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NIST-CPO/EA-004: Response to Draft Environmental Assessment for Micron Boise

Thank you for the opportunity to comment on the July 10, 2024 Draft Environmental Assessment (EA) for providing federal financial assistance to Micron Technology under the CHIPS incentives program for construction of a proposed semiconductor manufacturing facility (ID1) at Micron's existing headquarters and research and development campus in Boise, Idaho (NIST-CPO/EA-004). CHIPS Communities United (CCU) is a national coalition of unions, environmental organizations, and community groups committed to the safe, equitable, and sustainable implementation of the CHIPS and Science Act.

We support investment in this project because semiconductors are essential to our national and regional economies, national security, and daily lives.

We also appreciate that Micron has taken steps to conserve resources and limit hazardous releases at its production facilities.

However, we do not believe that the draft Environmental Assessment (DEA) adequately assesses the direct, indirect, or cumulative environmental impacts of the planned expansion of Micron's Boise facility. It seems obvious that such a significant expansion, moving from research and development to high-volume manufacturing utilizing new production techniques, will have a significant environmental impact, and the DEA bears this out, documenting significant increase in polluting air emissions, energy use, greenhouse gas emissions, toxic releases, environmental justice impacts, and socioeconomic impacts.

Thorough environmental analysis is necessary because:

- The public, as well as people who work at Micron, have a right to know what environmental hazards are associated with the site.

- As Micron applies for environmental permit modifications, it is essential that both the public and permitting agencies have complete, current data on the uses, storage, releases, and exposures of hazardous substances associated with production.
- Local agencies responsible for infrastructure investments and land use planning need the same complete, current data.
- The CHIPS Program Office (CPO) needs a clear roadmap for **requiring** best management practices (BMPs) in its agreements with Micron, in Idaho as well as New York, where CHIPS funding has also been promised. We suggest that those BMPs be identified, in detail, in a public Community Benefits Plan, based on an improved environmental review as well as continuing public input.

The DEA is deficient for two principal reasons.

First, it treats Micron's policies and goals as *faits accomplis*. Even when actions are identified as best management practices, the DEA provides no explanation of how they will be monitored, enforced, or made public. CPO's draft Environmental Assessment for Micron Boise reads, "Micron's implementation of BMPs will be subject to CPO monitoring" (18). That's a start, but the NEPA document should describe how CPO, with its limited resources, will monitor and enforce such activities at Micron, and there should be provisions for the retrieval of funding (clawbacks) if Micron fails to meet its stated goals.

Second, it provides insufficient detail on the use, storage, and release of hazardous substances, as well as other environmental impacts, to conclude that there are no significant environmental impacts. It is improper to avoid describing environmental impacts simply because they are subject to government regulation or because the applicant (Micron) promises to address them.

We believe a thorough examination of the potential environmental impacts from the Micron ID1 project will show there are significant environmental impacts that should be identified and addressed through an Environmental Impact Statement (EIS). In the absence of enforceable, transparent requirements to address such impacts, the applicant's promise to address the impacts does not eliminate them.

AIR QUALITY

The summary of environmental consequences concludes that Micron's project will have minor effects on air quality (iv). But the more detailed analysis casts doubt on that conclusion.

> Operation of the Proposed Action would result in additional sources of ambient air pollutant emissions. This would result in additional emissions of both criteria pollutants and HAPs when compared to the existing emissions resulting from Micron Boise (32).

Table 3-3 projects increased emissions of over 600 tons combined, per year, of PM10, PM2.5, SO2, CO, NOX, VOCs, and HAPs. The increases are far from trivial. PM10 emissions will increase from 19.6 tons in 2022 to a projected 125.85 tons a year, a more than sixfold increase. PM2.5 will grow from 15 tons in 2022 to 111.74 tons a year, a more than sevenfold increase. NOX emissions will also increase more than six times, and HAPs will increase seven times.

The increased emissions will exceed the facility's existing permits, requiring a modification to the existing minor source Tier II permit (33) and a new major source Tier I operating permit (34). It seems counterintuitive to argue that the increase in emissions is not significant if it will require two new permits. Especially given the environmental justice area that could be impacted by emissions (see below), this increase in emissions deserves greater scrutiny.

While the DEA points out that the new facility sits in an attainment area for criteria air pollutants, this is far from dispositive. An increase in air pollution and a decline in air quality can be significant, as the effects of this proposed project seem to be, even if it doesn't, by itself, push the area across the threshold from attainment to non-attainment of criteria pollutant standards.

