion of the data points from the November 2001 degradation data was inconsistent with concurrent (and undisclosed) conversations occurring at Toyobo. Internally, Toyobo determined that at 40°C and 80% relative humidity Zylon's strength dropped 13% "and as usual shows no signs of stopping."

195. On information and belief, unbeknownst to people outside of Toyobo, in the fall of 2001, Toyobo had begun aging ten additional sample spools of Zylon fiber manufactured during a period with a "better" Na/P ratio, which were less likely to degrade. On information and

belief, in April 2002, when these additional samples "caught up" the samples that were removed in December 2001, they were averaged together with the three data points that had been removed (as well as data from two other spools) which produced a less steep degradation curve. The addition of data from ten carefully-selected "better performing" spools with the "bad" November 2001 data points diluted the impact of the results from the November 2001 data points and artificially raised the performance of the fiber being tested.

196. During 2002 to 2004, Toyobo provided Second Chance with quarterly updates on its Zylon research that confirmed Zylon fiber lost its tensile strength when exposed to heat and moisture. However, due to Toyobo's manipulation of the data in December 2001 to April 2002 to add 10 additional, better-performing samples, all of these reports were misleading.

197. In early 2002, Lincoln sent Zylon fiber to a Canadian laboratory to perform accelerated aging testing on the fiber. During this testing, the Canadian laboratory tested both Zylon and Kevlar fibers in high heat and humidity and found that Zylon degraded more quickly than Kevlar. Additionally, Lincoln saw more strength loss in the Zylon warp fiber than in the weft fibers. Lincoln provided this data to Itochu.

198. On January 9, 2002, Mr. Nojima of Toyobo wrote to Davis and rejected his request for a meeting – stating that it would not be “productive and beneficial for both of us to repeat another meeting, similar one as we had in Los Angeles, at this occasion.” Nojima told Davis that Toyobo had made its “best efforts” with the proposed rebate program.

199. Bachner and Davis continued to be concerned about the deterioration of the vests in the field even after Toyobo's retraction of the November 26, 2001 data. During the January 9, 2001 meeting of the Second Chance Executive Committee, after the withdrawal of the November

26, 2001 data by Toyobo, Bachner referred to the Zylon issue and said “We’re rationalizing. This isn’t going to go away.”

200. Ultimately, Toyobo agreed to another meeting with Second Chance, but only to discuss the rebate program, not the Zylon degradation problem. Prior to the February 1, 2002 meeting, Itochu instructed Second Chance to discuss only the rebate amount and not issues relating to liability and detailed breakdowns of the number of vests in the field because that would trouble Toyobo.

201. On February 1, 2002, Second Chance, Itochu and Toyobo met in Osaka, Japan to discuss “Zylon management.” Toyobo assured Second Chance representatives that Zylon fiber strength would not drop dramatically in further testing, but would level out. Toyobo denied that it had removed the data points from the November 26, 2001 data, but when asked to explain the January 1, 2002 data, Toyobo had “no opinion.” Second Chance reminded Toyobo that it had designed its vests based on Toyobo’s data, “which is why we have this problem.” Paul Banducci and Larry McCraney attended the meeting for Second Chance, but not Bachner or Davis.

202. On information and belief, by early 2002, Second Chance discontinued at least some ballistic testing on Zylon fabrics used in vests because the results were not favorable to Zylon, but continued to test materials other than Zylon.

203. On or about March 5, 2002, Second Chance accepted Toyobo’s rebate proposal.

204. On March 11, 2002, Bachner presented the updated results of his Zylon used vest study to the Second Chance Executive Committee, including providing them with a handout of the results, a summary page, and a update listing potential remedial actions. Bachner’s summary page of the study details declines in ballistic performance of the Zylon used vests on average of

7% over a 1.9 year average vest life, with declines reaching high of 11%, 12% and 15% on four of the used vests.

205. During the March 11, 2002 meeting, Bachner informed the Executive Committee that: (1) Zylon vests were wearing out at a 3.7%-per-year rate; (2) some of the Zylon vests would go out of express warranty before five years; 3) some vests were clearly leaving the implied warranty sooner than five years; (4) Second Chance believed that it was entering a failure to warn area, and 5) pro-active corrective action was essential. Based on what was reported to the Executive Committee in March 11, 2002, the tested Zylon vests did not meet the guarantee in the Second Chance catalog that the Second Chance vests would not lose more than 6% of their ballistic performance over the five-year warranty period.

206. During the March 11, 2002 meeting, Second Chance calculated the cost of adding six plies to the Second Chance Ultima vests as \$74.35. In Bachner's handwritten notes taken during the March 11, 2002 meeting, he makes a calculation entitled "risk of happening . . . 7/10,000 of a % risk of occurrence X 15% [=] .000105" and on the next page of his notes states "probability of a penetration- odds are very low. What we have to do is warn or inform in a way that protects future and company." Among the several "product alternatives" discussed at the March 11, 2002 meeting was the "Ultima '2002' 9<sup>th</sup> (+6)," which added six additional layers to the current Ultima vests.

207. On March 11, 2002 the Second Chance Executive Committee made a "consensus decision" not to issue any warnings, make any changes to the Ultima vest design, or even actively continue with the used vest testing program. Bachner and Davis went along with the Executive Committee's "consensus decision" not to redesign the Ultima vests or issue a warning.



208. At the time of the March 11, 2002 meeting, Second Chance never considered providing no-cost replacement vests of any kind – made of either Zylon or any other ballistic materials – or a "repair" that met the NIJ Compliance testing or the product weight specifications.

209. While the Second Chance Executive Committee, in March 2002, had a "plan" "[t]o do a second phase of testing," it did not start collecting vests for this testing until November 2002 and the actual ballistic testing did not begin until late July 2003.

210. After the March 11, 2002 meeting, Second Chance entered into a formal rebate agreement with Toyobo; however, Second Chance did not use the reduced-price Zylon to add layers to the Ultima vests it was selling in the United States.

211. Upon information and belief, on or about March 22, 2002, a Toyobo researcher prepared a ZKP Research Report stating that (1) the primary use of Zylon was in bulletproof vests; (2) Zylon's best characteristics are its high strength and high elasticity modulus; (3) high strength and high elasticity modulus correlate directly to bulletproof performance; and (4) until now, "durability at the complete darkness setting was not done sufficiently . . . because of 1. Zylon's production history being so short., 2., the dramatic degradation by the lighting had all the attention that we did not look at other conditions. . . .[T]o our surprise, the strength loss was significant at the high humidity condition, and it became clear that Zylon turned out to be largely inferior to Aramid fiber even under no-light conditions." The report concluded that Zylon's strength loss under high humidity conditions was caused by hydrolysis, and that this happens "extremely easily" compared to Kevlar. "Zylon's strength loss is more significant than Kevlar's under highly humid environments."

212. On or about June 5, 2002, Second Chance requested a contract modification to

add additional vest models to its GSA contract and sent the GSA a copy of Second Chance's catalog which stated that "Second Chance guarantees its vests to perform at this level [in V50 ballistics performance] within normal statistical variation (+/-6% ) during the five-year guaranteed life of the vest." Second Chance never disclosed the used vest testing results discussed with Toyobo at the Zylon Crisis Management Meeting or at the March 11, 2002 meeting to GSA, nor did Second Chance remove the Ultima vests from its GSA contract at that time.

