Certain Textile Articles: Performance Outerwear

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This report responds to a request from the House Committee on Ways and Means for information and data on U.S. production and shipments of performance outerwear jackets and pants and the fabrics used to make such garments during 2005 and 2006.

ABSTRACT

There is relatively little production of performance outerwear jackets and pants in the United States, as most firms have reportedly moved production offshore, primarily to Asia.¹ Thirteen U.S. companies reported producing performance outerwear jackets and pants during the study period. U.S. production of performance outerwear jackets and pants totaled an estimated 904,000 pieces in 2005 and 650,000 pieces in 2006, while the value of U.S. shipments of domestic production totaled roughly $83 million in 2005 and $52 million in 2006. Over one-half of the quantity of domestic shipments were for the U.S. military and government, with the remainder sold domestically for commercial (non-military) use. Although market data are unavailable, domestic production likely accounted for a small share of the total market for the subject goods.

Ten U.S. companies reported producing fabrics for use in performance outerwear jackets and pants. Shipments of domestically produced fabrics used in performance outerwear totaled an estimated $142 million in 2006, down 23 percent from 2005 levels (which were about $183 million), and included both shell and lining fabrics, as well as fabrics that are shipped for further processing before use in performance outerwear. Domestic production of finished water-resistant fabrics for use in the outer shell of performance outerwear jackets and pants totaled an estimated 6.3 million square meters in 2006, of which about 75 percent were used in the production of performance outerwear jackets and pants for the U.S. military and government. This report likely overstates the amount of fabric production used in performance outerwear, because the firms that produce the fabrics do not always know the exact intended end use of the fabrics.

¹ This report responds to a request from the House Committee on Ways and Means for information and data on U.S. production and shipments of performance outerwear jackets and pants and the fabrics used to make such garments during 2005 and 2006.
CONTENTS

Abstract ................................................................. i

Executive Summary ................................................... v

Chapter 1: Introduction ............................................. 1-1

Purpose and scope ...................................................... 1-1
Approach ................................................................. 1-2

Chapter 2: U.S. Production and Shipments ..................... 2-1

Performance outerwear jackets and pants ......................... 2-1
  Structure of the industry ........................................... 2-1
  U.S. production and shipments .................................... 2-2
Fabrics for use in performance outerwear jackets and pants 2-4
  Structure of the industry ........................................... 2-4
  U.S. production and shipments .................................... 2-6

Chapter 3: Position of Interested Parties ......................... 3-1

The Outdoor Industry Association ................................ 3-1
The American Apparel & Footwear Association .................. 3-2
SnowSports Industries America, Inc. .............................. 3-2

Boxes

1-1 Definition of performance outerwear jackets .............. 1-3
1-2 Definition of performance outerwear pants ................. 1-4
2-1 Description of fabrics used in performance outerwear .... 1-5

Tables

2-1 Estimated U.S. production and shipments of performance outerwear, woven and knit, 2005 and 2006 ................... 2-3
2-2 Estimated U.S. production and shipments of performance outerwear jackets, woven and knit, 2005 and 2006 ............. 2-3
CONTENTS—Continued

Tables—Continued

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-3</td>
<td>Estimated U.S. production and shipments of performance outerwear pants, woven and knit, 2005 and 2006</td>
<td>2-4</td>
</tr>
<tr>
<td>2-4</td>
<td>Estimated U.S. production and shipments of fabrics for use in performance outerwear, 2005 and 2006</td>
<td>2-7</td>
</tr>
</tbody>
</table>

Appendices

<table>
<thead>
<tr>
<th>Letter</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Request letter from the House Committee on Ways and Means</td>
<td>A-1</td>
</tr>
<tr>
<td>B</td>
<td>Federal Register notice</td>
<td>B-1</td>
</tr>
<tr>
<td>C</td>
<td>Glossary</td>
<td>C-1</td>
</tr>
</tbody>
</table>
EXECUTIVE SUMMARY

There is relatively little production of performance outerwear jackets and pants\(^1\) in the United States, as most firms have reportedly moved production offshore, primarily to Asia. Thirteen U.S. companies reported producing performance outerwear jackets and pants during the study period. U.S. production of performance outerwear jackets and pants totaled an estimated 904,000 pieces in 2005 and about 650,000 pieces in 2006, while the value of U.S. shipments of domestic production totaled an estimated $83 million (875,000 pieces) in 2005 and about $52 million (636,000 pieces) in 2006. Of total U.S. shipments in 2006, over one-half of the quantity (over 70 percent by value) was shipped to the U.S. military and government, with the remainder sold domestically for commercial (non-military) use. Although market data for this narrow product category are unavailable, domestic production likely accounted for a small share of the total U.S. market for the subject goods.

Ten U.S. companies reported producing fabrics for use in performance outerwear jackets and pants. Shipments of domestically produced fabrics used in performance outerwear\(^2\) totaled an estimated $142 million in 2006, down 23 percent from 2005 levels (which were about $183 million), and included both shell and lining fabrics, as well as fabrics that were shipped for further processing before use in performance outerwear.\(^3\) Domestic production of finished water-resistant fabrics for use in the outer shell of performance outerwear jackets and pants totaled an estimated 6.3 million square meters in 2006. Data on these fabrics are likely overstated, as the specific end use of the fabric is often not known to the fabric producer and probably includes fabrics intended for use in outwear jackets and pants that do not meet the strict definition of the subject apparel articles in this study. An estimated 75 percent of domestic production of water-resistant shell fabrics was used in the production of performance outerwear jackets and pants for the U.S. military and government.

This report draws on industry information received by the Commission from questionnaire responses and interviews with representatives of the performance outerwear and fabric industries. The Commission used questionnaires to obtain data on these products because there is no published information on domestic production and shipments of performance outerwear and the fabrics used to make such garments.

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\(^1\) Performance outerwear is a niche product defined as woven and knit, water-resistant jackets and pants specifically designed for outdoor recreation or demanding working conditions. The jackets and pants may be fabricated from any type of fiber, including manmade fibers (such as polyester and nylon), cotton, wool, and other fibers, but must possess specific criteria (e.g. adjustable closures, reinforcements, sealed seams, articulated elbows and knees, and venting) that are deemed to qualify the articles as performance outerwear (see chapter 1 for complete and detailed definitions of performance outerwear jackets and pants).

\(^2\) For purposes of this study, the fabrics used to make these articles are defined as any U.S.-produced fabrics, whether or not coated or water resistant, used in the production of performance outerwear jackets and pants, including lining fabrics.

