



U.S. SENATE COMMITTEE ON
COMMERCE, SCIENCE, & TRANSPORTATION

COMMITTEE INVESTIGATION REPORT

**HUAWEI'S ACCESS TO HARD DISK DRIVES IN AMERICA:
AN INVESTIGATION INTO SEAGATE TECHNOLOGY**

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Prepared by Commerce Committee Minority Staff

Overview

Minority Staff on the U.S. Senate Committee on Commerce, Science, and Transportation investigated industry compliance with a rule issued by the Bureau of Industry and Security (BIS) at the Department of Commerce substantially restricting Huawei or its affiliates (“Huawei”) from accessing direct products of specified U.S. technology or software.¹ BIS explained that the rule “narrowly and strategically target[ed] Huawei’s acquisition of semiconductors that are the direct product of certain U.S. software and technology.”² Any shipment of prohibited products without a license after September 14, 2020, likely including hard disk drives incorporating semiconductors as component parts, violated this rule.

Evidence suggests that Seagate Technology, a California-based company, continued shipping hard disk drives to Huawei after the rule went into effect. Seagate officials told Minority Staff that the company does not hold a valid license to continue shipping hard disk drives to Huawei, likely making transactions for this product unlawful after the effective date.³

Seagate Technology is a leading global supplier of hard disk drives. The company has increased its market share in recent years, and controlled around 43% of the world market as of mid-2021.⁴ Minority Staff estimate that Huawei spends around \$800 million annually on hard disk drives for use in data centers, servers, and other bulk-data storage applications—demand prospectively met in large part by Seagate’s monopolization of the market after the rule went into effect. By shipping these prohibited products to Huawei, it appears Seagate benefitted from an uneven playing field to the detriment of national security and at the expense of its competitors who abide by the rule designed to combat threats posed by companies with known connections to the Chinese government.

Foreign Direct Product Rule

Under the rule, companies must obtain a license for re-exports, exports from abroad or domestic transfer of certain foreign-produced items that are the direct product of certain specified technologies or software to *Huawei*.

Foreign-made items are subject to the rule and *require a license* when there is knowledge or reason to know that items will be incorporated into, or will be used in the “production” or “development” of,

¹ The Department of Commerce determined Huawei and its affiliates present “a significant risk of involvement in activities contrary to the national security or foreign policy interests of the United States.” Huawei entities are located in the following countries: China, Argentina, Brazil, Chile, Egypt, France, Germany, India, Israel, Mexico, Morocco, the Netherlands, Peru, Russia, Singapore, South Africa, Switzerland, Thailand, Turkey, the United Arab Emirates, and the United Kingdom. *See* Addition of Huawei Non-U.S. Affiliates to the Entity List, the Removal of Temporary General License, and Amendments to General Prohibition Three (Foreign-Produced Direct Product Rule), 85 FR 51596 (Aug. 20, 2020).

² Press Release, Dep’t of Com. (May 15, 2020), available at <https://2017-2021.commerce.gov/news/press-releases/2020/05/commerce-addresses-huaweis-efforts-undermine-entity-list-restricts.html>.

³ Representatives of Seagate Technology voluntarily provided this information directly to Minority Staff in an interview on October 4, 2021.

⁴ *See* Chris Mellor, *Seagate Solidifies HDD Market Top Spot as Areal Density Growth Stalls*, BLOCK & FILES (May 19, 2021), <https://blocksandfiles.com/2021/05/19/seagate-cements-top-hhd-market-share-spot-as-areal-density-growth-stalls/>; *see also* Tom Coughlin, *Hard Disk Drive Quarterly Results and Projections*, FORBES (Aug. 12, 2020), <https://www.forbes.com/sites/tomcoughlin/2020/08/12/hard-disk-drive-quarterly-results-and-projections/?sh=175e25c52c5a>.

any “part,” “component” or “equipment” produced, purchased or ordered by Huawei—or when Huawei is a party to any transaction involving the foreign-produced item, including as a “purchaser,” “intermediate consignee,” “ultimate consignee” or “end-user.”⁵

The rule captures products, such as *semiconductors*, that are either a component part of a product that eventually will be ordered or purchased by Huawei or are part of a transaction to which Huawei is a party. This applies to U.S. semiconductor design, production, and testing of software and equipment used worldwide at all stages of the supply chain, including manufacturing or incorporation of semiconductor products into finalized products destined to Huawei.

This means that no entity without a license may re-export, export from abroad, or transfer semiconductors within the country with “knowledge” that either 1) Huawei is a party to any transaction involving a product containing semiconductors or 2) semiconductors will be incorporated into or used in production or development of any part, component, or equipment produced, purchased, or ordered by Huawei, which likely includes *hard disk drives*.

