at&t

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LATE

February 7, 2008

The Honorable Senator Ron Menor
Chair, Hawaii State Senate Committee on Energy and Environment

RE: Testimony and Proposed Amendment to Senate Bill 2843

Dear Senator Menor and Members of the Committee:

On behalf of AT&T, we are requesting an amendment to Senate Bill 2843. This legislation would create a statewide recycling program for electronic waste. In the definitions section of the bill, telephones of any type are excluded from the program, unless the screen size is greater than four inches measured diagonally. AT&T requests the removal of this screen size requirement since all of our products are covered in our industry's recycling program.

While most wireless devices today have screens smaller than four inches, new devices in the future may have screens that exceed this limit. Our industry is known for continuous product innovation, while at the same time providing for a highly effective recycling program for our devices. The recycling program created by Senate Bill 2843 would not be necessary for any of our products.

The wireless industry recognized several years ago that we needed an effective and easy-to-use recycling program for our customers. Today, that program is called "Wireless...The New Recyclable." Detailed information can be found about the program at the CTIA web site, www.ctia.org. AT&T also has a special program in which we collect old cell phones and use the funds from recycling these devices to purchase pre-paid calling cards for military personnel, so they can call home from overseas. This program is called "Cell Phones for Soldiers." We are very proud of this service.

Generally, our industry's approach allows any consumer to take any wireless device or accessory, including phones, PDAs, chargers, and batteries, to any company retail outlet. Stores will accept these devices without cost to the consumer. The devices do not even have to be from that particular carrier. These devices will then be reused or recycled according to the standards set by the Environmental Protection Agency's Regulations for Managing End-of-Life Electronics.

 This program covers all of our products, no matter what the screen size. For this reason, we do not believe Senate Bill 2843, in Section 1 on "Definitions," in 2 (D) needs to include the phrase "unless it contains a video display area greater than four inches measured diagonally." Thank you for considering this amendment to Senate Bill 2843.

Respectfully Submitted,

Dan Youmans, AT&T

Committee on Energy & Environment
Hawaii State Legislature
February 7, 2008

Comments on Electronic Waste
Nick Ammann
State & Local Government Affairs
Apple, Inc

Senate Bill 2843 – Oppose Unless Amended

Dear Chairman Menor:

On behalf of Apple, Inc. I applaud the Committee's efforts to draft legislation regarding the issue of Electronic Waste. Apple has long been an advocate of product stewardship, and we believe that this concept extends to the proper disposal of electronic equipment at the end of its useful life. We believe that all parties that have a role in manufacturing, selling or using Apple products also have a role in end-of-life management. Manufacturers should design products with minimal environmental impact, provide means to facilitate environmentally friendly recycling; consumers should select a disposal method that does not adversely affect the environment; governments should develop public policies that promote appropriate end-of-life management, including environmentally friendly disposal and recycling; and recycled materials should be used as feedstock for new products whenever possible.

Apple supports the responsible management of used electronic products in a manner that protects the environment and uses resources efficiently. Apple takes a holistic view of recycling and waste minimization. At Apple, we believe that end-of-life management of electronic products begins with design. We apply this philosophy from the outset, beginning in the design stage by creating compact, ultra efficient products that use high recycling-value materials wherever possible.

Responsible Manufacturing – Removing Toxic Chemicals:

Building world-class products includes considering the materials that go into their creation. Our continuing goal is to reduce or eliminate environmentally harmful substances from our products and processes. Apple recognizes the need for environmentally responsible production, including the use of recyclable materials and the restriction of chemical compounds or materials that can harm the environment. Apple's record of restricting harmful substances goes back well over a decade. In recent years, Apple has been credited not only for our environmentally forward looking product design, including being named a "Forward Green Leader" by the Sierra Club, but also for our leadership in working to craft sound public policy surrounding this issue. Recently, Apple CEO Steve Jobs authored a white paper (attached)

outlining the company's progress towards eliminating toxic chemicals in our products and our plans to expand our product take-back campaign in 2007.

Many of the chemicals we all want to eliminate from electronic products are found in very small amounts, but there's one toxic substance that some companies still ship by the pound, and that's the lead contained in their cathode-ray tube (CRT) displays. A typical CRT contains approximately 3 pounds (1.36 kg) of lead. In mid-2006, Apple became the first company in the computer industry to completely eliminate CRTs. The effect has been stunning — our first CRT-based iMac contained 484 grams of lead; our current third-generation LCD-based iMac contains less than 1 gram of lead.

The European Union is generally ahead of the U.S. in restricting toxic substances in electronic products. Their latest restrictions, RoHS, went into effect in July 2006. All Apple products worldwide comply with RoHS. Our manufacturing policies had already restricted or banned most of the chemicals covered by RoHS, and Apple began introducing fully RoHS-compliant products a year before the European deadline. Despite the tough restrictions of RoHS, there are exemptions that let companies ship electronics that still contain high concentrations of two hazardous substances — hexavalent chromium and the brominated flame retardant decabromodiphenyl ether (DecaBDE). Apple phased out these and many other chemicals several years ago through design innovations and the use of higher quality metals and plastics.