213. On information and belief, in or about July, 2002 the General Manager of Toyobo's Zylon department stated, "Time is running out. The hydrolysis data of the current Zylon has been worsening at a speed faster than our expectation. Not only our sales staff, but also the clients are praying while time is ticking away." Toyobo's General Manager Saito said that "I get chills down my spine when I look at the measurement data[.]"

214. On information and belief, after one year of the ZKP project, the pressure from the business and sales part of the Toyobo organization over this period of time had caused considerable tension between the various individuals and groups in the company, as shown by "free discussion" comments about efforts to stabilize the Zylon fiber to the same levels as Kevlar.

215. In early 2002, Davis, on behalf of Second Chance, had hired Judy Westrick, Ph.D., a biochemistry professor from Lake Superior State University (LSSU), and the sister of Relator Westrick, to perform research on the susceptibility of Zylon fiber to hydrolytic degradation.

216. On or about July 10, 2002, Dr. Judy Westrick provided a draft report to

Second Chance which concluded that Zylon fiber degraded more quickly than Second Chance had been initially told and that Second Chance's "vests may be made out of material that ha[d] already undergone some amount of degradation." These conclusions were presented to the Second Chance Executive Committee.

217. Throughout 2002, Bachner continued to receive additional information about Zylon degradation from multiple sources which correlated with the results of the Second Chance used vest testing and further supported the need for pro-active corrective action. Specifically, (1) in June 2002, Teijin Twaron informed Bachner that it had tested aged Zylon fabric at 37°C (equivalent to human body temperature) and 95% relative humidity and seen a 18% drop in ballistic performance versus a 0.5% drop in the Kevlar's ballistic performance at the same conditions; (2) a Dortmund University (Germany) study confirming that Teijin Twaron's test conditions were representative of the "microclimate" formed between the human body and a bullet-resistant vest"; (3) additional testing by Profistyle which showed a 12% drop in ballistic performance of aged Zylon vests; (4) additional testing by Mehler which showed over 15% loss in ballistic performance in aged Zylon vests. Bachner shared this information with the Second Chance Executive Committee but took no action based on it.

218. On information and belief, on or about July 28-29, 2002, Davis showed Westrick a memorandum that Davis had prepared for Second Chance's Executive Committee that sought action to remedy the problems with Zylon. The memorandum acknowledged that Zylon degraded 4 four times faster than other body armor materials. The memorandum stated that one solution was "to do nothing" until a vest customer was killed or wounded, or until Germany, Japan, or Dupont publicly exposed the Zylon problem. The memorandum stated that a second

solution was to denounce all Zylon vests and decline to make them any more. The memorandum went on to ask if the Executive Committee members were willing to sign the following statement:

KNOWING FULL WELL ABOUT THE PROBLEMS WITH  
ZYLON AND LEVEL 2A VESTS [YOU] WANT TO CONTINUE  
TO PRODUCE AND SELL LEVEL 2A VESTS AND 100%  
ZYLON VESTS TO UNSUSPECTING AMERICAN LAW  
ENFORCEMENT OFFICERS, WITHOUT TELLING THEM  
ABOUT THESE PROBLEMS?

Davis admitted that he provided Bachner, Larry McCraney and Karen McCraney, all members of Second Chance's Executive Committee, with this memorandum.

219. The Davis memorandum further stated that Toyobo would not admit that it sold Second Chance a semi-defective product and that Second Chance should take corrective action in spite of Toyobo's dishonorable lack of corrective action. On information and belief, though Second Chance executives wanted all copies of this memorandum to be destroyed, Westrick retained a copy.

220. On information and belief, the United States alleges that in July 2002, in order to resolve the deterioration of Zylon in heat and humidity, Toyobo intentionally increased the amount of caustic application (NaOH) and reduced the amount of water in the neutralization process.

221. In August 2002, Davis wanted Second Chance to stop selling Level IIA vests (except on special order after a recommendation to the police agency to chose a different vest), stop selling 100% Zylon vests, and to consider issuing upgrade packs to the purchasers of Second Chance Zylon Level IIA vests. Second Chance did not do so.

222. On information and belief, on or about September 4, 2002, Second Chance

executive Paul Banducci objected to, and ordered destroyed, another memorandum authored by Davis and intended for use at regional sales meetings, that admitted that aging studies indicated that Zylon may lose strength faster over time than competing products.

223. On or about September 12, 2002, Itochu met with Second Chance to discuss "safety precautions" that Second Chance was taking with its German Zylon vests and to discuss what similar safety precautions were being taken for Second Chance's American Zylon vests. Itochu learned that Second Chance was not adding layers to its American Zylon vests. On information and belief, after the meeting, Itochu decided that any report of its meeting with Second Chance should be "in the ears of Toyobo" and "communication in writing is absolutely not to be done." Itochu told Toyobo that Second Chance was not adding layers to its Zylon vests in the United States. A month later, in October 2002, Toyobo was told directly by Second Chance that Second Chance was not adding layers to the Second Chance Zylon vests sold in the United States. Despite knowing that Second Chance was not adding layers to its United States vests, Itochu and Toyobo continued to sell Zylon to Second Chance until at least mid-2004.

224. In December 2002, Bachner, Davis and others from Second Chance met with Toyobo personnel to discuss improvements to the Zylon fiber. When Toyobo told Second Chance that the improved Zylon would not be available until January 2005, Bachner told Toyobo that was "too late . . . . You don't have that much time."

225. On information and belief, in February 2003, Second Chance removed Westrick from work relating to Zylon. On information and belief, Davis told Westrick that the Executive Committee planned to address the problems with Zylon after Second Chance converted to a publicly-held company and sold its stock at a profit.

226. On or about January 15, 2003, Toyobo prepared an internal research report that linked Zylon's strength loss under high temperature and high humidity to hydrolysis. On information and belief, the United States alleges that the report notes that after deterioration by heat and humidity, Zylon was slightly reddish brown.

227. In or about February 2003, Toyobo modified its Zylon manufacturing process to change the tension used to manufacture fiber back to the levels of 2002. On information and belief, the United States alleges that the tension had been raised in order to improve manufacturing speed of the Zylon.

**I. The "Discovery" of Red Thread Zylon**

228. On information and belief, in or about March 2003, Toyobo prepared another confidential report about Red Thread entitled "Investigation of Status of Red Fiber Occurrence." The report concluded that the July 2002 changes to the Zylon manufacturing process (whereby the amount of caustic application was increased and the amount of water in the neutralization process was reduced) resulted in an increase in Red Thread in Zylon.

229. In or about April or May 2003, weavers at Hexcel observed red streaks in the Zylon fiber. Hexcel tested the tensile strength of the Red Thread Zylon and determined it was 20% below the Zylon specification. Hexcel contacted Itochu and Toyobo and informed them that "because this fabric [Zylon] is used in ballistic vest[s] and the tensile strength is below our customer's specification, we cannot use this fabric."

