



Office of Commissioner
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UNITED STATES OF AMERICA
Federal Trade Commission
WASHINGTON, D.C. 20580

**Statement of Commissioner Mark R. Meador
In the Matter of IonQ, Inc. and SkyWater Technology, Inc.
Matter No. 2610061**

July 31, 2026

On July 28 the Commission granted early termination of the waiting period in its review of IonQ, Inc.'s ("IonQ") acquisition of SkyWater Technology, Inc. ("SkyWater"). I write to complement Chairman Ferguson's thoughtful remarks explaining the Commission's decision in this important matter.

SkyWater is an American advanced semiconductor foundry used by several firms actively competing in the race to develop the first fault-tolerant quantum computer,¹ including IonQ and a number of IonQ's rivals. IonQ has publicly represented that its acquisition of SkyWater is intended to accelerate its quantum computing research and development efforts by enabling closer collaboration with its manufacturing partner throughout the highly iterative development process.²

The potential commercial, national security, and societal benefits from quantum computing are difficult to overstate. The Chairman describes them well.³ Notwithstanding these benefits, as the Chairman also notes, the instant transaction raised a potential vertical foreclosure concern that warranted further investigation.⁴ This concern centered on the possible incentive and ability of IonQ to limit rivals' access to SkyWater's foundry services as well as the potential for IonQ to gain access to those same rivals' competitively sensitive information.

The 2023 Merger Guidelines wisely raised the profile of these types of concerns, and I share Chairman Ferguson's assessment that certain commentators have overstated the supposed

¹ EYCK FREYMAN, ET AL., HOOVER INST., STAN. UNIV., *THE QUANTUM REVOLUTION: A GUIDE FOR ALLIED POLICYMAKERS* 8 (2026) ("The long-term goal of quantum computing is to build fault-tolerant systems: machines that can run arbitrarily long quantum algorithms while automatically correcting for physical errors in real time.").

² See *IonQ to Acquire SkyWater Technology*, IONQ 1, 3, 13 (slide deck Jan. 26, 2026), https://s28.q4cdn.com/828571518/files/doc_downloads/2026/01/29/IonQ-to-Acquire-SkyWater-Technology-2026-01-26-vFinal.pdf.

³ See Statement of Chairman Andrew N. Ferguson at 1–2, *In re IonQ Inc. & SkyWater Tech., Inc.*, FTC File No. 2610061 (July 31, 2026).

⁴ *Id.* at 2, 4.

universal felicity of vertical integration. The question before the Commission here is whether IonQ’s acquisition of SkyWater may have the effect of substantially lessening competition through such foreclosure and, if so, whether the proposed order is an appropriate remedy.

I agree with the Chairman that reasonable minds can reach different conclusions on each of these questions. My own conclusion is that the evidence available is insufficient to demonstrate that the effect of the transaction may be to substantially lessen competition, and on the contrary suggests that the transaction would be procompetitive or competitively neutral in its effects.

Four factors lead me to this conclusion: (1) the hypothetical foreclosure share falls well below the legal threshold for substantial foreclosure; (2) the evidence does not show SkyWater to be a “must have”; (3) the hypothetical foreclosure concern is decidedly short-term; and (4) the United States government, especially under the Trump Administration, has invested heavily in ensuring a diverse and dynamic quantum computing industry. Having reached this assessment, I cannot support what would amount to a regulatory intervention by the Commission into a highly competitive and dynamic innovation market.

A. Foreclosure Share

The United States has a large and diverse range of quantum computing companies and continues to lead the world in commercialization precisely because it has embraced a decentralized, competition-driven model⁵ supporting multiple technological approaches.⁶ Dozens of quantum computing R&D firms possess significant manufacturing resources, including a number of leading American firms pursuing diverse hardware modalities such as IBM, Google, Microsoft, Amazon, Rigetti, D-Wave, and Quantinuum.⁷ As one industry report puts it, “The United States

⁵ JOSEPH FEDERICI, U.S.-CHINA ECON. & SEC. REV. COMM’N, VYING FOR QUANTUM SUPREMACY: U.S.-CHINA COMPETITION IN QUANTUM TECHNOLOGIES (2025); see INT’L TRADE ADMIN., U.S. INDUSTRY LANDSCAPE: QUANTUM COMPUTING 2 (2026) (listing U.S. as the leading country in quantum computing startups); NAT’L SEC. DATA & POL’Y INST., UNIV. OF VA., PROD. NO. 00035, ADVANCEMENTS IN QUANTUM COMPUTING WITH POL’Y STANDARDS & IMPLICATIONS 8 (2026) (showing U.S. as top headquarter location of companies identified as emerging quantum computing industry leaders); FREYMAN ET AL., *supra* note 1, at 25–26.

