



DEPARTMENT OF HOMELAND SECURITY

U.S. Customs and Border Protection

Notice of Issuance of Final Determination Concerning Certain Data Storage Products

AGENCY: U.S. Customs and Border Protection, Department of Homeland Security.

ACTION: Notice of final determination.

SUMMARY: This document provides notice that U.S. Customs and Border Protection (“CBP”) has issued a final determination concerning the country of origin of three data storage products. Based upon the facts presented, CBP has concluded that the country of origin of two data storage products is Mexico and the country of origin of the third data storage is Malaysia for purposes of U.S. Government procurement.

DATES: The final determination was issued on March 8, 2017. A copy of the final determination is attached. Any party-at-interest, as defined in 19 CFR 177.22(d), may seek judicial review of this final determination within [insert 30 days from date of publication in the Federal Register].

FOR FURTHER INFORMATION CONTACT: Grace A. Kim, Tariff Classification and Marking Branch, Regulations and Rulings, Office of Trade (202) 325-7941.

SUPPLEMENTARY INFORMATION: Notice is hereby given that on March 08, 2017, pursuant to subpart B of Part 177, U.S. Customs and Border Protection Regulations (19 CFR 177(B)), CBP issued a final determination concerning the country of origin of certain data storage products, which may be offered to the U.S. Government under an undesignated government procurement contract. This final determination, HQ H269185, was issued under procedures set forth at 19 CFR 177(B), which implements Title III of the Trade Agreements Act

of 1979, as amended (19 U.S.C. 2511-18). In the final determination, CBP concluded that for two of the three products, the processing in Mexico results in a substantial transformation. However, for the third product, the processing in Mexico does not result in a substantial transformation. Therefore, the country of origin of two data storage products is Mexico and the country of origin of the third data storage is Malaysia for purposes of U.S. Government procurement

Section 177.29, CBP Regulations (19 CFR 177.29), provides that a notice of final determination shall be published in the **Federal Register** within 60 days of the date the final determination is issued. Section 177.30, CBP Regulations (19 CFR 177.30), provides that any party-at-interest, as defined in 19 CFR 177.22(d), may seek judicial review of a final determination within 30 days of publication of such determination in the **Federal Register**.

Dated: March 08, 2017

Alice A. Kipel,
Executive Director,
Regulations and Rulings,
Office of Trade.

Attachment

HQ H269185

OT:RR:CTF:VS H269185 GaK

CATEGORY: Marking

Stuart P. Seidel
Baker & McKenzie LLP

815 Connecticut Ave. NW
Washington, DC 20006

RE: Final Determination; Government Procurement; Country of Origin of data storage system; Substantial Transformation

Dear Mr. Seidel:

This is in response to a letter we received dated September 18, 2013, requesting a final determination on behalf of [*****] (“the Company”), pursuant to subpart B of Part 177 of the U.S. Customs and Border Protection Regulations (19 C.F.R. Part 177) and to two follow-up submissions dated January 6, 2014, and May 30, 2014. You also requested a country of origin marking decision. CBP also received notification on July 21, 2015 that the Company was acquired by another corporation and counsel for the Company was replaced. Under 19 C.F.R. Part 177, which implements Title III of the Trade Agreements Act of 1979 (TAA), as amended (19 U.S.C. § 2511 *et seq.*), CBP issues country of origin advisory rulings and final determinations as to whether an article is or would be a product of a designated country or instrumentality for the purposes of granting waivers of certain “Buy American” restrictions in U.S. law or practice for products offered for sale to the U.S. Government.

This final determination concerns the country of origin of three data storage products for government procurement. As a U.S. importer, the Company is a party-at-interest within the meaning of 19 C.F.R. § 177.22(d)(1) and is entitled to request this final determination. A meeting was held at our office on February 19, 2014.

In your letter, you requested confidential treatment for certain information contained in the file. Pursuant to 19 C.F.R. § 177.2(b)(7), the identified information has been bracketed and will be redacted in the public version of this final determination.

FACTS:

The Company is a data storage technology company headquartered in the United Kingdom with worldwide operations. The Company manufactures a variety of high performance enterprise data storage products that are used for the storage of electronic data onto physical disc drives. These products serve as the building blocks for medium to large corporations with a need to store and access large amounts of data securely and rapidly. Physically, the products operate in large server rooms or similar facilities, managed by trained professional information technology staff.