230. On or about June 6, 2003, as more Red Thread was discovered at Hexcel, Hexcel shut down all Zylon weaving "until Toyobo can assure us in writing that the yarn/fabric in question is suitable for ballistic application."

231. On or about June 9, 2003, Itochu (acting on behalf of Toyobo) informed Hexcel that Toyobo acknowledged that the Red Thread was 10% weaker than the specification and that Itochu could not guarantee that Hexcel's Toyobo Zylon inventory did not have Red Thread. Itochu provided information to Hexcel from Toyobo that it had been receiving Red Thread from Toyobo that had been manufactured between October 2002 and February 2003. This information was false because Toyobo knew that the Red Thread problem existed long before October 2002.

232. Hexcel asked Itochu for a letter from Toyobo that Red Thread Zylon was "ok for ballistic products." During a meeting between Itochu and Hexcel, a Hexcel employee told Itochu that because the Zylon fabric was for ballistics, a life-or-death product, it should be recalled "to avoid further terrible liability," but Itochu requested that it not be recalled. Toyobo and Itochu were concerned that Hexcel would publicly disclose the Red Thread problem and, once it was public, it would lead to the end of all Zylon business.

233. On or about June 16, 2003, Hexcel again tested the Red Thread and found it was 15-20% below the strength of normal Zylon. The tensile strength of the Red Thread Zylon was below the specification.

234. On or about June 18, 2003, representatives of Toyobo met with representatives of Hexcel to discuss Red Thread. Toyobo admitted that: (1) Red Thread was caused by over-neutralization of the Zylon; (2) that it did not have control of its neutralization process; (3) the problem of red ends had been present in Zylon since the beginning of Zylon production; and (4) it had seen a strength loss in the Red Thread Zylon between 5-10% and as high as 20%. Hexcel informed Toyobo that even a 10% strength loss took the Zylon outside of the specification. When Hexcel asked Toyobo if the red ends would degrade more than standard Zylon yarn when

exposed to the environment, Toyobo did not answer the question.

235. On information and belief, Toyobo's internal notes of the meeting between Hexcel and Toru Matsumoto and Yoshihiko Teramoto of Toyobo indicated that neutralization of Zylon was poor and preventative measures were not going well.

236. Also on June 18, 2003, in the midst of the Red Thread crisis, Hexcel approached Toyobo and Itochu for indemnification. Hexcel informed Toyobo and Itochu that: (1) Hexcel had found Red Thread Zylon that was up to 41 feet long; (2) it was hard to identify the Red Thread portions in the woven Zylon fabric; and (3) the properties of the Red Thread Zylon were below Hexcel's Zylon specification. But, Hexcel stated "we will sell fabric if Toyobo signs [indemnification] proposal."

237. On or about June 20, 2003, Toyobo told Hexcel that the Red Thread problem was unavoidable and that, if the Red Thread was controlled and short and small in number, they would not harm the Zylon properties or its quality. At the time Toyobo made this statement, it knew this statement was false and misleading because it could not control the red ends and that they were neither short nor small in number. On information and belief, Toyobo's statement is without scientific justification.

238. On June 20, 2003, Masakazu Saito of Toyobo admitted that it had to settle with Hexcel in order to restart production and hasten the shipping of Zylon to ballistic vest manufacturers.

239. The same day, Saito sent an internal document containing guidance to Toyobo personnel in their dealings with customers about red thread, which included the statement that, "If we cannot reach an understanding with regards to red thread, i.e. they demand that red thread



be completely eliminated, unfortunately that constitutes a declaration of war. This would mean Zylon no longer being able to survive in the armor industry.”

240. On June 23, 2003, Toyobo agreed to provide Hexcel with \$130,000 in replacement Zylon fiber, \$240,000 to reimburse Hexcel for Zylon fabric rejected by a bulletproof vest manufacturer, and an agreement to reimburse Hexcel for any future Zylon cancellations.

241. By June 25, 2003, Hexcel again had confirmed a 15-20 percent tensile strength loss in the Zylon fiber due to Red Thread. Itochu, Toyobo and Hexcel knew that such a strength loss placed the Red Thread Zylon outside the specification and outside the representations made by Toyobo.

242. On or about June 26, 2003, Hexcel, Toyobo and Itochu met to discuss Red Thread. Hexcel concluded that Toyobo's neutralization process was not in control and that Toyobo had changed the neutralization process without proper validation. Toyobo disclosed that manufacturing of Zylon was still a “development product.” Hexcel and Toyobo discussed the possibility of a recall of all Zylon vests at that time. Toyobo wanted to avoid a recall and wanted to resume shipment of Zylon to customers, but Hexcel told Toyobo that this “questionable fabric” was already in some vests. Hexcel stated that Toyobo, Itochu and Hexcel needed to come up with “a compelling scientific reason that the customers do not need to recall vests.”

243. During this meeting, Itochu and Toyobo repeatedly explained to Hexcel that a “rumor” in the market about another Zylon problem – such as Red Thread -- would kill Zylon.

244. During this time period of 2002-2003, Toyobo filed multiple patent applications, in the United States and Japan, for methods to create a more durable Zylon after exposure to heat and humidity by changing the manufacturing process or adding pigments to the fiber.

245. In early July 2003, Toyobo provided Hexcel and Lincoln with intentionally-manufactured Red Thread Zylon for testing. Hexcel performed no chemical analysis on this intentional Red Thread Zylon to determine whether it was the same as the long Red Thread that Hexcel had found on its looms earlier that summer. On information and belief, the intentional Red Thread Zylon had a higher average tensile strength than the Red Thread the weavers had disclosed in May 2003. While the Red Thread Zylon passed the ballistic testing, it was at the low end of the range.

246. At Toyobo's request, Lincoln performed ballistic testing on Intentional Red Zylon which had been manufactured by Toyobo for testing purposes. Lincoln suggested a different method for testing the intentional Red Thread which was less likely to result in failures. Likewise, Lincoln never compared the Intentional Red Zylon to the Red Thread that had occurred spontaneously in production.

247. On information and belief, Itochu assisted Toyobo in presenting Toyobo's Red Thread explanation to the body armor manufacturers. Internally, Itochu did not believe Toyobo's explanation about the strength difference between long and short Red Thread, and thought that Toyobo was not being forthcoming about Red Thread generally. Second Chance told Itochu that it was a "breach of ethics" for Toyobo not to have told Second Chance about the Red Thread from the beginning of the Zylon manufacturing.

248. On or about July 25, 2003, after ballistic testing on intentionally manufactured Red Thread from Toyobo, Hexcel began weaving Zylon again. However, on information and belief, the question of the impact of Red Thread on Zylon degradation remained unanswered.

249. On or about August 11, 2003, Toyobo issued an "Official Statement about

Reddish Yarn Quality Trouble of Zylon.” This report stated that “long” Red Thread was first reported by a customer in May 2003, even though Toyobo had known of Red Thread as early as 1996 and shipped Zylon containing Red Thread since its commercialization in 1998. Further, Toyobo claimed that it disclosed to its customers that it immediately started an investigation in May 2003, when in fact the confidential internal “Red Thread Countermeasures Project” started in 1999. Toyobo reported that it did accelerated aging testing on the Red Thread at 80 °C and 80% relative humidity and concluded that after aging the strength of the Red Thread was 5-10% lower than the regular (non-red) part. Thus, Toyobo knew that the Red Thread was even weaker in high heat and high humidity than normal Zylon.

