IR/PS CSR Case #08-09

Evaluating the Need for E-Recycling and Kyocera's Impact on the Environment in San Diego

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Abstract
With every year technology is developing more rapidly. VCRs and Cassette players are already obsolete, and CDs and DVDs are on their way out. E-waste recycling is losing its value due to manufacturers utilizing more plastic and low value metals, which leads to more harmful waste ending up in the landfills. Are companies that produce environmentally friendly products, such as solar panels or rechargeable batteries, being held up to proper environmental standards? This paper evaluates the environmental activities of Kyocera Corporation. Overall findings indicate that Kyocera is committed to environmental protection and is not known to harm the environment in San Diego, but the lack of transparency about its recycling process undermines its credibility in proper waste management. The paper also reveals environmental violations by KWC's sister company Kyocera America, Inc.

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I. Introduction

Advancements in technology are always welcomed, but technological innovations can also add to environmental concern. Today the electronic industry is moving toward low-cost non-reusable electronic products, which are not built to last long, so that soon enough they will become obsolete and replaced by new inventions.

Excessive use of energy, solid waste, hazardous waste and greenhouse gas emissions result from manufacturing, packaging and consumption of high-tech products. Even though there is a growing trend in ISO 14000 certifications among technological companies, there is also a noticeable growth of e-waste[1] associated with manufacturing of electronic products. As electronic products are made using fewer precious metals and more plastics and low-value materials, the recovered value from recycling of these products is decreasing over time.[2] This reduces the incentives for manufactures to recycle, causing more e-waste to end up in landfills, which poses a significant threat to humans and wildlife due to the possibility of unleashed toxic elements such as lead, cadmium, mercury, and arsenic into the environment. For the purposes of this study, the author will consider e-waste a hazardous waste, and deem it harmful for the human health and the environment.

In section II the case study will take a closer look at the environmental risks associated with increased obsolete electronic products. It will discuss the harm posed by improperly disposed cellular phones and the benefits that result from recycling of the phones. Section III will introduce Kyocera Corporation and its Corporate Social Responsibility values, specifically environmental management standards. Section IV will describe Kyocera Corporation's environmental impact on the San Diego community through detailed evaluation of the Kyocera Wireless, Cor. and Kyocera America, Inc. environmental practices. The paper concludes that overall environmental practices of Kyocera in San

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[1] Electronic equipment, components, and related composite materials, which either became obsolete or have been generated through consumer or business activity.
[2] San Diego Regional Technology Alliance, San Diego-Tijuana High Tech Waste Prevention & Recycling Workbook, www.crossborderbusiness.com/publicdocs/2006-CGMktgMaterials/Ewaste-0205.pdf (Accessed November 28, 2008)

Diego are positive and environmental standards are well enforced. However, it is important to note that as cell phone manufacturing and recycling are being outsourced the transparency of Kyocera's environmental enforcement is being undermined. Moreover, a hazardous waste lawsuit filed against Kyocera America, Inc by Department of Toxic Substances Control proves that not every company in the Kyocera group is equally environmentally responsible.

II. Importance of E-waste Recycling

A. The Harm of E-waste

Even though, federal law in the U.S. doesn't prevent consumers from placing electronic products in trash for disposal,[3] cell phones that end up in the landfills all contain toxic agents, such as lead, arsenic, nickel, and brominated flame retardants (BFRs). Although, the U.S. Environmental Protection Agency (EPA) has disregarded commissioned research that recommended cell phones be classified as hazardous waste,[4] various solvents, acids and toxic gasses are among the byproducts of cell phone manufacturing. According to a study by the University of Florida, 28 of the 38 cell phones produced in the U.S. contain the amount of lead that exceeds the EPA hazardous-waste standard.[5]

Hazardous waste presents immediate risks to humans, animals, plants, and the environment. It needs to be specially handled for detoxification and safe disposal. In the U.S., Section 1004(7) of the Resource Conservation and Recovery Act (RCRA) legally defines hazardous waste as:

> "A solid waste, or a combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may: (a) cause, or significantly

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[3] Gartner, John, Manufacturers Address Hazards of E-Waste, AlterNet, April 25, 2004, http://www.alternet.org/environment/18506/?page=entire (accessed December 7, 2008).
[4] Cell phone recycling report card, Earthworks, www.recyclemycellphone.org/RecyclingReport_v2.pdf, (accessed December 9, 2008)
[5] We have no safe place for dead cell phones to go: and no regulations for dealing with the problem, Wireless Consumers Alliance, http://www.wirelessconsumers.org/site/pp.asp?c=giJYJ3OOF&b=27743

> contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (b) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed."[6]

The EPA has a list of more than 500 specific hazardous wastes, among which are the chemicals and metals present in e-waste. E-waste can pollute drinking water, and has been proven to cause cancer and birth defects. The full extent of its health impacts is unknown. It is often much easier to just "dump" used electronic products than recycle them. Recycling e-waste is a complicated process, which induces e-waste dumping in the developing countries with weak regulatory climates.[7] For example, a lot of electronic waste from San Diego is known to end up across the border in Tijuana.

