

Kinney, Kim

From: David Fichtenberg <davidficht@yahoo.com>
Sent: Saturday, January 24, 2015 12:22 AM
To: SCL_CLRPquestions
Subject: SCL Review Panel questions: Next meeting? Item for agenda on preparedness for Electromagnetic Pulse per US EMP Commission reports
Attachments: Severe Space Weather Events and Societal Impacts Workshop Report Nat Acad Sci 2008.pdf; Sage Policy Group EMP impacts and mitigation recommendations.pdf; Congressional Research Service High EMP and MicroWave threats 2008.pdf; NASA Carrington Super Solar Flare.doc; Graham testimony 2008 EMP_Commission-to-the-House-Armed-Services-Committee-1.pdf; Vincent Pry of Taskforce for Homeland Security testimony.pdf; SolidGround Description of E3 E2 E1 protection.pdf; EMP Commission rpt to Congress Vol 1 Executive Rept 2004.pdf

Please acknowledge receiving my email.

I would like to know when is the next meeting scheduled of the Seattle City Light Review Panel?

What is the process for deciding to call a meeting sooner than the one currently scheduled?

I am concerned about the issue of preparedness of Seattle City Light (SCL) for a powerful electromagnetic pulse event described by the United States Congressional Commission To Assess The Threat to the United States of an Electromagnetic Pulse (EMP) Attack (or powerful solar storm), especially the importance of protecting the electric grid and how it can be done. See www.empcommission.org for details, and its Executive Summary (2004, also attached) and detailed report (2008). The EMP Commission describes how to mitigate the damage of such EMP events, with particular emphasis on what can be done to help protect the electric grid.

Also see the National Academy of Sciences report on Severe Space Weather Events and Societal Impacts (2008, attached). For an analysis of the costs vs benefits of helping to protect the electrical grid see the Sage Policy Group analysis of partial protection of the electrical grid in the Washington-Richmond-Baltimore area (attached). Likewise, please see the United States Congress Congressional Research Report on this topic (attached). There are many other reports on this topic if you would like to see them.

The key points of the foregoing reports are:

- (1) The electric grid is the foundational support for all of our other critical infrastructures as they depend on it, and
- (2) In all of America (or almost all) the electric grid is not adequately protected from an EMP event, which is inevitable at least from a solar event like the 1859 Carrington Event (see attached NASA article) (or from an intentional high altitude EMP detonation), and yet most electric grid professionals and policy leaders are unaware of this inadequate protection, and

(3) Protecting the electric grid from this threat is technically and economically doable if there is awareness of this risk, its catastrophic consequences, and the will to protect the grid.

I have reviewed the Seattle City Light 2013-2018 strategic plan and the Technology Vision 2020 report and have not found discussion or planning to deal with the above topic, and which when such EMP event inevitably occurs, according to the above reports, could result in catastrophic impacts.

Other related questions:

- Will appropriate members of the Seattle City Light Review Panel meet with me to discuss my concerns?

- Would Review Panel member Julie Ryan be an appropriate member for meeting with me to discuss my concern and to recommend whether the Review Panel study this matter further?

After reviewing the bios of the Review Panel members I think the member most suitable to discuss my concern is Julie Ryan because she seems to have the strongest background in the energy sector and dealing with risk management and strategic planning. How can I arrange to meet with her on my concern if she thinks this would be an appropriate approach?

If found to be legitimate concerns, would this matter be added as an agenda item for a Review Panel meeting, and pertaining to the question of whether this matter should be addressed in the current strategic plan? I believe there is an urgency about this matter because I understand from the above reports that a catastrophic solar caused EMP event can happen with less than 24 hours notice, and a intentional high altitude EMP may occur without notice. These events with catastrophic impacts can happen now. So there is urgency to address them.

So far we have been lucky. Dr. Pry, mentioned above, notes in his statement (attached, page #2) that:

"EMP is a clear and present danger. A Carrington-class coronal mass ejection narrowly missed the Earth in July 2012."

What luck! Thank heaven! While the sun is reported to go through an 11 year cycle of high or low coronal mass ejection activity or other solar storms, a devastating one could happen any time. Thus, there is urgency to addressed this matter.

I expect that the Review Panel will want to get input from the Superintendent Mr. Carrasco and other pertinent City Light staff. Indeed, I anticipate the Review Panel may wish to call a special workshop solely focused on this topic because of the scope and complexity of this topic and its potential costs and EMP event catastrophic impacts. Indeed, a special hearing on May 8, 2014 was held on only this topic by the United States House of Representatives Committee on Homeland Security, Subcommittee on Cybersecurity, Infrastructure Protection and Security Technologies. I can provide submitted statements

by the witnesses called, and attach the statement of Dr. Peter Vincent Pry, who served as staff to the above Congressional EMP Commission. Earlier, on July 10, 2008, the Chairman of the Congressional EMP Commission, Dr. William Graham, gave his testimony at a House Armed Services Committee, and I also attach his testimony. The statements of Dr. Pry and Dr. Graham can also serve as introductions to EMP concerns, including describing the E1, E2, and E3 components which make up an EMP pulse.

As an example of the feasibility of increasing protection to the Seattle City Light grid I include some promotional material of a product developed by a company called Emprimus. I do not have expertise in electrical engineering and so cannot follow all of the details made in this material. The material describes its SolidGround system. I understand it was recently installed in the Wisconsin grid. This system is designed to protect the grid, including transformers, from solar geomagnetic induced currents (GIC) and Electromagnetic Pulse (EMP) E3 pulses. The material also states "*Addition of properly located surge arrestors gives protection from the E1 and E2 portion of the EMP spectrum,*" and thereby provides protection from all EMP pulse components (E1, E2, and E3).

