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March 28, 2022

To: Senator Donna Mercado Kim, Chair Senator Michelle N. Kidani, Vice Chair Members of the Committee on Higher Education

> Senator Glenn Wakai, Chair Senator Bennette E. Misalucha, Vice Chair Members of the Committee on Energy, Economic Development, and Tourism

Date: Tuesday, March 29, 2022 Time: 3:00 p.m. Place: Conference Room 229 State Capitol 415 South Beretania Street

SUPPORT FOR SCR 214 / SR 207

My law firm represents Safe Dynamics, Inc. ("Safe Dynamics"), an independent safety company that promotes the public's understanding and acceptance of wireless technologies. Safe Dynamics' 3rd party certification process ensures the public that all wireless sites, including 5G, can operate safely when in compliance with FCC exposure guidelines. I respectfully submit the following testimony in support of SCR 214 / SR 207.

The purpose of this resolution is to ensure that growth in new wireless technologies, and corresponding growth in wireless transmitting antennas, occurs in a responsible and managed manner, consistent and in compliance with Federal Communications Commission ("FCC") regulations. This resolution requests that the University of Hawaii establish a process to determine the most appropriate means of providing the public, workers, and others who may be in close proximity to a radio frequency transmitting antenna with information that supports compliance with the FCC's regulations pursuant to title 47 C.F.R. section 1.1307(b), which establishes requirements for applicants seeking authorizations for radiofrequency sources, including compliance with limits on human exposure to radiofrequency.



The University of Hawaii is uniquely capable of providing reliable, independent, transparent, credible, verifiable, and scientific analysis concerning wireless technologies. Based on numerous meetings, phone calls and emails on this subject, I have drafted the attached Q&A discussing the most frequently-asked questions, which I hope will be helpful. I respectfully ask that this committee support protecting the public and affected workers' health and safety and pass this resolution.

Sincerely,

SCHLACK ITO A LIMITED LIABILITY LAW COMPANY

/s/ Matthew M. Matsunaga Matthew M. Matsunaga



IS VERIFYING COMPLIANCE WITH THE FCC'S EXPOSURE LIMITS BY A STATE PREEMPTED BY FEDERAL AUTHORITY?

No, the FCC itself, in its June 2, 2000 publication entitled "A Local Government Official's Guide to Transmitting Antenna RF Emission Safety: Rules, Procedures, and Practical Guidance," recognizes this right of local governments, "At the same time, state and local governments may wish to verify compliance with the FCC's exposure limits in order to protect their own citizens." As a distinction, the FCC does not allow state and local governments to consider RF radiation health concerns when wireless carriers are obtaining a permit to build a new wireless site; however, verifying RF compliance is permitted.

Further, federal law is clear that determining compliance with existing FCC radio frequency regulations by the state government is not preempted by the FCC regulations. In fact, a federal court has ruled that, if an instrumentality of a state or local government "has made no effort to impose its own view of RF levels on the [carrier's] application nor to substitute its judgment for that of the FCC, but has merely sought a demonstration of compliance, then nothing in the statutory language is so broadly preemptive as to excuse the [carrier] from having to demonstrate compliance with FCC regulations regarding FCC emissions." Sprint Spectrum, L.P. v. Township of Warren Planning Bd., 325 N.J. Super. 61, 74-75 (Law Div. 1999). Further, another federal court has also ruled that, "Where Congress has the authority to regulate private activity under the Commerce Clause, we have recognized Congress' power to offer States the choice of regulating that activity according to federal standards or having state law preempted by federal regulation." Cellular Phone Taskforce v. F.C.C., 205 F.3d 82, 96 (2d Cir. 2000).

DOES THE FCC ROUTINELY MONITOR RADIOFREQUENCY RADIATION HUMAN EXPOSURE SAFETY AND COMPLIANCE FROM TRANSMITTING ANTENNAS?

No, the FCC Enforcement Bureau only investigates human RF safety complaints that have been filed with their department. Unfortunately, the RF radiation emitted from RF transmitting antennas is an invisible but real hazard, and very few people would know how to document a case and file it with the FCC's Enforcement Bureau. There is little, if any, public direction that would explain how that is done. There is no notification at the wireless sites regarding where and how to file a complaint. The Enforcement Bureau does not investigate a complaint that has not been submitted.