Unfortunately, Mexico is pretty defenseless from such practices. Mexico's hazardous waste imports have doubled, and the number of waste-producing U.S. owned *maquiladora* factories have increased since 1994, when NAFTA liberalized trade. Although, NAFTA has many environmental provisions in place to prevent pollution, with this trade agreement the cross-boundary movement became easier and more hazardous waste from the U.S. is ending up on the Mexican side of the border. The 1993 US-Mexico Integrated Border Environmental Plan, established a computer database of hazardous waste movements between the US and Mexico. While the system has improved data collection, only about 12% of the hazardous waste generated in Mexico is properly managed. Hazardous waste is more problematic south of the U.S. border, because Mexico has fewer adequate hazardous waste management facilities and weaker legal regulations, which limits its capacity to handle toxic waste properly.[8]

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[6] Hazardous Waste Characteristics Scoping Study, U.S. Environmental Protection Agency Office of Solid Waste, November 15, 1996.
[7] Cell phone recycling report card, Earthworks, www.recyclemycellphone.org/RecyclingReport_v2.pdf, (accessed December 9, 2008)
[8] Clapp, Jennifer, Piles of poisons: Despite NAFTA's green promises, hazardous waste problems are deepening in Mexico, Alternatives Journal, Spring 2002, http://findarticles.com/p/articles/mi_hb6685/is_/ai_n28907953 (Accessed on December 10, 2008)

B. Cell Phone Recycling in the U.S.

The rate of replacing cell phones and other electronics is growing every year creating a problem of how to dispose of all the obsolete devices. According to the EPA, two million tons of electronic waste is put into landfills every year, and in 2005 alone, more than 130 million cell phones were discarded (almost 65,000 tons of waste). Even though, the EPA doesn't consider discarded cell phones to be hazardous waste, cell phones do release many toxins harmful to the environment and human health. As of now, there isn't a federal law enforcing cell phone recycling systems. Without such legislation, the EPA voluntary guidelines do not provide adequate incentives for manufacturers and retailers to recycle, consequently, only less than 8% of all cell phones are recycled or refurbished. Although, most cell phones can be reused or recycled, 98% of them are not.[9]

Due to the lack of federal regulation, many states passed their own laws to enforce cell phone recycling systems. California was the first one to set an example. In September 2004, Governor Arnold Schwarzenegger signed into California law the first U.S. cell phone recycling bill. The Cell Phone Recycling Act prohibits retailers to sell cell phones in California unless they entirely comply with the law, meaning they have a system in place to collect retired cell phones for reuse, recycling, or environmentally sound disposal. The law also mandated for the California Department of Toxic Substance Control (DTSC) to provide annual reports on the cell phone recycling in California. In 2006, Californians reached 17% recycling rate for the year, over 3 million phones, which was much higher than the national rate. After the California bill passed many other states started passing their own legislations.[10]

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[9] Cell phone recycling report card, Earthworks, www.recyclemycellphone.org/RecyclingReport_v2.pdf, (accessed December 9, 2008)

[10] Farwig, Brandi, Raising Cell Phone Recycling Rates through Legislation, Posted on October 19, 2007, http://recellular.wordpress.com/2007/10/19/raising-cell-phone-recycling-rates-through-legislation/ (accessed December 9, 2008).

C. Benefits of Recycling

Reuse, recycling and reclamation of hazardous waste can prevent environmental damage, protect scarce natural resources, provide economic benefits, and reduce dependency on raw materials and energy. Recycling hazardous waste decreases pollution (air, water, and soil) and reduces emissions of greenhouse gases (GHGs) associated with the extraction, refining, and processing of raw materials and product manufacturing. If all the previously discarded cell phones in the U.S. had been recycled, it would have prevented the creation of 14 million tons of mine waste. Mining is the single largest toxic polluter in the United States. For example, to source the gold in the circuit board for a single cell phone, at least 220 pounds of waste is generated.[11]

In addition to being good for the environment, hazardous waste recycling has significant economic benefits. It increases production efficiency and reduces costs associated with purchasing raw materials and waste management. If all the discarded until now cell phones were recycled, $150 million of metals would be recovered, including $100.5 million of gold and $18.6 million of silver.[12] Disposal of hazardous waste can also be very costly, so through effective recycling programs a business may be able to eliminate the generation of hazardous waste and avoid RCRA regulatory requirements. The "green" image associated with hazardous waste recycling efforts is a big part of Corporate Social Responsibility for any business that desires to please its shareholders and consumers.[13] Kyocera Corporation is well known for its proactive recycling programs.