I look forward to your response to my questions and concerns.

Sincerely,

David Fichtenberg
Seattle resident



[Redacted]

**Initial Economic Assessment of Electromagnetic Pulse
(EMP) Impact upon the
Baltimore-Washington-Richmond Region**

by

The Sage Policy Group

**With an introduction by Instant Access Networks, LLC who
commissioned the report, and**

**A foreword by Congressman Roscoe Bartlett of Maryland -- author
of the provision that established the U.S. Congress' blue ribbon
"Commission to Assess the Threat to the United States from EMP
Attack" in 2001, and**

**A preface from Dr. Alan Shark, Executive Director of Public
Technology Institute**

September 10, 2007 © Instant Access Networks, LLC
Washington D.C., Baltimore, MD, Frostburg, MD

Preface

This study is certainly an important milestone in reaching out to the nearly 36,000 local governments across our nation. It comes at a time when EMP is a distant concept competing with a dozen or so critical issues facing local government leaders at any given time.

It is my sincere hope that through this study and through documented case studies at the local level we can not only raise the visibility and importance in understanding the issues involved with EMP – but offer cost-effective and practical solutions to what some regard as the “unthinkable”.

Knowing the world is becoming more increasingly dangerous coupled with the fact our society is ever more dependent on electrical circuitry we can not ignore this key area of national security which in this case begins at the local level.

Dr. Alan R. Shark
Executive Director
Public Technology Institute
Washington, DC

www.pti.org

FOREWORD

Congratulations to the Sage Policy Group of Baltimore and Instant Access Networks (IAN) for this excellent study of the potential economic impact of an electromagnetic pulse (EMP) attack on the Baltimore-Washington-Richmond area. Congratulations also to IAN and Frostburg State University (FSU) for its pilot project on protecting critical infrastructures from the catastrophic consequences of an EMP attack, such as those described here. This study and the work at Frostburg State University is research that should be emulated nation-wide by the private sector and universities in order to find cost-effective strategies for protecting the U.S. economy from the potential for devastating destruction by an EMP attack. The U.S. Congress' blue ribbon **Commission to Assess the Threat to the United States from EMP Attack**, which I established in 2001, recommends exactly this kind of initiative by the private sector to help the U.S. government protect our economy and society from EMP.

Unfortunately, the public and all too many policymakers still do not understand that rogue states and terrorists are obsessed with obtaining nuclear weapons and EMP capability. They are well aware that if they can credibly threaten or actually execute an EMP attack against the United States that they could destroy the critical infrastructures—electrical power, telecommunications, transportation, food and water—that sustain our civilization. As the EMP Commission warned in their report to Congress: “The high-altitude nuclear weapon-generated electromagnetic pulse (EMP) is one of a small number of threats that has the potential to hold our society seriously at risk and might result in the defeat of our military forces....the degradation of infrastructure could have irreversible effects on the country’s ability to support its population.”

The EMP Commission found that terrorists could perform an EMP attack. A sophisticated intercontinental ballistic missile is not required to make an EMP attack. The EMP Commission found that a short- or medium-range missile, like a Scud or Iran’s Shahab-3, launched off a freighter, could make an EMP attack on the United States. Iran has practiced such a launch-mode, firing a Scud missile off a vessel in the Caspian Sea.

A high-yield nuclear weapon is not necessary to perform an EMP attack that would destroy U.S. critical infrastructures. One of the EMP Commission’s key findings reported to the U.S. Congress is that: “Certain types of relatively low-yield nuclear weapons can be employed to generate potentially catastrophic EMP effects over wide geographic areas, and designs for variants of such weapons may have been illicitly trafficked for a quarter-century.”

Fortunately, the EMP Commission report is ultimately a “good news” story. The Commission proposed a plan to protect the United States from EMP, and provide for a rapid recovery, that could be implemented at modest cost, compared to the magnitude of the threat. The EMP Commission continues its efforts to educate policymakers and the public on the EMP threat and is continuing to develop strategies to protect the United States. The Sage-IAN study and pilot project at Frostburg State University are hopeful signs that the efforts of the EMP Commission, so vital to our national security, are bearing fruit.

Roscoe G. Bartlett (R-6-MD)
Member of U.S. Congress
Senior Member, House Armed Services Committee

Why We Commissioned this Report
Charles L. Manto, CEO, Instant Access Networks, LLC

The goal of this study is to help the American public learn what America's current and potential adversaries already know -- one of the least expensive ways to cause the most amount of damage to America's infrastructure and economy is the use of electromagnetic pulse (EMP). But, this is not just an American problem. All other societies depending on technology-based infrastructure such as those in Europe and Asia are just as vulnerable or more so.

While affirming the validity of the EMP Commission's dire warnings, this study also produced some very good news. Businesses and local governments can substantially reduce the threat by protecting approximately ten percent of their most mission critical infrastructure and facilities. The benefits would be far greater than a corresponding ten percent reductions in losses. **The three city metro area between Richmond, VA, Washington, DC and Baltimore, MD could save \$25B to \$185B in losses if they were to take these steps to protect their most critical communications and power infrastructure. The East Coast as a whole would save ten times as much.** These are conservative numbers since this does not include the savings that come from maintaining situational awareness and minimizing secondary problems. This type of protection would provide another benefit since the same protection that would protect against intentional electromagnetic interference (EMI) would also protect against natural EMI such as an extreme solar storm. For all these reasons, the section on the "critical ten percent" might be the most helpful part of the study as businesses and local governments responsible for mission critical facilities work through their options for business continuity as outlined in the business continuity fire code, the NFPA 1600.