We have one final concern relating to air quality. The EA is vague about equipment and practices for abating air emissions. As far as we know, Micron may treat emissions streams a single time, without building redundancy into its abatement processes. But the state-of-the-art method for abating chemical emission calls for the use of hybrid equipment so that waste streams are treated multiple times with scrubbers and electrostatic precipitators before venting to the ambient air. Where possible, individual chemicals are treated initially at point of use, with scrubber designs and functions well-matched to the individual chemicals being treated and then what remains is routed to other equipment for additional treatment.[1]

The Idaho Department of Environmental Quality (IDEQ) cannot require more stringent air emission requirements than the EPA stipulates, nor can the department impose requirements that are not based on EPA regulations. But the Commerce Department can impose additional requirements beyond EPA regulations as preconditions for the receipt of CHIPS funding.[2] We recommend that the CHIPS Program Office initiate discussions with IDEQ and Micron leadership to explore how enhanced emissions abatement equipment could be added to the plans for this new expansion.

CLIMATE CHANGE

The DEA concludes that Micron's project will have no significant effects on climate change through use of control equipment, BMPs, and climate commitments (iv), but provides insufficient evidence and analysis to be persuasive.

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[1] The enhanced air emissions abatement approach described in TSMC's 2022 Sustainability Report - and a study of that effort underscore the effectiveness of a hybrid air pollution abatement process. Lu, H.H., Lu, M.Ch., Le, T.C., An, Z., Pui, D.Y.H., Tsai, C.J., "Continuous Improvements and Future Challenges of Air Pollution Control at an Advanced Semiconductor Fab," *Aerosol Air Quality Research*. Res. 23, (April 2023): 230034, https://doi.org/10.4209/aaqr.230034.

[2] Dept. of Commerce Chips Program Office, "Final Programmatic Environmental Assessment for Modernization and Expansion of Existing Semiconductor Fabrication Facilities under the CHIPS Incentives Program," June 28, 2024, page B-2, https://www.nist.gov/system/files/documents/2024/06/28/Final%20PEA%20for%20Modernization%20and%20Expansion%20of%20Semiconductor%20Fabs%206-28-2024%20-%20OGC-508C.pdf.

According to the DEA, Scope 1 emissions from the project will generate 192,000 MT of CO2e, the equivalent of 38,000 homes' energy use.

As part of the plan for reducing these emissions, the DEA says Micron will deploy point-of-use thermal oxidation (incineration) and wet scrubbing to abate potent fluorinated production gas releases. We would like to see evidence that this does not create or release products of incomplete combustion or other transformation products. To our knowledge, such impacts are not captured in the reported Destruction or Removal Efficiency (DRE). In the absence of strict monitoring of emissions and other releases from treatment systems, manufacturers have little incentive to stop using fluorinated gases.

The draft provides data showing GHG emissions from the existing Boise facility, but it warns, "Emissions from fluorinated process gases use associated with research and development activities are exempt from reporting at Micron Boise's existing facility (40 C.F.R. § 98.2) and are therefore not included in Table 3-4 nor Figure 3-1." Since the existing facility is described as a "headquarters office and research and development facilities," that data is meaningless.

The draft also explains, "Neither Micron Boise nor the proposed ID1 is subject to any regulatory limits on GHG emissions." It follows with an estimate that manufacturing will directly generate 136,000 MT CO2e in greenhouse gases per year. That estimate is based upon expected process gas consumption, but it appears that the number is reduced significantly (from the initial estimate of 192,000 MT) based upon the promised, environmentally questionable thermal treatment. The absence of regulatory limits makes it all the more important for environmental review to scrutinize the impact of such emissions. At a time when all Americans are being asked to reduce our carbon footprint, we question the acceptability of Micron's GHG releases.

The predicted increase in Scope 2 emissions is far greater, amounting to 1,560,000 MT CO2e annually from purchased electricity, a massive amount (42). By way of comparison, the entire city of Boise generated about 2,500,000 MT CO2 in 2022 – a combination of residential, commercial, industrial, and transportation uses.[3] The proposed project thus stands to expand the city's carbon footprint by 60%.