Findings

Seagate Technology likely violated the Foreign Direct Product Rule by continuing to ship hard disk drives without a license to Huawei after the rule went into effect in September 2020. Consider the following:

Transactions

- Disclosures and documents reviewed by Minority Staff strongly indicate that Seagate incorporated semiconductor products that fall within the rule’s coverage into hard disk drives with knowledge that the products were destined to Huawei after September 14, 2020.
- Wedbush Securities, an investment firm, “believe[s] it has been common knowledge within the storage industry that [Seagate] continued shipping parts to Huawei post the U.S. restrictions implemented in August . . . [Seagate’s] legal team likely interpreted U.S. restrictions differently than its peers.”⁶
- Deutsche Bank published an industry update on February 9, 2021, reporting that that Seagate held 51% hard disk drive market share in the fourth quarter of 2020, which is up five points quarter-to-quarter. The report attributed this increase to the fact that Seagate “has not stopped shipping to Huawei.”⁷
- Wells Fargo’s Equity Research division released an industry update on October 18, 2021, noting that “Seagate has not specifically disclosed how much of its high-cap HDDs it has still been shipping to Huawei; however, we believe investors should question the fact that Seagate reported an 11% customer.”⁸ The report implied that this customer is Huawei.

⁵ *Supra* note 1.

⁶ Matt Bryson, *Wedbush: Last Week in Hardware – What Will Intel Do?* (Mar. 20, 2021) (On file with Committee).

⁷ Deutsche Bank Research, *Takeaways from Industry HDD Data* (Feb. 9, 2021) (On file with Committee).

⁸ Wells Fargo, *STX & WDC: What We’re Thinking About into F1Q22 (Sept ’21) Results* (October 18, 2021) (On file with Committee).

- In the past year, Huawei grew its storage system sales, which require hard disk drives produced by U.S.-based suppliers (Seagate, Toshiba, and Western Digital), by more than 30 percent.⁹ It is unlikely that Huawei could have seen such significant growth in their storage system business without access to Seagate’s hard disk drives.¹⁰
- The five primary suppliers of semiconductors used by the top global producers of hard disk drives suspended sales directly to Huawei when the rule went into effect.¹¹ In public disclosures, these companies cited the risk of their semiconductors knowingly becoming part of prohibited products destined to Huawei. Their refusal to transact with Huawei without a license suggests strong industry consensus about the rule’s coverage.
- In a recent filing with the Securities and Exchange Commission (SEC), Seagate Technology acknowledged that some of their “products and services are subject to export control laws and other laws affecting the countries in which our products and services may be sold, distributed, or delivered.”¹² Seagate conceded that its recent business practices likely exposed the company to political and legal risks, noting that it could not “ensure that [the company’s] interpretation of relevant restrictions and regulations will be accepted in all cases by relevant regulatory and enforcement authorities.”¹³ This acknowledgement to shareholders, to whom the company and its leadership owe a variety of fiduciary duties, reflects Seagate’s lack of confidence in its earlier interpretation of the Foreign Direct Product Rule.
- Seagate’s stock has increased nearly 86 percent since the rule went into effect.¹⁴ The initial incline began around October 2020, soon after the effective date, as Seagate purportedly continued shipments to Huawei as its sole American supplier of hard disk drives.

Licensing

- Shipping hard disk drives to a company on the Entity List requires an export license from BIS. In an interview with Minority Staff on October 4, 2021, Seagate officials confirmed that the company has not applied for or obtained a license to ship items covered by the Foreign Direct Product Rule to Huawei.

⁹ Joseph F. Kovar, *Dell Keeps Top Spot in External OEM Storage While Huawei, NetApp Show Big Gains*, CRN (June 15, 2021), <https://www.crn.com/slide-shows/storage/dell-keeps-top-spot-in-external-oem-storage-while-huawei-netapp-show-big-gains/6>.

¹⁰ Toshiba and Western Digital, the other primary suppliers of hard disk drives, confirmed to the Committee that they ceased shipments to Huawei after the rule went into effect.

¹¹ Broadcom Inc., STMicroelectronics, Samsung U.S., Macronix, and Marvell Technology suspended shipments of semiconductor products to Huawei in late 2020, believing that the rule prohibited these transactions without proper export licensing. *See, e.g., Samsung Electronics and SK Hynix Request for an Approval from the U.S. Department of Commerce Regarding Exportation of Semiconductors to Huawei*, ELECTRONIC TIMES NEWS (Sept. 10, 2020); U.S. Sec. and Exch. Comm’n, *Form 10-Q filed by Broadcom* (Sept. 11, 2020); Lisa Wang, *Macronix Seeks US break on Huawei*, TAIPEI TIMES (Sept. 11, 2020), <https://www.taipetimes.com/News/biz/archives/2020/09/11/2003743175>; Transcript of STMicroelectronics’ Quarterly Earnings Call (Oct. 22, 2020). Marvell Technology purportedly sent a similar notice on September 28, 2020, but Minority Staff have not yet obtained a copy for verification.