Hopefully, this study will put a financial face to the problem and suggest quick steps that can be taken to mitigate it. In addition to this study, we are doing what we can to organize companies to provide mass-produced solutions that can be quickly deployed to solve this problem and look forward to working with any company or local government agency concerned about this problem. (See the next steps section at the end of this introduction.)

Origins and Motivation for Study:

My recent interest in electromagnetic pulse (EMP) effects began with investigatory work I led establishing broadband strategies for rural Maryland counties. In coming up with financially sustainable, robust and redundant networks that would meet the vigorous needs of leading mission critical facilities that might make rural areas attractive, I tried to discover any remaining reasons why these rural areas would not be compelling locations for business continuity centers. After extensive searching, there was a particularly troubling one. This is the spill-over effect that a high-altitude electromagnetic pulse would have on rural areas hundreds of miles away from intended urban targets.

So, I began by reading the report of the US Congressional EMP Commission that confirmed my concerns. As circumstance would have it, the Commission was founded by Congressman Roscoe Bartlett who represents rural Western Maryland. I was familiar with similar issues of electromagnetic interference and "Tempest" from electronics and computer-mass storage since the 1980's, but, this report motivated deeper research.

EMP Assumptions:

In short, I tried to review as many IEEE publications and Internet articles I could find. I also interviewed as many technical experts who have worked on EMP related programs from the 1960's to the current day in order to get a consensus of what various technical experts in nuclear effects and electrical engineering thought about the issue.

From the chart of assumptions in Exhibit 2, you will see a wide range of opinions that various experts will assert would be the result of EMP events of various sizes divided into low, medium and high impact scenarios. Because of the complexity of the types of EMP events and the complexity of the ways EMP impacts a given item or environment, this appeared to be a practical way to bound the problem. What is the magnitude or extent of an EMP event? As you will see, it is "larger than a breadbox and smaller than a freight train" and all bad.

All of this information can be found in "open" or non-classified sources. You will also see that various foreign military and terrorist organizations have published their own capabilities and plans to use EMP against the US and other targets dependent on technical infrastructure vulnerable to EMP. All you have to do is your own web-based research and meet EMP experts who will, almost always, fall into the range of assumptions listed in that chart.

Preparing for the worst case while avoiding extremes

By studying a regional EMP event, we can focus on what would be a simpler attack that many more organizations could afford to do without any state sponsorship. Since many more could afford this type of an EMP assault, it represents the more likely scenarios. Within this range of regional EMP scenarios, the most likely scenarios may well be in the mid-range of impact or half-way to the low impact range. In the Richmond to Baltimore region, the impact to financial output ranges from \$34B to \$770B. Being conservative, I would normally think of the most likely range being somewhere between \$100 and \$300B. Extrapolating to the East Coast area as a whole would mean a ten times larger loss of one to three trillion dollars.

However, those with mission critical facilities, and those who are responsible for all-hazards planning must also consider the worst case scenario and have a plan to deal with it even if the worst case is not the most likely. For that reason, we have outlined the entire range of scenarios.

Those who have to consider worst case scenarios should also work through the implications of more serious scenarios this study did not address, namely continental-wide EMP scenarios. For example, in a continental-wide EMP event, all areas of the country will be similarly impacted and unable to provide as much assistance to neighboring regions. A continental scenario could also suggest dire consequences including the inability of the country to feed much of its population. Again, I mention this so that readers can see the many steps we have taken to avoid painting an extreme picture while acknowledging more severe worst case scenarios that should not be ignored.

Economic Model

We commissioned the Sage Policy Group to model the financial impact of EMP on a regional economy using the IMPLAN model. Detailed information about the model is included in the report, but, in brief, it is the same model economists use to help local and state government officials understand the direct and indirect benefits and costs associated with the location of a new corporate facility in a given area. This study looks at economic output and does not attempt to estimate the costs associated with infrastructure damage, replacement costs, or secondary effects due to the loss of infrastructure (such as the cost due to the inability of a community to put out fires). For this and many other reasons, the financial impacts reported here are conservative and do not reflect the full financial impact of EMP.

What Next:

There are a group of mission critical facility designers and managers in public safety and the private sector who are participating in the first of a series of pilot projects to discover relatively inexpensive ways to protect their mission critical facilities. The first portion of the pilot is to examine customer requirements for mass-produced EMP protected rooms. The second will be to examine requirements for mass-produced EMP protected micro-grids maximizing the use of renewable energy sources. Participants in the pilots include universities, local governments and companies listed on the project website, www.safe9-1-1.com. This project is funded in part by the Maryland Technology Development Fund (TEDCO), sponsored by Frostburg State University of the University of Maryland System, and facilitated by Public Technology Institute. If your organization wishes to join the pilot, you are welcome to contact us at rfrazier@stop-EMP.com or rmosley@pti.org.

For more information contact Robin Frazier, VP of Inter-governmental Affairs as Instant Access Networks, LLC, at rfrazier@stop-EMP.com, or Ronda Mosley of PTI at rmosley@pti.org.