**J. Officer Shootings in Second Chance Zylon Vests**

250. On or about June 13, 2003, Officer Zeppetella, of the Oceanside, California police force, was shot through his Second Chance Zylon vest and killed during a traffic stop. This vest was under 8 months old.

251. Ten days after the Zeppetella shooting, on June 23, 2003, Officer Ed Limbacher of Forest Hills, PA was shot in the stomach wearing a 6-month-old Second Chance Zylon vest.

252. On or about December 6, 2002, Officer Alvarez had been shot through his Second Chance Zylon vest with a shotgun. His vest was approximately 18 months old.

253. On June 25, 2003, Barrday contacted Teijin about the Red Thread and asked to have a discussion about (1) hydrolysis and Zylon degradation; (2) Red Thread Zylon and (3) the failed Second Chance Zylon vests, which Barrday described as "major concerns in the market." Barrday indicated that it was considering leaving the Zylon market until these problems were resolved.

**K. Additional Second Chance Used Vest Testing and Its “Upgrade Action”**

254. On or about November 22, 2002, Second Chance had begun collecting additional used Zylon vests for ballistic testing.

255. In late July - August 2003, Second Chance began its second round of used Zylon vest testing. Second Chance insisted that this testing unrelated to the shootings of Officers Zeppetella and Limbacher. It showed Zylon performed inconsistently and suffered a marked loss of strength after use in field. During the Phase II testing, there were penetrations of the used Second Chance Ultima vests by rated magnum rounds at speeds below the NIJ certification speeds.

256. After the Zeppetella and Limbacher shootings, on or about July 14, 2003, Bachner told others at Second Chance that providing replacement vests to officers who had similar vests would open “Pandora’s box” on replacement vests and suggesting that some officers who wanted a replacement vests were looking for a “free lunch.” Therefore, as late as July 14, 2003, after the officer shootings and after the second round of used vest testing had started, Bachner was against providing free replacement vests.

257. On or about September 11, 2003, Second Chance disclosed to purchasers of its Ultima/Ultimax vests that Zylon vests wore out sooner than expected and that there was a potential safety issue with respect to them. Second Chance also initiated a program whereby Zylon vest purchasers could receive a free “Performance Pac” upgrade to their previously-purchased vests, or participate in a warranty adjustment and vest replacement program, at a discount. At no point did Second Chance offer no-cost replacement vests, nor did the vests with the Performance Pacs conform with the product specifications, namely the specified weights.

258. On or about September 15, 2003, Second Chance issued a letter stating that the early degradation of Zylon fiber was not predicted by anyone in the industry. This letter was signed by Davis and Paul Banducci, the President of Second Chance. At the time when Second Chance made this statement, Second Chance knew that this statement was false due to the degradation information in Second Chance's possession.

259. In or about September 2003, Mehler, a German company which had been involved in the testing and manufacture of the Zylon Shield vest that had failed in July 2001, issued V-50 test results on aged Zylon vests made of Zylon Shield. The results showed a 2 to 20% reduction in ballistic energy absorption performance over twelve months. Mehler concluded that it was questionable if the Zylon vest could retain the protection requirement over the five-year intended use period.

260. On September 26, 2003, Saito of Toyobo asked Teijin not to volunteer any information about Second Chance's upgrade action to any of Teijin's Zylon customers until Toyobo knew if the cause of the Second Chance action was due to inherent problems with the Zylon yarn or Second Chance's poor vest design.

261. On or about October 3, 2003, Saito of Toyobo visited Teijin in Osaka and reported that because the Second Chance's action concerned the "life or death of the Zylon industry," Toyobo had stopped making reports about the issue outside Toyobo. At this time, Toyobo again told Teijin that Toyobo did not know if the Second Chance action was the result of "early deterioration" of Zylon fiber or a problem with Second Chance's vest design. Also, Toyobo informed Teijin that 70 percent of the Zylon was being shipped to the United States.

262. On or about October 8, 2003, Second Chance's representatives told Toyobo that it

was "hard to be partners when things go bad." Concerned with avoiding an outcome similar to the then-highly publicized, ongoing Ford Motor Company and Firestone tires litigation and recall, Second Chance made a last effort to act in concert with Toyobo, stating "We can't conflict." At the conclusion of the meeting, Toyobo disclosed to Second Chance that it had conducted fiber strength tests on woven Zylon fabric beginning in 2001 that showed a greater and more serious degradation than Toyobo's previously published data of unused Zylon fiber. The United States alleges on information and belief that Bachner attended this meeting on behalf of Second Chance. Bachner initially expressed outrage when he saw this data.

263. In October 2003, Itochu accompanied Toyobo on its meetings with the body armor industry to make these disclosures about Toyobo's newly-released data. Toyobo's lack of concern troubled Itochu's representative, Kubo who wrote to his colleagues:

My impression is, enough is enough." . . . Given the realities of the penetration, does Toyobo even now think that Zylon is effective for ballistic use? I myself honestly am already enraged. But I don't know where I should direct this anger.

264. At the IACP meeting in October 2003, Itochu concluded about the Zylon hydrolysis problem – "Neither Toyobo or Itochu will escape." Itochu noted that the Zylon business had a higher profit margin than the other aramid business.

265. On or about October 20, 2003, Toyobo issued a statement stating, in part, that: (1) Toyobo did not know why Second Chance determined that its vests were inadequate; (2) "Because Second Chance has not shared its test results, we are unable to understand the basis for its unilateral decision to, in effect, withdraw from the marketplace its products containing Zylon"; (3) other manufacturers had not reported problems with Zylon vests; (4) since 2001 it had been well understood in the industry that Zylon fiber might be susceptible to degradation

under certain extreme temperatures and humidity for prolonged periods of continuous exposure; and (5) Toyobo's tests estimated aging performance of Zylon fiber, not actual ballistic performance of the final product.

266. On or about October 22, 2003, Second Chance issued a press release saying that Toyobo revealed new test results at manufacturers' meetings showing a significant loss of Zylon fiber strength. Second Chance stated that these new disclosures made Second Chance aware, for the first time, that Toyobo's accelerated aging studies had included fabric, and "showed a greater and more rapid deterioration than their previously published fiber studies." Additionally, Second Chance's press release stated that Toyobo had "revealed new test results showing a serious Zylon ballistic fabric shelf life problem" and that the study, which had been initiated in February of 2003, showed "significant loss of Zylon fiber strength in ballistic fabrics under normal storage conditions." The studies had been performed on Zylon manufactured in May 2000 and tested from June 2001 - July 2003 at Toyobo Research Center. The newly disclosed Toyobo research showed a 25% degradation of Zylon stored at at 104 degrees Fahrenheit and 80% relative humidity.