Three products are the subject of this ruling and they all apply the Integrated Storage Test Platform (“ISTP”). ISTP is a highly proprietary, Linux-based global hardware and software solution representing approximately 100 man-years of software development time over the past ten years and 6,500,000 lines of code, developed in the United Kingdom and the United States for the Company’s manufacturing processes. You state that ISTP is a critical element of the

Company's products. As discussed *infra*, the firmware for the three data storage products is developed and managed in the United Kingdom and a team of 19 United Kingdom-based software engineers manage ISTP. There are also software engineers at each production facility, including a Mexican facility at issue, that are trained by the United Kingdom-based engineers. ISTP-qualified engineers are located at the production site to provide input into the manufacturing and testing processes and all engineers have a high level of competence in "C" programming, test engineering, and the Company's product knowledge. The ISTP undergoes approximately 40 updates a month incorporating customer requirements and design updates that directly affect the manufacturing process in Mexico.

Product One, the [*****] is a storage application platform delivering integrated storage and enterprise server system resources that tailor the amount of processing, memory, storage capacity, and high bandwidth input/output resources to meet customers' requirements. While Product One can be configured based on customer requirements, it generally includes hard disc slots that can carry up to 24 hard disc drivers in drive carrier, server-grade Intel processor(s), memory chips, and seven Peripheral Component Interconnect Express ("PCIe") input/output slots. It can accept both a base-level operating system and unique storage applications developed by Original Equipment Manufacturers ("OEM"). The chassis subassembly is imported from Malaysia; hard disc drives are imported from China, Singapore, or Thailand; and a power supply included in the chassis subassembly is imported from the Philippines. All of the components are imported into Mexico for assembly, firmware installation, inspection, and testing. The workers at the Mexican facility are stated to be highly trained and many positions require college/technical degrees, in addition to 1-7 years of experience.

The assembly process in Mexico starts with the chassis subassembly, which is a non-functioning unit that includes certain electronic components (*e.g.*, printed circuit board assemblies, a controller/central processing unit), but not the disc drives, firmware/software, or the ISTP configuration essential to the finished product. The assembly process takes approximately 135 minutes and is as follows:

1. The chassis subassembly is removed from the packaging, prepared for production, and inspected.
2. A SAP-trained employee generates labels to be applied to the subassembly to track the subassembly parts through the production.
3. The individual hard drives from China, Singapore, or Thailand, and drive carriers from Malaysia are assembled to create 24 disc drive assemblies. This process is conducted under stringent electrostatic discharge ("ESD") controlled conditions and operators must use SAP to determine the assembly process. The installation of each hard drive into the drive carrier takes 12 steps.
4. The disc drive assemblies are installed into the chassis subassembly in a 15 step process, with SAP-generated labels.
5. The assembled chassis build undergoes first inspection, in an approximately 80-85 step process, which primarily focuses on the physical condition and the traceability of all the parts.
6. During the basic assurance test and functional test/firmware and software installation, the chassis build is connected to a custom test server to enable the correct

configuration of the unit for customer use. Then, the updated software is loaded, including the specified level of firmware, vital product data, security data, and serialization information. The firmware is developed and managed by engineers in the United Kingdom.

7. A controlled environment reliability test is conducted to ensure that the chassis build can endure challenging physical environments (excessive heat or cold).
8. The Hipot test is conducted to verify that the chassis build is electrically safe, which confirms that the electric current used to run the unit is adequately shielded so that neither the operators nor the equipment are harmed by electrical shock and that all insulation is installed correctly.
9. Customer region-specific power cables, installation, and other customer-specific documentation are added.
10. Final inspection is performed.

Product Two, the [*****] is a combined storage and server platform on which OEMs can deploy their own data storage software as a storage solution to their end customers. The embedded servers have less memory, processing, and input/output capacity than Product One, but they are designed to provide OEMs with a high availability storage solution that can withstand a server failure. While Product Two can be configured based on customer requirements, it generally includes hard disc drive slots that can carry up to 24 hard disc drives in drive carriers, and two embedded server modules with a low-power server-grade Intel processor, memory chips, and one PCIe input/output slot. It can also accept both a case-level operating system and unique OEM applications. The assembly process is similar to the Product One assembly, in that it starts with the chassis subassembly, but does not include disc drive assemblies and has a different computing capacity. The assembly process takes approximately 76 minutes of labor time.