If you are interested in supporting a follow-on study to estimate the costs associated with repair and secondary effects of an EMP event, feel free to contact any of the above or staff at Sage Policy Group.

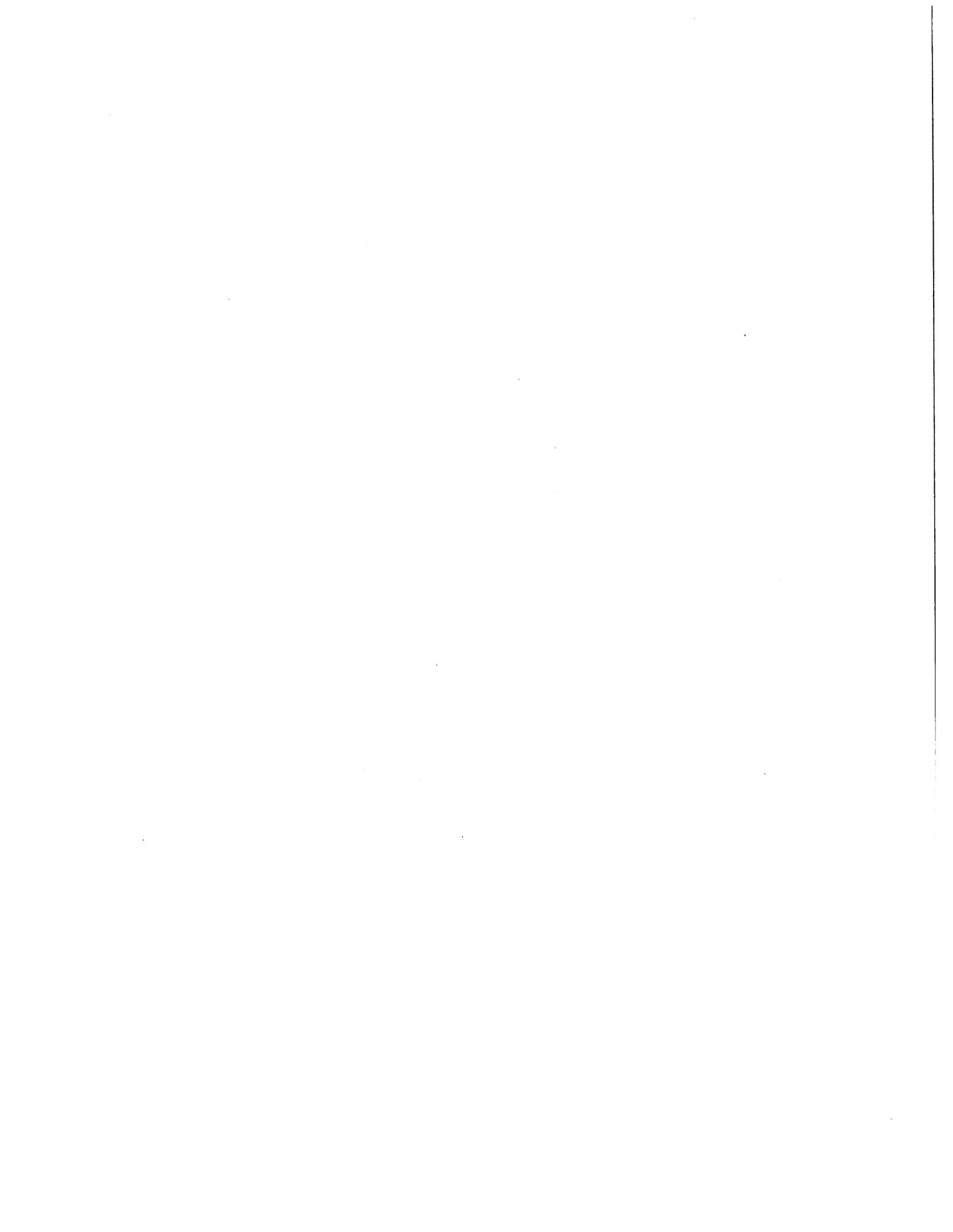
Most of the government sponsored research in EMP effects were done prior to the 1990's when the Cold War ended. Much of the critical infrastructure that was not controlled by computers or sensitive devices built from integrated circuits back in the mid 1980s now is computer controlled and likely to be more sensitive to EMP. Hopefully, the work of the US EMP Commission and sporadic work of studies that continue to be published through IEEE will encourage further discovery and mitigation of the vulnerabilities of components and systems of critical infrastructure and facilities.

From: SCL_CLRPquestions
Sent: Friday, February 20, 2015 11:52 AM
To: 'David Fichtenberg'
Subject: City Light Review Panel Correspondence

Dear David,

We just wanted to advise that your email correspondence was taken up at our City Light Review Panel meeting yesterday and the utility was asked to get in touch with you. We will have our City Light internal expert look into this and get back in touch with you.

Thank you,
City Light Review Panel General Mailbox





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TEL (206) 684-3000 TTY/TDD (206) 684-3225 FAX (206) 625-3709

seattle.gov/light

twitter.com/SEACityLight facebook.com/SeattleCityLight

March 6, 2015

SEPHIR HAMILTON
CHIEF OF STAFF

Dear Sephir,

Mr. Fichtenberg raises some real concerns that we've working on for several years. Thanks for giving me a chance to address them.