267. On or about November 15, 2003, Officer Campbell was shot through his Second Chance Zylon vest, first in the abdomen and then in the neck, which paralyzed him. His vest was approximately 3 years old. On information and belief, Campbell was shot while awaiting delivery of his Second Chance Performance Pac. Because he had no other viable vest, he was wearing his Second Chance Ultima after Second Chance announced that it wore out sooner than expected.

**L. Continued Zylon Sales by Second Chance and Toyobo**

268. On or about December 15, 2003, Toyobo met with Barrday and Teijin concerning Zylon. Toyobo admitted that it had degradation data in its possession from Zylon fabric that had been manufactured in Japan. Tadeo Kuroki of Toyobo told Barrday that Toyobo had changed its strategy in response to Second Chance's attack on Toyobo. Toyobo admitted that it "manufactured and sold fabric in Japan and therefore had the data there but only sold fiber in North America and thought it was appropriate that they only show fiber data here."

269. Toyobo asked Barrday to go back to weaving Zylon to show that more than one weaver was willing to do so but Barrday would not do so without an indemnification letter.

270. On or about January 12, 2004, Hexcel notified Toyobo that Zylon fabric which had been woven approximately one year earlier showed a significant reduction in tensile strength. Hexcel informed Toyobo "[t]his data is consistent with published Toyobo data on fiber tensile strength degradation, and as a result, we are not sure how it impacts the continuing study of Zylon's suitability for ballistic applications." The tensile strength data provided by Hexcel to Toyobo showed a 14 to 19.5% drop in tensile strength.

271. On or about February 17, 2004, Toyobo responded to Hexcel that the drop in tensile strength was not accompanied by "a correspondingly significant" drop in ballistic performance and told Hexcel that it was waiting until NIJ completed its comprehensive testing on Zylon.

272. On or about March 3, 2004, Toyobo informed Lincoln Fabrics that Toyobo continued to believe that Zylon was entirely "suitable" for use in ballistic applications in properly designed and manufactured body armor.

273. On or about March 11, 2004, the NIJ announced that it had ballistically tested ten



used Zylon vests from Second Chance and another manufacturer (Armor Holdings) and ten of the vests had failed, including 5 Second Chance vests.

274. On March 17, 2004, Toyobo visited Teijin in Osaka to provide an update on the Zylon investigations and litigation. Toyobo informed Teijin that the Zylon in the Second Chance vest worn by Limbacher had deteriorated by 30 percent. Toyobo also informed Teijin that the NIJ had tested and failed some Zylon vests manufactured by Second Chance and another manufacturer. Toyobo said because the NIJ had not decertified all ballistic vests containing Zylon, it was "not bad."

275. In or about April 2004, Hexcel's employees again found Red Thread in Zylon from Toyobo. However, this time, Hexcel did not stop weaving and treated the Red Thread as normal. This yarn had been manufactured in August 2003, after the Red Thread period that was initially identified to Hexcel by Toyobo. Therefore, on information and belief, the United States alleges that Toyobo's problem in controlling Red Thread during manufacturing was never resolved.

276. In April 2004, more than six months after Barrday withdrew from the Zylon market, Toyobo met with Barrday about Barrday re-entering the Zylon business. Barrday again declined.

277. In June 2004, long Red Thread was again discovered at Lincoln. Itochu was concerned because the preceding year Toyobo had told Lincoln and the rest of the body armor industry that long, continuous Red Thread was abnormal and out of specification. Toyobo informed Lincoln that even the long Red Thread could be used for ballistics given the testing done by Hexcel. Lincoln continued to weave Zylon.

278. On or about June 1, 2004, Toyobo announced that it would re-measure Zylon fiber properties when the manufactured Zylon fiber was in inventory for more than 120 days.

279. On or about July 23, 2004, Toyobo issued a press release stating that "Toyobo, and almost all body armor manufacturers, believe that Zylon, far from being 'unsafe' for use in ballistic applications, is *the safest*, lightest and best bullet-resistant fiber available in the world today."

280. After September 2003, Second Chance did not actually withdraw from the Zylon marketplace and continued to sell its TriFlex vests, which were about 20 to 31 percent Zylon, and heavier versions of its Ultima vests in Europe.

281. In or about April 2004, Second Chance was unable to procure products liability insurance on its Zylon vests.

282. In October 2004, Second Chance filed for bankruptcy.

**M. NIJ Status Reports and the Zylon Advisory**

283. On or about December 27, 2004, the National Institute of Justice issued a report that stated that Second Chance's upgrade kits ("Performance Pac" upgrade) were inadequate.

284. In June, 2005, Second Chance issued a "safety notice" that stated that it was not confident that its Tri-Flex products, which contain up to 31 percent Zylon by weight, performed to expectation for the life of their original warranty period. Second Chance stated that it believed that "hydrolysis" was the failure mechanism that was a form of degradation that inherently occurred in individual Zylon fibers. Second Chance called for the removal from service of its Ultima/Ultimax vests, with enhanced "Performance Pac" protection.

285. On August 24, 2005, NIJ issued a Zylon advisory stating that "... it has identified

[Zylon] as a material that appears to create a risk of death or serious injury as a result of degraded ballistic performance when used in body armor.”

286. In the NIJ’s Third Status Report to the Attorney General on Body Armor Safety Initiative Testing and Activities that accompanied the advisory notice, NIJ set forth the results of ballistics and mechanical testing of used Zylon body armor from many manufacturers, not just Second Chance. In the Third Status Report, NIJ stated that “[a]lthough these results do not conclusively prove that all Zylon-containing body armor models may have performance problems, the results clearly show that used Zylon-containing body armor may not provide the intended level of ballistic resistance.”

#### **COUNT 1**

#### **VIOLATIONS OF THE FALSE CLAIMS ACT, 31 U.S.C. § 3729(a)(1) AGAINST ALL DEFENDANTS**

287. The United States re-alleges and incorporates herein by reference paragraphs 1 through 286.

288. All Defendants knowingly presented or caused to be presented false or fraudulent claims to the United States for payment, in violation of the FCA, 31 U.S.C. § 3729 (a)(1). Specifically, all Defendants presented or caused to be presented claims for payment under the GSA MAS Schedule for Second Chance Zylon vests which Defendants knew, recklessly disregarded or deliberately ignored were defective. Additionally, all Defendants presented or caused to be presented claims for payment under the BVP for Second Chance Zylon vests which Defendants knew, recklessly disregarded or deliberately ignored were defective. Moreover, all Defendants presented or caused to be presented additional false claims for payment to the United States for purchases outside of the GSA contract for Second Chance Zylon vests which

Defendants knew, recklessly disregarded or deliberately ignored were defective. The Second Chance Zylon vests were defective in that their ballistic performance was compromised because they contained Zylon fiber which was unfit for use in ballistic applications because it was inherently susceptible to rapid and unpredictable degradation and strength loss due to hydrolysis or the occurrence of Red Thread. The Second Chance Zylon vests were defective in that they did not and would not meet the following benchmarks of ballistic performance: (1) the ballistic performance guarantee in the Second Chance warranty that the vests would continue to meet the National Institute of Justice (NIJ) Certification V-0 reference velocity speeds for five years; (2) the ballistic performance guarantee of no loss of ballistic performance of more than 6% over five years in Second Chance's catalogs; (3) the industry standard of maintaining ballistic performance over five years; (4) the Workmanship Clause of the Second Chance-GSA contract in that the vests did not perform the functions of their intended use; (5) the New Material Clause of the Second Chance-GSA contract in that the vests were so deteriorated as to impair their usefulness or safety; and (6) the Government's expectations that they would continue to meet the minimum standard set forth in NIJ Standards 0101.03 and 0101.04 for the performance period set in their warranties (5 years). All of these claims were knowingly false claims under the FCA.