In its last major reorganization in 2017, the FCC's Enforcement Bureau <u>reduced the number of field offices</u> across the US from 24 to 13 and cut the number of field personnel in half from 108 to 54. The FCC's own website has language that states, "...., the FCC does not routinely perform RF exposure investigations unless there is a reasonable expectation that the FCC exposure limits may be exceeded." Few if any sites are ever investigated due to the FCC's very limited dedicated resources. There are hundreds of thousands of wireless sites throughout the United States with only 54 field personnel able to manage and monitor RF exposure compliance.



the FCC does not routinely perform RF exposure investigations unless there is a reasonable expectation that the FCC exposure limits may be exceeded.

Essentially, the FCC itself states that it does not have the resources to proactively monitor compliance with its own RF safety rules and will only investigate when a complaint is filed and there is a reasonable expectation that the exposure limits are exceeded. Since the vast majority of the population would not be able to recognize a site that is out of compliance, file a complaint with the FCC, **and** convince the FCC that an investigation is warranted, virtually all cases of non-compliance go unaddressed.

The FCC's 2013 Notice of Proposed Rule Making Change, proposed several changes to RF safety protocols at wireless sites, particularly in Paragraphs 84, 109, 185, and 193, and Paragraph 193 describes the FCC expectation of who is ultimately responsible for RF Safety Compliance by stating, <u>"However, since it is ultimately the licensee that is responsible for compliance,</u> we seek comment on how to better encourage cooperation between property owners, <u>managers, and licensees in the implementation of RF safety programs."</u> Currently, the wireless carriers self-certify compliance for ensuring human safety near RF transmitting antennas; however, this has not been determined to be an acceptable practice by the insurance industry, as they will not underwrite RF exposure insurance without a comprehensive RF Safety protocol to ensure human safety near RF transmitting antennas.

WHAT ARE THE DANGERS OF DEFERRING TO THE FCC FOR DETERMINING WHETHER ANTENNAS ARE SAFE TO WORKERS AND THE PUBLIC?

Because the FCC does not have the resources or the personnel to routinely monitor the exposure levels at all of the thousands of transmitters that are subject to FCC jurisdiction, the risk of those levels being exceeded are real and serious. When the levels are exceeded, it is most likely close to the transmitting antenna. The strength of RF signals, like all types of electromagnetic radiation, decreases quickly with distance from the source. For most freestanding cell antenna towers, the danger zone – where RF levels are higher than the exposure limits – is usually inaccessible, but for roof-mounted antennas, public access is not uncommon. The FCC requires that such danger zones be roped off and warning signs posted, but these requirements are not always followed. Workers such as roofers, window washers, painters, HV/AC technicians, carpenters, sheet metal workers, masons, building engineers and superintendents, firefighters, wireless industry workers, and others have been and continue to be concerned that their safety and health have been and continue to be compromised by exposure to RF radiation in excess of lawful limits.

For example, the International Association of Firefighters (IAFF) described the effects of RF overexposure both thermal and non-thermal levels: "Internationally acknowledged experts in the field of RF/MW radiation research have shown that RF/MW transmissions of the type used in digital cellular antennas and phones can have critical effects on cell cultures, animals, and



people in laboratories and have also found epidemiological evidence (studies of communities, not in the laboratory) of serious health effects at "non-thermal levels," where the intensity of the RF/MW radiation was too low to cause heating. They have found:

- Increased cell growth of brain cancer cells (5)
- A doubling of the rate of lymphoma in mice (6)
- Changes in tumor growth in rats (7)
- An increased number of tumors in rats (8)
- Increased single- and double-strand breaks in DNA, our genetic material (9)
- 2 to 4 times as many cancers in Polish soldiers exposed to RF (10)
- More childhood leukemia in children exposed to RF (11)
- Changes in sleep patterns and REM type sleep (12)
- Headaches caused by RF/MW radiation exposure (13)
- Neurologic changes (14) including: Changes in the blood-brain-barrier (15), Changes in cellular morphology (including cell death) (16),
- Changes in neural electrophysiology (EEG) (17), Changes in neurotransmitters (which affect motivation and pain perception) (18),
- Metabolic changes (of calcium ions, for instance) (19) and Cytogenetic effects (which can affect cancer, Alzheimer's, neurodegenerative diseases) (20)
- Decreased memory, attention, and slower reaction time in school children (21)
- Retarded learning in rats indicating a deficit in spatial "working memory" (22)
- Increased blood pressure in healthy men (23)
- Damage to eye cells when combined with commonly used glaucoma medications (24)"