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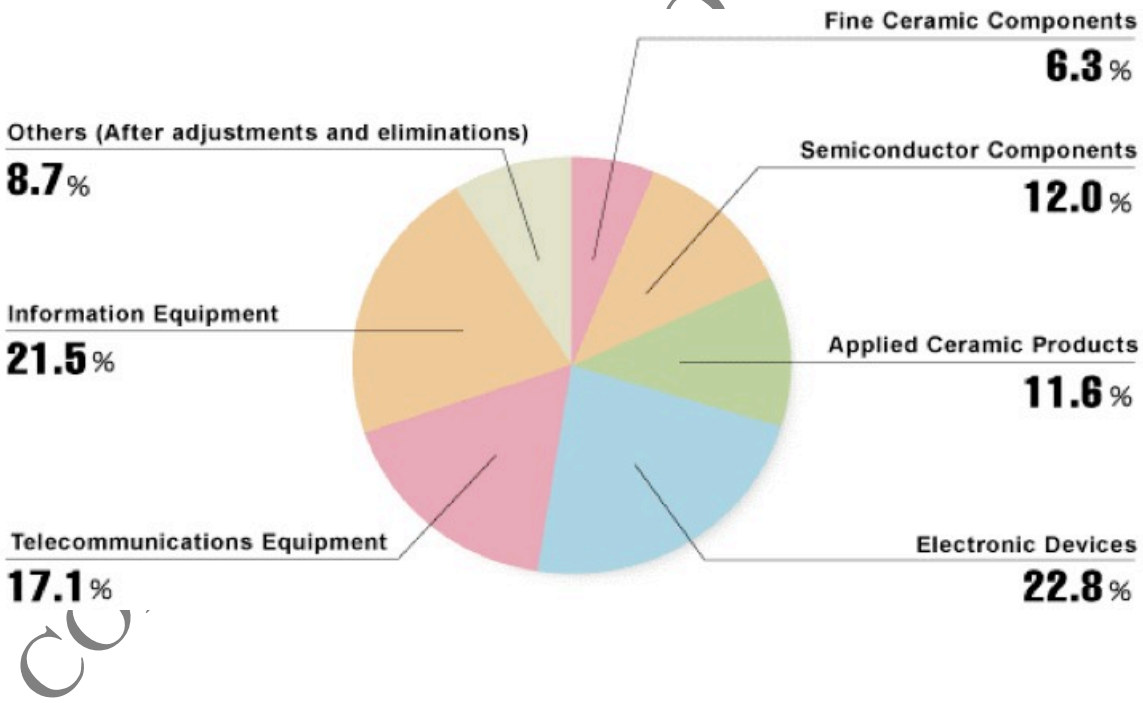
[11] Cell phone recycling report card, Earthworks, www.recyclemycellphone.org/RecyclingReport_v2.pdf, (Accessed December 9, 2008)
[12] Cell phone recycling report card, Earthworks, www.recyclemycellphone.org/RecyclingReport_v2.pdf, (Accessed December 9, 2008)
[13] The U.S. Environmental Protection Agency, Hazardous Waste Recycling Benefits, http://www.epa.gov/epawaste/hazard/recycling/benefits.htm, (Accessed November 28, 2008)

III. Kyocera Corporation[14]

A. Company Overview

Kyocera Corporation was established in 1959 in Japan and today consists of 189 companies and has 66,496 employees. Its capital is about $US 1.24 billion and its net income is about $US 1.15 billion. Although, Kyocera operates globally 39.4% of its sales in 2008 were in Japan and 19.3% in the U.S. Kyocera is well known for its contribution to the environmental protection through its solar panels, but electronic devices account for 22.8% of its sales and information equipment for 21.5%. See Table A.

Table A. Fiscal 2008 Consolidated Sales by Segment (Year ended March 31, 2008)



Kyocera is one of the world's largest vertically integrated producers and suppliers of solar energy products. The company claims that it is expanding its solar energy business to

[14] Information for this section comes from Kyocera's Corporate website, www.kyocera.com.

make a greater contribution to the environment, energy and the quality of human life on a global scale. Although many of Kyocera's solar products have contributed significantly to the conservation of the environment, does the company itself face up to its corporate social responsibility?

B. Environmental Values at Kyocera

Kyocera's Philosophy is "To do what is right as a human being", with which the company declares its commitment to fair management and operation in compliance with the most fundamental human ethical and moral values and social norms. The Kyocera Group is aiming for well-balanced CSR activities from three perspectives: business, social and environmental. This case study will only evaluate the environmental values of the group.

Kyocera recognizes the burden that business activities can place on the environment. The company understands that environmental protection is most sustainable when it is also economically feasible. The group contributes to environmental preservation worldwide by developing technologies and products with environmental and economic benefits, such as solar modules and pollution-reducing fine ceramic components. Kyocera has been developing solar energy technologies continuously since 1975.

Kyocera maintains that it contributes to the environmental protection not only through its products, but also by ensuring that its manufacturing facilities and methods are environmentally friendly throughout all development, production and distribution processes. This includes installing solar power generating systems on facility rooftops, energy and resource conservation, reducing greenhouse gas emissions, waste reduction and recycling, preventing air pollution and water contamination and chemical substances management. For example, the Kyocera Group requires the subsidiaries that produce fine ceramic raw materials, chemical products and other chemical substances to purify discharged wastewater to a "state cleaner than the waterway into which they are being released."

C. Environmental Management Standards and Monitoring

Kyocera established and has continued to thoroughly practice Kyocera Environmental Management Standards. The company asserts that these standards are far more stringent than ISO-14001 standards. Kyocera environmental management advancement system began in 1985, when the company established its environmental division. In 1990 Kyocera formed its Green Committee. Appendix A lists the history of Kyocera's Environmental Activities.