We appreciate that Micron promises to reduce its GHG emissions substantially and sets a 2025 goal of 100% renewable energy use and a 2050 goal of carbon net zero, but we are skeptical of this claim. In the section on utilities, the DEA documents the anticipated increase in electricity demand from the operation of the proposed project to be 3,700,000 MWh (119). This is considerably more than the City of Boise currently uses per year and is equivalent to the electricity use of half a million households. While Micron may well have worked out a plan with Idaho Power to accommodate the demand, and while we applaud efforts by the company and the utility to source electricity from wind and solar, it is undeniable that the climate change consequences of the proposed project are very significant. Environmental review should demonstrate how much fossil fuel use can be reduced by the Grid Diversification projects that Micron and Idaho Power have developed, such as Black Mesa.

[3] City of Boise, "Climate Action - Research and Data," https://www.cityofboise.org/programs/climate-action/research-and-data/.

To put the limits of renewable energy offsets into further context, Micron's 2023 Climate Change disclosure indicates that the company generated 549,730 MWh of electricity last year, just 223 MWh came from renewable sources.[4] Moreover, when compared to the increased demand for electricity that the proposed project will require, it is clear that the company's use of renewables is a drop in the proverbial bucket. The ID1 project alone will consume seven times more electricity than Micron generated last year across the entire globe.

The DEA is silent on how much of its clean energy goal will be met by purchasing Renewable Energy Certificates (RECs). Micron's 2023 Climate Change disclosure indicates the company meets some of its green energy goals through purchasing unbundled renewable energy certificates for projects in Malaysia.

The purchase of unbundled RECs is widely understood to be ineffectual as a strategy for reducing fossil fuel emissions. The US Department of Energy, to take just one example, has explicitly concluded that RECs are not effective in reducing GHG emissions (pollution) or deploying additional renewable energy:

> Given the impacts of adding load to the grid… purchasing an EAC from any low-GHG generator is not in and of itself sufficient to justify a claim of low lifecycle GHG emissions due to the presence of induced effects.[5]

Numerous academic studies have shown that the relatively small revenue generated from the sale of unbundled RECs at their current low per unit price has done little to expand renewable energy capacity.[6] Recent studies indicate that the purchase of unbundled RECs rarely results in the addition of renewable energy to the grid, and in fact are significantly undermining the credibility of voluntary corporate targets under the Science Based Target initiative.[7]

Simply put, RECs are greenwashing and should not be counted when assessing the impact of a project on GHG emissions. Any environmental review should quantify the planned purchase of RECs and identify best management practices designed to effectively promote renewable use by directly deploying

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[4] Micron Technology, "Climate Change 2023," Disclosure and Insight Action, accessed August 6, 2024, https://www.micron.com/content/dam/micron/global/public/documents/about/misc/2022/micron-cdp-climate-change-2023-final.pdf.

[5] Department of Energy, "Assessing Lifecycle Greenhouse Gas Emissions Associated with Electricity Use for the Section 45V Clean Hydrogen Production Tax Credit," December 8, 2023, https://www.energy.gov/sites/default/files/2023-12/Assessing_Lifecycle_Greenhouse_Gas_Emissions_Associated_with_Electricity_Use_for_the_Section_45V_Clean_Hydrogen_Production_Tax_Credit.pdf.

[6] Edward Holt, Jenny Summer, and Lori Bird, "The Role of Renewable Energy Certificates in Developing New Renewable Energy Projects," *National Renewable Energy Laboratory*, Technical Report: NREL/TP-6A20-51904, (June 2011), https://www.nrel.gov/docs/fy11osti/51904.pdf; Matthew Brander, Michael Gillenwater, and Francisco Ascui, "Creative accounting: A critical perspective on the market based method for reporting purchased electricity (scope 2) emissions," *Energy Policy* 112 (January 2018): 29-33, https://doi.org/10.1016/j.enpol.2017.09.051.

[7] Anders Bjørn, Shannon M. Lloyd, Matthew Brander and H. Damon Matthews, "Renewable energy certificates threaten the integrity of corporate science-based targets." *Nature Climate Change* 12, 539–546 (2022). https://doi.org/10.1038/s41558-022-01379-5.

renewable energy onsite or by sourcing new local renewable energy sources through well-designed power purchase agreements.

WATER RESOURCES

The draft EA acknowledges that the operation of ID1 will have at least a *moderate* impact on water supply, but it provides insufficient evidence and analysis to conclude that there is no *significant* impact. To assure regulators and the public that scarce water resources are adequately protected, we urge the creation of a graphical depiction of all water supplies and wastewater effluent from the plant. This depiction should more precisely project groundwater recharge and surface water discharge of treated water.