Further, the International Brotherhood of Electrical Workers (IBEW), in a 2015 letter to the FCC stated, "[e]xcessive exposure to RF radiation leads to well-documented potential harms, especially to workers who spend time near the antenna and in the line of the antenna's beam . . . [Also,] employers are rarely informed of the location of RF antennas. Furthermore, RF antennas are often not recognizable because they are intentionally camouflaged with landscape or hidden by building features."



Finally, the insurance industry does not provide RF exposure coverage for any wireless site because they see this issue as an unmitigated risk. This material risk may be concerning to the University of Hawaii. According to Roger Egan, former head of the largest insurance brokerage firm in the world, Marsh McLennan, "The State of Hawaii's University System, to my knowledge, has no protection for the resulting Bodily Injury emanating from exposure to RF radiation from cell towers. Radiation damage is real and has been documented. The University System may not even have the protection of "defense coverage" for an alleged injury. [Attached is one of many scientific papers put forth about RF radiation.] The exposure is real and material."

HOW WOULD THE UNIVERSITY OF HAWAII PAY FOR THE STUDY AND REPORT IN HCR 37 and SCR 214?

HCR 37 and SCR 214 provide that UH is requested to consider a method to secure funding to be used for the services to be provided pursuant to this resolution. It is anticipated that the stakeholders would work collaboratively to determine such a method, including potential Federal and grant monies. Also, there may be potential symbiotic projects involving RF compliance technology and its utilization for all the public higher education colleges in Hawaii.



Mexico City, 21st of March of 2022.

Senator Donna Kim Hawaii State Capital 413 S. Beretania Street, Suite 202 Honolulu, Hawaii 96813

Dear Senator Donna Kim:

It has come to my attention as a senior member of the Mexican Telecommunications Regulator (IFT) Advisory Board about the legislation in Hawaii you introduced into the State Senate, S.C.R.214. I would like to introduce myself and to congratulate you and the Hawaiian Legislative Bodies for the involvement and efforts in such an important matter that will ultimately enable a better future, based upon safety for low-latency and high-capacity communications and RF emission safety.

We are keeping a close watch on the regulation innovations around the world regarding the deployment of IMT/5G networks and the safety concerns due to an existing lag between regulation and technology advancement. The history of Hawaiian participation in the development of technology for networking is long and strongly appreciated amongst the technical community and your proposed legislation seems reasonable example for other countries.

I am a Mexican electronics and communications engineer with a long career on devices and engineering systems development. At the same time, I have been a professor at Universidad Iberoamericana in Mexico for the last 32 years with research and teaching experience in the UK. For the last 6 years I have been a member of the Advisory Board for the Mexican Telecommunications Regulator (the Federal Institute of Telecommunications which is the equivalent of the Federal Commission of Communications in the USA). Now I have the honor to fulfill the Constitutional duty to act as the President of such an Advisory Board. In the past I also served as the President of the Mexican Chapter of the Internet Society. Within my activities as a member of the Mexican Academy of Informatics and the Mexican Technical Committee for Standardization of Electronics and Information and Communication Technologies, along with my colleagues I have observed how new technologies bring novel challenges to legislation and regulation towards public safety around the world. The Advisory Board for IFT has now a working group on RF safety and monitoring.

VI CONSEJO CONSULTIVO INSTITUTO FEDERAL DE TELECOMUNICACIONES

In addition to the natural lag between legislation, regulation and technology advancement, other factors that may impact public health and safety include unforeseen degradation of components used to implement mobile communications networks such as the modern antennas used for 5G cellular networks. We should also consider the assumed radiofrequency and electromagnetic emissions safe levels as discussed within the International Union Telecommunications (ITU). After recent ITU/WTSA-20 assembly there still seems to be a lack of universal agreement on the safe levels of such non-ionizing radiations. This situation leads to the conclusion that all the parties (users, industry, and government) in the sector must get involved to identify and agree the best conditions to promote public safety while enjoying the benefits of such enabling technologies.