289. By virtue of these false or fraudulent claims, the United States suffered damages in an amount to be determined at trial.

**COUNT 2**  
**VIOLATIONS OF THE FALSE CLAIMS ACT, 31 U.S.C. § 3729(a)(2)**  
**AGAINST ALL DEFENDANTS**

290. The United States re-alleges and incorporates herein by reference paragraphs 1 through 286.

291. All Defendants knowingly made or caused to be made false statements in order to get false claims paid by the United States, in violation of the FCA, 31 U.S.C. § 3729(a)(2). Specifically, all Defendants made or caused to be made false statements in connection with false claims for payment under the GSA MAS Schedule for Second Chance Zylon vests which Defendants knew, recklessly disregarded or deliberately ignored were defective. Additionally, all Defendants made or caused to be made false statements in connection with false claims for payment under the BVP for Second Chance Zylon vests which Defendants knew, recklessly disregarded or deliberately ignored were defective. Moreover, all Defendants made or caused to be made false statements in connection with additional false claims for payment to the United States for purchases outside of the GSA contract for Second Chance Zylon vests which Defendants knew, recklessly disregarded or deliberately ignored were defective. The Second Chance Zylon vests were defective in that their ballistic performance was compromised because they contained Zylon fiber which was unfit for use in ballistic applications because it was inherently susceptible to rapid and unpredictable degradation and strength loss due to hydrolysis or the occurrence of Red Thread. The Second Chance Zylon vests were defective in that they did not and would not meet the following benchmarks of ballistic performance: (1) the ballistic performance guarantee in the Second Chance warranty that the vests would continue to meet the National Institute of Justice (NIJ) Certification V-0 reference velocity speeds for five years; (2) the ballistic performance guarantee of no loss of ballistic performance of more than 6% over five years in Second Chance's catalogs; (3) the industry standard of maintaining ballistic performance over five years; (4) the Workmanship Clause of the Second Chance-GSA contract in that the vests did not perform the functions of their intended use; (5) the New Material Clause of the

Second Chance-GSA contract in that the vests were so deteriorated as to impair their usefulness or safety; and (6) the Government's expectations that they would continue to meet the minimum standard set forth in NIJ Standards 0101.03 and 0101.04 for the performance period set in their warranties (5 years). All of these claims were knowingly false claims under the FCA.

292. By virtue of these false statements, the United States suffered damages in an amount to be determined at trial.

### **COUNT 3**

#### **VIOLATIONS OF THE FALSE CLAIMS ACT, 31 U.S.C. § 3729(a)(3) AGAINST ALL DEFENDANTS**

293. The United States re-alleges and incorporates herein by reference paragraphs 1 through 286.

294. All Defendants conspired to defraud the United States by getting false or fraudulent claims paid by the United States, in violation of the FCA, 31 U.S.C. § 3729 (a)(3). As more specifically alleged in paragraphs 45 through 282, Defendants engaged in a conspiracy to manufacture and sell defective Second Chance Zylon vests to the United States, with knowledge, within the meaning of the FCA, that the Zylon fiber and the fabric made therefrom in these vests was defective. Despite knowledge from approximately 1998 on that the strength of the Zylon fiber and the fabric made therefrom in these vests degraded more quickly than the Defendants had represented to the United States and local, state and tribal law enforcement, Defendants agreed to withhold the information about the Zylon fiber and fabric degradation and agreed to continue to sell these vests. While Toyobo and Second Chance did not fully disclose all of the Zylon degradation information under their respective control to each other, Toyobo and Second Chance shared significant information with each other that was not shared with others in the

industry, customers or the United States.

295. As more specifically alleged in paragraphs 45 through 282, Toyobo and Second Chance engaged in a conspiracy to defraud the United States by getting false or fraudulent claims paid by the United States, in violation of the FCA, 31 U.S.C. § 3729 (a)(3) and to manufacture and sell defective Zylon vests to the United States, with knowledge, within the meaning of the FCA, that the Zylon fiber and the fabric made therefrom in these vests was defective.

a. Following the DSM Announcement in July 2001 and the release of the Zylon degradation data from Toyobo and DSM in July - October 2001 (see ¶¶ 107-165), Toyobo entered into a conspiracy with Second Chance and others in the Zylon manufacturing process to downplay the significance of the DSM Announcement and Zylon degradation data and keep the Zylon ballistics market going. In furtherance of this conspiracy, Toyobo, Second Chance and other participants, including but not limited to the trading companies (Itochu and Teijin) and the weavers (Hexcel, Lincoln and Barrday), took the following acts:

(1) Second Chance and Toyobo each released statements intended to minimize the impact of the DSM Announcement and reassure the Zylon body armor manufacturing chain and market. See ¶¶ 109 - 122. These public statements contradicted the internal knowledge and serious concerns Second Chance and Toyobo had regarding Zylon degradation.

- (2) Bachner and Price each contacted the United States Government and informed the NLECTC Manager that the DSM Announcement was the result of a business dispute over Zylon distribution in Europe and did not indicate any serious degradation problem. See ¶ 117.
  - (3) In July and August, 2001, Second Chance and Toyobo had meetings with each other, with the trading companies, and with weavers in the Zylon body armor manufacturing chain in an effort to keep the Zylon ballistics market going. Toyobo selectively released additional data that minimized predictions of Zylon strength loss over time at 40°C, which conflicted with the additional evidence in Toyobo and Second Chance's possession concerning the degradation of Zylon when exposed to heat and humidity. See ¶¶ 109 - 148.
- b. Beginning in August 2001, Toyobo and Second Chance shared Second Chance's used vest testing information only with each other and Itochu and conspired not to disclose it to others in the ballistics industry and to any ballistic vest end users, including the United States Government, despite knowing that this information was essential to determining Zylon's fitness for use in ballistic applications. In furtherance of this conspiracy, the participants, including but not limited to Toyobo and Second Chance, took the following acts:



- (1) Toyobo, Second Chance and Itochu entered into confidentiality agreements to prevent the disclosure of this information. See ¶¶ 132, 138.
  - (2) Second Chance kept Toyobo and others apprized of its used vest testing results and additional Zylon degradation data from Europe, while Toyobo did studies on tensile strength reduction in used Second Chance Zylon vests, but did not share these results outside the conspiracy. See ¶¶ 140 - 152.
- c. Second Chance and Toyobo conspired to maximize sales of Zylon ballistic applications and to issue public statements to combat any negativity about Zylon in the marketplace. In furtherance of this conspiracy, Toyobo and Second Chance took the following acts:
- (1) In August 2001, Second Chance informed Toyobo that concerns by German vest manufacturers raised questions of the suitability of Zylon fiber for body armor, but focused on business opportunities and encouraged Toyobo to respond to attacks on Zylon or "the dogs will eat the golden rabbit." See ¶ 144.
  - (2) Upon Toyobo's release of degradation data in August 2001, Second Chance informed Toyobo that while these issues were important, they were manageable. Additionally, Second Chance provided Toyobo with a more favorable interpretation of Toyobo's data and suggested that Toyobo had misread its own data. Second