HUMAN HEALTH AND SAFETY

The draft EA provides insufficient detail about the standards to be used to prevent occupational exposure to hazardous materials. It promises, "For ID1 operations, Micron would implement occupational exposure limits that are more protective than the legally enforceable OSHA PELs. These more stringent limits, such as applicable TLVs, would be based on appropriate, published industry standards specific to each chemical used, with the goal of maximizing worker health and safety." While SEMI guidelines often use OSHA standards such as PELs as a starting place, OSHA standards for chemicals were mostly developed in the 1960s and 70s, and have long been acknowledged by OSHA leadership to be out of date and insufficiently protective.[8] In January 2024, the Santa Clara County Board of Education unanimously passed a resolution that reaffirmed the inadequacy of OSHA standards and the resulting catastrophic health impacts on the workers and community in Silicon Valley, where the semiconductor industry was born. At a minimum, Micron should incorporate standards that are more health protective than OSHA standards and are not industry only standards (such as the SEMI standards). Furthermore, to be effective the standards must be transparent, meaning fully accessible to workers and the public, for each chemical used in production. These stronger human health and safety standards and transparency should be an enforceable condition of Micron's CHIPS grant.

Furthermore, in comparing "published industry standards" to determine which is most protective, Micron should consider U.S. EPA's Regional Screening Levels for worker inhalation exposure.[9] This is a comprehensive table—except for PFAS compounds—based on sound science.

The draft EA also promises, "Regardless of the exposure limit standard applied, Micron would implement a comprehensive approach to hazard control and mitigation by employing principles of the NIOSH hierarchy of controls, prioritizing elimination, substitution, and engineering controls before administrative controls and personal protective equipment." Again, this sounds good, but to find that chemical exposures are unlikely to create significant impacts, three things are needed:

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[8] Dave Johnson, "OSHA's exposure limits are dangerously out of date," *Industrial Safety and Hygiene News,* January 4, 2016, https://www.ishn.com/articles/103083-oshas-exposure-limits-are-dangerously-out-of-date.
[9] U.S. EPA, "Regional Screening Level (RSL) Composite Worker Ambient Air Table," May 2024, https://semspub.epa.gov/work/HQ/404479.pdf.

- Design standard should be public, available for independent review.
- If satisfactory, design standard should be made an enforceable condition of Micron's CHIPS grant.
- There should be a mechanism for employees to raise safety questions without fear of reprisal.

HAZARDOUS MATERIALS AND WASTES

Extremely Hazardous Substances

Certain extremely hazardous substances are essential to semiconductor production. These typically include arsine, diborane, phosphine, hydrogen chloride, hydrogen fluoride, silane, dichlorosilane, and nitrogen trifluoride.

The draft EA contains tables (3-16 and 3-17) showing the quantities of hazardous materials used in the current Micron Boise facility and projected use at the planned high-volume wafer fabrication plant. This is good, but it is insufficient to determine if there is a significant environmental impact. The NEPA review should list the toxic gases and their project quantities of use, storage, and release.

Releases of the most toxic of these gases may be infrequent, but they occur. By way of example, in April 2021, a phosphine leak at Apple Computer's fab in Santa Clara, California, caused the evacuation of 50 employees. In July 2023 the Oregon Department of Environmental Quality penalized Intel Corporation for violating its Air Contaminant Discharge Permit for the release of acid gases. In 2013, a nitrogen trifluoride leak at Intel's Ocotillo plant sent a dozen people to the hospital.

Releases of such gases are potentially catastrophic, even lethal. As such, their presence qualifies as a significant environmental impact. The public has a right to know, in detail, about the quantities of each of the extremely hazardous gases that will be used and stored at the Micron plant. That is, this information should be included in an EIS. Furthermore, land use planners should be aware of the risk of toxic gas releases as they plan for homes, schools, and daycare centers, among other uses, near the Micron plant.