Product Three, the [*****], is also substantially similar to Product One, but it can incorporate up to 84 disc drives. Otherwise, the assembly in Mexico is substantially similar to that of Product One. The assembly process takes approximately 355 minutes of labor time.

During the Basic Assurance Test and Functional Test/Firmware and Software Installation process in all three products, the Company loads numerous firmware files onto the system (15 firmware files in Product One and Product Three, and 22 firmware files in Product Two). The specific firmware is said to confer customer specific operational functionality to the system and enable the components to work together. The disc drives are programmed with key codes in order to work with the customer application, and the Company states that the disc drives are not functional without this step. The drives are programmed to set up to 300 custom drive performance characteristics, such as timeouts, error thresholds, and data block size. The Company states that the post-assembly programming and testing enables the operation of each product and customizes it for its customers. The Company's programming process is driven and managed by the ISTP and is as follows:

1. Initialization and hardware validation is performed to ensure that all necessary physical components are present (disc drives, power units, batteries, motherboards, other printed circuit boards, etc).

2. Canister master/slave validation is performed to ensure that the “master” canister (controller) is properly communicating with the other canisters (the “slaves”).
3. Code load and validation are conducted in three phrases to establish the customer-specific operating systems and application code: boot loader (loading code that establish initial functions required by the customer), enclosure configuration (ensuring that hardware is compatible with the software or application that will operate on the product), and virtual product data load and configuration (customizing the product instruction to be specific to the customer’s product).
4. Motherboard Ethernet branding ensures that the Ethernet ports operate correctly.
5. An SES element test is performed to ensure that sensors are present and communicating with the system.
6. Hard disc drive presence, code load, and validation is performed to ensure that all hard disc drives have been installed properly and are able to communicate with the system. The Company will load the customer’s firmware and establish the operational behavior of the drives.
7. A hard disc drive rotational vibration test is performed to ensure that the fan vibration does not affect the integrity of data sent to and received by the disc drives.
8. Hard disc drive performance, link speed, and status are verified to assess the response time between the drives and execute the instruction from the main processing unit.
9. Hard disc drive branding and validation is performed.
10. Fan speed test is conducted.
11. Voltage, battery, and temperature validation is performed.
12. Log analysis is conducted.

The Company also states that all three storage products are classified under subheading 8471.70 of the Harmonized Tariff Schedule of the United States (“HTSUS”). As reflected in the General Note (“GN”) 12(u)(6) of the HTSUS, the Company states that the goods are considered originating goods for purposes of the North American Free Trade Agreement (“NAFTA”) when imported into the United States from Mexico. The Company states that the major components imported into Mexico (chassis subassemblies, disc drives, drive carriers, drawer assemblies, etc.) are classified within the subheadings of 8471.60 and 8472.90, HTSUS.

ISSUES:

I. What is the country of origin of the three data storage products for purposes of U.S. Government procurement?

II. What is the proper country of origin marking under the NAFTA Marking Rules of the three storage products?

LAW AND ANALYSIS:

I. Country of Origin for Procurement Purposes

Pursuant to subpart B of Part 177, 19 CFR § 177.21 *et seq.*, which implements Title III of the Trade Agreements Act of 1979, as amended (19 U.S.C. § 2511 *et seq.*), CBP issues country

of origin advisory rulings and final determinations as to whether an article is or would be a product of a designated country or instrumentality for the purposes of granting waivers of certain “Buy American” restrictions in U.S. law or practice for products offered for sale to the U.S. Government.

Under the rule of origin set forth under 19 U.S.C. § 2518(4)(B):

An article is a product of a country or instrumentality only if (i) it is wholly the growth, product, or manufacture of that country or instrumentality, or (ii) in the case of an article which consists in whole or in part of materials from another country or instrumentality, it has been substantially transformed into a new and different article of commerce with a name, character, or use distinct from that of the article or articles from which it was so transformed.

See also 19 C.F.R. § 177.22(a).