⁶ See, e.g., QUANTUM ECON. DEV. CONSORTIUM, STATE OF THE GLOBAL QUANTUM INDUSTRY 2026: INDUSTRY OVERVIEW & METHODOLOGY 8 (2026) (listing United States as the leading country in “pure-play” quantum-only technology companies); QUANTUM INDUS. ANALYTICS, DEEP KNOWLEDGE GRP., QUANTUM COMPUTING INV. DIG., Q2 2025, at 42 (describing several key sectors of the quantum computing industry); Ellie Brown et al., *Energy, Compute and the Quantum Era*, S&P GLOB. ENERGY, Mar. 2026, at 11 (describing various vendors providing quantum hardware and software).

⁷ See *The Quantum Information Market Map: The Companies Working on Quantum Computing, Post-quantum Cryptography, and More*, CBINSIGHTS (May 7, 2024), https://www.cbinsights.com/research/quantum-information-computing-cryptography-software-market-map/?utm_campaign=SO_IUR_LI_Q42024_CBI_SOCIAL&utm_content=319188127&utm_medium=social&utm_source=linkedin&hss_channel=lcp-1140722; JONATHAN RUANE ET AL., MIT INITIATIVE ON THE DIGITAL ECONOMY, QUANTUM INDEX REPORT 2025, at 20 (2025) (identifying two dozen manufacturers commercially offering quantum processing units and up to 80 manufacturers across 17 countries); Matt Swayne, *The Quantum Supply Chain: Market Map & Key Players for 2026*, QUANTUM INSIDER (Mar. 19, 2026), <https://thequantuminsider.com/2025/03/19/the-quantum-supply-chain-mapping-the-market-and->

holds its lead through breadth rather than any single champion, fielding more credible hardware companies than any other country and backing them with the world’s deepest pool of risk capital. Where China concentrates effort in a handful of state-linked institutions, the American model spreads bets across competing firms, universities, and national laboratories. That competition has produced commercial cloud platforms, repeated error-correction milestones, and a steady flow of new startups.”⁸

Firms within this robust ecosystem pursue a broad range of hardware modalities—including superconducting, trapped ion, photonic, neutral atom, and topological platforms⁹—each requiring distinct chip architectures, fabrication techniques, and supply chain inputs.¹⁰ These independent hardware pathways have driven the development of diverse fabrication strategies, from superconducting circuit nanofabs to trapped ion testbeds and photonic device foundries.¹¹ To support this diversity, U.S. national laboratories and agencies have established multiple quantum foundries and testbeds—including facilities at Sandia, Berkeley, Argonne, SLAC, and the forthcoming NSF National Quantum Nanofab.¹²

Given the broad set of competing innovators and fabrication providers active in this space, any hypothetical foreclosure concern here appears limited solely to SkyWater’s own existing customer base, which SkyWater reported as eight customers at the end of 2025.¹³ Several of these customers do not appear to have been engaged with SkyWater prior to 2025, based on SkyWater’s public press releases. Nothing in the materials I reviewed indicates that these non-

[key-players/](#) (identifying up to 40 quantum-computing hardware developers across superconducting, trapped-ion, neutral-atom, silicon-spin, photonic, and other architectures, many of which require specialized fabrication and manufacturing capabilities); Image posted by Alex G. Lee (@alexgeunholee), LINKEDIN, *State-of-the-Art Quantum Computing Hardware Ecosystem Landscape: Commercial Quantum Processing Unit (QPU) Developers Across the Global Quantum Computing Industry* (July 11, 2026), https://www.linkedin.com/posts/alexgeunholee_quantumcomputing-quantumhardware-faulttolerantquantumcomputing-share-7481651138614710272-dg9N/ (a taxonomy of 46 commercial quantum-computing hardware developers organized by QPU architectures, many of which depend on specialized semiconductor, photonic, superconducting, or other precision-fabrication infrastructure).