The SEMI S2 standard lists 26 highly toxic semiconductor production gases for which continuous monitoring is recommended, as well as another 9 where monitoring may be recommended. Plant employees and neighbors have a right to know if such gases are used and/or stored on the premises. Environmental review for Micron Boise should list which of these extremely hazardous substances are or will be present at the facility, with anticipated quantities of use, storage, and emission.[10]

The draft EA promises that Micron will participate in EPA's Risk Management Program to manage potential chemical accidents at the Facility and outline emergency response procedures. The EIS or EA should list those chemicals for which Risk Management Plans are necessary. Using the principle of adopting the most protective standards, Micron should be required to prepare RMPs for any chemical

[10] SEMI, *SEMI S2 - Environmental, Health, and Safety Guideline for Semiconductor Manufacturing Equipment, version S2-0724,* 88-89.

for which the storage quantity exceeds the thresholds for California's Accidental Release Prevention Program. In many cases, U.S. EPA's threshold is an order of magnitude less protective than California's. For example, the California storage thresholds for Arsine and Hydrogen Fluoride are 100 pounds. The Federal counterparts are both 1,000 pounds.[11]

Off-Site Disposal

The draft EA explains, "Micron generally avoids sending hazardous waste to permitted landfills." Instead, wastes are shipped off site to permitted facilities for incineration, other forms of combustion, and other forms of treatment.

We appreciate the listing of those facilities in the draft EA. However, off-site treatment and disposal, while generally legal, does not eliminate the environmental impact or liability. The EA/EIS should evaluate the projected releases from the treatment facilities. Since many treatment and disposal facilities are located in low-income communities of color, the EA/EIS should assess the environmental justice implications of off-site waste disposal.

Perfluoroalkyl and Polyfluoroalkyl Substances (PFAS)

PFAS are persistent, toxic, bioaccumulative, and ubiquitous. Well-studied PFAS have been linked to cancer, immunotoxicity, reproductive and developmental harm, and other serious health effects at extremely low exposure levels. Cumulative releases of PFAS into the environment have global, irreversible impacts. Yet the Semiconductor Industry PFAS Consortium has made a strong case that PFAS compounds are essential to chipmaking at multiple stages of production. Replacing them with non-PFAS compounds, they argue, would take many years, if ever. Micron, like other semiconductor manufacturers, has ceased using long-chain PFAS such as PFOA and PFOS. It appears to have substituted shorter chain PFAS that remain persistent, highly toxic, and in many cases, more difficult to remove from wastewater.

Any continuing release of PFAS into the environment should be considered a significant impact until proven otherwise. The CPO's own Final Programmatic Environmental Assessment for Modernization and Expansion concluded, "Wastewater discharge from semiconductor fabrication facilities presents a substantial risk for PFAS contamination of the environment."

The draft EA states, "Until non-PFAS containing chemical alternatives are developed and qualified, Micron would segregate PFAS-containing wastewater streams for off-site disposal and/or treat PFAS in wastewater." This vague promise is insufficient to conclude that there will be no significant environmental impacts from PFAS compounds in wastewater.

In the absence of PFAS wastewater regulation, it is essential for the NEPA documentation for Micron plant to estimate, as well as technically feasible, the target and non-target PFAS in the internal waste streams as well as discharges to the Boise wastewater treatment plant, the Boise River, and

[11] California EPA, "California Accidental Release Prevention Program," https://calepa.ca.gov/california-accidental-release-prevention/california-accidental-release-prevention-program-resources/.

groundwater recharge trenches.[12] As a condition of its CHIPS award, Micron should be required to adopt environmentally protective removal and destruction technologies as soon as they become available. One cannot assume that monitoring, removal, and destruction technologies developed to address long-chain PFAS are effective for the shorter chain PFAS now used by Micron and its competitors. Information about the PFAS-contaminated waste streams is needed both to develop removal and destruction technologies and to implement suitable requirements. Meanwhile, this information should help the Boise wastewater treatment works to address PFAS in its pre-treatment permits for Micron.

ENVIRONMENTAL JUSTICE

The DEA finds that there is no environmental justice (EJ) community to be affected by the construction and operation of ID1 (105). They come to this conclusion by looking at demographic data for a large parcel of land, which has the effect of obscuring the presence of at least one nearby EJ community, the residents of Blue Valley mobile home park, which is literally across the street from the new Micron Boise facility.[13] We are concerned that the delineating of areas in the study violates protocol for identifying EJ communities in the process of environmental review.[14]

Residents of Blue Valley have long endured environmental injustice. They were zoned "industrial" upon annexation into the city, denied normal neighborhood planning processes, excluded from participating in public discussion around industrial projects sited near their homes, and even left off the voting rolls. Like many manufactured home communities, a high proportion of residents are elderly, BIPOC, and/or disabled.[15]

Blue Valley's residents are situated around a small lake that is fed by the Five Mile Creek drainage that runs through the proposed project site. The proposed project could contaminate this water, as well as the air they breathe. It is likely to dramatically increase the particulate matter in their community as a result of construction and increased traffic, even apart from the plant's operation.