Kyocera conducts quarterly assessments to monitor the cost efficiency of investments in Environmental Protection activities. This helps to ensure the effectiveness of Environmental Protection measures within each business segment. It also claims to conduct an internal environmental audit of each office and plant on an annual basis. In addition, Kyocera states that annually its environmental performance is examined by external certification agencies.[15]

IV. Kyocera Corporation in San Diego

Kyocera Corporation has four subsidiaries in San Diego, Kyocera Wireless, Corp. (KWC), Kyocera America, Inc. (KAI), Kyocera Telecommunications Research Corporation, and Kyocera International, Inc, North American regional holding company for Kyocera. Since out of these four companies, only KWC and KAI can have major negative environmental impact, this study will not focus on environmental activities of the other two companies. Kyocera Group has an image of socially responsible company in San Diego. KWC and KAI are both ISO 9000-2000 and ISO 14,000 certified. The companies have won city, state and federal awards for its environmentally friendly manufacturing and recycling practices.

[15] This may vary for different companies within the group.

A. Kyocera Wireless, Corp. (KWC) and Recycling

The largest Kyocera subsidiary in San Diego is Kyocera Wireless, Corp. (KWC) formed in February 2000 when Kyocera acquired the terrestrial handset division from QUALCOMM, Inc. KWC produces mobile handsets and other wireless products. KWC claims that it is committed to the prevention of pollution, protection of natural resources, waste reduction and compliance with applicable environmental legislation and regulations. The company wants to be recognized by "customers, employees and community as a responsible corporate citizen" and it claims to maintain "strong commitment to an environmentally responsible world".[16]

For the first five years of its operations KWC manufactured its cell phones in San Diego. In March of 2005 KWC shifted the majority of manufacturing operations from its San Diego headquarters to a Tijuana facility operated by sister company Kyocera Mexicana, S.A. de C.V. [17] A few months later, Kyocera stopped its manufacturing operations completely, and now it is producing all of its phones in Singapore. John Chier, director of corporate communications for KWC, said the company had to move its operations in order to stay alive in a highly competitive market.[18] This shift reduced environmental liability for KWC, but it increased the environmental accountability for Kyocera Mexicana due to weaker legal enforcement of environmental standards in Mexico.

Although, in the last decade a lot of electronic manufacturing in the U.S. has been outsourced, the country has a $700 million recycling industry, which processes over 1.5 billion pounds of electronic equipment annually, yielding approximately 900 million

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[16] KWC website, http://www.kyocera-wireless.com/company-information/environmental-management-system.htm, (accessed December 9, 2008)
[17] Buckley, Tom, Company News, Business Mexico, Feb, 2005, https://www.entrepreneur.com/tradejournals/pub/0IZB_9.html, (accessed December 7, 2008).
[18] Osolinsky, Lydia, Center of Attention: Eyes are on Congressmember Susan Davis as CAFTA vote nears, Environmental Health, June 1, 2005, http://www.environmentalhealth.org/News/News_Archive/News_centerofattention.EyesonDavis.htm (Accessed on December 9, 2008)

pounds of recyclable materials. The electronics recycling industry in the U.S. employs more than 7000 workers and includes more than 400 companies. Participating in recycling can be very profitable for manufactures. According to KWC director of quality standards John Knudsen, his company made $1.14 million in 2003 by accepting old cell phones and sending them off to be recycled. Knudsen said the company's goal is "zero percent industrial waste." KWC recycles cell phone batteries, plastic housings, circuit card assemblies, and trace metals.[19]

KWC ships the cell phones designated for recycling to Metech International in Mapleville, Road Island. Metech International is an integrated electronics recycler and precious metals refiner with recycling facilities in California, Massachusetts, and North Carolina. These facilities provide base metal and precious metal recovery services, asset recovery services, de-manufacturing and certified destruction services. Metech is fully accountable for environmental harm that can be caused by recycling processes.[20] After the company receives cell phones from KWC, it evaluates the composition of metals, and then forwards the handsets to smelting plants in Japan and Europe, because the cost of meeting environmental regulations in the U.S. is too high and the profit margin too low.[21] By outsourcing their recycling KWC is not liable for hazardous waste mishandling or any other environmental violation during recycling process.

Even though KWC doesn't process recycling itself, it received many recycling awards. The City of San Diego Environmental Services Task Force honored KWC with the 2001 Director's Recycling Award one year after the company was acquired from QUALCOMM, Inc. KWC earned this award for recycling and redirecting more than 60% (2 million pounds) of its total waste material achieving a cost savings of $2,418,560. KWC reclaimed more than 3 million batteries from wireless phones in 2000.[22] KWC

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[19] Gartner, John, Manufacturers Address Hazards of E-Waste, AlterNet, April 25, 2004, http://www.alternet.org/environment/18506/?page=entire (accessed December 7, 2008)
[20] Metech International, http://www.metechgroup.com/, (accessed December 7, 2008).
[21] Gartner, John, Manufacturers Address Hazards of E-Waste, AlterNet, April 25, 2004, http://www.alternet.org/environment/18506/?page=entire (accessed December 7, 2008).
[22] KWC Corp. Honored for Environmental Responsibility, Business Wire, July 23, 2001, http://findarticles.com/p/articles/mi_m0EIN/is_/ai_76708085, (Accessed December 9, 2008).

continued its commitment to recycling and consumption of reclaimed water and in 2006 it reached recycling rate of 82% of total waste, used more than 4.5 million gallons of reclaimed water, and contributed more than $78,000 in recycling revenue and almost $500,000 in cost saving to the bottom line[23].