\(^3\) It is likely that the shipments data are overstated because some of the fabrics may be counted as both an input and a finished product.
CHAPTER 1
Introduction

Purpose and Scope

This report provides information and data for 2005 and 2006 on U.S. production and shipments of certain performance outerwear jackets and pants and the fabrics used to make such garments. The report was prepared in response to a request from the House Committee on Ways and Means.1

For purposes of this study, performance outerwear jackets and pants are defined as woven and knit, water-resistant jackets and pants that possess specific additional criteria. The jackets and pants may be fabricated from any type of fiber, including manmade fibers (such as polyester and nylon), cotton, wool, and other fibers. The full definitions for performance outerwear jackets and pants are provided in boxes 1-1 and 1-2. The Commission developed these definitions after extensive consultations and in cooperation with representatives of the U.S. industry producing or contracting for the production of such items. Performance outerwear jackets are classified along with other outerwear tops under the following headings and subheadings of the Harmonized Tariff Schedule of the United States (HTS):2

6101; 6102; 6112.20; 6113.00; 6201.91; 6201.92; 6201.93; 6201.99; 6202.91; 6202.92; 6202.93; 6202.99; 6210.40; 6210.50; and 6211.20. Performance outerwear pants are classified along with other bottoms under HTS subheadings 6103.41; 6103.42; 6103.43; 6103.49; 6104.61; 6104.62; 6104.63; 6104.69; 6112.20; 6113.00; 6203.41; 6203.42; 6203.43; 6204.63; 6210.40; 6210.50; and 6211.20.

For purposes of this study, the fabrics used to make these articles are defined as any U.S.-produced fabrics, whether or not coated or water resistant, used in the production of performance outerwear jackets or pants, including lining fabrics. Woven fabrics that are not visibly coated, impregnated, or laminated are classified in HTS chapters 50–55. Knit fabrics (excluding pile fabrics) that are not visibly coated, impregnated, or laminated, and knit pile fabrics that are visibly coated, impregnated, or laminated, are classified in HTS chapter 60. All other visibly coated, impregnated, or laminated fabrics are classified in HTS chapter 59.

1 On October 25, 2006, the House Committee on Ways and Means (Committee) requested that the U.S. International Trade Commission (Commission) prepare a report under section 332(g) of the Tariff Act of 1930 (19 U.S.C. 1332(g)) that contains, to the extent possible, data for 2005 and 2006 on the level of U.S. production and shipments of performance outerwear jackets and pants and the fabrics used to make such articles. The Committee also asked the Commission to define the products it is covering in the report. The Committee asked the Commission to provide its report no later than 9 months following receipt of the letter (by July 25, 2007). In its letter, the Committee also requested that the Commission provide similar data on U.S. production and shipments of certain travel goods and the textile materials used to make such goods, and that the Commission submit this second report no later than 12 months following receipt of the letter (by October 25, 2007).

Approach

This report draws on industry information received by the Commission from questionnaire responses and interviews with representatives of the performance outerwear and fabric industries. The Commission used questionnaires to obtain data on these products because there is no published information on domestic production and shipments of performance outerwear and the fabrics used to make such garments. Performance outerwear and fabric firms were identified through telephone and in-person interviews with industry associations and company representatives, online research, and questionnaire responses.

Questionnaires were sent to companies that might be producing or contracting with outside firms for the production of performance outerwear jackets and pants in the United States. In addition to requesting information on domestic production and shipments, the questionnaires asked respondents if they had purchased U.S.-produced fabrics for use in domestic or offshore production of performance outerwear jackets and pants. The performance outerwear questionnaire also asked for contact information for other companies, including suppliers of U.S.-produced fabric, domestic contractors for performance outerwear, and customers (if the firm was manufacturing outerwear on a contract basis for other firms). This information was used to identify and mail additional questionnaires to potential performance outerwear manufacturers and fabric producers.

A separate fabric producers’ questionnaire was sent to firms that produce fabric and/or contract production of fabric in the United States for use in performance outerwear jackets or pants. The fabric producers’ questionnaire requested information and data on domestic production and shipments of any fabrics, including unfinished fabrics, intended for use in performance outerwear jackets or pants. The fabric producers’ questionnaires also asked for customer contact information for U.S. and foreign performance outerwear manufacturers and for fabric wholesalers or finishers. This information was used to identify additional producers and contractors who were, in turn, sent questionnaires. Both sets of questionnaires requested data for domestic commercial shipments, U.S. military and government shipments, and export shipments.

The Commission sent the performance outerwear producers’ questionnaire to 127 firms and received responses from 103 companies (81 percent). Thirteen respondents replied that they produced performance outerwear jackets and/or pants domestically during the study period. Another 90 respondents indicated they neither produced performance outerwear in the United States nor contracted production to U.S. firms in 2005 and 2006.

The Commission sent the fabric producers’ questionnaire to 42 firms that weave or knit fabric, coat or finish fabrics, or design and sell fabrics (and contract production). Responses were received from 34 of the companies surveyed (81 percent), including all the firms that weave or knit the fabrics. Ten respondents indicated that they produced fabrics for use in performance outerwear. Another 24 firms indicated that they did not produce such fabrics during the period under consideration. Multiple attempts were made to solicit information from non-respondents for both sets of questionnaires.
### BOX 1-1 Definition of performance outerwear jackets

**Performance outerwear jackets.**—Woven and knit water-resistant jackets (including, but not limited to, full zip jackets, paddling jackets, ski jackets, and ski jackets intended for sale as parts of ski-suits), windbreakers, and similar articles (including padded, sleeveless jackets), subject to the criteria listed below:

#### a.) Woven performance outerwear jackets

- Made of woven,\textsuperscript{a} water-resistant and/or visibly coated fabrics, with critically sealed seams and five or more of the following options:
  - Insulation for cold weather protection
  - Pockets, at least one of which has a zippered, hook & loop, or other type of closure
  - Multi-adjustable hood and/or collar and/or elastic, drawcord, or other means of tightening around the waist and/or bottom hem
  - Adjustable powder and/or inner protective skirt
  - Venting
  - Articulated elbows
  - Weatherproof front closure
  - Activated carbon–bonded fabrics
  - Laser cutting technology

#### b.) Knit performance outerwear jackets

- Made of knit,\textsuperscript{b} water-resistant and/or visibly coated fabrics, with six or more of the following options:
  - Insulation for cold weather protection
  - Critically sealed seams
  - Pockets, at least one of which has a zippered, hook & loop, or other type of closure
  - Multi-adjustable hood and/or collar and/or elastic, drawcord, or other means of tightening around the waist and/or bottom hem
  - Adjustable powder and/or inner protective skirt
  - Venting
  - Articulated elbows
  - Weatherproof front closure
  - Activated carbon–bonded fabrics
  - Laser cutting technology

**Note:** See appendix C, “Glossary of Terms” for additional information on the bulleted options listed above.

\textsuperscript{a}The face fabric on the outer part of the garment must be woven. If the fabric is a composite fabric, the part of the fabric intended for the inner part of the garment may be knit or woven.