Chance offered advice on how Toyobo should respond to the crisis – and was emphatic that Toyobo should never release any of its degradation data charts to the public. See ¶ 147.

d. Following Toyobo's release of additional unfavorable Zylon degradation data on or about November 26, 2001 and its subsequent withdrawal of that data following the "Zylon Crisis Management Meeting" with Second Chance (see ¶¶ 166-227), Toyobo entered into a conspiracy with Second Chance and others in the Zylon manufacturing process to downplay the significance of the November 26, 2001 Zylon degradation data and keep the Zylon ballistics market going. In furtherance of this conspiracy, Toyobo, Second Chance and other participants, including but not limited to the trading companies (Itochu and Teijin) and the weavers (Hexcel, Lincoln and Barrday), took the following acts:

- (1) Toyobo entered an agreement with Second Chance to provide Second Chance with a volume-based rebate program to encourage Zylon purchases until 2005, with an upfront payment for purchases already made. That program was eventually worth \$6 million to Second Chance. The rebate agreement was designed to keep Second Chance, the largest seller of Zylon vests in the United States, from withdrawing from the market.
- (2) Toyobo entered an agreement with Hexcel to provide them with monetary compensation in the event that their customers stopped

using Zylon. This buy-back agreement was unique to Zylon, and its purpose was to keep Hexcel, the largest Zylon weaver, in the Zylon market.

- (3) In order to get Barrday to resume weaving Zylon, Toyobo entered an agreement with Barrday whereby Teijin would retain title to the Zylon fiber after it was delivered to Barrday and while it was being woven, and then have Teijin sell the woven Zylon fabric directly to the body armor manufacturers, including Second Chance and Gator Hawk.
- (4) Teijin's willingness to sell Barrday's Zylon to the body armor manufacturers was due to Toyobo's provision of an "obeogaki"(a Japanese form of indemnification), and Toyobo's threat to withdraw all other Zylon business from Teijin.
- (5) Ultimately, Toyobo also provided Itochu with an "obeogaki," which covered any quality issues or defects in the Zylon.

e. Following the "discovery" of Red Thread by Hexcel in or about April 2003, Toyobo (see ¶¶ 228-249) entered into a conspiracy with Second Chance and others in the Zylon manufacturing process to downplay the significance of Red Thread and keep the Zylon ballistics market going. In furtherance of this conspiracy, Toyobo, Second Chance and other participants, including but not limited to the trading companies (Itochu and Teijin) and the weavers (Hexcel, Lincoln and Barrday), took the following

acts:

- (1) Despite overwhelming evidence obtained by the weavers' testing that the tensile strength of Red Thread Zylon was up to 20% less than "normal" Zylon, Toyobo and the participants in the Zylon vest manufacturing process ultimately continued to use Zylon in ballistic vests and treated any subsequent Red Thread as "normal";
- (2) Failed to recall, and resisted any efforts to recall the Zylon ballistic vests already in use despite Toyobo's admissions that Red Thread had been present in the Zylon fiber since the beginning of its manufacture, Toyobo did not have control of its neutralization processes (which resulted in Red Thread) and Toyobo's knowledge that the tensile strength of Red Thread Zylon was up to 20% less than that of "normal" Zylon;
- (3) Failed to recall, and resisted any efforts to recall the Zylon ballistic vests already in use despite the fact that there were questions whether the Red Thread Zylon was more susceptible to hydrolysis which also led to Zylon degradation;
- (4) Provided certain participants in the Zylon vest manufacturing process, including but not limited to Hexcel, with replacement and/or refunds for the Red Thread Zylon in their possession;
- (5) Itochu and Hexcel continued to rely on Toyobo's representations that Red Thread was not defective despite concerns by their

executives that Toyobo was providing "incredible" and "not believable" explanations of the Red Thread problem.

- (6) Toyobo, and other participants visited body armor manufacturers to convince them to continue using Zylon in ballistic applications despite the issues with Red Thread.

296. From at least 1996, Toyobo acted in concert with Second Chance knowing that Toyobo's provision of Zylon to Second Chance resulted in Second Chance selling defective Zylon vests to the United States and state, local and tribal law enforcement agencies. As part of this conspiracy, Defendants presented and caused to be presented to the United States false claims for Second Chance Zylon vests, and all such claims were knowingly false under the FCA.

297. By virtue of this conspiracy, the United States suffered damages in an amount to be determined at trial.

#### **COUNT 4**

##### **COMMON LAW FRAUD AGAINST ALL DEFENDANTS**

298. The United States re-alleges and incorporates herein by reference paragraphs 1 through 286.

299. Defendants falsely represented that the Zylon vests, which were being paid for either: (1) in whole by the United States through the GSA and other federal purchases, or (2) in part by the United States under the BVP, were appropriate for their ballistic purpose, would meet their ballistic performance warranties and guarantees for five years, would comply with the industry standard of maintaining ballistic performance for five years and the expectation that they would continue to meet the minimum standard set forth in NIJ Standards 0101.03 and 0101.04,

would meet the Workmanship and New Material clause requirements in the Second Chance-GSA contract, and were not defective.

300. Defendants failed to inform the United States and the various state, local and tribal law enforcement agencies who received vests through the GSA and other federal purchases and under the BVP that the Second Chance Zylon vests were defective in that their ballistic performance was compromised because they contained Zylon fiber which was unfit for use in ballistic applications because it was inherently susceptible to rapid and unpredictable degradation and strength loss due to hydrolysis or the occurrence of Red Thread. The Second Chance Zylon vests were defective in that they did not and would not meet the following benchmarks of ballistic performance: (1) the ballistic performance guarantee in the Second Chance warranty that the vests would continue to meet the National Institute of Justice (NIJ) Certification V-0 reference velocity speeds for five years; (2) the ballistic performance guarantee of no loss of ballistic performance of more than 6% over five years in Second Chance's catalogs; (3) the industry standard of maintaining ballistic performance over five years; (4) the Workmanship Clause of the Second Chance-GSA contract in that the vests did not perform the functions of their intended use; (5) the New Material Clause of the Second Chance-GSA contract in that the vests were so deteriorated as to impair their usefulness or safety; and (6) the Government's expectations that they would continue to meet the minimum standard set forth in NIJ Standards 0101.03 and 0101.04 for the performance period set in their warranties (5 years). At the time when the defendants failed to make these disclosures, Defendants had a duty to disclose due to their superior knowledge and the life-threatening nature of this defect.

301. These Defendants knew that their representations, both direct and implied, that the

Second Chance Zylon vests complied with the contractual requirements and its warranties were false.