⁸ *US Quantum Computing Companies 2026*, QUANTUM ZEITGEIST (Mar. 3, 2026), <https://quantumzeitgeist.com/us-quantum-computing-companies/>.

⁹ See NAT’L SEC. DATA & POL’Y INST., *supra* note 5, at 24 (describing types of quantum systems).

¹⁰ FEDERICI, *supra* note 5, at 15 (listing notable results of various quantum computing approaches and stating “[t]he more varied U.S. approach means the United States potentially has more pathways to make breakthroughs in quantum computing”).

¹¹ NAT’L SEC. DATA & POL’Y INST., *supra* note 5, at 10–11 (describing operational infrastructure needs of various quantum platform types).

¹² FEDERICI, *supra* note 5, at 15–16; see also FREYMAN, ET AL., *supra* note 5, at 38–40 (outlining an illustrative list of more than twenty-five “key players” spanning major quantum-computing firms spanning superconducting, trapped-ion, neutral atom, spin, photonic, cat-qubit and topological approaches, which depend on specialized fabrication capabilities including semiconductor-style nanofabrication, photonics foundries, or advanced optical and vacuum manufacturing).

¹³ *SkyWater Technology Reports Fourth Quarter and Full Fiscal Year 2025 Results*, SKYWATER (Feb. 25, 2026), <https://ir.skywatertechnology.com/news/news-details/2026/SkyWater-Technology-Reports-Fourth-Quarter-and-Full-Fiscal-Year-2025-Results/default.aspx>.

IonQ SkyWater customers account for a significant, let alone substantial, portion of any relevant downstream market for quantum-computing chips or related research and development.

Similarly, the record contains no evidence that the transaction would enable substantial upstream foreclosure of any relevant fabrication input or manufacturing capability. The diverse mix of available innovators and foundry partners underscores that SkyWater does not control a material share of upstream capacity in this domain and that downstream quantum computing R&D firms have significant alternative options to choose from when selecting a foundry partner.

Taken together, the evidence indicates that any foreclosure associated with the transaction in the upstream or downstream markets at issue would be only a small fraction of the 50 percent share that the 2023 Merger Guidelines identify as presumptively substantial.¹⁴ It would also fall well below the even lower thresholds—typically at least 30 to 40 percent—that courts have found necessary to establish substantial foreclosure in exclusive-dealing cases.¹⁵

B. SkyWater Is Not a “Must Have”

Of course, the absence of a substantial foreclosure share does not end the analysis. It remains relevant to assess whether access to the “related product”—here, a quantum-capable foundry—is “competitively significant” or “important to trading partners” in light of the merged firm’s upstream position, such that the merged firm might have an incentive to engage in foreclosure post-transaction. Input-foreclosure concerns most commonly arise when vertical integration results in substantial foreclosure of the upstream inputs (typically over 30 percent, as noted above).¹⁶ In that circumstance, the integrated firm would control access to a “must have” input that customers need in order to compete effectively in the downstream market, or the downstream market is already heavily concentrated and exhibits high barriers to entry such that the integrated firm is positioned to deny rivals access to the upstream sources.

¹⁴ FED. TRADE COMM’N & U.S. DEPT. OF JUST., MERGER GUIDELINES § 2.5.A.2 & n.30 (2023).

¹⁵ See *B&H Med., v. ABP Admin. Inc.*, 526 F.3d 257, 266 (6th Cir. 2008) (quoting *Stop & Shop Supermarket Co. v. Blue Cross & Blue Shield of R.I.*, 373 F.3d 57, 68 (1st Cir. 2004)) (noting that courts “routinely observe that ‘foreclosure levels are unlikely to be of concern where they are less than 30 or 40 percent’”); cf. *United States v. Phila. Nat’l Bank*, 374 U.S. 321, 364–66 (1963) (noting that a market share of 30% approaches a level of presenting a threat of “undue concentration” and explaining, based on prior Clayton Act §3 exclusivity cases and scholarly commentary, that foreclosure concerns generally arise either when exclusive arrangements foreclose a substantial portion of relevant commerce in a related product market (e.g., over 40%), or where the percentage of commerce foreclosed is smaller (e.g., under ~20%) but the foreclosed market is highly concentrated and has high barriers to entry).

