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Ms. Kim Glass, Chairperson
Committee for the Implementation of Textile Agreements
Room H3100, U.S. Department of Commerce
14th and Constitution Ave., NW
Washington, DC 20230

PUBLIC VERSION

RE: Reversal of Commercial Availability Determination for Certain Compacted, Plied, Ring Spun Cotton Yarns under the CAFTA-DR (Item 72 in DR-CAFTA Annex 3.25)

Dear Ms. Glas:

Parkdale Mills, 531 Cotton Blossom Circle, Gastonia, NC 28054 and Buhler Quality Yarns, 1881 Athens Highway, Jefferson, GA 30549 are requesting the removal of the commercial availability designation for compacted, combed cotton yarns in Annex 3.25 of the DR-CAFTA (item 72) pursuant to Section 203(o)(4)(C)(vi) of the Dominican Republic-Central America-United States Free Trade Agreement (DR-CAFTA) Implementation Act and the Committee for the Implementation of Textile Agreement's "Modifications to Procedures for Considering Requests Under Commercial Availability Provision of the Dominican Republic-Central America-United States Free Trade Agreement," Section 9, Six Month Procedures, Request to Remove or Restrict.

Parkdale Mills and Buhler Quality Yarns are willing and able to provide substitutable conventional ring spun yarns that meet all criteria of performance and hand of the compacted yarns in commercial quantities in a timely manner. Parkdale Mills can produce substitutable yarns in counts ranging from 8.4 NM to 101.6 NM, and Buhler Quality Yarns in Jefferson, GA can produce substitutable yarns in counts ranging from 20 NM to 186 NM. The substitutable yarns are produced on the ring spinning system, and we can produce the substitutable yarns that meet or exceed the characteristics described in the original petition by controlling for myriad factors such as fiber type and length, spinning, and finishing.

I. Detailed Product Information

The subject products are compacted plied cotton yarns in the count range from 42 to 102 metric, classified in HTSUS subheading 5205.42.0020, 5205.43.0020, 5205.44.0020, 5205.46.0020, and 5205.47.0020. The yarns were approved originally for use in U.S. formed fabric used in men's and boys' woven cotton trousers and shirts and women's and girls' woven cotton trousers, shirts, and blouses.

These yarns are classified in the *Harmonized Tariff Schedule of the United States (HTSUS)* in Heading 5205 – cotton yarn (other than sewing thread containing 85 percent or more by weight of cotton, not put up for retail sale, multiple (folded) or cabled yarn, of combed

fibers. The CITA determination applies to the following HTSUS lines for compact spun cotton yarns:

5205.42.0021 – exceeding 14 nm but not exceeding 43 nm per single yarn
5205.43.0021 – exceeding 43 nm but not exceeding 52 nm per single yarn
5205.44.0021 – exceeding 52 nm but not exceeding 80 nm per single yarn
5205.46.0021 – exceeding 80 nm but not exceeding 94 nm per single yarn
5205.47.0020 – exceeding 94 nm but not exceeding 120 nm per single yarn

II. Quantity

Parkdale Mills has invested significant resources and expanded its domestic spinning capacity throughout 2010. Buhler Quality Yarns has also continued to reinvest and upgrade its machinery throughout 2010. The original petition did not provide a desired quantity, but Parkdale Mills and Buhler Quality Yarns are major exporters to the DR-CAFTA countries and a ready supplier for these yarns in commercial quantities in a timely manner. Today Parkdale Mills and Buhler Quality Yarns are producing the full range of yarn counts in HTSUS 5205.42, 5205.43, 5205.44, 5205.46 and 5205.47 on the ring spinning system.

Parkdale Mills and its subsidiary corporation Parkdale America have [ ] ring spindles capable of spinning the subject yarn in the United States. In fact, Parkdale represents about [ ] percent of all short staple ring spindles in the United States. The company produces about 9 million kilograms of cotton yarn each week with the ring spinning, open end, and air jet spinning systems, making the Parkdale Mills the largest cotton spinner in the United States and one of the largest in the world. On the ring spinning system alone, Parkdale has produced about 1.6 million kilograms per week over the last two years. Of this, more than 707,000 kilograms were ring spun combed yarns each week. All of the yarn is spun to meet customer specifications, so all of the ring spun combed yarn can be offered as a substitutable product to compact ring spun yarn orders in commercial quantities in a timely manner. Parkdale is currently manufacturing these yarns and is able to supply the demand for these yarns in the CAFTA-DR region.