For eight consecutive years KWC earned the Recycler of the Year Award, which shows that every year since its conception the company has been recognized for its recycling efforts by the city of San Diego. The Environmental Services Department's Annual Waste Reduction and Diversion Awards Program recognize businesses and organizations in the City of San Diego that have implemented successful waste reduction, recycling and recycled product procurement programs. Award applicants are eligible for two different award levels Recycler of the Year and Director's Recycling Award. The Recycler of the Year Award is the highest honor given to the applicants with the most comprehensive, innovative and/or improved recycling program. During last eight years, KWC also has been one of the most active Climate Wise-Energy Star Partners, saving 931,396 kWh through energy conservation measures.[24]

B. Quality Management System and Environmental Management System

KWC takes commitment to quality very seriously. The company was one of the first ISO 9001:2000[25] certified companies in the world (certified on December 15, 2000). KWC has a strict Quality Management System (QMS) in place; and according to Kyocera's philosophy, customer satisfaction is always a priority.

Besides being committed to quality, KWC also focuses on the protection of the

[23] Williams, Dennis, Mayor Sanders Leads Awards Program Honoring Local Environmental Achievements, Environmental Services News Release, June 8, 2007, http://www.sandiego.gov/environmental-services/geninfo/news/pdf/070608_business.pdf, (Accessed December 9, 2008).

[24] City of SD Waste Reduction & Diversion Award, http://www.sandiego.gov/environmental-services/geninfo/news/pdf/2003awardsprogram.pdf, (Accessed December 9, 2008).

[25] ISO 9001:2000 combines the three standards 9001, 9002, and 9003 into one, called 9001. The 2000 version emphasizes the concept of process management (the monitoring and optimizing of a company's tasks and activities, instead of just inspecting the final product). It also demands involvement by upper executives to avoid delegation of quality functions to junior administrators.

environment. Six months after it was purchased from QUALCOMM, the company passed its ISO 14001 certification (Appendix C). KEMA Registered Quality, Dutch consulting firm, certified KWC on August 1, 2000. KEMA is an independent auditor that specializes in inspections, measurements, testing and certification. It conducts external annual audits for the compliance with ISO standards.[26] In October 2003 KEMA recertified KWC for ISO-14001 standards compliance.

Over the first three years of operations KWC has enhanced its Energy Management Control System (EMCS), resulting in savings of $124,000 and almost 1 million kilowatt hours (Kwh) of electricity. The company also has cut the amount of energy required to produce each of its wireless phones by 20%. It started using reclaimed water for irrigation, which has reduced water costs by 40% and cut the use of potable water in half. These achievements made KWC a great candidate for the recertification. According to Bob Auerbach, Los Angeles branch manager at KEMA Registered Quality, KWC showed that its entire organization, from senior management to technicians, is knowledgeable about and actively involved in the Environmental Management System (EMS). KEMA views Kyocera as a community-minded company that invests a lot of time and energy into its EMS and is very successful at it. KWC is one of only 600 communications companies in the world with the ISO 14001 accreditation.[27]

C. Environmental Management System Implementation

According to Corey Steward, Quality Assurance Director at KWC, the environmental impacts of the company are evaluated internally on regular bases. From these evaluations, goals and targets are established to reduce the severity of significant environmental impacts. The EMS Implementation Team addresses these goals through continuous improvement projects that focus in the following areas:

- Recycling (controlling and reducing hazardous and non-hazardous waste)
- Boulder EMS (environmental impact of KWC design facility in Boulder, CO.)

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[26] Stewart, Corey, Quality Assurance, KWC, interview by the author, November 20, 2008.
[27] KWC Corp. Earns ISO 14001 Recertification for Environmental Management System, October 01, 2003, http://www.kyocera-wireless.com/news/20031001.htm (accessed December 9, 2008).

- Chemical Control (monitoring acquisition and use of chemicals)
- Green Manufacturing (controlling environmental impact of manufacturing)
- Utilities (monitoring/reducing electric, water, gas and fuel use)

The director also acknowledged the importance of pollution reduction through recycling and re-using materials.[28] Without a doubt, KWC has been successful in the recycling aspect of EMS. Eight consecutive years of winning the City of San Diego The Recycler of the Year Awards is good evidence of KWC commitment to recycling and water reclamation in San Diego. The company proved to be environmentally responsible in the community. At the same time, there is very little transparency or public information available regarding the KWC design facility in Boulder, CO and outsourced e-waste.

D. Internal ISO Audit Plan[29]

KWC has a rigorous internal audit system in place. Corey Stewart himself usually does the audits. The auditor selects particular process for auditing and identifies functional groups involved in that process. The groups are interviewed regarding their conformance to selected ISO standards. The findings are documented if there is a non-conformance to the selected ISO standard, or if documented procedure or established practice is not being followed. The nonconformance can be determined to be major or minor. A *Major Nonconformance* is a violation that is systemic, results in shipment of nonconforming product, results in environmental harm, or is a legal violation. A *Minor Nonconformance* is usually non-systemic, an isolated occurrence and not likely to result in the failure of the QMS or the EMS.

If major nonconformance is found, the violator is presented with *Corrective Action Plan***,** which will indicate the corrective action activity to be implemented to prevent occurrence or recurrence of a nonconformance and the estimated implementation date. Within a week after the audit an *Audit Finding Report* has to be presented to the group**.** The violator is given 90 days to implement the Corrective Action Plan. After it has been

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[28] Stewart, Corey, Quality Assurance, KWC, interview by the author, November 20, 2008.
[29] See Appendix D

implemented, a *Verification Audit* is conducted to determine if corrective action implementation is suitable and effective. If audit findings have been resolved, the audit is officially closed, but if an audit closure has not occurred, *escalation* is determined at the discretion of the auditor.

