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**BEFORE THE U.S. HOUSE COMMITTEE ON ENERGY AND COMMERCE
SUBCOMMITTEE ON ENVIRONMENT**

**FROM GRIDLOCK TO GROWTH:
PERMITTING REFORM UNDER THE CLEAN AIR ACT**

SEPTEMBER 16, 2025

Opening

Subcommittee Chairman Palmer, Ranking Member Tonko, and Members of the Subcommittee: thank you for the opportunity to testify today on behalf of Micron Technology. I am here to discuss why permitting reform is essential to strengthening U.S. manufacturing and safeguarding our nation's long-term competitiveness while protecting the environment.

As one of the world's largest semiconductor companies and with leading memory and storage chip manufacturing, Micron is deeply invested in the success of U.S. semiconductor manufacturing and supporting the legal and policy frameworks that enable it. Having worked at Micron for over 10 years now, I serve as the Senior Director of Environmental, Health, and Safety (EHS) for U.S. Front-End Expansion. In this role, I have responsibilities for EHS functions for Micron's planned \$200 billion U.S. expansion projects, our technology development, and our corporate headquarters. The topic of today's hearing—reforms to the Clean Air Act—is particularly relevant to our industry and key U.S. expansion efforts.

Most recently, the Environmental Protection Agency's (EPA) reconsideration of the Particulate Matter National Ambient Air Quality Standards (PM 2.5) under the National Ambient Air Quality Standards (NAAQS) framework carries implications for domestic manufacturing.¹ We share the goal of maintaining high standards for clean air and public health. Our facilities are designed with multi-million dollar Best Available Control Technology (BACT) to reduce emissions, as well as other design features such as limiting the number of emissions-generating equipment. At the same time, the rule as currently implemented places adds billions of dollars of costs, schedule and operational delays, and inhibits our ability to develop the facilities required to support America's next-generation semiconductor manufacturing industry.

Without streamlined permitting that eliminates redundant standards, outdated modeling, and lengthy review delays, U.S. companies may be restricted from expanding at a time when domestic manufacturing needs support most. Addressing these challenges are essential if the United States is to succeed in

¹ See U.S. Environmental Protection Agency, Announcement "EPA Launches Biggest Deregulatory Action in U.S. History" (March 12, 2025) available at <https://www.epa.gov/newsreleases/epa-launches-biggest-deregulatory-action-us-history#:~:text=%E2%80%9CToday%20is%20the%20greatest%20day,Zeldin%20announced%20the%20following%20actions>. On March 6, 2024, EPA issued a final rule tightening the PM2.5 NAAQS, which set the primary (health-based) annual NAAQS for PM2.5 at 9 micrograms per cubic meter (µg/m3), down from the prior limit of 12 µg/m3. See 89 Fed. Reg. 16202 (Mar. 6, 2024).

rebuilding its semiconductor manufacturing base and maintaining its global economic competitiveness, while maintaining important environmental and health safeguards.²

Micron and Our Historic U.S. Expansion

I would like to start by briefly outlining who Micron is and what role we play in advancing U.S. semiconductor leadership. Micron was founded more than 46 years ago in Boise, Idaho, as a technology startup working out of the basement of a dental office. Today, Micron is a world leader in the design, development, and manufacturing of memory and storage products and is the only U.S. semiconductor manufacturer with technology leadership. Our chips power the data economy across advanced vehicles, mobile devices, personal computers, and artificial intelligence applications.³

Micron has operations in 19 countries and employs more than 50,000 people worldwide, including upwards of 10,000 U.S. team members. We are also one of the world's most innovative companies with over 59,000 U.S. patents.

Currently, Micron is building a new large-scale semiconductor factory, or “fab” as we call them, in Idaho and has announced plans to build an additional fab in Idaho and up to four fabs in New York that will manufacture leading-edge memory chips. Micron is also modernizing and adding new capabilities to our existing facility in Manassas, Virginia, which produces chips used by the U.S. defense industrial base, the automotive sector, and many other critical industries.

Combined, this U.S. expansion effort will represent up to \$150 billion⁴ in investments across Onondaga County, New York, Boise, Idaho, and Manassas, Virginia, with an additional \$50 billion in domestic R&D. These projects will transform their regions and create up to 90,000 jobs across the country—including over 23,000 direct and construction jobs in these communities.