¹⁶ See *United States v. Microsoft Corp.*, 253 F.3d 34, 70 (D.C. Cir. 2001); cf. *Ford Motor Co. v. United States*, 405 U.S. 562, 567–68 (1972) (finding foreclosure of ~10% of upstream spark-plug demand could substantially lessen competition, given evidence that the downstream replacement market was highly concentrated and exhibited high entry barriers, and that the acquiring firm had been the largest upstream purchaser of spark plugs from independents).

Based on the evidence before the Commission, none of those apply here. There is no evidence the merged entity will possess significant, let alone monopoly-level, market power in either upstream foundry resources or downstream quantum computing R&D. Nor does evidence suggest that SkyWater is a “must have” input or the most competitively significant fabrication pathway available for quantum R&D firms such that rivals would lack access to key inputs following the transaction.

C. The Hypothetical Harm Is Short-term

The short-term nature of any potential harm further underscores that individual customers are well-positioned to protect their own interests through ordinary contracting. The quantum computing industry is characterized by highly specialized and customized strategic partnerships. There has also been substantial government investment in other quantum computing firms, including at least two domestic foundry competitors to SkyWater (as noted below) that can further facilitate switching. The temporary nature of any foreclosure risk is another indication that the concern is too narrow, too short-lived, and too speculative to justify either a legal challenge or an extensive remedial order.

D. The Quantum Computing Industry Is Highly Diversified and Benefitting from Substantial Federal Investment

Finally, the transaction takes place within a highly dynamic and seemingly fragmented industry. The Trump Administration is also pursuing significant initiatives to expand quantum R&D, grow domestic foundry capacity, and secure supply chains in this strategically important sector.

As discussed above, companies in this industry routinely vertically integrate, develop in-house fabrication capabilities, or rely on a diverse set of domestic and international foundries. In an ecosystem defined by multiple technological modalities and decentralized supply chain pathways, the proposed transaction could plausibly contribute to U.S. leadership in quantum computing rather than diminish it.

The broad range of technical approaches in the industry means that when a quantum computing R&D firm selects a fabrication partner, it is choosing from multiple viable options and can tailor its fabrication pathway to its modality and design strategy. Firms in this sector have multiple viable strategies for securing fabrication capabilities, including vertical integration, in-house development, and shifting work to alternative domestic foundries. Therefore, at least at this moment in time, quantum computing firms do not appear to be functionally required to use any single fabrication supplier or architecture in order to pursue R&D development and commercialization efforts, countering concerns that the merged entity would gain the ability or incentive to foreclose existing SkyWater customers.

Any lingering worry that the transaction could impair industry access to fabrication or critical inputs is further tempered by the significant and unprecedented strategic investment the Trump Administration has made to expand domestic quantum manufacturing, research, and commercialization capacity. Recent public reporting reinforces this point, noting that industry concerns have softened in light of substantial federal investments at both the quantum R&D and foundry levels.¹⁷

To date, the Trump Administration has invested at least \$625 million in national quantum research institutes, and expanded workforce programs and initiatives to secure domestic manufacturing capability for quantum technologies.¹⁸ Federal commitments across the quantum ecosystem have accelerated markedly in just the past few months:

- In May, the Department of Commerce announced \$2.013 billion in CHIPS Act incentives across nine quantum companies—including two domestic quantum foundries (GlobalFoundries¹⁹ and IBM) and seven quantum computing firms—to strengthen U.S. manufacturing infrastructure and ensure resilient supply chains across multiple modalities.²⁰
- In June, the President issued an executive order on quantum innovation directing federal agencies to expand domestic quantum technology supply chains, build Quantum Information Science and Technology relevant foundry resources, and advance next generation sensing and networking initiatives.²¹ He also issued a second executive order integrating quantum priorities into the broader federal innovation agenda, strengthening commercialization pathways and accelerating deployment across national science and security missions.²²
- In July, the Trump Administration announced more than \$5 billion through the Genesis Mission—paired with mission driven National Science and Technology Challenges—

¹⁷ *IonQ/SkyWater: U.S. Government Investment in Quantum Industry Softens Some Third Party Concerns Amid FTC Review*, CAPITOL F., July 22, 2026, at 1.