Although the process for internal auditing at KWC seems rigorous, it should not compensate for very infrequent outside third party monitoring. KEMA audits KWC every three years for company's conformance with ISO-14001 standards and reissues the certificate, but no other external auditing takes place in between KEMA's visits.

E. Kyocera America, Inc. (KAI)

Another San Diego based subsidiary of Kyocera is Kyocera America, Inc. (KAI), which produces ceramic packages that house semiconductors and other electronics, such as microwave and radio frequency devices. KAI's services include package design, assembly, and testing. It also provides nickel, gold, copper, and tin-lead plating services, production of which creates hazardous waste. KAI is a sister company of KWC. KAI came to San Diego in 1971 and Kyocera was the first Japanese-owned company with production operations in the State of California. In 1987, KAI began operating a *maquiladora* in Tijuana, Mexico known as Kyocera Mexicana, S.A. de C.V. Today, KAI is one of the world's largest manufacturers of metalized ceramic packages for the wireless industry.[30]

Contrary to KWC, its sister company, Kyocera America, Inc. is not famous for their positive environmental impact. KAI received only one Recycler of the Year award from the City of San Diego in 2001for recycling of 68.20% for all waste generated and successfully diverting 858,045 pounds of material from the landfill.[31] Regretfully, since 2001 KAI hasn't impressed San Diego with their recycling efforts, while KWC has

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[30] http://americas.kyocera.com/kai/semiparts/about/index.html

[31] City of SD Waste Reduction & Diversion Award, www.sandiego.gov/environmental-services/recycling/pdf/05awardprogram.pd, (Accessed December 9, 2008)

received the recycling award annually.

The EPA biennially collects information regarding the generation, management, and final disposal of hazardous waste regulated under the Resource Conservation and Recovery Act of 1976 (RCRA). According to EPA's 2007 findings, Kyocera America, Inc generated about 179 tons of hazardous waste but managed 0 tons. EPA does not provide information about the waste that was stored, bulked and/or transferred off site.[32] KAI doesn't make this information public. So what had happened to 179 tons of hazardous waste?

F. Department of Toxic Substances Control Lawsuit

On September 13, 2007, the Attorney General's office filed a Complaint for Civil Penalties and Injunctive Relief in the enforcement case against KAI. Department of Toxic Substances Control (DTSC) staff conducted three inspections of KAI's facility on May 19, 2003, October 16, 2003, and June 28, 2005. These inspections resulted in an enforcement action that led to the civil complaint. Through this complaint DTSC is attempting to address violations of the California Hazardous Waste Control Law (HWCL) and charges Kyocera with the responsibility to adopt standards and regulations for the management of hazardous waste to protect the public health and environment.[33] Settlement negotiations have been ongoing and the case is scheduled for jury trial in January 2009.[34] According to Gary Erbeck, Chief of the County Department of Environmental Health's Hazardous Materials Division, the case is in the process of getting settled and my not be tried.[35]

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[32] The United States Environmental Protection Agency, The National Biennial RCRA Hazardous Waste Report (Based on 2007 Data).
[33] Department of Toxic Substances Control, Complaint for Civil Penalties and Injunctive Relief - September 2007, http://www.dtsc.ca.gov/HazardousWaste/Projects/Kyocera_America.cfm (accessed Nov. 27, 2008).
[34] Department of Toxic Substances Control, End of the Year Report Fiscal Year 2007-08: Enforcement and Emergency Response Program (EERP), www.dtsc.ca.gov/HazardousWaste/upload/EERP_EOY2.pdf (Accessed Nov. 27, 2008)
[35] Erbeck, Gary, email message to author, December 8, 2008.

The complaint contains these accusations:[36]

1. Illegal Treatment of Hazardous Waste
2. Failure to Make a Hazardous Waste Determination
3. Failure to Assess Whether Hazardous Wastes Were Subject to Land Disposal Restrictions and Whether Applicable Treatment Standards Applied
4. Illegal Storage of Hazardous Wastes
5. Failure to Properly Label Hazardous Waste Containers as "Hazardous Waste"
6. Failure to Comply with Documentation Requirements Applicable to Conditionally Exempt Recyclable Hazardous Wastes
7. Failure to Obtain Assessment by Certified Engineer for Existing and New Hazardous Waste Treatment Tanks
8. Failure to Provide Secondary Containment for Hazardous Waste Treatment Tanks Assessed and Certified by Engineer
9. Failure to Provide Separate Secondary Containment for Incompatible Hazardous Wastes
10. Failure to Conduct Inspections of Hazardous Waste Tanks and Maintain Appropriate Documentation
11. Failure to Have Written Inspection Schedule for All Generator Areas Within the Facility
12. Failure to Maintain At Least 2 Feet of Freeboard for Hazardous Waste Tanks
13. Failure to Appropriately Manage Empty Hazardous Waste Containers
14. Failure to Maintain and Operate Facility to Minimize Hazardous Waste Releases
15. Failure to Comply with Hazardous Waste Exemption Requirements
16. Falsification of Documents
17. Failure to Properly Inspect and Maintain Emergency Equipment
18. Failure to Comply with Tank Closure Requirements
19. Failure to Properly Close Hazardous Waste Containers Failure to Maintain Appropriate Employee Training Documentation
20. Failure to Maintain an Adequate Written Contingency Plan