Arsenic and mercury are industry standard materials used in liquid crystal displays (LCDs). Arsenic is added during the manufacturing of the high performance glass used in LCDs to prevent the formation of defects, and the fluorescent lamps used to illuminate LCDs contain minute amounts of mercury. Apple is on track to introduce our first displays using arsenic-free glass in 2007. A small number of high performance integrated circuits (ICs) will continue to contain a minute amount of arsenic as an element of the semiconductor substrate.

To eliminate mercury in our displays, we need to transition from fluorescent lamps to light-emitting diodes (LEDs) to illuminate the displays. Fortunately, all iPod displays already use LEDs for illumination, and therefore contain no mercury. We introduced our first Macs with LED backlight technology in 2007. Our ability to completely eliminate fluorescent lamps in all of our displays depends on how fast the LCD industry can transition to LED backlighting for larger displays.

Apple began phasing out PVC twelve years ago and began restricting BFRs in 2001. For the past several years, we have been developing alternative materials that can replace these chemicals without compromising the safety or quality of our products. Today, we've successfully eliminated the largest applications of PVC and BFRs in our products, and we're close to eliminating these chemicals altogether. For example, more than three million iPods have already shipped with a BFR-free laminate on their logic boards. Apple plans to completely eliminate the use of PVC and BFR's in its products by the end of 2008.

Product Design:

Apple strongly believes that reducing the environmental impact of our business starts with the design of our products. We set high standards — based on our own requirements and those set by programs such as ENERGY STAR® — in an effort to create products that offer excellent environmental performance throughout their life cycle.

The iMac and Mac Mini are great examples of ultra-efficient design, and illustrate the ways in which Apple continually refines products to further improve environmental performance. Both products also feature built-in wireless technologies such as AirPort and Bluetooth, reducing the need for PVC-insulated cabling.

Our designs also help to reduce energy consumption, minimize the use of environmentally damaging substances, and optimize the useful life of our products — all of which lead to a smaller environmental footprint. Lower energy consumption reduces electricity demand and alleviates the detrimental effects of power generation. Using recyclable materials cuts the amount of waste going into landfill. And restricting environmentally damaging substances makes products safer for consumers and businesses during their useful life and beyond.

The iMac design has continuously improved generation after generation, resulting in increased material efficiency, decreased packaging mass and volume, and decreased energy consumption.

Apple uses highly recyclable materials such as aluminum for iMac, MacBook Pro, Mac Pro, and Cinema Display enclosures, polycarbonate for MacBook enclosures, and glass for iMac display covers. The use of these high-value materials encourages recycling, which helps to minimize waste at the end of the product's life.

Energy Efficiency:

Energy consumption is one of the most significant environmental impacts a computer or electronic device produces over time. That's why one of our key goals in product design is to create products that are energy efficient. Lower power requirements not only reduce energy bills, they also lower demand and mitigate waste, thereby helping to reduce the environmental impacts associated with CO_2 and other emissions from power generation plants.

There are two ways to reduce a product's energy consumption: by using components that require less power or by using power management software to modulate the energy consumption of these components. Apple employs both techniques to maximize energy efficiency.

We believe efficiency should be the norm. Our computers ship with power management enabled, meaning that a low-power sleep mode will automatically activate if there has been no user activity for 10 minutes. Mac OS X allows your computer to rapidly scale processor performance to optimize energy use depending on how much work the processor is doing, or operate at reduced processor speed to save even more energy.

Apple's continuing efforts to improve energy efficiency have led to a number of notable successes. For example:

- Improvements in CPU power management and the migration to LCD (liquid crystal display) technology enabled a power savings of 92% in sleep-mode and a 73% decrease in off-mode power consumption between the first generation and the current iMac.

- The Mac mini consumes as little as 25W when on, less than half the power consumed by a typical light bulb, making it one of the most power efficient desktop computers in the world.
- Since 1998, Apple has cut the off-mode power consumption of power adapters used with our portable computers by 82% in a no-load situation:

Recycling:

Since 1994 we have recycled over 21 million pounds of electronic waste: 13 million pounds of e-waste in 2006 alone or 9.5% of the weight of all apple products sold seven years earlier (based on a 7-year product lifetime). Our recycling program continues to grow. By 2010 we forecast recycling 19 million pounds of e-waste per year – nearly 30% of the product weight we sold seven years earlier.

While we support a number of legislative approaches related to e-waste, such as those operational in Europe, state-by-state regulation presents unique problems of enforcement, jurisdiction, and fairness. Apple will support any program that is fair across all participants and in the end creates ease of use for our customers and rewards good product design. Electronic equipment that is designed with the environment and recycling in mind is much easier to manage at the end-of-life.

Apple maintains a variety of recycling programs, which add to recycling totals every day:

- For customers in the United States, Apple offers a free recycling program of old computers and displays, regardless of brand, with the purchase of a new Mac.

- A free iPod/iPhone recycling program, conducted through Apple's retail stores, offers environmentally friendly disposal and a 10 percent discount on the purchase of a new iPod.