\textsuperscript{b}The face fabric on the outer part of the garment must be knit. If the fabric is a composite fabric, the part of the fabric intended for the inner part of the garment may be knit or woven.
### BOX 1-2 Definition of performance outerwear pants

**Performance outerwear pants.**—Woven and knit water resistant pants (including, but not limited to, ski/snowboard pants, and ski/snowboard pants intended for sale as parts of ski suits), and bib overalls, subject to the criteria listed below:

a.) **Woven performance outerwear pants**—made of woven,\(^a\) water-resistant and/or visibly coated fabrics, with critically sealed seams and five or more of the following options:

- Insulation for cold weather protection
- Pockets, at least one of which has a zippered, hook & loop, or other type of closure
- Elastic, drawcord, or other means of tightening around the waist and/or leg hems, including hidden leg sleeves with a means of tightening at the ankle
- Venting
- Articulated knees
- Reinforcement in the seat or knees (such as a double layer of fabric)
- Weatherproof waist closure
- Activated carbon–bonded fabrics
- Laser cutting technology

b.) **Knit performance outerwear pants**—made of knit,\(^b\) water-resistant and/or visibly coated fabrics, with six or more of the following options:

- Insulation for cold weather protection
- Critically sealed seams
- Pockets, at least one of which has a zippered, hook & loop, or other type of closure
- Elastic, drawcord, or other means of tightening around the waist and/or leg hems, including hidden leg sleeves with a means of tightening at the ankle
- Venting
- Articulated knees
- Reinforcement in the seat or knees (such as a double layer of fabric)
- Weatherproof waist closure
- Activated–carbon bonded fabrics
- Laser cutting technology

**Note:** See appendix C, “Glossary of Terms” for additional information on the bulleted options listed above.

\(^a\)The face fabric on the outer part of the garment must be woven. If the fabric is a composite fabric, the part of the fabric intended for the inner part of the garment may be knit or woven.

\(^b\)The face fabric on the outer part of the garment must be knit. If the fabric is a composite fabric, the part of the fabric intended for the inner part of the garment may be knit or woven.
CHAPTER 2
U.S. Production and Shipments

Performance Outerwear Jackets and Pants

Structure of the Industry

Performance outerwear is a niche product consisting of jackets and pants specifically designed for outdoor recreation or demanding working conditions. While all outerwear is worn over clothing layers to provide warmth or protection from the elements, performance outerwear differs from typical outerwear by virtue of the fabrics used, the distinct features of the garments, and targeted end use. Performance outerwear jackets and pants for recreation are explicitly designed to withstand the rigors of outdoor activities such as hiking, biking, mountain climbing, skiing, snowboarding, hunting, and various water sports. Performance outerwear garments for use in the workplace or as uniforms are designed to provide weather protection as well as safety from workplace hazards, including fire, chemicals, impact, cuts, and punctures. Such garments may be worn by law enforcement officers, military personnel, and fire, rescue, and emergency workers, among other professions.

Performance outerwear jackets and pants are constructed of an outer shell of woven or knit water-resistant or visibly coated fabrics, with or without an inner lining and/or added insulation. In general, performance outerwear garments are made from high technology fabrics that are selected for their durability, functionality, and unique properties. Such fabrics may provide stretch, insulating properties, breathability, moisture wicking, odor adsorption, temperature control, antimicrobial properties, protection from injury, or other special characteristics. The jackets and pants incorporate multiple features that enhance the performance of the garment as well as the comfort of the wearer, including adjustable closures, reinforcements, sealed seams, articulated elbows and knees, and venting.

The majority of U.S. performance outerwear firms manufacture their commercial lines overseas. In written statements to the Commission, associations representing the outdoor industry and outerwear apparel manufacturers contend that there is no commercially viable domestic production of performance outerwear jackets or pants (see chapter 3). Industry representatives note that the technology used to produce such garments, such as seam sealing and laser cutting, is prevalent in Asia, namely China and Vietnam. Industry sources note that brand-name competitors in the performance outerwear market primarily source their finished garments from lower-cost Asian suppliers. Further, production of performance outerwear fabrics has primarily moved offshore, and all trimmings and components are available in

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1 Unless otherwise noted, information in this chapter is from U.S. producers responding to the Commission’s questionnaires and telephone and in-person interviews conducted throughout the course of the investigation with U.S. producers of performance outerwear jackets and pants and U.S. producers of fabrics for use in performance outerwear jackets and pants.

2 The outer shell may be a “hard shell,” which is stiff but highly weatherproof, or a “soft shell,” which is more flexible and breathable but typically not as water resistant or wind proof as a hard shell.
Asia. As a result, industry sources note that it is practical and cost effective for most companies to manufacture their performance outerwear garments overseas as well.

Only a relatively small number of firms maintain production of performance outerwear jackets and pants in the United States. Some produce performance outerwear under their own labels, while others produce performance outerwear jackets and pants under contract for larger companies. Of the 13 domestic producers that responded to the Commission’s questionnaire, five indicated that they produce for both the commercial and U.S. government or military markets. Six U.S. producers indicated that they produce strictly for the U.S. military and government, while two reported only commercial production. Commercial production consisted of both occupational outerwear and outerwear for specific outdoor recreational use. Nine out of 13 domestic producers indicated that production of performance outerwear jackets and pants accounted for 75 percent or more of their total domestic production of all goods. The remaining four firms either did not report a percentage, or noted that production of performance outerwear jackets and pants accounted for 25 percent or less of their total domestic production of all products.

**U.S. Production and Shipments**

U.S. production of performance outerwear jackets and pants totaled an estimated 904,000 pieces in 2005 and about 650,000 pieces in 2006 (tables 2-1 through 2-3). The vast majority of production was of garments of woven fabrics. U.S. shipments (domestic production sold to U.S. customers) totaled an estimated $82.9 million in 2005 and about $52.3 million in 2006. The decline in total U.S. shipments during 2005-06 (40 percent) was primarily attributable to a decline in shipments to the U.S. military and government. Of total U.S. shipments in 2006, over one-half of the quantity (over 70 percent by value) was shipped to the U.S. military and government, with the remainder sold domestically for commercial (non-military) use. In addition to U.S. shipments, firms reported export shipments of $1.1 million and $1.4 million in 2005 and 2006, respectively.