Issue Summary

While the potential is very real, it is a global problem rather than a Seattle City Light problem. When a large amount of solar material, called a Coronal Mass Ejection or CME, hits the earth, it can cause disruptions to satellites, radio signals, and damage to electrical and pipeline components as the incredible amounts of energy seek the easiest path of travel. Under certain environmental and geological conditions, this energy will occasionally travel through electrical lines or steel pipelines as it seeks a ground termination. The concern to the electrical industry is the buildup of this energy over long transmission lines that could damage transformers in electrical substations.

In addition to the 1859 Carrington Event that Mr. Fichtenberg refers to, scientists and engineers reference two other solar storms as benchmarks for the potential size and odds of impact of a CME; the 1921 Super Storm and the 1989 Quebec Blackout. The 1989 event was measured at a peak energy release of 500 nano-Teslas (nT), the unit of measure for this level of planetary energy, and is generally regarded as a thirty year storm. That is a prediction that this level of energy will hit somewhere on earth about every thirty years, not necessarily that it will hit the Pacific Northwest or even cause any damages. The 1921 Super Storm was estimated at ten times the intensity of the 1989 storm or 5000 nT and is considered a 100 year storm. The Carrington Event was estimated at twice the energy of the 1921 storm and is considered a 500 year event.

There are two main reasons why Seattle City Light is less vulnerable than large transmission utilities; the energy must build up over many miles to hazard our equipment and it builds up more in Very High Voltage transmission lines since the electrical resistance in the lines is far less than lower voltage systems. As you know, City Light's transmission lines are relatively short as compared to the long lines in the Midwest and Far West and we run 220 kilovolts (kV) in our highest voltage lines rather than the 500 or 745 kV lines in the Midwest.

Mr. Fichtenberg's example of blocking devices installed in Wisconsin makes sense for them since they have extensive 500 and 745 kV transmission systems delivering power from much greater distances than we in Seattle have.

Monitoring

The Space Weather Prediction Center (SWPC), run by the National Oceanic and Atmospheric Administration (NOAA), monitors solar activity 24/7 and provides several products to share their observations and predictions with us. They are able to give us about a 72-96 hour warning that a large CME may be directed towards the earth. Since this material does not travel in a straight line, it is difficult to predict an earth impact this far out but their tools are improving and that may be possible in coming years.

If a CME is actually going to hit the earth, the SWPC sends alerts to subscribers with between 17 and 60 minutes notice, depending on the speed that the material is approaching the earth. They cannot yet tell us where on Earth it will impact. Seattle City Light subscribes to these alerts and is always aware of these storms as they approach.

Additionally, the SWPC generates a daily prediction of solar activity that I subscribe to. This product warns subscribers of the likelihood of significant solar activity up to three days ahead.

Protecting the System

I've been consulting with our transmission engineers and industry professionals for several years now to identify methods of protecting our system in the event of a CME strike on the Pacific Northwest large enough to concern us. While nobody has zero vulnerability, we agree that our equipment is among the least vulnerable in the industry because of our relatively short transmission lines and lower voltage. Our geography also helps by diffusing much of the energy before it seeks our power lines.

The North American Electrical Reliability Corporation (NERC) has been directed to develop protective standards for the U.S. and Canada and is well on the way to final standards. Our position at Seattle City Light is that, in the best interest of the entire western electrical grid, each utility should adopt one, well-thought-out planning standard. We have been participating in the standards-making process and expect to incorporate any systems upgrades directed by NERC but feel that independent action on our part may be wasteful and could even be counterproductive if not part of a larger protective plan.

In answer to Mr. Fichtenberg's overall question, we are aware of the issue and have educated ourselves on the science and engineering aspects of the threat and in protecting our system. We are participating in the standards-making process and expect to implement new national standards as soon as a comprehensive, scientifically-based solution is agreed upon.

I'd be happy to speak directly with Mr. Fichtenberg directly if he has more questions for us. He can call me at 206-684-3095 or email me at jerry.koenig@seattle.gov.

Jerry J. Koenig
Emergency Management Strategic Advisor
Seattle City Light

From: David Kroman <david.kroman@crosscut.com>
Sent: Wednesday, March 25, 2015 10:56 AM
To: SCL_CLRPquestions
Subject: Check In From Crosscut

Hello,

My name is David Kroman. I'm a reporter with Crosscut here in Seattle. I'm wondering if someone on the review panel would have a few minutes to talk to me about the future of City Light. Specifically, I understand that a large number of employees — something like 55% — in the department are eligible to retire. In combination with CEO Carrasco's retirement, I'm wondering how the department is set up to handle this potential power vacuum? Did CEO Carrasco put the department on a sustainable track?

Anyway, I'd love to just have a broad conversation whenever suits someone on the review panel. Thank you and I look forward to hearing from you.

David

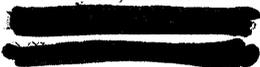
David Kroman
Crosscut City Reporter

david.kroman@crosscut.com

10-11-1964

From: Julie Ryan <julia.mehgan.ryan@gmail.com>
Sent: Wednesday, April 01, 2015 3:57 PM
To: Hamilton, Sephir; Kinney, Kim
Subject: FW: Responding to your email inquiry

For the Review Panel files....