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[36] See Appendix E for a front page of a complaint. Download full lawsuit at http://www.dtsc.ca.gov/HazardousWaste/Projects/Kyocera_America.cfm

V. Conclusion

With an increasing rate of technology innovation there is a growing need for recycling of obsolete products. This paper sheds light on the harmful impact of electronic and hazardous waste on the environment and the importance of e-waste recycling, specifically disposed cell phones. With a new trend of "disposable" electronics the recycling value is declining, which reduces incentives for companies to recycle.

Due to stricter environmental rules in California and in the U.S. in general, in comparison to the developing countries, many Kyocera companies are outsourcing their production and recycling. Such "clever" tactics help the company to maintain its "green" image and minimize lawsuits. There is also a lack of transparency associated with the hazardous waste recycling process among Kyocera suppliers. Until the process becomes transparent and hazardous waste management information is available to the public, the skepticism over Kyocera's environmental practices will remain.

The study demonstrates Kyocera Group's environmental values and using San Diego subsidiaries, KWC and KAI, as an example, shows two very different efforts of Environment Management Systems implementation and enforcement. KWC has been a role model for their recycling efforts in the community, while KAI is fighting a lawsuit for hazardous waste mishandling. Although CSR goals for Kyocera group are the same, it is impossible for all 189 companies that comprise Kyocera Group to have an equal level of compliance and undergo effective corporate monitoring.

VI. Discussion and further research questions:

1. Kyocera Wireless outsources its recycling to Meterch in Rhode Island. Why the company does choose to send cell phones to Rhode Island if Metech also operates recycling facilities in California?

2. For further research on environmental impact of Kyocera is worth investigating KAI environmental activities. Do you think KAI is just hiding behind Kyocera's Corporate CSR department and other proactive subsidiaries like KWC?

3. Despite the encouraging growth of ISO 14000 certified companies and apparent growth of e-waste recycling in Tijuana and San Diego, what are the future potential market problems for recyclables?

4. What were the results of the KAI hearing scheduled for January 2009? Was there a settlement?

VII. Appendix

Appendix A: History of Kyocera's Group Environmental Activities

1985	Kyocera environmental division established
1990	Kyocera Green Committee established
1991	Kyocera Environmental Charter established
1992	Environmental Protection Promotion Plan started Kyocera Eco-Product Label System established
1996	Kyocera Global Environment Contribution Award established
1997	ISO 14001 Certification attained at nine production plants
1998	"Green Procurement" began Environmentally friendly global headquarters opened with 214 kW PV system
1999	Received the 8th Global Environment Award, "Fujisankei Communication Group Prize." Attained ISO14001 Integrated certification for environmental systems management at 42 sites company-wide.
2000	Environmental Report released on www.kyocera.com
2001	Supported "e-mission 55" initiative to enact Kyoto Protocol
2003	Kagoshima Kokubu Plant honored for environmental excellence at Japan's first Sustainable Management Awards
2004	First Sustainability Report Meeting held (now CSR, Economic, Social, and Environmental Report Meeting)
2005	Fifth Environmental Protection Promotion Plan started
2006	Environmental Consciousness Evaluation System introduced
2008	Environmental booklet "Ecolife Note" issued for employees Green Management

Appendix B: KWC's ISO 14001 Certificate

KEMA

Affiliate with the N.V. KEMA in the Netherlands

CERTIFICATE

Certificate Number: 540053.001

The Environmental Management System of:

Kyocera Wireless Corporation

10300 Campus Point Drive
San Diego, CA 92121-1714
United States

6150 Lookout Road
Boulder, CO 80301
United States

Including its implementation, meets the requirements of the standard:

ISO 14001:2004

Scope:
Kyocera Wireless Corp. (KWC) designs and markets wireless products and controls the outsourced production, distribution, and servicing of wireless products. The Boulder Design Center does Accessory design.

This Certificate is valid until: August 1, 2009
This Certificate is valid as of: November 1, 2006
Certified for the first time: August 1, 2000

H. Pierre Sallé
President
KEMA-Registered Quality

The method of operation for environmental certification is defined in the KEMA General Terms And Conditions For Quality And Environmental Management Systems Certifications. Integral publication of this certificate is allowed.

KEMA-Registered Quality, Inc.
4377 County Line Road
Chalfont, PA 18914
Ph: (215)997-4519
Fax: (215)997-3809
CRT 003 073004

Accredited By:
ANAB

ANAB ACCREDITED

Appendix C: KWC Internal ISO Audit Plan

Internal ISO Audit Plan
Information Technology Support
Audit Number: IA-2007- Information Technology Support

This Internal audit is required by ISO 9001:2000 (Quality Management System-QMS).

KEMA (external audit organization), our registrar for ISO 9001:2000 & 14001:2004, relies heavily on the results of internal audits annually.

ISO Documents business procedures are available on Livelink.

Additional ISO information and contacts can be obtained from the KWC ISO Center located on the KWCNet homepage.