Although data on the total market for performance outerwear jackets and pants as specifically defined in this study are unavailable, data on sales of apparel for the broader outdoor industry indicate that in 2006, sales of outerwear jackets and pants totaled roughly $450 million wholesale. These sales data, which do not include any sales to the U.S. military or government, are not directly comparable with producer shipments data collected in the performance outerwear producers’ questionnaires. However, the data suggest that domestic production accounts for a small share of the total market for the subject goods.

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3 The Berry Amendment requires that Department of Defense acquisitions of any clothing or textile articles, including the fibers, yarns, and fabrics used in such articles, be produced in the United States (10 U.S.C. 2533a). For further information on the Berry Amendment, see U.S. Department of Defense, Office of the Under Secretary of Defense for Acquisition Technology and Logistics, Defense Procurement and Acquisition Policy, at http://www.acq.osd.mil/dpap/paic/berryamendmentfaq.htm.

4 Data are based on retail sales data from the Outdoor Industry Association, Outdoor Topline Dynamic Report, 2005-2006 and include both online and point of sale purchases of certain rainwear and insulated, hard shell, and soft shell outerwear tops and bottoms sold in outdoor retail chains and specialty stores. Data are not reported for direct sales, sales through second market channels, or sales by mass retailers or retailers that exclusively sell their own branded merchandise. Wholesale value is estimated to be approximately 50 percent of the value of retail sales.
### TABLE 2-1  Estimated U.S. Production and Shipments of Performance Outerwear, Woven and Knit, 2005 and 2006

<table>
<thead>
<tr>
<th>Type</th>
<th>2005</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total U.S. production of performance outerwear (quantity in thousands)</td>
<td>904</td>
<td>650</td>
</tr>
<tr>
<td>Total U.S. shipments of performance outerwear (quantity in thousands)</td>
<td>875</td>
<td>636</td>
</tr>
<tr>
<td>Total U.S. shipments of performance outerwear (value in millions of dollars)</td>
<td>$82.9</td>
<td>$52.3</td>
</tr>
</tbody>
</table>

Source: Based on data collected from performance outerwear producer questionnaire responses.

Note: Data may be understated because of nonreporting by some U.S. producers. Data for performance outerwear may not add to the totals shown in tables 2-2 and 2-3 for jackets and pants because of rounding.

### TABLE 2-2  Estimated U.S. Production and Shipments of Performance Outerwear Jackets, Woven and Knit, 2005 and 2006

<table>
<thead>
<tr>
<th>Item</th>
<th>Calendar years</th>
<th>2005</th>
<th>2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total U.S. production:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quantity (thousands)</td>
<td></td>
<td>747</td>
<td>571</td>
</tr>
<tr>
<td>Total U.S. shipments:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quantity (thousands)</td>
<td></td>
<td>719</td>
<td>558</td>
</tr>
<tr>
<td>Value (millions of dollars)</td>
<td></td>
<td>$69.1</td>
<td>$46.0</td>
</tr>
<tr>
<td>Commercial shipments:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quantity (thousands)</td>
<td></td>
<td>(*)</td>
<td>(*)</td>
</tr>
<tr>
<td>Value (millions of dollars)</td>
<td></td>
<td>$8.8</td>
<td>$13.4</td>
</tr>
<tr>
<td>Shipments to the U.S. military and government:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quantity (thousands)</td>
<td></td>
<td>(*)</td>
<td>(*)</td>
</tr>
<tr>
<td>Value (millions of dollars)</td>
<td></td>
<td>$60.2</td>
<td>$32.5</td>
</tr>
</tbody>
</table>

Source: Based on data collected from performance outerwear producer questionnaire responses.

Note: Data may be understated because of nonreporting by some U.S. producers. Data on commercial shipments and shipments to the U.S. military may not add to the totals for U.S. shipments because of rounding.

aData are withheld to prevent the disclosure of business confidential information.
TABLE 2-3 Estimated U.S. Production and Shipments of Performance Outerwear Pants, Woven and Knit, 2005 and 2006

<table>
<thead>
<tr>
<th>Item</th>
<th>Calendar years</th>
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<tr>
<td></td>
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<td>2005</td>
<td>2006</td>
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<tr>
<td>Total U.S. production:</td>
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<td>157</td>
<td>80</td>
</tr>
<tr>
<td>Quantity (thousands)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total U.S. shipments:</td>
<td></td>
<td>156</td>
<td>78</td>
</tr>
<tr>
<td>Quantity (thousands)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Value (millions of dollars)</td>
<td></td>
<td>$13.8</td>
<td>$6.3</td>
</tr>
<tr>
<td>Commercial shipments:</td>
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</tr>
<tr>
<td>Quantity (thousands)</td>
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<td></td>
<td></td>
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<tr>
<td>Value (millions of dollars)</td>
<td>(*)</td>
<td>$0.4</td>
<td>$0.7</td>
</tr>
<tr>
<td>Shipments to the U.S. military and government:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quantity (thousands)</td>
<td>(*)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Value (millions of dollars)</td>
<td>(*)</td>
<td>$13.4</td>
<td>$5.6</td>
</tr>
</tbody>
</table>

Source: Based on data collected from performance outerwear producer questionnaire responses.

Note: Data may be understated because of nonreporting by some U.S. producers. Data on commercial shipments and shipments to the U.S. military may not add to the totals for U.S. shipments because of rounding.

aData are withheld to prevent the disclosure of business confidential information.

Fabrics for Use in Performance Outerwear Jackets and Pants

Structure of the Industry

The fabrics used in performance outerwear are generally highly technical and often the result of a combined effort of two or more firms, in which separate firms may weave or knit each of the fabric layers, while another applies a finish, coating, or laminate and/or bonds two fabric layers together. In the case of fabrics that consist of three layers, up to three separate companies may be involved in its production. One firm may weave an outer layer, while another knits an inner layer, and a third firm applies a water-resistant membrane laminate between the two layers. A description of the fabrics used in performance outerwear is provided in Box 2-1.
The fabrics used in performance outerwear encompass a large variety of different fabrics. The fabrics may be made with any type of fiber, but are typically made with synthetic fibers, such as polyester or nylon. The fabrics may be knit or woven, or a combination of both. Fabrics used in performance outerwear are often described as having some of the following features: “waterproof breathable,” “windproof,” lightweight, stretchability (for both woven and knit), warmth, softness, durability, sun protection, and odor adsorption.

Often, performance outerwear jackets and pants are made of composite fabrics of two or more layers. In order for a garment to be considered water-resistant, at least one of the fabric layers must be water resistant, either through coating or lamination with a water-resistant membrane. The fabric used on the outside of the garment is called the “face” fabric, while fabric used for the inner layer of the garment is called the “lining fabric.” Three-layer composite fabrics encompass both the face and lining fabrics. Performance outerwear garments made with an outer surface of woven fabrics may have 2, 2.5, or 3 layers. Generally, performance outerwear garments made with an outer surface of knit fabric have 3 layers, with a water-resistant membrane laminate inserted between two knit fabric layers.