As proposed in our recommendations, we have suggested that Mexican Universities get involved with other higher education institutions around the world working in these and other relevant matters of wireless communications technologies. It would be well appreciated if Mexican institutions can stablish new links to Hawaiian universities as wireless technologies in the United States are well ahead of our current deployments and the safety concerns and doubts are similar around the world.

Finally, I noticed that the financial sustainability of your proposed legislation has efficiency and may prove a cost-effective method to provide these necessary human safety safeguards and address the public's concern's on 5G and other wireless technologies. These proposals may inspire regulation changes that could be implemented elsewhere including Mexico. I strongly encourage any change in regulations which I hope can be achieved for social benefit which sometimes is forgotten as our efforts are focused on efficacy and efficiency of the mobile networks.

Please feel free to contact me at <u>cc.luis.martinez@ift.org.mx</u> if I can provide further information.

Best Regards,

Dr. Luis M Martínez-Cervantes, BSc.EE, MSc.IMS, PhD, M.IEE., M.AMIAC President of the VI Advisory Board of the Mexican Federal Telecommunications Institute



RE: Statement in Support of Hawaii's Senate Concurrent Resolution- SCR 214

Wireless communications technology has become an indispensable part of everyday life for virtually all consumers in Hawaii. However, as the wireless networks grow to meet increasing consumer demand, the infrastructure (base stations or "cell sites") required to meet this demand has begun to steadily encroach on neighborhoods, schools, and workplaces. Many more sites will need to be built, and existing sites upgraded to deliver the capacity and performance promises of new broadband wireless technology such as 5G.

Federal regulations already exist to ensure safe use of radio frequency (RF) or wireless communications technology. Responsibility for regulation and enforcement falls to the Federal Communications Commission (FCC). Public safety can be assured, assuming these regulations are being fully complied with. Years ago, industry experts estimated at least 10% of wireless sites were out of compliance¹. With the hundreds of thousands of cell sites currently in existence and hundreds of thousands more to be built in the next few years in the US, it is unreasonable to expect the limited resources of the FCC to ensure compliance of every cell site with its RF safety rules. While the wireless carriers are ultimately responsible for ensuring compliance at their sites, however it is difficult to comply in many cases as the licensees do not fully control the access to every one of their sites. Furthermore, the public does not always trust or accept the self-certification by the wireless carriers that RF compliance is assured.

Ultimately, what is needed to solve the issue of RF safety and ensure safety at Hawaii's wireless communication sites, is a system that involves all of the critical stakeholders, including the wireless carriers, local governments, building and property owners, employers and their employees, insurers, and others. The proposed legislation SCR 214 addresses this, by the designation of a neutral, 3rd party entity by the State of Hawaii that can ensure public and worker safety through verified compliance with the FCC's rules while properly addressing public questions and concerns. To provide a further backstop and ensure the overall integrity of this new public safety system, insurance would be provided in the event of any RF overexposure accident or genuine injury claim. Finally, such a system would allow continued and timely deployment of broadband wireless networks. I support SCR 214 and thank Senator Donna Kim for introducing this legislation.

Sincerely,

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DJ Hill – Chairman & CEO, Safe Dynamics, Inc.

¹<u>Cellphone Boom Spurs Antenna-Safety Worries (Wall Street Journal)</u>

Beneventure Partners, LLC

March 22, 2022

Senator Donna Kim Hawaii State Senate 415 S. Beretania Street, Room 202 Honolulu, HI. 96813

RE: Senate Concurrent Resolution - S.C.R 214

Honorable Senator Kim:

I am the former CEO of Apple, National Semiconductor, and a longtime member of AT&T's board. I am a technology expert with a Ph.D. in Physics. I know how Radio Frequency (RF) technology works and the serious health effects RF exposure can have on humans.

In recent years, I met with the former Federal Communications Commission (FCC) Chairman, Tom Wheeler, Representative Anna Eshoo Chairman, and several wireless industry experts in an attempt to help solve the issue of RF safety for the public and workers at or near our nation's wireless transmission sites.

Hawaii's Senate Concurrent Resolution – S.C.R. 214 contains important framework to provide RF Safety for workers and other at wireless sites. The FCC attempted to solve this problem with their 2013 Notice of Inquiry to obtain comments on potential RF safety solutions to address today's wireless world however I applaud Hawaii's efforts to protect the public and workers from RF exposure at wireless sites.