302. These misrepresentations were material.

303. Defendants knew that the United States would rely, and intended the United States to rely, on these false representations.

304. The United States justifiably relied upon these false representations and material omissions.

305. By virtue of Defendants' fraud, the United States suffered damages in an amount to be determined at trial.

306. The actions of Defendants in making these false representations and material omissions with the intent that the United States and its agencies would rely on these false representations and material omissions, was malicious, wanton, and reprehensible conduct. Therefore, punitive damages sufficient to punish and deter these Defendants should be assessed against these Defendants, in an amount to be established at trial.

## **COUNT 5**

### **PAYMENT BY MISTAKE AGAINST DEFENDANT SECOND CHANCE**

307. The United States re-alleges and incorporates herein by reference paragraphs 1 through 286.

308. For fiscal years 1998 – 2005, the United States made payments to Defendant Second Chance in the erroneous belief that this Defendant was entitled to reimbursement, without knowing that Defendant's claims were made as part of a scheme to sell the United States defective bulletproof vests. These payments included direct payments to Second Chance under

the GSA MAS schedule and the other federal purchases, as well as indirect payments to Second Chance under the BVP.

309. The United States' erroneous beliefs were material to the amount of the payments made by the United States.

310. Because of these mistakes of fact, this Defendant received funds to which it was not entitled.

311. By reason of the overpayments, the United States is entitled to damages in an amount to be established at trial.

#### **COUNT 6**

##### **UNJUST ENRICHMENT AGAINST ALL DEFENDANTS**

312. The United States re-alleges and incorporates herein by reference paragraphs 1 through 286.

313. From 1998 to 2005, the United States paid for defective Second Chance bulletproof vests made of Zylon due to false statements and omissions by all Defendants.

314. The United States is entitled to the return of all payments by the United States directly or indirectly to Second Chance for Zylon vests due to the false claims presented for fiscal years 1998 to the present time.

315. By reason of the above-described payments, Defendants have received money, directly or indirectly, to which they were not entitled. They therefore have been unjustly enriched in an amount to be established at trial.

#### **COUNT 7**

##### **BREACH OF CONTRACT**



**AGAINST DEFENDANT SECOND CHANCE**

316. The United States re-alleges and incorporates herein by reference paragraphs 1 through 286.

317. Second Chance entered into contracts with the United States, including but not limited to the GSA contract and direct contracts with other federal agencies. These contracts imposed obligations on Second Chance, including but not limited to, a five-year warranty on the Zylon bulletproof vests provided to the United States under these contracts.

318. Second Chance breached its contractual obligations (including its express warranty and implied warranty of merchantability and fitness) to: a) provide Zylon bulletproof vests that were free of all defects in material and workmanship, b) comply with the warranty requirements of these contracts; c) take adequate corrective action upon the discovery of the defects in the Zylon fiber and the fabric made therefrom, and d) adequately identify nonconforming material.

319. As a result of Second Chance's breach of contract, the United States has been damaged by the defective Zylon bulletproof vests at issue in an amount to be determined at trial.

**PRAYER FOR RELIEF**

**AS TO COUNT 1:**

As against all Defendants, judgment in an amount equal to:

1. statutory damages in an amount to be established at trial;
2. civil penalties for each false claim or false statement as provided by law;
3. the cost of this action, plus interest, as provided by law; and
4. any other relief that this Court deems appropriate.

**AS TO COUNT 2:**

As against all Defendants, judgment in an amount equal to:

1. statutory damages in an amount to be established at trial;
2. civil penalties for each false claim or false statement as provided by law;
3. the cost of this action, plus interest, as provided by law; and
4. any other relief that this Court deems appropriate.

**AS TO COUNT 3:**

As against all Defendants, judgment in an amount equal to:

1. statutory damages in an amount to be established at trial;
2. civil penalties for each false claim or false statement as provided by law;
3. the cost of this action, plus interest, as provided by law; and
4. any other relief that this Court deems appropriate.

**AS TO COUNT 4**

As against all Defendants, judgment be in an amount equal to:

1. compensatory damages in an amount to be established at trial;
2. punitive damages;
3. the cost of this action, plus interest, as provided by law; and
4. any other relief that this Court deems appropriate.

**AS TO COUNT 5:**

As against Defendant Second Chance judgment in an amount equal to:

1. the money paid by the United States to Second Chance, plus interest;
2. the cost of this action, plus interest, as provided by law; and

3. any other relief that this Court deems appropriate.

**AS TO COUNT 6:**

As against all Defendants judgment in an amount equal to:

1. the money paid by the United States to, or received by, these Defendants, plus interest;
2. the cost of this action, plus interest, as provided by law; and
3. any other relief that this Court deems appropriate.

**AS TO COUNT 7:**

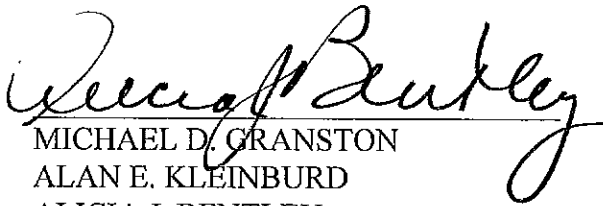
As against Second Chance, judgment in an amount equal to:

1. all damages caused by Second Chance's breach of their contractual obligations in an amount to be established at trial;
2. all reasonably foreseeable damages which flowed Second Chance's breach of their contractual obligations in an amount to be established at trial;
3. the cost of this action, plus interest, as provided by law; and
4. any other relief that this Court deems appropriate.

Dated: March 19, 2012

STUART F. DELERY  
ACTING ASSISTANT ATTORNEY GENERAL

By:



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### CERTIFICATE OF SERVICE

I hereby certify that on this 19th day of March, 2012, I electronically filed the foregoing document with the Clerk of the Court by using the CM/EC system which will send a notice of electronic filing to Stephen M. Kohn, David K. Colapinto, and Erik Snyder, counsel for the relator; Michael J. Lyle and Holly Elizabeth Loiseau, counsel for defendants Toyobo America, Inc. and Toyobo Co., Ltd.; and William J. Cople II, counsel for defendants Second Chance Body Armor, Inc., Second Chance Armor, Inc., Second Chance Shield, Inc., Second Chance International, Inc., Second Chance Body Armor UK, Ltd., Second Chance Body Armor Canada, Co., and IAG Manufacturing, s.a.r.l.

I also certify that I caused to be served by U.S. First Class Mail postage prepaid on the following parties who do not receive CM/ECF filings:

*Pro Se* Defendants:

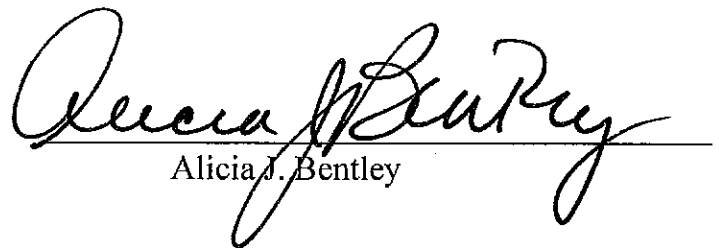
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Alicia J. Bentley