Testimony of Tom Sharpe
Coalition for American Electronic Recycling (CAER)
Before the United States Trade Representative
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Chairman Busis and members of the Committee,

Thank you for the opportunity to provide remarks today on behalf of the Coalition for American Electronics Recycling, or CAER. This industry organization includes over 150 U.S. companies and supporting members that operate more than 300 facilities in 37 states as well as the District of Columbia and Puerto Rico. CAER members believe electronics recycling should be performed securely and sustainably, to protect national security, and for the benefit of the American economy.

The United States exports, by conservative estimates, more than 750,000 tons of electronic waste materials, or e-waste, each year. This waste stream includes items such as computers, phones and other electronics that contain the intellectual property of U.S. businesses, including companies that work on Defense and other technologies related to national security.

The Link: E-waste Exports and Counterfeit Electronic Components.

The key problem: e-waste exports from our shores provide feedstock for counterfeit electronic components that pose a serious threat to our national security, critical infrastructure and public health and safety. Counterfeiters based largely in China harvest parts from used computers, then use sophisticated techniques to create fake components that are challenging to detect once they enter supply chains. My company, SMT Corporation, provides counterfeit detection services and I can say that the counterfeiters' sophistication increases every year. The fake parts are sold as new, often under false branding that overstates the capabilities of the chip.

As an electronics distributor serving the defense industry, I personally saw a small portion of China's electronics counterfeiting industry during a visit to Shenzhen, China that resulted in an impromptu tour of the nearby city of Shantou. I witnessed sensitive electronic component parts being harvested from piles of e-waste, and I later learned that much of this e-waste might have originated in our country.

It is a vicious cycle, with our e-waste exports leaving our shores and coming back to us as counterfeit microchips. It undermines our economy and security in four key ways:

1. **Theft of intellectual property.** The Semiconductor Industry Association states that "Semiconductor companies spend tens of billions of U.S. dollars per year developing, manufacturing, and supporting products that will operate reliably for many years in customer applications. In contrast, counterfeiters spend minimal money developing and 'manufacturing' products."

2. **Threats to national security.** According to a study by the Senate Armed Services Committee, counterfeit electronic components – which are prone to failure at any time – are pervasive in military weapons and equipment. The study found 1,800 individual cases totaling more than one million suspected counterfeit electronic parts in defense hardware used by our war fighters. These included control systems for missiles, military aircraft and helicopters. The study notes that "much of the material used to make counterfeit electronic parts is electronic waste, or e-waste, shipped from the United States and the rest of the world to China." While there have been a variety of actions to address the problem since the Armed Services report, it remains serious. Just this month, an electronics distributor was charged with selling counterfeit electronics with military and commercial uses.

3. **Risks to public health and safety.** The problem is not limited to defense systems. Experts say counterfeits also threaten the reliability of critical infrastructure, such as telecommunications, energy and transportation, as well as healthcare technology, consumer products and more. Digital networks are also at risk. Counterfeit electronics provide a platform for hackers and cyber terrorists to launch attacks. Malware added to counterfeit microchips could steal information or prevent a device from operating as designed.

4. **Loss of American Jobs.** As stated in President Trump's National Security Strategy, promoting economic prosperity is a key factor in national security. Yet when we ship e-waste overseas we also export good American jobs. A recent study shows that requiring domestic recycling of e-waste would create up to 42,000 quality jobs.

Solutions

Limiting the export of untested, nonworking e-waste is a key component of any plan to comprehensively address these issues. It is vital to our national security and economic interests to process these materials in the United States, to keep them out the hands of counterfeiters.

CAER urges the committee to suggest to the U.S. Trade Representative, and lead agencies including Commerce & Treasury, that this important national security issue should be a key component of any negotiations with the Chinese government. This would be a follow up on issues related to IP that were raised by the U.S. team that traveled to China on May 3rd of this year. Additionally, we urge USTR, Commerce and Treasury to begin the process of adding e-waste to the Export Control List. This would have the benefit of protecting U.S. IP from counterfeiters, encouraging the growth of a domestic e-recycling industry and ensuring that the electronics that we rely on for so many things are safe for our military, our first responders, and our consumers.

CAER is happy to provide any additional information and we are prepared to assist the Committee and USTR in any way you might require. I thank you for your time and consideration of my testimony.