In *Data General v. United States*, 4 Ct. Int’l Trade 182 (1982), the court determined that for purposes of determining eligibility under item 807.00, Tariff Schedules of the U.S. (predecessor to subheading 9802.00.80, HTSUS), the programming of a foreign PROM (Programmable Read-Only Memory chip) in the United States substantially transformed the PROM into a U.S. article. In programming the imported PROMs, the U.S. engineers systematically caused various distinct electronic interconnections to be formed within each integrated circuit. The programming bestowed upon each circuit its electronic function, that is, its “memory” which could be retrieved. A distinct physical change was effected in the PROM by the opening or closing of the fuses, depending on the method of programming. This physical alteration, not visible to the naked eye, could be discerned by electronic testing of the PROM. The court noted that the programs were designed by a project engineer with many years of experience in “designing and building hardware.” While replicating the program pattern from a “master” PROM may be a quick one-step process, the development of the pattern and the production of the “master” PROM required much time and expertise. The court noted that it was undisputed that programming altered the character of a PROM. The essence of the article, its interconnections or stored memory, was established by programming. The court concluded that altering the non-functioning circuitry comprising a PROM through technological expertise in order to produce a functioning read only memory device, possessing a desired distinctive circuit pattern, was no less a “substantial transformation” than the manual interconnection of transistors, resistors and diodes upon a circuit board creating a similar pattern.

In determining whether the combining of parts or materials constitutes a substantial transformation, the determinative issue is the extent of operations performed and whether the parts lose their identity and become an integral part of the new article. *Belcrest Linens v. United States*, 573 F. Supp. 1149 (Ct. Int’l Trade 1983), *aff’d*, 741 F.2d 1368 (Fed. Cir. 1984). Assembly operations that are minimal or simple, as opposed to complex or meaningful, will generally not result in a substantial transformation.

In order to determine whether a substantial transformation occurs when components of various origins are assembled into complete products, CBP considers the totality of the

circumstances and makes such determinations on a case-by-case basis. The country of origin of the item's components, extent of the processing that occurs within a country, and whether such processing renders a product with a new name, character, and use are primary considerations in such cases. Additionally, factors such as the resources expended on product design and development, the extent and nature of post-assembly inspection and testing procedures, and worker skill required during the actual manufacturing process will be considered when determining whether a substantial transformation has occurred. No one factor is determinative.

You argue that the country of origin of the three products is Mexico because the components imported into Mexico are substantially transformed as a result of the Mexican assembly operations, as described *infra*, downloading of the software, programming and customization of the software and firmware, and extensive testing of the data storage products.

In Headquarters Ruling Letter ("HQ") H082476, dated May 11, 2010, and in New York Ruling Letter ("NY") N083979 dated December 3, 2009, the United States was determined to be the country of origin of ICS clustered storage units, when foreign components were assembled into the units and programmed in the United States. In HQ H025023 dated April 1, 2008, CBP determined that the Czech Republic was the country of origin of a fabric switch that was assembled to completion and programmed in that country. *See also* HQ H089762, dated June 2, 2010 (GTX Mobile and Handheld Computer); and HQ H090115, dated August 2, 2010 (Unified Communications Solution). In HQ H125975 dated January 19, 2011, CBP considered a similar scenario to the one here. In HQ H125975, all of the components were assembled into the data storage system in Mexico and the previously programmed controller assembly was downloaded with software, which was stated to impart the functional intelligence to the system to allow for storage management, performance monitoring and access control. In HQ H125975, CBP found that the major operating hardware components were the controller assembly and the hard drives set, which were of Thai origin. However, the assembly process in Mexico involved multiple countries of origin with development and programming also occurring in two different countries. CBP concluded that the imported components of various origins lost their individual identities and were substantially transformed into a new and different article, as a result of the assembly and programming operations that took place in Mexico.

In this case, there are also significant assembly operations of the data storage products occurring in Mexico. Similar to HQ H125975, we have various countries involved: chassis assembly from Malaysia; power supply from the Philippines; software from the United Kingdom; hard disc drives from China, Singapore, or Thailand; and assembly in Mexico. Given the totality of the circumstances in this case, we find that Products One and Three are substantially transformed in Mexico mainly because of the assembly of the various components. However, we find that the origin of Product Two is Malaysia because it lacks the disc drive assemblies, which make up a significant part of the assembly process. For purposes of government procurement, Mexico is the country of origin for Products One and Three, and Malaysia is the country of origin for Product Two.

II. NAFTA Marking

Section 304 of the Tariff Act of 1930, as amended (19 U.S.C. § 1304), provides that, unless excepted, every article of foreign origin imported into the United States shall be marked in a conspicuous place as legibly, indelibly, and permanently as the nature of the article (or its container) will permit, in such a manner as to indicate to the ultimate purchaser in the United States the English name of the country of origin of the article. By enacting 19 U.S.C. § 1304, Congress intended to ensure “that the ultimate purchaser would be able to know by inspecting the marking on the imported goods the country of which the goods are the product. The evident purpose is to mark the goods so that at the time of purchase the ultimate purchaser may, by knowing where the goods were produced, be able to buy or refuse to buy them, if such marking should influence his will.” *United States v. Friedlaender & Co.*, 27 C.C.P.A. 297, 302 (1940).