2 layers: A 2-layer fabric generally consists of a woven fabric with a water-resistant layer on the back of the fabric. Outerwear made with such fabric typically are made with an additional, separate lining fabric to provide a more comfortable surface for the wearer and to protect the water-resistant layer. The lining fabric is typically a knit, single-layer fabric.

2.5 layers: This fabric typically would consist of a woven fabric with a water-resistant layer, on top of which a dot adhesive is applied to protect the water-resistant layer. This type of fabric would not require a separate liner. It is used in garments that are intended to be very lightweight and packable.

3 layers: A 3-layer fabric consists of 2 fabrics with a water-resistant layer in the middle. The top layer, or “face” fabric, is generally either knit or woven, and the bottom layer (lining fabric) is generally knit. A laminate is typically applied as the middle layer, which adheres the two fabric layers together.

Source: Based on information from industry sources.

The industry consists of several textile firms that knit and/or weave the base fabrics. While the weaving and knitting mills finish or contract for finishing of some of this fabric, they sell much of it to other firms as an input to a multi-layer fabric. There are a number of firms in the industry that specialize in different fabric finishing operations, including lamination. These finishing firms typically will order the woven and/or knit fabric layers from other firms, both domestic and offshore, and finish the fabrics in their own facilities. The industry also consists of firms that design and sell performance outerwear fabrics, but purchase the woven or knit base fabrics and have them finished by other firms on a contract basis.5 Five of the 10 reporting firms indicated that performance outerwear fabrics accounted for over 10 percent of their total fabric production, and 3 firms indicated it accounted for 20 percent or more of total fabric production.

Data on production and shipments of fabrics were difficult to compile because of the complicated structure of the industry producing fabrics for performance outerwear jackets and pants. There is likely significant double-counting for the shipments data, because some of the fabrics may be counted as both an input and a finished fabric. In an attempt to minimize double-counting, production data were also compiled for finished water-resistant fabrics intended for use in the shell of the subject performance outerwear jackets and pants. However, it is likely that even these data are overstated, as the specific end use of the fabric is often not known to the fabric producer and likely includes fabrics intended for use in

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5 These firms are typically called “converters.” Some converters also own their own finishing facilities.
outerwear jackets and pants that do not meet the specific definition of the subject study. This is exacerbated by the structure of the industry, in which the firms with the most knowledge of the end-use customer may not be the same companies that are responsible for weaving, knitting, or finishing the fabrics.

**U.S. Production and Shipments**

Ten companies reported producing fabrics domestically for use in performance outerwear jackets and pants. Shipments of all types of domestically produced fabrics intended for use in performance outerwear totaled an estimated $183 million in 2005 and declined to about $142 million in 2006 (table 2-4). Six of the ten firms experienced a decline in total U.S. shipments, which was primarily attributable to declines in U.S. military and government shipments. The shipments data included finished, water-resistant fabrics intended for use in the outer shell of the garment, as well as non-water-resistant lining fabrics, and fabrics that are sent for further processing or are used as an input in the production of composite fabrics. As discussed above, it is likely that the shipments data are significantly overstated, because many of the fabrics may be counted as both an input and a finished product. Shipments to the U.S. military and government accounted for an estimated 78 percent of the value of total shipments, and about 64 percent in terms of quantity in 2006. Nine of the 10 firms reported U.S. military and government shipments in 2006. Domestic commercial shipments and exports accounted for the remainder of the shipments. Eight of the respondents reported some domestic commercial shipments, and seven of the respondents reported some export shipments in 2006.

Domestic production of finished water-resistant fabrics for use in the outer shell of performance outerwear jackets and pants totaled an estimated 9.4 million square meters in 2005 and about 6.3 million square meters in 2006. These fabrics consisted mostly of woven fabrics that have been coated and/or laminated to make them water resistant, and 3-layer composite fabrics that have a water-resistant membrane between two layers of fabric. U.S. military and government orders are estimated to account for about three-quarters of domestic production of the finished water-resistant shell fabrics. Domestic production of non-water-resistant finished fabrics intended for the lining of the performance outerwear garments was greater than the total estimated production of finished water-resistant shell fabrics. Fabrics used in performance outerwear are often described as having some of the following features: “waterproof breathable,” “windproof,” lightweight, stretchability (for both woven and knit), warmth, softness, and durability. U.S. firms indicated they are either producing or capable of producing fabrics with a wide range of features for performance outerwear.

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6 This section reports data as compiled from questionnaire responses from U.S. industry producers on domestic fabric production and shipments. However, the data reported is only that which would not reveal the individual operations of any particular firms. Hence, to protect the business confidential information provided by individual firms, it was not possible to publish all the aggregate data collected.

7 As discussed above, it is likely that these data are overstated, because it is difficult for fabric producers to know if the fabrics they are selling are being used to make performance outerwear jackets and pants that meet the definitions as specified in this study.
### TABLE 2-4  Estimated U.S. production and shipments of fabrics for use in performance outerwear, 2005 and 2006

<table>
<thead>
<tr>
<th>Item</th>
<th>Calendar years</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2005</td>
<td>2006</td>
</tr>
<tr>
<td><strong>Total production:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quantity <em>(millions of square meters equivalent)</em></td>
<td>39.6</td>
<td>37.3</td>
</tr>
<tr>
<td>Production of water-resistant shell fabrics:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quantity <em>(millions of square meters equivalent)</em></td>
<td>9.4</td>
<td>6.3</td>
</tr>
<tr>
<td><strong>Total shipments:</strong>&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quantity <em>(millions of square meters equivalent)</em></td>
<td>39.8</td>
<td>37.7</td>
</tr>
<tr>
<td>Value <em>(millions of dollars)</em></td>
<td>183.2</td>
<td>141.9</td>
</tr>
<tr>
<td>Shipments to the U.S. military and government:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quantity <em>(millions of square meters equivalent)</em></td>
<td>27.3</td>
<td>24.0</td>
</tr>
<tr>
<td>Value <em>(millions of dollars)</em></td>
<td>138.1</td>
<td>110.3</td>
</tr>
</tbody>
</table>

*Source: Based on data collected from fabric producer questionnaire responses.*

<sup>a</sup>Includes U.S. shipments (commercial shipments and shipments to the U.S. military and government) and export shipments. Data are withheld for commercial shipments and export shipments to prevent the disclosure of business confidential information.
CHAPTER 3
Position of Interested Parties

This chapter summarizes the written statements of interested parties submitted to the Commission in connection with this investigation.