I am proud to lead a team that has exceeded regulatory requirements and achieved global best-in-class standards for air quality and environmental stewardship. For example, last year Micron received the EPA Regional Pollution Prevention Award for significant reductions in emissions and leadership in energy efficiency and water restoration. Over the past three years, our Boise, Idaho facility has reduced particulate emissions by over 85%, CO by 80%, and VOCs by 70%, while restoring sections of the Boise River and investing in aquifer recharge. We also received the 2024 Idaho Association of Commerce and Industry Environmental Excellence Award for initiatives including stormwater zero discharge, fab waste recycling, employee-led sustainability campaigns, and GHG reduction.

Micron is deeply committed to sustainability and continually invests in best-in-class technology—because our role as technology leaders depends on it. However, regulatory bottlenecks and delays threaten our expansion efforts and America's global economic competitiveness, which is why I urge Congress and the EPA to recognize and reward industry leaders by streamlining or exempting duplicative regulations and supporting science-based standards that promote innovation.

² See H.R.4346 - CHIPS and Science Act.

³ See Micron Technology, Inc. website, available at <https://www.micron.com/?srsltid=AfmBOopu4GsSziIWhwRzrdxW4Pp6abUEDzfdIXrBcahq6yrB-jwtlfs>.

⁴ See Micron Press Release, available at <https://investors.micron.com/news-releases/news-release-details/micron-biden-harris-administration-us-senate-majority-leader>; Bloomberg Press Release on Micron's award under the CHIPS & Science Act, available at <https://www.bloomberg.com/news/articles/2024-12-10/micron-gets-6-2-billion-chips-award-to-spur-plant-construction>.

Semiconductors and the Need to Support U.S. Competitiveness

Semiconductors are the backbone of modern life and future innovation. Micron is the only U.S. manufacturer of memory chips—products that are essential to computing and storage in phones, electronics, vehicles, and countless other devices. Without memory, none of those devices could function.

Yet the United States has historically struggled to maintain robust domestic semiconductor manufacturing capabilities. Over time, the most advanced semiconductor production has shifted overseas, leaving the U.S. with limited capacity to produce at scale. This imbalance carries significant consequences: it not only places our economy at risk, but it also raises security risks.

The next generation of breakthroughs in artificial intelligence, quantum computing, and other advanced technologies will depend on secure, reliable, and domestically produced chips. That is why ensuring competitiveness in this sector is both an economic necessity and a national security priority.

General Challenges Facing Micron and the Domestic Semiconductor Industry

While we have made important recent strides in rebuilding our manufacturing base, challenges remain in expanding domestic semiconductor manufacturing and supporting U.S. technology leadership. In particular, the necessity of affordable and reliable power remains a key factor in ensuring this domestic expansion effort is a success.

Semiconductor manufacturing is highly energy-intensive, requiring reliable, abundant, base-load power.⁵ Chip fabs run 24/7, 365 days a year. On Micron's side, we make sustained efforts to reduce our power consumption through efficiency gains; last year, we reduced our power consumption by 24 million kilowatt-hours in our Boise and Manassas facilities, the equivalent of more than 2,000 homes. Even with these impressive gains, Micron and other semiconductor manufacturing still require reliable and affordable power. Slow permitting processes in these areas, however, remain a barrier to building the energy infrastructure to support manufacturing sites such as our fabs.

Earlier this year, Micron's Executive Vice President for Global Operations, Manish Bhatia, emphasized to the full Committee the critical importance of permitting reform for power generation to ensure that our manufacturing facilities have the affordable and reliable power to keep us competitive.⁶ We echo that call and appreciate the Subcommittee's bipartisan leadership on streamlining processes to accelerate power infrastructure deployment.

Clean Air Act Permitting Standards

As Micron's domestic expansion effort progresses to ensure American technology leadership in semiconductor manufacturing, one area ripe for potential improvements is the Particulate Matter National Ambient Air Quality Standards (PM 2.5) under the National Ambient Air Quality Standards (NAAQS) framework in the Clean Air Act.

⁵ See National Institute of Standards and Technology, "Energy Use in the Semiconductor Industry" (2025), available at <https://www.nist.gov/chips/chips-incentives-funding-opportunities/environmental-division/energy-use-semiconductor#:~:text=Understanding%20the%20Role%20of%20Energy,of%20Energy%20supply%20for%20renewables>.