Section 134.1 (b), CBP Regulations (19 C.F.R. § 134.1(b)), defines “country of origin” as “the country of manufacture, production or growth of any article of foreign origin entering the United States. Further work or material added to an article in another country must effect a substantial transformation in order to render such other country the ‘country of origin’ within the meaning of this part; however, for a good of a NAFTA country, the NAFTA Marking Rules will determine the country of origin.”

The NAFTA Marking Rules require the application of the country of origin rules per 19 C.F.R. § 102.11, in order to determine whether a good qualifies to be marked as a good of a NAFTA country. *See* 19 C.F.R. § 134.1(j). Section 102.11, CBP Regulations (19 C.F.R. § 102.11), provides the hierarchical rules for determining the country of origin of imported goods for NAFTA purposes, in part, as follows:

- (1) The good is wholly obtained or produced;
- (2) The good is produced exclusively from domestic materials; or
- (3) Each foreign material incorporated in that good undergoes an applicable change in tariff classification set out in 102.20 and satisfies any other applicable requirements of that section and all other applicable requirements of these rules are satisfied.

The three data storage products are neither wholly obtained or produced in a single NAFTA country or produced exclusively from domestic materials. You state that the three products are classified under subheading 8471.70, HTSUS. CBP agrees with the Company’s classification with regard to Product One and Product Three. However, after consulting with the National Commodity Specialist Division (“NCSD”), we have determined that Product Two is classified in subheading 8471.80, HTSUS. The tariff shift rule for goods of subheading 8471.70 and 8471.80 is set forth in 19 C.F.R. § 102.20 as follows:

8471.60 – 8472.90

A change to subheading 8471.60 through 8472.90 from any other subheading outside that group, except from subheading 8504.40 or from heading 8473; or

A change to subheading 8471.60 through 8472.90 from any other subheading within that group or from subheading 8504.90 or from heading 8473, provided that the change is not the result of simple assembly.

In all three instances, the Company concedes that the tariff shift rule is not met because the major components are classified in subheadings between 8471.60 and 8472.90, HTSUS, and do not undergo a tariff shift.

However, the Company states that the products will qualify for preferential tariff treatment under the NAFTA. Assuming the Company plans to make a NAFTA claim at the time of entry, 19 C.F.R. § 102.19(a) provides as follows:

...if a good is originating within the meaning of 181.1(q) of this chapter is not determined under 102.11(a) or (b) or 102.21 to be a good of a single NAFTA country, the country of origin of such good is the last NAFTA country in which that good underwent production other than minor processing...

The language of 19 C.F.R. § 102.19(a) is applicable because pursuant to GN 12(b)(v), the three products are considered originating because they are classified under subheading 8471.70 and 8471.80, HTSUS.¹ Since the three products undergo production other than minor processing in Mexico, the country of origin for marking purposes under the NAFTA Marking Rules will be Mexico.

HOLDING:

Based on the facts provided, we find that the country of origin of Products One and Three for purposes of U.S. Government procurement is Mexico. The country of origin of Product Two for purposes of U.S. Government procurement is Malaysia. The country of origin for all three products for marking purposes will be Mexico under the NAFTA Marking Rules.

Notice of this final determination will be given in the Federal Register, as required by 19 C.F.R. § 177.29. Any party-at-interest other than the party which requested this final determination may request, pursuant to 19 C.F.R. § 177.31, that CBP reexamine the matter anew and issue a new final determination. Pursuant to 19 C.F.R. § 177.30, any party-at-interest may, within 30 days of publication of the Federal Register Notice referenced above, seek judicial review of this final determination before the Court of International Trade.

Sincerely,

¹ GN 12(b)(v) states that the goods enumerated in subdivision (u) of GN 12 are originating in the territory of a NAFTA party. GN 12(u) states that automatic data processing machines and parts that are classified under subheading 8471.70 and 8471.80 are considered originating when they are imported into the customs territory of the United States from the territory of Canada or of Mexico.

Alice A. Kipel, Executive Director
Regulations and Rulings,
Office of Trade

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