The Outdoor Industry Association

The Outdoor Industry Association (OIA) states that it is the national trade association for companies involved in the active outdoor recreation business. The OIA submitted comments to the Commission on behalf of its members, which include companies that manufacture, import, retail, and/or supply fabric inputs for performance outerwear. The OIA claims that as its members possess high levels of experience in performance outerwear design, manufacturing, and marketing, they have a high level of interest in this study. The OIA states it has consulted its membership extensively, and it reports that there is no commercially viable domestic production of performance outerwear jackets or pants.

Commenting on the unique traits of the performance outerwear market, the OIA asserts that performance outerwear is highly innovative and possesses specialty characteristics. It states that these garments require specialty machines and inputs to produce that are located primarily in Asia. Additionally, the OIA claims that the tariff schedule has not kept up with technological innovation in the industry and that several tariff anomalies exist; for example, water-resistant polyester knit pants are dutiable at 28.2 percent, while water-resistant polyester woven pants are dutiable at 7.1 percent. The OIA further contends that many performance jackets and pants are dutiable at nearly 30 percent ad valorem, while the average collected duty rate for all manufactured products is less than 1 percent ad valorem. The OIA states that these discrepancies limit the designs and styles of its members and unnecessarily stymie product innovation.

According to the OIA, performance outerwear is one of the fastest-growing retail segments, accounting for $3 billion in sales and over 30 million units during the period under consideration in this study. Additionally, the OIA reports that the outdoor industry plays an important role in the U.S. economy, with outdoor recreational activities accounting for $730 billion annually and roughly 6.2 million jobs.²

The comments submitted by the OIA were reiterated in statements from the American Apparel & Footwear Association and SnowSports Industries America, Inc., which cited the OIA’s May 11, 2007 submission to the Commission.

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¹ Frank Hugelmeyer, President and CEO, Outdoor Industry Association, written submission to the Commission, May 11, 2007.
² The comments submitted by the OIA were reiterated in statements from the American Apparel & Footwear Association and SnowSports Industries America, Inc., which cited the OIA’s May 11, 2007 submission to the Commission.
The American Apparel & Footwear Association

The American Apparel & Footwear Association (AAFA) states that it is the national trade association of the apparel and footwear industries. The AAFA’s submission reiterates the main points of the OIA’s submission summarized above. Additionally, after surveying its member companies, the AAFA did not identify any commercially viable domestic production of performance outerwear jackets and pants.

SnowSports Industries America, Inc.

SnowSports Industries America, Inc. (SIA), states that it is a not-for-profit trade association for all companies involved in the snow sports business. The SIA’s submission states that it fully supports the comments submitted by the OIA (summarized above). Similarly, the SIA reports that it has surveyed its members, and that it believes that there is no commercially viable U.S. production of performance outerwear at this time.

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3 Nate Herman, Director of International Trade, American Apparel & Footwear Association, written submission to the Commission, May 11, 2007.
APPENDIX A
Request letter from the House Committee on Ways and Means
Dear Mr. Chairman:

The Ways and Means Committee is interested in information related to the competitiveness of the domestic industry producing certain performance outerwear pants, performance jackets, and travel goods of textile materials. Accordingly, on behalf of the Ways and Means Committee, I am writing to request that the U.S. International Trade Commission conduct an investigation under section 332(g) of the Tariff Act of 1930 (19 U.S.C. 1332(g)) to provide information to the Committee related to these domestic industries. Specifically, to the extent possible, the investigation should provide data for 2005 and 2006 on the level of U.S. production and shipments of the following:

- certain performance outerwear pants and jackets and the fabrics used to make such pants and jackets; and,
- certain travel goods with an outer surface of textile materials and the textile materials used to make such goods.

The Commission should submit two separate reports under this investigation, and should, within the above descriptions, define the products that it is covering in each report. The first report, covering certain performance outerwear pants and jackets and fabrics used to make such pants and jackets, should be submitted as soon as possible, but no later than 9 months following receipt of this letter. The second report, covering the travel goods and textile materials to make such goods, should be submitted no later than 12 months following the receipt of this letter.

The Commission’s assistance in this matter is greatly appreciated.

Sincerely,

Bill Thomas
Chairman
II. Background on the Black Mesa Project EIS

Pursuant to the National Environmental Policy Act of 1969 (NEPA), OSM prepared a draft EIS analyzing the effects of the proposed Black Mesa Project. The proposed Project consists of Peabody Western Coal Company’s operation and reclamation plans for coal mining at the Black Mesa Mine Complex near Kayenta, Arizona; Black Mesa Pipeline Incorporated’s (BMPI’s) Coal Slurry Preparation Plant at the Black Mesa Mine Complex; BMPI’s reconstruction of the 273-mile long Coal Slurry Pipeline across northern Arizona from the Coal Slurry Preparation Plant to the Mohave Generating Station in Laughlin, Nevada; and Salt River Project’s and Mohave Generation Station co-owners’ construction and operation of a water supply system consisting of water wells in the Coconino aquifer (C aquifer) near Leupp, Arizona, and of a water supply pipeline running 108 miles across the Navajo and Hopi Reservations from the wells to the Coal Slurry Preparation Plant. More information about the project and EIS can be found on OSM’s Internet Web site at www.wrcc.osmre.gov/WR/BlackMesaEIS.htm.

The Bureau of Indian Affairs; Bureau of Land Management; Bureau of Reclamation; U.S. Environmental Protection Agency; U.S. Department of Agriculture Forest Service; Hopi Tribe; Hualapai Tribe; Navajo Nation; County of Mohave, Arizona; and City of Kingman, Arizona, cooperated with OSM in the preparation of the draft EIS. As a part of its National Environmental Policy Act activities for the proposed project, U.S. Environmental Protection Agency will attend at least the January 3 and 4, 2007, meetings respectively in Moenkopi and Kayenta, Arizona.

II. Availability of Your Comments for Public Review

Our practice is to make comments, including names and home addresses, home phone numbers, and e-mail addresses of respondents, available for public review. Individual respondents may request that we withhold their names and/or home addresses, etc., but if you wish us to consider withholding this information you must state this prominently at the beginning of your comments and submit your comments by regular mail, not by e-mail. In addition, you must present a rationale for withholding this information. This rationale must demonstrate that disclosure would constitute an unwarranted invasion of privacy. Unsupported assertions will not meet this burden. In the absence of exceptional, documentable circumstances, this information will be released. We will always make submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, available for public inspection in their entirety.

III. Specificity of Written Comments

Written comments, including email comments, should be sent to OSM at the addresses given in the ADDRESSES section of this notice. Be specific in your comments and indicate the chapter, page, paragraph, and sentence your comments pertain to.