⁶ On April 9, 2025, Micron Executive Vice President, Manish Bhatia, testified at the House Committee on Energy and Commerce, hearing on "Converting Energy into Intelligence: The Future of AI Technology, Human Discovery, and American Global Competitiveness" April 9, 2025. The testimony is available at <https://www.congress.gov/119/meeting/house/118133/witnesses/HHRG-119-IF00-Wstate-BhatiaM-20250409.pdf>.

For context, last year, the EPA reduced the national standard from 12 micrograms per cubic meter to 9—a one-third reduction.⁷ Micron is committed to environmental stewardship and full compliance with the Clean Air Act, and we support the health-based objectives of the PM 2.5 standard.

As implemented, however, the revised PM 2.5 standard poses permitting challenges to our expansion projects in New York and Idaho. Both projects are in areas that are in attainment for PM 2.5, with baseline concentrations of PM 2.5 currently at around 6 micrograms per cubic meter. The new rule is currently being interpreted in a way that limits flexibility for permitting – even in these attainment areas.

In Idaho especially, wildfire smoke has become increasingly common and an uncontrollable contributor to PM 2.5 levels. The ambiguity around definitions for wildfire events within the PM 2.5 framework could significantly impact our Idaho expansion—the largest leading-edge semiconductor facility in modern U.S. history—due to factors entirely outside our control. Working to codify the definitions within standards around wildfire events would assist in providing meaningful clarity that would assist in streamlining the permitting process.

This risk of not getting this right could affect not only Micron’s investments but also America’s broader effort to restore semiconductor leadership. If permitting delays stall key projects, the U.S. could fall behind in AI, quantum computing, and defense technology innovation – undermining national defense and competitiveness.

Micron is required to obtain Prevention of Significant Deterioration (PSD) Title V permits—the most stringent level of air quality permitting—which mandates concurrent review by both state and federal agencies. There are opportunities to streamline this process while maintaining environmental integrity and enabling efficient business operations. For example, our NY project cannot begin construction until the Title V air permit, for all four fabs, is obtained. There is room to review areas within the federal standard to allow for companies to begin construction post state approval, while the federal reviews are occurring. Today, this is not the case. We believe Congress did not intend for permitting timelines to stifle American innovation, and we urge consideration of a modernized review framework – improvements should be made to ensure efficiency without compromising environmental integrity. We are not asking for the removal of regulation, but lack of efficiency within the regulations underscores the global competitiveness challenges U.S. companies face. We simply cannot afford to repeat the experience we had with the Environmental Impact Statement (EIS) process in New York, which—although we agreed with its intent—the duplicative state and federal reviews, resulted in a year-long delay that hindered our ability to begin the construction process last year. As technology leaders critical to America’s success in the global race for AI, we need a permitting system that matches the pace of innovation.

We respectfully request the Committee consider reviewing the PM 2.5 permitting framework. This effort should include consideration of the full range of views from the Clean Air Scientific Advisory Committee (CASAC) and streamline or exempt duplicative regulatory burdens which undermine America’s global competitiveness. We also urge the Committee to support the EPA in providing timely and clear guidance on permitting flexibility to states and permittees. Additionally, we encourage investment in modernizing required permitting and modeling tools, such as AERMOD (American Meteorological Society EPA

⁷ On March 6, 2024, EPA issued a final rule tightening the PM_{2.5} NAAQS, which set the primary (health-based) annual NAAQS for PM_{2.5} at 9 micrograms per cubic meter (µg/m³), down from the prior limit of 12 µg/m³. See 89 Fed. Reg. 16202 (Mar. 6, 2024).

Regulatory Model - Atmospheric Dispersion Modeling Tool) and support resourcing and staffing at the local, state, and federal levels to support permitting efforts.

These reforms will accelerate strategic U.S. manufacturing investments while maintaining robust environmental protections under existing federal and state regulations in Idaho and New York.

We respectfully urge Congress and the EPA to streamline permitting processes to preserve both environmental integrity and U.S. competitiveness – through legislative or executive action as appropriate.

Conclusion

Micron's core business is memory chips—an intensely competitive market where even the smallest edge matters. We are committed to investing in U.S. manufacturing, but success depends on whether facilities can be permitted and built at scale.

That requires Congress to address permitting, energy access, and regulatory balance.

Micron is committed to doing our part. We look forward to partnering with this Subcommittee to ensure the U.S. remains the global leader in semiconductor manufacturing, innovation, and national security, while ensuring environmental safeguards.

Thank you, and I welcome your questions.