¹² U.S. Sec. and Exch. Comm’n, *Form 10-K* (July 2, 2021) available at, <https://d18rn0p25nwr6d.cloudfront.net/CIK-0001137789/9770c5b0-9b3f-41d2-ba04-9521be9f5ffd.pdf>.

¹³ *Id.*

¹⁴ The sharp rise in demand for semiconductor products likely contributed to stock price gains industrywide. It is unclear, however, what proportion of Seagate Technology’s stock price surge can be attributed to that market phenomenon.

- During a public conference call on September 14, 2020, the day the rule went into effect, Seagate’s CFO was asked about how the new Huawei restrictions will affect Seagate. Seagate’s CFO responded as follows: “I don’t see any particular restriction for us in term [sic] of being able to continue to ship to Huawei or any other customer in China. So, we don’t think we need to have a specific license...”¹⁵
- At an industry conference in September 2020, Deutsche Bank reported that “[Seagate] does not believe it should be restricted in its shipments to Huawei or any other Chinese customer. The company does not expect to have to apply for a license to continue to ship to Huawei.”¹⁶

Investigative Timeline

- In August 2020, the Department of Commerce issued a rule restricting Huawei’s access to U.S. technologies by adding additional Huawei’s affiliates to the Entity List. The change also requires U.S. companies to obtain a license to continue shipping certain products to Huawei, and expands the scope of Foreign Direct Product Rule to tighten the Chinese company’s ability to procure items that are the direct product of specified U.S. technology or software.¹⁷
- On May 10, 2021, Ranking Member Roger Wicker sent a letter to Seagate Technology, Western Digital, and Toshiba seeking to determine whether industry-leading hard disk drive suppliers are complying with the rule.¹⁸ The letter probed each company’s interpretation of the rule, including whether they believe selling hard disk drives to Huawei requires a license from BIS. Seagate declined to provide its interpretation of the rule, detail its transactional relationship with Huawei, or disclose whether the company had obtained a license to continue shipment of hard disk drives to Huawei.¹⁹
- In mid-June, Minority Staff requested that BIS officials provide the Department’s interpretation of the rule and describe the prohibited products that fall within the rule’s coverage as part of the compliance investigation.²⁰ BIS declined to answer whether any

¹⁵ Deutsche Bank, *Technology Conference Interview of Seagate Technology* (Sept. 14, 2020) (On file with Committee).

¹⁶ Deutsche Bank Research, *DB Tech Conference Takeaways* (Sept. 14, 2020) (On file with Committee).

¹⁷ *Supra* note 1.

¹⁸ Letters from Sen. Roger Wicker, Ranking Member, S. Comm. on Com., Sci., and Transp., to Toshiba America Elec. Components, Inc., Seagate Tech., and Western Dig. Corp. (May 10, 2021), *available at* <https://www.commerce.senate.gov/2021/5/wicker-requests-information-regarding-new-rule-restricting-huawei-and-affiliates-from-u-s-technology>.

¹⁹ Seagate Technology declined to provide substantive answers about its interpretation of the Foreign Direct Product Rule, despite receiving a second opportunity to respond to the Committee’s request. *See* Letter from Sen. Roger Wicker, Ranking Member, S. Comm. on Com., Sci., and Transp., to Seagate Tech. (Aug. 12, 2021), *available at* <https://www.commerce.senate.gov/services/files/35EC5494-EB6A-449B-B6B9-D3C1BE9CAA55>.

²⁰ Following a report that the Department of Commerce had launched an investigating into Seagate Technology, Ranking Member Wicker engaged in a series of conversations with BIS officials. *See generally* Bill Gertz, *Seagate Chip Sales to China’s Huawei Investigated*, WASH. TIMES (Mar. 17, 2021), <https://www.washingtontimes.com/news/2021/mar/17/seagate-chip-sales-to-chinas-huawei-investigated/>; *see, e.g.*, Letter from Sen. Roger Wicker, Ranking Member, S. Comm. on Com., Sci., and Transp., to Jeremy Pelter, Acting Dir., Bureau of Indus. and Sec. (Aug. 11, 2021), *available at* <https://www.commerce.senate.gov/services/files/45DC2642-8E47-4F30-BE81-7CFFE9B65282>.