IV. Public Meetings

Public meeting rooms will be set up in four areas: (1) An area where an audio-visual presentation on the Black Mesa Project and EIS will be made, (2) an area with displays where meeting attendees may discuss the project proposal and the EIS process with OSM and others, (3) an area where meeting attendees may record and submit written comments, and (4) an area where an OSM representative and a transcriber will record oral comments.

To assist the transcriber and ensure an accurate record, OSM requests that each presenter of oral comments provide a written copy of his or her comments, if possible.

Hopi, Hualapai, and Navajo interpreters will be present respectively at meetings on the Hopi, Hualapai, and Navajo Reservations.

If you are disabled or need special accommodations to attend one of the meetings, contact the person under FOR FURTHER INFORMATION CONTACT at least 1 week before the meeting.

Dated: November 15, 2006.

Willie R. Taylor,
Director, Office of Environmental Policy and Compliance.

BILLING CODE 4310–05–P

INTERNATIONAL TRADE COMMISSION
[Investigation No. 332–479]

Certain Textile Articles: Performance Outerwear

AGENCY: International Trade Commission.

ACTION: Institution of investigation and request for public comments.

DATES: Effective Date: November 16, 2006.

SUMMARY: Following receipt on October 25, 2006 of a request from the House Committee on Ways and Means, the Commission instituted investigation No. 332–479, Certain Textile Articles: Performance Outerwear, under section 332(g) of the Tariff Act of 1930 (19 U.S.C. 1332(g)).

FOR FURTHER INFORMATION CONTACT:
Kimberlie Freund, Co-Project Leader, Office of Industries (202–708–5402; kimberlie.freund@usitc.gov) or Heidi Colby-Oizumi, Co-Project Leader, Office of Industries (202–205–3391; heidi.colby@usitc.gov). For information on legal aspects, contact William Gearhart of the Office of the General Counsel (202–205–3091; william.gearhart@usitc.gov). The media should contact Margaret O’Laughlin, Office of External Relations (202–205–1819; margaret.olaughlin@usitc.gov).

Background

In its letter, the Committee on Ways and Means, U.S. House of Representatives asked the U.S. International Trade Commission to conduct an investigation under section 332(g) of the Tariff Act of 1930 (19 U.S.C. 1332(g)) and provide a report that contains, to the extent possible, data for 2005 and 2006 on the level of U.S. production and shipments of certain high-performance outerwear jackets and pants and the fabrics used to make such articles. The Committee also asked the Commission to define the products that it is covering in the report. The Committee asked the Commission to provide its report no later than 9 months following receipt of the letter (by July 25, 2007).

In its letter, the Committee also requested that the Commission provide similar data on U.S. production and shipments of certain travel goods with an outer surface of textile materials and the textile materials used to make such goods, and that the Commission submit this second report no later than 12 months following receipt of the letter (by October 25, 2007). The Commission has instituted investigation No. 332–
The Committee has indicated that it intends to make the Commission report available to the public in its entirety, and has asked that the Commission not include any confidential business information in the report it sends to the Committee. Any confidential business information received by the Commission in this investigation and used in preparing this report will not be published in a manner that would reveal the operations of the firm supplying the information.

General information concerning the Commission may also be obtained at http://www.usitc.gov. The public record for this investigation may be viewed on the Commission’s electronic docket (EDIS) http://www.usitc.gov/sec/edis.htm. Hearing impaired individuals who will need special assistance in gaining access to the Commission should contact the Office of the Secretary at 202–205–1810. Persons with mobility impairments who will need special assistance in gaining access to the Commission may obtain information on this matter by contacting the Commission’s TDD terminal on 202–205–1810.

By order of the Commission.

Issued: November 16, 2006.

Marilyn R. Abbott,
Secretary to the Commission.

FOR FURTHER INFORMATION CONTACT: Kimberly Freund, Co-Project Leader, Office of Industries (202–708–5402; kimberlie.freund@usitc.gov) or Heidi Colby-Oizumi, Co-Project Leader, Office of Industries (202–205–3391; heidi.colby@usitc.gov). For information on legal aspects, contact William Gearhart of the Office of the General Counsel (202–205–3091; william.gearhart@usitc.gov). The media should contact Margaret O’Laughlin, Office of External Relations (202–205–1819; margaret.olaughlin@usitc.gov).

INTERNATIONAL TRADE COMMISSION

[Investigation No. 332–480]

Certain Textile Articles: Travel Goods of Textile Materials

AGENCY: International Trade Commission.

ACTION: Institution of investigation and request for public comments.

DATES: Effective Date: November 16, 2006.

SUMMARY: Following receipt on October 25, 2006 of a request from the House Committee on Ways and Means, the Commission instituted investigation No. 332–480, Certain Textile Articles: Travel Goods of Textile Materials, under section 332(g) of the Tariff Act of 1930 (19 U.S.C. 1332(g)).

FOR FURTHER INFORMATION CONTACT: Kimberly Freund, Co-Project Leader, Office of Industries (202–708–5402; kimberlie.freund@usitc.gov) or Heidi Colby-Oizumi, Co-Project Leader, Office of Industries (202–205–3391; heidi.colby@usitc.gov). For information on legal aspects, contact William Gearhart of the Office of the General Counsel (202–205–3091; william.gearhart@usitc.gov). The media should contact Margaret O’Laughlin, Office of External Relations (202–205–1819; margaret.olaughlin@usitc.gov).

Background: In its letter, the Committee on Ways and Means, U.S. House of Representatives asked the U.S. International Trade Commission to conduct an investigation under section 332(g) of the Tariff Act of 1930 (19 U.S.C. 1332(g)) and provide a report that contains, to the extent possible, data for 2005 and 2006 on the level of U.S. production and shipments of certain travel goods with an outer surface of textile materials and the textile materials used to make such goods. The Committee also asked the Commission to define the products that it is covering in the report. The Committee asked the Commission to provide its report no later than 12 months following receipt of the letter (by October 25, 2007).

In its letter the Committee also requested that the Commission provide similar data on U.S. production and shipments of certain high-performance outerwear pants and jackets and the fabrics used to make such goods, and that the Commission submit that report no later than 9 months following receipt of the letter (by July 25, 2007). The Commission has instituted investigation No. 332–479, Certain Textile Articles: Performance Outerwear, for that purpose, the details of which are provided in a separate notice.