Buhler Quality Yarns has [ ] ring spindles at its facility in Jefferson, Georgia, and has produced about 74,000 kilograms per week over the last two years. All of this yarn is spun to customer specifications, so it can be offered as a substitutable product for compact ring spun yarn in commercial quantities in a timely manner.

Parkdale and Buhler can produce a greater quantity of yarn by volume, but this depends on the yarn counts. Both companies produce yarns to customer specifications. Higher count yarns have been more popular over the last couple of years, which necessarily reduces the quantity of yarn produced as measured in weight. If customers order more coarse count yarns as they did a few years ago, our quantity of yarn produced by volume will go up. Therefore, the pounds of yarn that both companies can and do produce varies based on market demand and customer preference. With both companies, the only way to accurately determine how much yarn we *can* produce is by looking out our total spindles and yarn counts. If both companies were to dedicate combed yarn ring spinning assets to produce 42 NM yarn, Parkdale could produce 35.4 million kilograms per year, and Buhler could produce 4.1 million kilograms per year.

Parkdale Mills and Buhler Quality Yarns both have extensive experience producing yarns to customer specifications, including hairiness, strength, hand, and other features. Parkdale's ring spinning frames are manufactured by Reiter and other major machinery manufacturers and Buhler's are manufactured by Reiter and Zinser. Parkdale also uses machinery frequently associated with finer counts to meet customer demand. In both companies, this is the most modern machinery, maintained by highly trained and experienced engineers and textile experts with extensive experience modifying production processes to produce yarns that meet customer needs and expectations. To produce yarns that meet customer needs and expectations, the spinning process begins with fiber selection. Both companies purchase cotton fiber based on length, strength, micronaire, color, and other factors that impact spinning performance and yarn characteristics. The importance of some of these fiber characteristics is essential for producing substitutable yarns, as demonstrated by the test data below. Both companies carefully monitor the opening, carding, and combing processes to produce yarns that meet customer needs and requirements, noting that these processes can be altered slightly to change the final yarn as needed.

III. Substitutability

Yarn spinning mills can control a variety of factors that determine the characteristics of the final yarn product. These factors can be altered individually or in combination with other factors. As mentioned above, factors include fiber qualities (length, strength, and micronaire), manufacturing conditions. Conventional ring spun yarn is substitutable for compact ring spun yarns when spinners adjust any number of variables, such as fiber selection and production controls to reduce hairiness (thereby reducing pilling in fabric), increase strength, and overall uniformity. Further, fabrics made from conventional ring spun yarns fully match features like hand and appearance that are associated with compact ring spun yarns when spinners desire to make yarns with these characteristics. U.S. mills were early adopters of compact spinning technology, but virtually all of this machinery has been taken out of production because they can produce fully substitutable yarn on conventional ring spinning frames.

Independent laboratory testing at Texas Tech University has demonstrated that yarns spun on the conventional ring spinning system meet or exceed all performance requirements associated with compact yarns and have the same hand as compact yarns when mills control for fiber quality. Parkdale Mills, R.L. Stowe Mills, and Buhler Quality Yarns engaged in tests in 2006 and 2007 to prove this fact, with knitting, dyeing, and lab work conducted by independent entities. The yarns in these tests were the same as those covered by this petition. Not only did the yarns meet or exceed all performance specifications, the performance characteristics and hand of the fabrics made with compact and conventional yarns was indistinguishable. This fact was proven again last year in a test by Buhler Quality Yarns with conventional ring spun single yarns that met or exceeded performance and hand requirements for woven fabrics in a Bahrain commercial availability petition.

We do not dispute the fact that compact ring spun yarns might differ from conventional ring spun yarns. We do dispute the notion that fully substitutable yarns cannot be produced on the conventional ring spinning system because there are so many variables at the spinner's

disposal that spinners can, and do, use on a daily basis to achieve yarns with vastly different characteristics.