Julie Ryan, Aether Advisors


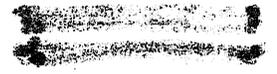
From: Julie Ryan [mailto:julia.mehgan.ryan@gmail.com]
Sent: Wednesday, April 1, 2015 3:50 PM
To: 'david.kroman@crosscut.com'
Subject: Responding to your email inquiry

Dear David,

Thank you for your interest in Seattle City Light. I received your email and wanted to respond. As you may be aware, in 2012 Seattle City Light developed a long-term strategic plan that was updated in 2014, and one of the key initiatives was around the importance of the utility workforce. Please see "Skilled Workforce Attractive & Retention" on page 4. <http://www.seattle.gov/light/stratplan/docs/investmentSummary.PDF>

As a result, the utility has been planning for some time how to meet the challenges of a changing workforce. For specific questions about City Light's workforce, you may want to contact DaVonna Johnson, City Light's HR Officer. DaVonna can be reached at 206-684-3125.

Regards,
Julie Ryan
Seattle City Light Review Panel Chair



Kinney, Kim

From: SCL_CLRPquestions
Sent: Thursday, April 16, 2015 10:12 AM
To: Andy Batcho
Subject: RE: City Light Bill - Energy Usage

Dear Mr. Batcho,

Thank you for your email. We have referred your concern on to our Customer Care Division Director and her office will be responding to you on this matter.

Sincerely,
City Light Review Panel
General Mailbox

From: Andy Batcho [mailto:earthday1@mindspring.com]
Sent: Wednesday, April 15, 2015 9:43 AM
To: SCL_CLRPquestions
Subject: City Light Bill - Energy Usage

Every couple months we receive our City Light Electrical Bill.

I usually don't pay much attention to it since it's on auto-pay, but my wife always looks at the "Compare your Electricity Usage" charts and always questions the data on the charts. It upsets her that the yearly/monthly comparison chart shows electrical usage at our home that doesn't match our actual situation. For example, we will be gone from our home for an entire month with very little electrical activity, including shutting down water heaters and not using major electrical draw equipment (stove, dryer, etc.), yet your chart shows the month we were gone that our usage was higher than the previous year when we were actually using electricity!

After hearing her concerns several times, I decided to look at the chart on the bill. I'm a retired 35-year electrical power engineer.

It didn't take long to understand what was wrong with the data and chart. The data used on the chart is "estimated" usage, which makes the comparison chart data absolutely useless!

I understand why the electrical consumption data is estimated, it costs money to read meters every month and I wouldn't advocate doing that.

But, what I don't understand is "why" would you spend the money, computing time and energy to produce a comparison usage chart based on bogus data?

I also understand that your trying to encourage customers to reduce electrical consumption and being an electrical type, I do my best to modernize our home to use energy efficient equipment and techniques. But, my wife doesn't understand why when I spend money to reduce energy consumption that it's not reflected in your comparison chart?

Well the truth is, the chart is worthless to track monthly electrical consumption and comparisons to past usage due to the estimates used to make the chart.

Can you please explain to me what I'm missing about the value of this chart and information?

Thank you,
Andy Batcho
earthday1@mindspring.com

P.S. Having worked in the industry for years, Seattle City Light is a highly respected company that delivers great service. I was just disappointed that this data didn't meet SCL standards in my opinion.

From: Dave Luxem <dave.luxem@zones.com>
Sent: Tuesday, April 21, 2015 2:21 PM
To: Bagshaw, Sally; O'Brien, Mike; Sawant, Kshama
Cc: SCL_CLRPquestions
Subject: Seattle City Light customers paid dearly for free light bulb.
Attachments: IMG_1610.jpg

Dear council members,

I'm emailing the three of you because the chairs you serve on potentially seem relevant to my concern.

Sally - **Seattle Public Utilities** and Neighborhoods

Mike - Planning, Land Use and **Sustainability**

Kshama - Select Committee on **Utility Strategic Planning**

I'll keep this short: Do you sincerely believe this represents an intelligent use of public resources?



...And no mention of recycled content anywhere on all the packaging either.

Thank you for all you do.

Regards,
Dave

David & Deborah Luxem

[Redacted signature block]



Response to customer concerns regarding the LED box:

Thank you for your request for information about the costs associated with the current LED light bulb campaign and for your concern that the materials were not clearly marked recyclable. I'll give you an overview of the program and costs, and details about the box that was used to deliver the bulb, if you have additional questions or would like more information, please let me know.

First, the box that was used to deliver your LED was made of 100% recycled materials, is FSC Certified and no chlorine was used in the manufacturing process. We used UV inks, which have lower VOCs than soy based inks. The box can be recycled or reused. Plus, the cardboard can be a good addition to your home compost bin or worm bin.

Seattle City Light has been promoting efficient lighting through rebates at local retailers since 2007, primarily focusing on compact fluorescent light bulb (CFL) technology. In 2014 City Light started the transition to light emitting diode (LED) technology, and has switched to exclusively LED promotions in 2015. To kick off the transition to LEDs, and to build awareness of the technology, we are offering every residential household one free LED light bulb through a mail campaign. The bulb is the Philips Slim Style A19 lamp, 60 watt equivalent (using only 10.5 watts), soft white. The bulb is ENERGY STAR Certified and well-reviewed by both the Lighting Design Lab and on-line consumer reviews. An additional coupon will be mailed to customers to offer a three-pack of the same product for only \$4.97.

LEDs are an unknown quantity to the majority of lighting shoppers. Many bulbs look different from the familiar Edison shape, and customers may have doubts as to whether the LED can perform as well as an incandescent. But they are much more efficient than incandescent lights, and have many advantages over CFLs. City Light is confident that customers who try LEDs will be surprised and satisfied, and will be much more likely to purchase an LED instead of a halogen in the future. The response so far has been very positive.

How much energy will customers save?