- Apple's free recycling program, will take back your iPod or any cell phone — regardless of manufacturer or model.

- A trade-in program for educational and business customers in the United States has already diverted more than 270 tons of electronic waste from landfills since August 2005.

- Apple's recycling partnership with the City of Cupertino, California, has recycled more than 340 tons of electronics. All electronics products are accepted free of charge, regardless of manufacturer.

We also participate in recycling programs in Asia, including national programs in Japan and Taiwan.

All the e-waste we collect in North America is processed there and nothing is shipped overseas for disposal. Apple meets the requirements of the Basel Convention on the Control of Transboundry Movements of Hazardous Wastes and their Disposal. In addition to annual compliance audits of our recycling vendors, we review the performance of their downstream vendors. Recyclers must comply with all applicable health and safety laws, and we do not allow the use of prison labor at any stage of the recycling process. Apple does not allow the disposal

of hazardous electronic waste in solid waste landfills or incinerators, including waste-to-energy incinerators.

Legislation:

The best way to approach electronics recycling is at the Federal level. Apple supports the European style approach to electronic recycling that is comprehensive and covers products based on contents not on use.

Any legislation that is passed in the State of Hawaii should:

Be comprehensive in the scope of products that it covers. Apple currently offers take back programs for all of its manufactured products and believes that any manufacture responsibility legislation should target all products that contain similar internal and external components and chemicals. This includes computer peripherals such as: printers, scanners, fax machines, etc. These products are often more bulky and contain the same chemicals and metals as computers and other electronic equipment.

Comprehensive e-waste legislation must cover consumers, but it must also cover small and large businesses, schools and municipalities as well. Some of the biggest users of electronic equipment are companies and government entities, large and small. These computers often will enter the consumer waste stream at some point, possibly at a faster rate than consumer products, and therefore must be covered.

Incentivize good product design, not discourage it. If manufacturers are required to take-back other companies' products that are designed poorly and are not produced with high quality materials, then the incentive to design good products is diminished. Apple supports product take-back of all of our branded products. However, we believe that requiring companies to take-back other manufacturer's products is a disincentive to design good products. This type of legislation punishes companies like Apple and rewards companies that do far less in product design and recycling.

Cover well-established manufactures like Apple, but it must also cover new entrants to the market. Any recycling obligation must be based on market share and not return share. Return share places the entire burden of electronics recycling on well-established companies and allows for large loopholes in which foreign-based manufacturers can sell into the state and avoid all financial responsibility. Return share based legislation rewards new entrants to the market and companies that produce a product and then quickly leave the industry. Market share calculations more fairly apportion costs to all manufacturers – established and new – equally.

Conclusion:

Apple has a demonstrated investment in helping to recycle Hawaii's electronic waste. In 2006 Apple sponsored a weeklong recycling event in Hawaii, partnering with the University of Hawaii and the Hawaii Department of Education to recycle 1.2 million lbs of electronic waste from the State. In 2007, Apple recycled another 100,000 lbs. of electronic waste. In addition, Apple is committed to designing products with the environment in mind. The most recent example of this is the design behind our latest product: the Macbook Air. The new MacBook Air embodies Apple's continuing environmental progress with its aluminum enclosure, a material highly

desired by recyclers; Apple's first mercury-free LCD display with arsenic-free glass; and brominated flame retardant-free material for the majority of circuit boards as well as PVC- free internal cables. In addition, MacBook Air consumes the least amount of power of any Mac, and its retail box, made primarily from 100 percent post-consumer recycled material, is 56 percent smaller by volume than the previously smallest MacBook packaging. We apply this philosophy of environmental design to all of our products and in addition, Apple offers free computer takeback with purchase and free takeback for our ipods and iphones.

Apple supports ewaste legislation that is broad in scope and covers waste generated by all entities – consumers, business, schools, etc. SB 2843 has a very narrow scope, leaving many devices with the same internal components out of the legislation, such as computer peripherals. These products, such as printers and fax machines, are often more bulky and contain the same chemicals, metals, and plastics as computers. Removing these products from the scope will provide no incentive to the manufacturer's of those products to design for the environment. Product scope should not be determined by the use of the product, but rather by the contents of the product: products with similar internal and external materials should be treated the same.

In addition, SB 2843 only covers waste generated by consumers. Some of the largest ewaste generators are not covered by the legislation: waste generated from large and small business, government, and non-profits. Electronic waste often piles up in schools as equipment is continuously donated, yet under SB 2843, this waste will not be covered and cannot be recycled. This is a significant loophole in the legislation and will result in only a fraction of electronic waste actually recovered and recycled.

Apple has supported producer responsibility legislation, including legislation in Europe and the United States. Recently, Apple supported producer responsibility legislation in New York City that has a broad scope of covered devices and covers waste generated by all entities.

Thank for the opportunity to share our comments on SB 2843. We look forward to working with you to develop meaningful e-waste legislation that is fair and comprehensive. Please do not hesitate to contact me at 408.974.0343 or be email at nammann@apple.com if you have any questions.