We do not dispute the validity of some of the studies that have been submitted that demonstrates some of the yarn characteristics typical of the compact ring spinning system. However, these studies assume that all elements of the process remain equal, such as fiber type[1], fiber length, speed, twist, and other factors. Further, some studies cited in previous U.S. analyses use irrelevant tests that appear to exaggerate differences or do not directly compare conventional and compact combed ring spun yarns. For example, the Compact Cotton Yarn study by Tadeusz Jackowski, Danuta Cyniak, and Jerzy Czekalski at the Technical University of Lodz (referred to in this petition as the "Lodz study") cited by the U.S. International Trade Commission in "Commercial Availability of Apparel Inputs (2005): Effect of Providing Preferential Treatment to Apparel from Sub-Saharan African, Caribbean Basin, and Andean Countries" compares yarns spun from the same sliver. The use of the stick-slip friction tester tells us what we already know – combed fibers have a higher degree of parallelization, which results in a lower cohesion in the sliver and roving. This has nothing to do with conventional versus compact ring spun yarn. Other assertions are made without any test data, such as the statement that "on the basis of organoleptic estimation" knitted fabrics from compact yarns are more regular and smoother, and have a better hand. There is no test data to demonstrate this point. This study compares yarns made from select slivers, but it is beyond the scope of the study to determine whether the same results can be achieved by altering the fiber inputs or other factors. The reality in business is that spinners control variables every day to meet performance requirements. These variables include, among other things, fiber quality and length[2], removal of short fiber, spinning speeds, special spinning processes, and finishing processes. The Lodz study specifically tested yarns for tenacity, elongation at break, elasticity, mass irregularity, yarn faults, and hairiness. The test data below demonstrate clearly that spinners can alter inputs and manufacturing processes to achieve the desired results. Yarn production is not a static event. Manufacturers adjust inputs and processes to meet customer demands.

We also note that some studies are clearly intended to market certain machinery companies or create a brand identity for certain companies, fiber growths, or geographic areas. In addition, while the study reviews yarn properties, it does not compare fabrics made of conventional and compact ring spun yarns. Fabric formation and finishing add even more variables that can eliminate distinctions between conventional and compact ring spun yarns.

Several claims were made in the original petition from 2005 that we would like to address, the first of which is the very definition of the product. The original petition states, "The term compact yarn means a yarn that has undergone a technologically advanced spinning

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[1] For an in-depth and independent analysis of the impact of fiber variability, including a review of 100% cotton yarns and yarn blends, see "A New Approach to Measuring Cotton Spinnability Limits" by Pelin Z. Altintas, Mourad Krifa, and Mario G. Beruvides at Texas Tech University, Lubbock, TX. Also see "Texas Plains Cotton Performance in High-Value-Added Ring Spinning Applications," Cotton Inc. Texas State Support Committee, Project #05-610TX, Principle Investigator Dr. Mourad Krifa at Texas Tech University.

[2] For a good analysis of the impact of fiber quality and length see "Effect of Cotton Fiber Length Distribution on Yarn Quality" by Eric Hequet and Dean Ethridge at the International Textile Center, Texas Tech University.

process that removes short fiber, producing a yarn that is less hairy than regular spun yarns."[3]

- Removal of short Fiber – It is inaccurate to describe this as a feature of compact spinning since short fiber is removed during the carding and combing processes. All of the yarns in this petition and the substitutable yarns that we offer are carded and combed. Using high quality fiber and careful control during the carding and combing processes can eliminate most short fiber, and thus, unwanted hairiness. Combing is particularly important for finer yarns for aligning fibers and removing short fiber. Depending on the quality of the fiber used and the needs of the spinner, combers can remove 5 – 25 percent of total fiber. The ring spinning system used – whether conventional or compact – is not relevant to this argument since no short fiber is removed during the actual spinning process. Ironically, some of the companies using compact spinning do so because they utilize more short fiber or fiber with less uniformity in length. The removal of short fiber is one of the many variables that the spinner controls regardless of the spinning system used.
- Hairiness – Due to the compacting process, compact yarn can be less hairy than conventional ring spun combed cotton yarn. However, in the tests done with the Zweigle hairiness tester to evaluate the distribution of hair lengths per 100 meters using 3 packages and two tests each, the conventional ring spun yarn was LESS hairy than the compact spun yarns. The test at Muratec[4] of compact and conventional ring spun yarn using the Murata 21C with and without Perla to measure the increase/reduction in hairiness showed greater degradation of the compact yarns, and thus, greater hairiness. The Lodz study also tested hairiness with a Zweigle apparatus and a Uster Tester 3. The Lodz study Zweigle results showed 60 percent less hairiness in compact yarns. The fact that our test data produced conventional ring spun yarns with lower hairiness than compact yarns is proof that fiber selection and production methods can be adjusted to produce less hairy yarn.
  Other published reports that talk about the superiority of compact spinning for hairiness note that the issue can be addressed in the plying process, mercerizing, or using alternate methods such as Siro[5] or Solo spinning. In sum, compacted yarn is expected to be less hairy when using the same raw materials, but in fact hairiness depends upon multiple processes since there is so much overlap in choices the spinner can make. Parkdale has demonstrated on its own frames that less hairy yarn can be made on the conventional system, even with the same raw materials and preparation, simply by using proper controls of the ring spinning process. These results were achieved without SIRO or plying, although we offer these options as well. As stated earlier, hairiness can be controlled by any number of variables in the fiber selection and spinning process. The studies frequently cited to demonstrate