- If each customer replaces a 60 watt bulb with this one, they save 1,238 watts over 22.8 years, worth over \$140. That's 54 kWh/year, or \$6.46 per year.
- A \$10 bulb would pay back in about a year and a half. With current City Light discounts that payback is reduced to less than one year.

Calculation: 60 watts – 10.5 watts = 49.5 watt difference over 25,000 hours (22.8 years at 2.7 hours per day) = 1,238 watts. 1,238 watts x 11.89 cents = \$147.

Overall savings:

City Light takes a more conservative view of savings, understanding that not every bulb will be installed in the optimal way. Some will replace existing already-efficient CFLs, some will be put in storage, etc. To account for that we use regional values for savings and expected life of the bulb. For example while the manufacturer says the bulb will last 22.8 years, we drop that to 12 for our purposes, since some people will move out of our territory and take the bulb, break the bulb, etc. As opposed to the 54 kWh per year referenced above, we use the very conservative regional value, which was 17 kWh prior to April 1, and was just adjusted downwards to 11. Taking all that into consideration, expected savings in the first year is 3.89 million kWh – which is equivalent to the power used by 458 Seattle homes for one year. The expected savings for the 12-year life of the bulbs is 46.7 million kWh, which is equivalent to the power used by 5,200 Seattle homes for one year. The numbers look like this:

Estimated Budget and kWh Savings

Total residential accounts:	368,000
Estimated expected participation: redeemed	54%, or 198,000 customers, plus 39,600 3-pack coupons
Est. program cost per bulb: the mail out only)	\$9.36, including mail out and coupon redemptions (\$12.50 for
Total est. program cost:	\$2.5 - \$3 million depending on participation rates
Total energy savings	46.7 million kWh
Cost per kWh saved	7.4 cents per kWh

We tend to keep our cost per kWh under 7.8 cents, so this effort meets our cost effectiveness test. Keep in mind also that this is part of a larger retail effort, which is quite a bit less expensive, in the 4-5 cents per kWh range. All of this in support of our overall conservation goals designed to avoid expenditures on additional expensive power sources.

I hope that is the information you were looking for. Feel free to contact me if you have further questions.

From: Carrasco, Jorge
Sent: Thursday, April 30, 2015 12:05 PM
To: René Commons; Sawant, Kshama; O'Brien, Mike
Cc: maryfleckws@gmail.com; elaineike@hotmail.com; Best, Lynn; 'Ellen West'; Rasmussen, Tom; Auriemma, Anthony; Hamilton, Sephir; Best, Lynn; Jones, Michael (SCL)
Subject: RE: A favor for the community of West Seattle

Ms. Commons, the subject of green space conversions is outside the scope of the City Light Review Panel areas of responsibility. Lynn will be in contact with you today to answer your questions.

Regards,
Jorge

From: René Commons [<mailto:rcommons@comcast.net>]
Sent: Thursday, April 30, 2015 7:20 AM
To: Carrasco, Jorge; Sawant, Kshama; O'Brien, Mike
Cc: maryfleckws@gmail.com; elaineike@hotmail.com; Best, Lynn; 'Ellen West'; Rasmussen, Tom; Auriemma, Anthony; Hamilton, Sephir
Subject: RE: A favor for the community of West Seattle

Dear Jorge-

Thank you for your quick reply to our letter! We appreciate that Lynn Best, City Light's Director of Environmental Affairs will reach out to us and we anticipate she can engage us in a dialogue and provide clarity and discuss opportunities for green space conversions, if any. Our group would like to start a dialogue with Seattle City Light Review Panel around converting old substation properties into Public green spaces to be used for the entire community instead of selling the properties to the highest bidder private investor -- who would the appropriate person to contact be?

Your help is appreciated!

Rene' Commons

From: Carrasco, Jorge [<mailto:Jorge.Carrasco@seattle.gov>]
Sent: Wednesday, April 29, 2015 2:43 PM
To: René Commons; Sawant, Kshama; O'Brien, Mike
Cc: maryfleckws@gmail.com; elaineike@hotmail.com; Best, Lynn; Ellen West; Rasmussen, Tom; Auriemma, Anthony; Hamilton, Sephir
Subject: RE: A favor for the community of West Seattle

Dear Ms. Commons, thank you for your email inquiring about the former Avalon Substation property. You are correct that Lynn Best, City Light's Director of Environmental Affairs and Real Estate, is the appropriate contact. By this email, I am requesting that she contact you. This property is not part of the current disposition process in West Seattle. As you are probably aware, the property is currently being rented to Pecos Pit BBQ. Renovations are going on now and the restaurant is scheduled to open in December. If you are interested in purchasing this property over the long term for open space, Lynn can explain the legal constraints, the fair market value and a potential process.

Thanks for your interest,
Jorge

From: René Commons [<mailto:rcommons@comcast.net>]

Sent: Tuesday, April 28, 2015 8:26 PM

To: Carrasco, Jorge; Sawant, Kshama; O'Brien, Mike; Hamilton, Sephir

Cc: maryfleckws@gmail.com; elaineike@hotmail.com; Best, Lynn; Ellen West; Rasmussen, Tom; Auriemma, Anthony

Subject: A favor for the community of West Seattle

Jorge Carrasco
General Manager & CEO
&
Sephir Hamilton
Chief of Staff
Seattle City Light

Dear Mr. Carrasco

I would like to ask for *your* help to begin community outreach process with Seattle City Light and the West Seattle Junction Neighborhood community. Would you please tell us who in your opinion is the best person in a leadership role at Seattle City Light to begin an important dialogue with the community about the Avalon Substation and adjacent City light leased property? As a publicly owned utility we understand Seattle City Light has a deep commitment to our community.