¹⁸ *Fact Sheet: President Donald J. Trump Ushers in the Next Frontier of Quantum Innovation*, WHITE HOUSE (June 22, 2026), <https://www.whitehouse.gov/fact-sheets/2026/06/fact-sheet-president-donald-j-trump-ushers-in-the-next-frontier-of-quantum-innovation/>.

¹⁹ The Department of Commerce in July announced that GlobalFoundries will receive an additional \$300 million in CHIPS incentives to accelerate its domestic research and development of co-packaged optics. *Department of Commerce Announces Letters of Intent with 7 Companies for \$874 Million to Accelerate Semiconductor R&D for the Compute Supply Chain*, NAT'L INST. STANDARDS & TECH., (July 29, 2026), <https://www.nist.gov/news-events/news/2026/07/departement-commerce-announces-letters-intent-7-companies-874-million>.

²⁰ *Department of Commerce Announces Letters of Intent with 9 Companies for \$2 Billion to Accelerate U.S. Leadership in Quantum Computing*, NAT'L INST. STANDARDS & TECH., (May 21, 2026), <https://www.nist.gov/news-events/news/2026/05/departement-commerce-announces-letters-intent-9-companies-2-billion>.

²¹ Exec. Order No. 14413, 91 Fed. Reg. 38487 (June 22, 2026).

²² Exec. Order No. 14412, 91 Fed. Reg. 38483 (June 22, 2026).

mobilizing more than fifteen agencies to support AI enabled scientific discovery, quantum relevant fabrication and metrology infrastructure, and programs aimed at accelerating quantum computing, sensing, and communications from laboratory research toward applied use.²³

Firms are actively pursuing a wide range of technological modalities that compete within the quantum computing industry. Many firms explore parallel development paths across different architectures and frequently work with multiple fabricators. In this environment of technical uncertainty and rapid iteration, the value of a merchant foundry capable of serving all modalities remains high. IonQ's incentives therefore appear aligned with maintaining SkyWater as a neutral, multi-customer foundry rather than restricting access, particularly given sustained federal investment and ongoing national initiatives in this area.

These considerations reflect an industry with abundant competition at both the R&D and fabrication layers, a national strategy designed to expand domestic manufacturing options, and strong incentives to maintain open foundry access, all of which serve to alleviate concerns that the acquisition would constrain industry access to critical fabrication resources. The American quantum sector appears to be the beneficiary of a well-crafted national strategy to significantly expand manufacturing options and reduce structural dependencies.²⁴

In light of this record, it is my view that the Commission lacks a reason to believe IonQ's acquisition of SkyWater may have the effect of substantially lessening competition. In fact, there are more reasons to believe it will be procompetitive. While a different record may have led to a different conclusion, I must base my decision on the record before me. Having made this determination, it is unnecessary to pass upon the merits of the proposed order.

Lastly, I would like to extend my deepest thanks to the Commission staff who worked on this matter. Their herculean efforts are a testament to what makes this agency great.

²³ *Trump Administration Announces More Than \$5 Billion for the Genesis Mission, a National Mission on AI for Science*, WHITE HOUSE (July 22, 2026), <https://www.whitehouse.gov/releases/2026/07/45502/>.

²⁴ FEDERICI, *supra* note 5, at 14; *see also* Scott Bessent, *A Conversation with Scott Bessent, US Secretary of the Treasury*, WORLD ECON. F., at 25:25 (Jan. 20, 2026), <https://www.weforum.org/meetings/world-economic-forum-annual-meeting-2026/sessions/conversation-with-scott-bessent-us-secretary-of-the-treasury/> (“The single biggest threat to the world economy, the single biggest point of single failure, is that 97 percent of the high-end chips are made in Taiwan. If that island were blockaded, that capacity were destroyed, it would be an economic apocalypse.”).