What we are doing here is bringing together the requisite stakeholders to truly solve this uninsurable risk for RF safety at wireless sites. The wireless carriers, the building owners, employers, or others are the principal wireless stakeholders and without their participation in a RF Safety Solution, there really is no solution. You cannot expect the wireless carriers to be solely responsible because they cannot control the actions of the property and building owners who host their equipment and others. They just do not have 24/7 knowledge of when individuals can get near their transmitting antennas.

This important legislation can be the cornerstone of our obligation to the public and workers regarding wireless site safety. Again, I applaud you and your colleagues for this bill and your efforts to implement what I would consider, one of the most important pieces of wireless safety legislation I have seen.

If I can be of any assistance to you, the Hawaii legislator, or Governor Ige, please let me know.

Sincerely

Gilbert F. Amelio - CEO

March 26, 2022

ROGER E. EGAN

Honorable Senator Donna Kim Hawaii State Senate 415 S. Beretania Street, Room 202 Honolulu, HI. 96813

Honorable Senator Donna Kim:

I would like to applaud you, along with the State of Hawaii, for doing the right thing by proposing protocols as described in SCR 214 that will lead to real RF safety for workers and others at wireless sites and allow for the availability of RF exposure insurance for building and property owners, including municipalities, who host wireless transmission sites.

I would like to go on record as being a strong supporter of wireless technology, and I support the wireless carriers for developing and deploying this technology that makes our lives better in so many ways. All of us, including the wireless carriers and the CTIA, need to be on the right side of this issue by ensuring human RF safety at wireless sites.

I will be submitting my previous testimony (SB 3016) with this SCR 214 testimony. In addition, I would like to address a couple of items that I did not cover in my previous testimony:

Previous testimony provided by Verizon and the CTIA raised the issue of preemption. I am of the opinion that verifying compliance with existing federal laws is an essential practice and done on a regular basis. How could the wireless industry be any different than the aviation, medical, manufacturing, farming, chemicals, railroad, transportation, insurance, financial, and other industries regulated by the federal government who are required to certify compliance on an annual basis? Even local communities can require independent certification for wireless site compliance in their jurisdiction.

There was also an argument made by Verizon that if the State of Hawaii were to pass the previous legislation, it would slow the deployment of broadband, which is the term used for internet connectivity. I ask you, how would adopting a safety protocol to provide RF safety for workers and assist the public impede broadband deployment? They are two very separate issues. Is Verizon suggesting that if a nominal fee were to be imposed on wireless customers bills to provide worker safety at wireless sites, including Verizon sites, they would not be able to deploy wireless broadband? I also wonder what the wireless carriers do with the money they are authorized to collect from their wireless customers for RF site safety related regulatory compliance fees. How much are the fees we pay now for compliance and what exactly are we paying for?

Finally, the only real way to address the issue of human RF safety at wireless sites is to involve all of the wireless stakeholders, including the wireless carriers, the CTIA, local governments, building and property owners, employers, their employees, the insurers, and other stakeholders.

I support SCR 214.

Roger Egan

Roger E. Egan

February 7, 2021

Honorable Senator Sharon Moriwaki Hawaii State Senate 415 S. Beretania Street, Room 223 Honolulu, HI. 96813

RE: Proposed Hawaii Public Wireless Safety Act - SB 3016

Honorable Senator Moriwaki:

I was provided a copy of the referenced Senate Bill 3016 and wanted to share my thoughts on this important piece of legislation for Hawaii.

I am a long-time senior executive in the insurance industry; attached is a brief bio, and I follow notable insurance risks such as Radio Frequency Radiation emanating from wireless transmission sites. This is a very significant hazard, especially given the advent of 5G technology where wireless antennas with become ubiquitous.

I have watched our industry first recognize and then exclude coverage for RF. However, I believe the Public Hawaii Wireless Safety Act -SB 3016, if adopted and administered correctly, would likely result in making RF exposure insurance available for the State of Hawaii. The protocols proposed in SB 3016 are comprehensive and appear to address the needs of the public, wireless carriers, insurers, property owners, employees, and others.