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[3] Cited from the public version of the petition from AM&S Trade Services, LLC to OTEXA on May 18, 2005 in its commercial availability request for certain compact, plied, ring spun cotton yarns on behalf of Galey & Lord, Inc. under the Caribbean Basin Trade Partnership Act (CBTPA) and the Andean Trade Promotion and Drug Eradication Act (ATPDEA).

[4] Test was conducted at Muratec on compact and conventional ring spun yarns using Murata 21C with and without Perla to measure the increase/reduction in hairiness. To see a complete list of test results, see slides 31-45 in the attached Final Report.

[5] For a comparison with Siro spinning, see "Analysis of Sirospun, Plied and Single Yarns Properties" by Demet Yilmaz, Suleyman Demirel University, Isparta, Turkey and Sayed Ibrahim, Technical University of Liberec, Liberec, Czech Republic

the superiority of compact spinning to conventional ring spinning in eliminating hairiness assume that all variables are equal when in reality spinners can and do make any number of changes to the variables to produce yarns that meet customer demands.

- Less pilling and improved weaving performance – the fact of less pilling is due to low hairiness. When this is addressed with conventional yarn production methods, pilling is comparable to compact yarn. This is amply demonstrated in the testing done at Texas Tech University using the ASTM 3512[6] random tumble pill test. Further, if weaving performance is improved with less hairy yarn, we have already demonstrated that conventional ring spun yarns are fully substitutable. Sizing or other yarn preparation effectively eliminates any unwanted hairiness during the weaving process.
- Fabrics can be used more flexibly in apparel – this is a subjective statement, but since conventional ring spun yarn is fully substitutable for compact spun yarn in performance, specifications, appearance, and hand (if desired), this statement is not supported by the facts. Rather than basing commercial availability decisions on claims of customer preference, such decisions must be based on measurable facts.
- Unique appearance and touch provided by uniformity and smoothness – the look and feel of the final fabric is influenced far more by the finishing method used on the final product. If the yarn spinner and/or other manufacturers in the supply chain address hairiness, the fabrics and end products are indistinguishable. We also note that this is subjective in most cases, but that in our trial tests the fabrics were indistinguishable in appearance and hand. In addition, the dyeing and finishing processes have a tremendous impact on appearance and hand, blurring distinctions between compact and conventional yarns further. The American Association of Textile Chemists and Colorists has developed tests to guide in objectively quantifying the concept of fabric hand.[7] North Carolina State University has also been working on a standard. Some of the measurements are surface roughness, resistance to bending, and flexibility.
- Smoother with less air space between the fibers – a more accurate description is that compact yarn tends to be physically smaller in diameter, more rigid, and less flexible. This produces a harsher hand in the fabric. This feature may be a customer preference, but it is not a performance criteria.
- In addition, much of the literature promoting compact spinning talks about yarn uniformity. Much of the uniformity in yarn is achieved through the fiber selection and drafting process; Parkdale and Buhler focus on achieving maximum fiber uniformity (length, strength, micronaire), which is essential to create uniform yarn. The test data[8] back this up, showing comparable evenness between compact and conventional ring spun yarns. The Lodz study makes reference to this as well at the roving and sliver stage. It is also interesting that it mentions that compact yarns

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[6] In the battery of laboratory tests at Texas Tech University, fabrics made from conventional and compact ring spun yarns performed the same when tested using the ASTM 3512 random tumble pill test. See slides 61-63 in the Final Report for numeric data.