Would Lynn Best, Director of Environmental affairs be the right person to engage for a community discussion?

My name is René Commons and I am Director of J u N O - The Junction Neighborhood Organization. We are a community neighborhood council non-profit representing the West Seattle Junction and Triangle neighborhood.

We would like to have a Seattle City Light leader join us as guest speaker at our next J u N O meeting : Tuesday May 12th , 6:30pm at the West Seattle Senior Center.

Dear Councilmember Sawant & Councilmember O'Brien,

J u N O - The Junction Neighborhood Organization is interested in engaging City Light in a community discussion about greenspace and substations; specifically the Avalon Way Substation and adjacent lot. As a publicly owned utility we understand Seattle City Light has a deep commitment to our community.

Councilmember Sawant as Energy Committee Chair, and Councilmember O'Brien as Energy Committee Member we are asking for your support to find a leader at Seattle City Light to work with our community and engage in a dialogue at a future J u N O meeting in West Seattle.

We are open to suggestions and welcome your support!

Thank you!

Best,
Rene' Commons
Director

J u N O – The Junction Neighborhood Organization

...volunteers working to make our West Seattle Neighborhood community a better place to live, work and play!

From: SCL_CLRPquestions
Sent: Thursday, May 28, 2015 9:25 AM
To: 'David Ward'
Subject: City Light Review Panel Meetings

Hello David,

Thank you for your email. The next City Light Review Panel meeting will take place on June 30th at 10:00 a.m. It will be held in Conference Room # 3205 at Seattle Municipal Tower at 700 5th Avenue, Seattle, WA 98104.

Please also see the attached link to the Review Panel website which contains the dates of the meetings scheduled and the materials for the panel meetings.

<http://www.seattle.gov/citylightreviewpanel/>

Thank you.

Sincerely,
City Light Review Panel Mailbox

From: David Ward [<mailto:booksgalore22@gmail.com>]
Sent: Wednesday, May 27, 2015 10:16 PM
To: SCL_CLRPquestions
Subject: City Light Review Panel Meetings

Kim,

Please let me know when and where the next City Light Review Panel will take place.

Also, add me to the mailing list about future meetings and their agendas.

Thank you.

David Ward

From: SCL_CLRPquestions
Sent: Monday, June 29, 2015 2:53 PM
To: 'Jeremy Rhodes'
Subject: RE: Clarification for billing and services

Hello Jeremy,

Thank you for your email. We have forwarded your inquiry to our City Light Customer Care group who will respond to you on your billing inquiry.

Thank you.

Sincerely,
City Light Review Panel Mailbox

From: Jeremy Rhodes [<mailto:jcrhodes09@gmail.com>]
Sent: Friday, June 26, 2015 3:38 PM
To: SCL_CLRPquestions
Subject: Clarification for billing and services

Hello,

I just have a quick question regarding billing practices and the laws that regulate how the utilities have to operate. The condensed version of my story is, we (myself and 3 roommates) have been living at our current address since the beginning of February and have been being billed fairly consistently up until this bill we just received, at which point the amount due jumped from a normal bill of around \$115 to a little over \$500. I understand how and why this happened, a combination of poor estimation using averages, winter versus summer rates and the company attempting to account for the new reading showing us using over the "allotted" Kwh per month. My question is, doesn't the law protect us from this type of back billing? SMC 21.49.090 states, "If an accurate meter reading is not obtained for any reason, including, but not limited to, the customer's failure to notify the Department, meter failure, meter reading error, clerical error and/or accounting system malfunction, the meter reading may be estimated by the Department." My interpretation here is that meter estimating was never intended as a substitute for actual readings, when available. The same MC also says, "In cases where estimates cannot be made using standard engineering techniques, the longest periods before and/or after the period of usage may be averaged to arrive at an estimated rate of consumption." And here it seems obvious that even when meter estimation is a necessity, the utility company must first exhaust all standard engineering techniques for estimating consumption before resorting to averaging previous billing cycles and basing current consumption on that average. Those 2 sentences alone, assuming I've interpreted them correctly, seem to show that the way our bill was calculated is in conflict with the law. But then add in RCW 80.28.010, "Every gas company, electrical company, wastewater company, and water company shall furnish and supply such service, instrumentalities and facilities as shall be safe, adequate and efficient, and in all respects just and reasonable." I realize there is plenty of wiggle room here, given the wording, but I am fairly certain that any rational person would agree, estimating energy consumption by using averages of past bills for 5 consecutive months all because the company doesn't have enough personnel to provide adequate meter reading service, is not just or reasonable.

If I have misunderstood and/or misinterpreted either of the above mentioned laws, please let me know. Because from my point of view, this is blatant disregard for the law and an abuse of power by a city utility just because

they didn't have the foresight to plan for the decline in personnel upon the announcement of the smart meter program. Finally, we are fortunate to have money set aside so this bill can be paid, but I know we aren't the only ones this type of thing has happened to and I know others haven't been in a position as financially fortunate as ours. This method of billing based on guessing then back billing, can literally destroy lives. My neighbor had their bill jump by a little over \$1000. I'm sure you can imagine the impact that kind of bill can have on a family who's barely making ends meet and/or has no emergency fund set aside.

Thank you for your time and service, I look forward to hearing back from you,
-Jeremy Rhodes