In the past, I met with the FCC as they attempted to amend their existing RF Safety rules and regulations to better address the needs of the public and workers in a rapidly changing wireless world.

I believe the FCC was close to adopting new RF Safety rules and regulations which are mirrored in your SB 3016, Hawaii Public Wireless Safety Act, however, under the Trump Administration the FCC closed the Notice of Proposed Rulemaking change --- this was a huge mistake. With time, and the continued roll-out of 5G to meet our insatiable appetite for all things wireless, this hazard (RF) will increase dramatically and, therefore, must be addressed now.

I support SB 3016 and would be happy to make myself available to discuss this important subject with you. Please feel free to include this letter in the public record regarding the Hawaii Public Wireless Safety Act SB 3016.

Sincerely,

Roger E. Egan

Biography attached.

ROGER E. EGAN

Mr. Egan is an investor and business consultant to private equity firms who invest in the insurance industry. He is currently working with Kohlberg & Company as a Senior Advisor. He was Executive Chairman of one of their investments --- Risk Strategies Company, and more recently, a Director of U. S. Risk, Inc. until it was sold last year.

In 2005 Mr. Egan co-founded Integro, Ltd. --- an insurance brokerage firm and the largest venture capital deal in the United States that year. He served as CEO of Integro until September of 2008.

Before launching Integro, Mr. Egan was President of Marsh, Inc., the largest insurance brokerage firm in the world with over \$ 6 billion in revenue and 43,000 employees in over 120 countries. During his 32 - year tenure with the firm, he held a number of senior management positions, including Vice Chairman of Marsh Inc. and President and CEO of Marsh North America.

Mr. Egan is a current Director of Safe Dynamics — a wireless safety company. He is a past member of the Board of Overseers of the School of Risk Management at St. John's University and a past director of the American Institute for Chartered Property and Casualty Underwriters, The Insurance Institute of America, Sedgwick CMS, Risk Strategies Company and U.S. Risk, Inc. He is active in New Jersey charities and is the founder of MAC Drug-Free and Teen Pride, Inc., both aimed at preventing substance abuse among youth. This year he is Co-Chairing the capital campaign for Freedom House, which provides addiction services for men, women and families in New Jersey.

Mr. Egan received an A.B. in mathematics, with honors, from Boston College and an M.B.A. from the Stern Business School at New York University. He also completed the Program for Management Development at Harvard Business School and the Executive Management Program at Stanford University.

Mr. Egan has been named a David Rockefeller Fellow by the New York City Partnership.



 TO: Hawai'i State Senate Committee on Higher Education and Committee on Energy, Economic Development and Tourism
DATE: March 29, 2022
TIME: 3:00 pm
PLACE: Via Videoconference
RE: SCR 214/SR 207 REQUESTING THE UNIVERSITY OF HAWAII TO ESTABLISH A RELIABLE, INDEPENDENT, AND TRANSPARENT METHODOLOGY TO ASSESS EFFECTS OF RADIO

POSITION: Opposed

Aloha Chairs Kim and Wakai, Vice Chairs Kidani and Misalucha and members of the committees:

FREQUENCY EMISSIONS GENERATED BY WIRELESS ANTENNA SITES.

We are writing on behalf of Crown Castle to respectfully oppose SCR 214/SR 207 REQUESTING THE UNIVERSITY OF HAWAII TO ESTABLISH A RELIABLE, INDEPENDENT, AND TRANSPARENT METHODOLOGY TO ASSESS EFFECTS OF RADIO FREQUENCY EMISSIONS GENERATED BY WIRELESS ANTENNA SITES.

We appreciate the legislature's effort to address broadband access issues this legislative session which of course must be provided safely and reliably. Our concern with this measure is that it sets a course of action at odds with federal oversight of telecommunications. Federal authority over radio waves was initially established by the creation of the Federal Communications Communication and the federal government continues to regulate telecommunications. Uniformity in the regulation of wireless phones and equipment has been a national priority. State-by-state regulation such as the path contemplated in this resolution would be contrary to that priority. Please set aside this resolution.

Crown Castle owns, operates, and leases cell towers and other telecommunications infrastructure supporting small cells and fiber solutions in Hawai'i and across the continental U.S. This portfolio of communications infrastructure connects citizens and communities to essential data, technology, and wireless service.

Mahalo for the opportunity to testify.