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[12] A Cornell University study sponsored by the semiconductor industry found that concentrations of non-targeted (not specifically identified) PFAS in chipmaking waste streams exceeded levels of known compounds. Paige Jacob, Kristas Barzen-Hanson, and Damian Helbling, "Target and Nontarget Analysis of Per-and Polyfluoralkyl Substances in Wastewater from Electronics Fabrication Facilities," *Environmental Science & Technology,* (February 2021), p. 2353, https://pubs.acs.org/doi/10.1021/acs.est.0c06690.

[13] The draft EA examines impacts to Census Tract 105.03, Ada, ID, which covers a massive area of 254.5 square miles. Census reporter, "Census Tract 105.03, Ada, ID," 2022, https://censusreporter.org/profiles/14000US16001010503-census-tract-10503-ada-id/.

[14] U.S. EPA, "Technical Guidance for Assessing Environmental Justice in Regulatory Analysis," June 2016, https://www.epa.gov/sites/default/files/2016-06/documents/ejtg_5_6_16_v5.1.pdf.

[15] Ian Max Stevenson, "Industrial complex proposed next to Boise mobile-home park. The residents fight back," *Idaho Statesman,* November 20, 2022, https://www.idahostatesman.com/news/local/community/boise/article268803482.html; Margaret Carmel, "Blue Valley mobile park left off Boise voting rolls for five years," *Idaho Press*, July 12, 2019, https://www.idahopress.com/news/local/blue-valley-mobile-park-left-off-boise-voting-rolls-for-five-years/article_ca961e03-88c4-505a-a317-70a34eaf889d.html.

A full EIS should document the impact of the project on this community and give them a voice in public hearings where the project is analyzed and discussed.

SOCIOECONOMICS

While the draft states that Micron expects to hire 2,000 workers as part of the ID1 expansion, it does not provide any information on the composition of those jobs by occupation nor their anticipated wage rates. These additional details should be disclosed and integrated into the EA's discussion of socioeconomic impact, including whether Micron plans to contract out janitorial, security, or facility services at the site.

Production workers in Idaho's semiconductor industry were paid an average of $42,580 in 2023.[16] By contrast, wages among managers and engineers averaged well over $100,000. State-level data is not available, but nationally inflation-adjusted average weekly earnings for production workers in the semiconductor industry have been declining for the last 15 years.[17]

We can reasonably assume given Micron's footprint in Idaho—roughly 5,000 employees according to the draft—that their workforce in the Treasure Valley region drives statewide wage trends. Virtually all of Idaho's 7,500 jobs in the semiconductor industry are concentrated in metro Boise,[18] where according to the MIT Living Wage Calculator, a living wage for a family of four with two adult earners is over $55,494 a year.[19] Fewer than 10% of Idaho's semiconductor production workers meet that standard.[20]

The cumulative socioeconomic benefit from the project depends in large part on induced growth from worker spending in the regional economy. These induced benefits will diminish the more Micron's new jobs are skewed toward the low end of the industry wage scale since workers will have less disposable income to spend on locally serving businesses. As ID1 mainly consists of a 1.2 million square foot fabrication facility, presumably a large share of new hires will be directly involved in chip production.

The draft also acknowledges the potential for an influx of new residents to the region to exacerbate local affordability challenges: "…If the economy is in an extended period of growth and delivery of new housing inventory has not kept up with demand, ID1 may add to an existing and growing housing affordability issue," (132).

Unemployment in metro Boise is very low, standing at a seasonally adjusted 3.3% in June compared to 4.1% nationally.[21] In absolute terms, that's equal to roughly 14,000 unemployed workers in and around

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[16] BLS, "May 2023 OEWS Research Estimates by State and Industry,"," Occupational Employment and Wage Statistics, May 2023, https://www.bls.gov/oes/current/oes_research_estimates.htm.
[17] BLS, "Current Employment Statistics - CES (National)," accessed August 6, 2024, https://www.bls.gov/ces.
[18] BLS, "Quarterly Census of Employment and Wages," accessed August 6, 2024, https://www.bls.gov/cew/.
[19] Living Wage, "Living Wage Calculation for Boise City, ID," Massachusetts Institute of Technology, February 14, 2024, https://livingwage.mit.edu/metros/14260.
[20] BLS, "Occupational Employment and Wage Statistics: OEWS Research Estimates by State and Industry," accessed on August 6, 2024, https://www.bls.gov/oes/current/oes_research_estimates.htm,
[21] Metropolitan Areas: BLS, "Local Area Unemployment Statistics: Smoothed Seasonally Adjusted Metropolitan Area Estimates," accessed August 6, 2024, https://www.bls.gov/lau/metrossa.htm ; National: BLS, "Current

Boise. On top of the 2,000 new jobs at Micron, the draft cites estimates that ID1 could generate up to 15,000 induced jobs.