[7] AATCC Evaluation Procedure 5 (2006), Fabric Hand: Guidelines for the Subjective Evaluation of (http://www.aatcc.org/Technical/Test_Methods/scopes/ep5.cfm)

[8] See slides 8-18 in the Final Report for numeric data.

have a lower mass irregularity (by 4 percent) compared with *carded* yarns. The substitutable yarns we are offering are combed.

- A series of tests at Texas Tech University compared combed cotton yarns spun on compact and conventional ring frames from Delta, Acala, and Supima fiber[9] in 30/1 and 60/2 counts. For full comparability, the test also included carded yarns made from Delta fiber and mercerized combed yarns with the Supima fiber. A summary report is included.[10] The tests confirm the substitutability of conventional for compact yarns when the spinner adjusts variable such as fiber. Note that conventional ring spun yarn is fully substitutable from a dyeability perspective as well since hairiness and other features can be addressed through fiber selection and spinning controls.

Several technologies available at Parkdale and other U.S. yarn spinners produce the same benefits offered by compact spinning. For example, SIRO spinning is a process that eliminates hairiness and improves strength. If hairiness and pilling are the main concerns, air jet and vortex spinning offer excellent alternatives.

Parkdale Mills has produced compact yarns in the past with our Suessen Elite Compact Spinning frames, conventional ring spun yarns, and yarns with attachments clips on the frame to simulate the compacting process, so we have a great deal of experience with the machinery and the finished products. All three methods can produce high quality yarns. However as evidenced with the numerous tests specified above, Parkdale and Buhler have both learned to produce yarns on conventional ring spinning equipment that meet the same specifications as those produced on compact ring spinning equipment, rendering compact spinning equipment unnecessary.

IV. Conclusion

Parkdale Mills and Buhler Quality Yarns are willing and able to supply fully substitutable yarns for the compacted, combed cotton ring spun yarns included in commercial availability list in Annex 3.25 of the DR-CAFTA agreement in commercial quantities and in a timely manner. We request that CITA remove these yarns from Annex 3.25 since this product is available in commercial quantities in a timely manner from a domestic supplier.

Sincerely,

Anderson D. Warlick
CEO, Parkdale Mills

[9] Upland cotton, such as that grown in the Delta, is the most widely grown and used fiber in the United States by volume, and it is widely used around the world since the U.S. is the second largest global cotton fiber exporter. Acala and Supima are long and extra long staple cottons grown in the United States typically used by U.S. spinners.

[10] The Texas Tech University study included the following tests: ASTM D3776 weight per square yard, ASTM D3775 courses and wales, ASTM D 3787 ball burst, ASTM D3774 width, ASTM 3512 random tumble pill, AATCC 135 shrinkage, AATCC 16-2004 light fastness, AATCC 61 colorfastness to laundering, home and commercial condition 2A, AATCC 116 colorfastness to crocking-rotary vertical crock method, and AATCC evaluation procedures percentage of color retention by measuring DEcmc after 5 and 20 cycles.

Attachments:

Brief Descriptions of Test Methods and Source Links

Summary Report on Fabric Tests Done for Parkdale Mills, by Dean Ethridge, Managing Director, Texas Tech University International Textile Center

PowerPoint presentation summarizing test results of multi-site test comparing compact and conventional ring spun cotton yarns. Sites included in the test:

- Parkdale, Hillsville, VA plant provided the common carded and combed roving selected at random for compact or conventional spinning
- Conventional carded and combed ring spun yarns were spun in the Parkdale Hillsville, VA plant.
- Suessen conducted the compact spinning trials on their machine located in RL Stowe, Belmont
- All yarns (including the alternative yarns) were wound on the Murata C21 in the Muratec lab in Charlotte, NC.
  - The Zweigle hairiness data was provided by Muratec
  - The Zweigle with and without the Perla attachment was provided by Muratec
- North Carolina State University conducted the knitting
- Liberty Textiles Finished the fabrics
- Texas Tech University provided the fabric analysis
- Photomicrographs from randomly selected packages
  - Belmont Textile Center
  - Parkdale Fiber Research Center

Third party certification that the tests conducted by and for Parkdale and Buhler Quality Yarns are in accordance with industry standards