Audit Scope: This audit will be an examination of KWC's Information Technology Support. The audit will be conducted to determine conformance to the requirements defined in ISO 9001:2000 and to KWC internal procedures.

Audit Criteria:
The following ISO requirements will be addressed during this audit.

Type of audit: QMS

ISO 9001:2000 8.2.2, 8.5.1, 8.5.2, 8.5.3

Elements to include: QMS – *5.5.1 Responsibility, Authority, and Communication, 6.2.2. Competence Awareness and Training, 8.5.1 Continual Improvement, 8.5.2 Corrective Action, 8.5.3 Preventive Action*

Documents to review:
CC00084 Internal Audit Procedure (QMS & EMS)
CC00085 Internal Audit Roles & Responsibilities
CC00112 Preventive and Corrective Action
IC00614 Internal Audit Index
And other locally controlled documents

Audit Team: Corey Stewart

Audit Contacts: Art Wolfkind

Date of Audit: 6/07

Audit Objectives: To determine conformance of KWC's Information Technology Support for tasks directly affecting the product quality, services and process improvement is established and documented.

Internal ISO Audit Plan
Information Technology Support
Audit Number: IA-2007- Information Technology Support

Section I: The Internal Audit Process

Audit Purpose: The purpose of an ISO audit is to identify opportunities for improvement.

Audit Focus: An audit focuses on a process not on the individual performing the process.

Process: A process is any activity that receives inputs and converts them to outputs.

Auditee Selection: Specific processes are selected for audit. Functional groups involved in a selected process are identified and individuals representing functional groups are contacted for an interview.

Interview: During the audit, a series of questions will be asked by the auditor(s) to determine conformance to selected ISO standards and internal documentation and established practices.

Audit Findings: If during the course of the audit, a nonconformance (discrepancy) is identified, an audit finding is documented. An audit finding is documented to indicate one or more of the following: a) documented procedure is not being followed; b) established practice is not being followed; c) we do not conform to requirements of the selected ISO standard.

An audit finding also may be documented to identify a "best practice" or a condition that if not corrected, may cause a future audit finding.

If any audit findings are documented, you will be notified during the audit. At the close of the audit, a copy of the audit finding form will be signed by an auditor and a representative of the function being audited (you or your manager/supervisor). A signature indicates that the auditor has discussed the findings with you.

Audit Finding Classifications:

Major Nonconformance: A finding where a relevant requirement of the standard has not been met.
The finding is:

- systemic;
- result in shipment of nonconforming product;
- situation that would result in pollution, harm our natural resources, or excessive waste;
- a nonconformity to laws or regulations;
- a condition that may result in the failure of products or services, or may materially reduce their usability.

Minor Nonconformance: A finding where a requirement of the standard or the Quality/Environmental Management System has not been fully met. The finding is:

- non-systemic;
- an isolated occurrence;
- not likely to result in the failure of the Quality Management System or the Environmental Management System.

Opportunity for Improvement (OFI): Documentation of "best practices" or a finding that documents an opportunity for improvement in areas where requirements of the standard have been met.

Internal ISO Audit Plan
Information Technology Support
Audit Number: IA-2007- Information Technology Support

Corrective Action Plans: If an audit finding is documented as a nonconformance, a corrective action plan will be required. The corrective action plan will indicate the corrective action activity that was implemented or will detail the activities to be implemented to prevent occurrence or recurrence of a nonconformance and the estimated implementation date. The corrective action plan may be in the form of an email. Responses to Opportunity for Improvement are not required; however, a response to an observation is encouraged.

A corrective action plan or corrective action closure is due within ten working days from receipt of the audit findings report unless an extension has been approved by the audit coordinator.

Audit Finding Report: An audit finding report will be distributed to you or your manager/supervisor within a week after the audit.

Verification Audit: When corrective action has been implemented, a verification audit will be conducted to determine if corrective action implementation is suitable and effective.

Audit Closure: Once audit findings have been resolved, the audit is officially closed. You or your manager/supervisor will be notified of audit closure by e-mail.

Escalation: Corrective action plan implementation is expected within 90 days. Most corrective actions can be completed in 90 days. If corrective action cannot be implemented, an extension may be allowed. If an extension is not granted, and audit closure has not occurred - escalation is determined at the discretion of the auditor

Appendix D: Lawsuit against KWC filed by DTSC on September 13, 2007

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SUPERIOR COURT FOR THE STATE OF CALIFORNIA

FOR THE COUNTY OF SAN DIEGO

PEOPLE OF THE STATE OF CALIFORNIA, *ex rel.* Maureen F. Gorsen, Director, California Department of Toxic Substances Control, Plaintiff, v. KYOCERA AMERICA, INC., and DOES 1-10, Defendants.	Case No. 37-2007-00074954-CU-MC-CTL COMPLAINT FOR CIVIL PENALTIES AND INJUNCTIVE RELIEF (Health and Safety Code sections 25189 and 25189.2)

Plaintiff, the People of the State of California, ex rel. Maureen F. Gorsen, Director of the California Department of Toxic Substances Control alleges as follows:

PRELIMINARY STATEMENT

1. Plaintiff brings this action to address violations of the California Hazardous Waste Control Law ("HWCL"), California Health and Safety Code sections 25100 *et seq.*, and of certain regulations and requirements adopted and issued by Plaintiff pursuant to these state statutes.