No matter what share of Micron's direct hires are drawn from among existing residents, the project's overall impact on labor demand will invariably lead to additional in-migration from outside the region.

In response to this concern, the draft claims that "[r]egional and city plans, including the City of Boise's 2023 zoning code, accommodate anticipated commercial and residential growth and allow for new residential development to meet housing demand that may result from ID1" (133). And it goes on to say that "Micron would work with local and regional planning agencies so that they are informed on the details of future housing demand from ID1, including the likely timing, scale, and demographic mix of this demand" (159).

If the City of Boise, Ada County, and Micron have already conducted studies and developed plans to ensure an adequate expansion of the regional housing supply, those findings should be cited to support the draft's conclusion that the project's long-term impacts on housing "could range from moderately adverse to minor [sic] beneficial" (133).

Knowing the earnings distribution among Micron's expanded workforce would also help refine these plans. In other centers of high-tech employment, such as Silicon Valley, growth in high-wage tech jobs has been found to increase regional employment growth overall, but at the cost of inflating housing costs and eroding real wages for workers earning less.[22] ID1's potential to widen inequality in metro Boise and displace low-income residents must be explicitly addressed as a socioeconomic impact of particular concern.

Lastly, the EIS should consider the cumulative impact these new residents will have on local governments' ability to maintain public service quality.

The draft asserts that ID1 "would support the local tax base to supply education, public safety, and community services." Property taxes account for most of the revenue Ada County[23] and the City of Boise[24] collect and nearly 40% of Boise School District's annual revenue.[25] Last year, Valley Regional Transit received 43% of its revenue from local governmental contributions.[26] Because state law sets a

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Population Survey: Labor Force Statistics from the Current Population Survey," accessed August 6, 2024, https://www.bls.gov/cps/.

[22] Dee Gill, and William Yu, "Does a Rising Tide of High-Wage Tech Jobs Really Lift All Boats?," *UCLA Anderson Review,* October 30, 2019, https://anderson-review.ucla.edu/forecast-tech-jobs/ .

[23] Trent Tripple, Katie Reed, Tim Sturges, "Annual Fiscal Financial Report: Fiscal Year Ending September 30, 2023," Ada County, Idaho, accessed August 6, 2024, https://adacounty.id.gov/clerk/wp-content/uploads/sites/9/2024/03/FY23-ACFR-Online.pdf.

[24] City of Boise, "Annual Comprehensive Fiscal Report: Fiscal Year Ending September 30, 2023," The Department of Finance and Administration's Central Accounting Division, accessed August 6, 2024, https://issuu.com/cityofboise/docs/fy23_acfr_final.

[25] Boise School District, "District Budgets - Budget & Annual Audits," accessed August 6, 2024, https://www.boiseschools.org/our_district/accounting/budget___annual_audit.

[26] Valley Regional Transit, "Financial Statements

3% limit on annual growth in each jurisdiction's property tax levy, the region's fast-appreciating property values have not resulted in proportionate revenue growth.[27] Localities have few alternative means of generating their own tax revenue, limiting their ability to offset the cost of induced demand for local services with increased tax collections from other sources.

The draft mentions that Micron is addressing the project's anticipated impact on traffic congestion by paying impact fees to the Ada County Highway District. This analysis should be expanded to account for the project's net fiscal impact on the state and on localities to determine whether such additional fees might be appropriate to mitigate the added burden on other service providers.

September 30, 2023," Eide Bailly, accessed August 6, 2024, https://www.valleyregionaltransit.org/wp-content/uploads/2024/03/Valley-Regional-Transit-2023-Final-Financial-Statements-3.pdf.

[27] Idaho State Tax Commission, "Understanding Property Taxes," accessed August 6, 2024, https://tax.idaho.gov/taxes/property/understanding-property-taxes.