Written Submissions: No public hearing is planned. However, interested parties are invited to submit written statements concerning the matters to be addressed by the Commission in its report on this investigation. Submissions should be addressed to the Secretary, United States International Trade Commission, 500 E Street SW., Washington, DC 20436. To be assured of consideration by the Commission, written statements should be submitted to the Commission at the earliest practical date but no later than 5:15 p.m. on April 30, 2007. All written submissions must conform with the provisions of section 201.8 of the Commission’s Rules of Practice and Procedure (19 CFR 201.8). Section 201.8 requires that a signed original (or copy so designated) and fourteen (14) copies of each document be filed. In the event that confidential treatment of the document is requested, at least four (4) additional copies must be filed, in which the confidential business information must be deleted (see the following paragraph for further information regarding confidential business information). The Commission’s rules do not authorize filing submissions with the Secretary by facsimile or electronic means, except to the extent permitted by section 201.8 of the rules (see Handbook for Electronic Filing Procedures, ftp://ftp.usitc.gov/pub/reports/electronic_filing_handbook.pdf). Persons with questions regarding electronic filing should contact the Secretary at 202–205–2000 or edis@usitc.gov.

Any submissions that contain confidential business information must also conform with the requirements of section 201.6 of the Commission’s Rules of Practice and Procedure (19 CFR 201.6). Section 201.6 of the rules requires that the cover of the document and the individual pages be clearly marked as to whether they are the “confidential” or “nonconfidential” version, and that the confidential business information be clearly identified by means of brackets. All written submissions, except for confidential business information, will be made available in the Office of the Secretary to the Commission for inspection by interested parties.

The Committee has indicated that it intends to make the Commission’s report available to the public in its entirety, and has asked that the confidential business information in the report it sends to the Committee. Any confidential business information received by the Commission in this investigation and used in preparing this report will not be published in a manner that would reveal the operations of the firm supplying the information.

General information concerning the Commission may also be obtained at http://www.usitc.gov. The public record for this investigation may be viewed on the Commission’s electronic docket (EDIS) http://www.usitc.gov/sec/edis.htm. Hearing impaired individuals who will need special assistance in gaining access to the Commission should contact the Office of the Secretary at 202–205–1810.

By order of the Commission.

Issued: November 16, 2006.

Marilyn R. Abbott,
Secretary to the Commission.

FOR FURTHER INFORMATION CONTACT: Kimberly Freund, Co-Project Leader, Office of Industries (202–708–5402; kimberlie.freund@usitc.gov) or Heidi Colby-Oizumi, Co-Project Leader, Office of Industries (202–205–3391; heidi.colby@usitc.gov). For information on legal aspects, contact William Gearhart of the Office of the General Counsel (202–205–3091; william.gearhart@usitc.gov). The media should contact Margaret O’Laughlin, Office of External Relations (202–205–1819; margaret.olaughlin@usitc.gov).
**Glossary**

**Activated carbon–bonded fabrics** – Fabrics bonded with activated carbon, which contains odor-adsorbing properties capable of adsorbing human odors.

**Adjustable powder and/or inner protective skirt** – Partial lower inner lining with means of tightening around the waist for additional protection from the elements.

**Adsorption** – In performance fabrics, the process of moisture or odors being removed from skin surface and attracted to the fabric through a porous membrane.

**Antimicrobial** – Inhibits the growth of microorganisms including bacteria, viruses, and fungi.

**Articulated elbows or knees** – Sleeve (or pant leg) is constructed to allow improved mobility at the elbow (or knee) through the use of extra seams, darts, gussets, or other means.

**Bonded fabrics** – A fabric containing two or more layers of cloth joined together with plastic or other substance.

**Bonding** – A process for adhesive laminating two or more fabrics or fabric and a layer of plastic.

**Breathable** – A fabric property which allows moisture vapor, or perspiration, to escape from the body, while preventing water from penetrating the surface.

**Coated fabric** – A fabric to which a substance is applied, such as durable water-resistant coating, to provide certain characteristics. A coated fabric is less durable than a laminated fabric for water resistance, because a coating can be washed away.

**Coating** – The application of a semi-liquid material to one or both sides of the textile material to provide certain characteristics to the fabric, such as water resistance.

**Converter** – A firm that buys unfinished fabrics and finishes them, or has them finished to the buyers specifications.

**Critically sealed seams** – See definition for “sealed seams.” For jackets, critically sealed seams are seams sealed at the shoulders and at any front or back yokes. For pants, critically sealed seams are seams sealed at the front (up to the zipper or other means of closure) and back rise. If the pants or bib have a leg gusset, the gusset must also be sealed.

**Face fabric** – The side of fabric intended for the outside of the garment.

**Insulation for cold weather protection** – Insulated with either synthetic fill, down, a laminated thermal backing, and/or other lining for protection from external elements.
**Glossary—Continued**

**Laminating** – Process in which a synthetic membrane is fused to a fabric, or between two layers of fabric. Often the membrane is porous to give the laminated fabric desirable characteristics such as waterproof breathable or windproof.

**Laser cutting technology** – The functional (not decorative) use of a laser in the garment construction process to cut fabric to eliminate fraying and the need to fold and sew the cut edge of the fabric.

**Lining fabric** – Fabric used to cover the inner surface of a garment.

**Multi-adjustable hood and/or collar** – Draw cord and/or adjustment tab(s) incorporated into the hood construction to allow volume adjustments (e.g., the hood may be expanded to accommodate a winter hat/helmet or reduced in volume to be more streamlined in winds).

**Sealed seams** – A sealed seam is one that has been covered by means of taping, gluing, bonding, cementing, fusing, welding, or similar process so that water and air cannot pass through.

**Shell** – The fabric making up the outer surface of the garment.

**Venting** – Closeable or permanent constructed openings in a garment (excluding front, primary zipper closures) to allow increased expulsion of built-up heat during outdoor activities. In a jacket, the openings are often positioned on the underarm seam of a garment but may also be placed along other seams in the front or back of a garment. In pants, the openings are often positioned on the inner or outer leg seams of a garment but could also be placed along other seams in the front or back of a garment.

**Visibly coated** – Fabric that is impregnated coated, covered, or laminated with plastics.

**Water resistant** – As described in U.S. Note 2 to HTS Chapter 62, “water resistant” means that a garment must have a water resistance (see ASTM designations D 3600-81 and D 3781-79) such that, under a head pressure of 600 millimeters, not more than 1.0 gram of water penetrates after two minutes when tested in accordance with AATCC Test Method 35-1985. This water resistance is the result of a rubber or plastics application to the outer shell, lining, or inner lining.

**Weatherproof closure** – Zippers that have a construction eliminating water penetration via a coating to reduce or eliminate water absorption into the zipper tape, overlapping securable fabric flaps over the zipper, or flaps under the zipper that aid in keeping water from passing through.

**Windproof** – Fabric or garment that is impervious or resistant to wind.