supplier of hard disk drives has requested a license, noting only that compliance investigations can take as many as five years to complete.²¹

- Minority Staff contacted Seagate Technology in August once again seeking to determine its interpretation of the Foreign Direct Product Rule. Seagate officials did not respond to this request.²²
- In September, Minority Staff requested access to license applications under the Foreign Direct Product Rule.²³ BIS disclosed this information as required by law.²⁴ Section 1761(h)(2) of the Export Control Reform Act of 2018 protects this confidential information from public release “unless the full committee determines that the withholding of that information is contrary to the national interest.”²⁵
- Shortly after obtaining this information, Seagate Technology representatives agreed to an interview with Minority Staff. They disclosed that Seagate has not applied for any licenses to export hard disk drives to Huawei or its affiliates that are currently on the Entity List. Seagate representatives also disclosed that the company has stopped shipping hard disk drives to Huawei, but declined to provide the date that shipments ended.
- Minority Staff subsequently received evidence indicating that Seagate may plan to resume shipments to Huawei once the Chinese company is restructured with an operational data server subsidiary to reroute hard disk drives through the supply chain. The purported intent is to avoid shipping the product through currently prohibited entities, even though the destination is Huawei.
- Although Ranking Member Wicker requested additional information from BIS to supplement this investigation, BIS officials declined to provide it, despite clear authority in the Export Control Reform Act of 2018 allowing congressional committee leadership to access specific details about ongoing investigations.²⁶

²¹ The scope of threats that BIS is designed to address requires a more expeditious investigative and enforcement approach to meet modern challenges intersecting trade and national security. Delayed enforcement of the Foreign Direct Product Rule likely necessitates further review of the agency’s capacity to fulfill its duties as international economic and political circumstances remain fluid.

²² Letter from Sen. Roger Wicker, Ranking Member, S. Comm. on Com., Sci., and Transp. (Aug 12, 2021), available at <https://www.commerce.senate.gov/services/files/3649C4AD-9D5D-45E5-AC10-F57AD00288E0>.

²³ See Letter from Sen. Roger Wicker, Ranking Member, S. Comm. on Com., Sci., and Transp., to Jeremy Pelter, Acting Dir., Bureau of Indus. and Sec. (Sept. 7, 2021), available at <https://www.commerce.senate.gov/services/files/9AF1FEDE-64CB-4182-9AA3-7676AAC7D3D2>.

²⁴ See Letter from Jeremy Pelter, Acting Dir., Bureau of Indus. and Sec., to Sen. Roger Wicker, Ranking Member, S. Comm. on Com., Sci., and Transp. (Sept. 15, 2021) (On file with Committee).

²⁵ See 50 U.S.C. § 4820(h)(2)(B)(ii).

See Letter from Sen. Roger Wicker, Ranking Member, S. Comm. on Com., Sci., and Transp., to Jeremy Pelter, Acting Dir., Bureau of Indus. and Sec. (Oct. 18, 2021), available at <https://www.commerce.senate.gov/services/files/A2CC969F-71A8-4A83-A0D6-02BF8FFCE305>.

²⁶ See 50 U.S.C. § 4820(h)(2)(B)(i). ECRA provides that “[a]ny information obtained [by BIS] at any time under any provision” of export control law “shall be made available to a committee or subcommittee of Congress of appropriate jurisdiction, upon the request of the chairman or ranking minority member of such committee or subcommittee.”

Looking Forward

Violations of the rule designed to restrict Huawei's access to products made with U.S. technologies amount to reckless disregard of national security law. Based on the evidence available to Minority Staff, it appears that Seagate Technology knowingly violated the Foreign Direct Product Rule for more than one year. Seagate likely made the strategic calculation to continue violating national security regulations based on the prospect of earning significantly greater profits through market monopolization than the potential cost of regulatory penalties. All unlicensed shipments of prohibited products to Huawei should cease without delay.

Failure of BIS to provide clarity on the rule's scope, in combination with the lack of enforcement actions taken against violators, has created a commercial environment that incentivizes companies to continue shipping prohibited products to Huawei. Given the grave security interests at stake, extended delay from BIS in completing its investigation into Seagate Technology's compliance with the rule, including its determination about whether enforcement actions are necessary, would allow Huawei to continue accessing prohibited hard disk drives. The Commerce Department should prioritize enforcement of this rule to block additional unlawful shipments and penalize past shipments in violation of this regulation.

Minority Staff will continue this investigation into Seagate Technology to promote industrywide compliance by the private sector. In addition, Minority Staff will continue performing oversight of BIS to determine why no enforcement action has been taken against Seagate Technology and to ensure the agency conducts thorough investigations at the scale and urgency required by the security interests at stake.