



City of League City, TX

300 West Walker
League City TX 77573

Meeting Minutes City Council

Monday, October 24, 2016

6:00 PM

Council Chambers
200 West Walker Street

Council Work Session

The City Council of the City of League City, Texas, met in a work session in the Council Chambers at 200 West Walker Street on the above date at 6:00 p.m.

Mayor:

Pat Hallisey

City Council Members:

**Dan Becker
Hank Dugie
Heidi Hansing
Todd Kinsey
Geri Bentley
Keith Gross
Nick Long**

City Manager:

Mark Rohr

Deputy City Manager:

John Baumgartner

Assistant City Manager/Director of Finance:

Rebecca Underhill

City Attorney:

Nghiem Doan

City Secretary:

Diana M. Stapp

Chief of Police:

Michael Kramm

Director of Engineering:

Vacant

Acting Director of Human Resources/Civil Service:

April Patterson

Director of Parks & Cultural Services:

Chien Wei

Director of Planning/Development:

Paul Menzies

Director of Public Works:

Gabriel Menendez

1. CALL TO ORDER AND ROLL CALL OF MEMBERS

Mayor Hallisey called the meeting to order at 6:00 p.m. and called the roll. All members of Council were present except Geri Bentley.

Absent 1 - Ms. Geri Bentley

Present 7 - Mayor Pat Hallisey, Mr. Dan Becker, Mr. Hank Dugie, Ms. Heidi Hansing, Mr. Todd Kinsey, Mr. Keith Gross and Mr. Nick Long

2. **PRESENTATION AND DISCUSSION FROM SUBJECT MATTER EXPERTS ON THE TOPIC OF ELECTRICAL GRID HARDENING AGAINST NATURAL OR MAN-MADE THREATS, "ELECTRICAL GRID SECURITY RESOLUTION"**

Council Member Hansing said as you know Councilwoman Bentley and I attended the Texas Grid Security Summit back in April. At the time we told you we were going and we told you we would be accountable to you for bringing the information back to our colleagues on council as well as to the people of this city. Today is the combination of those efforts. The legislation that was considered in 2015 during the legislative session was successful in the Senate, having been led by a very knowledgeable and expert on the topic Senator Bob Hall from Senate District 2. While it was successful in the Senate it didn't make it through the calendars committee in the House to be scheduled then for discussion in a vote. So we know that it is coming back and we are redoubling our efforts in 2017. And while the summit was kind of like drinking from a fire hose in terms of the scope and the brits of the information that was presented we are very fortunate to have a panel of experts here tonight that have condensed that information into a digestible format for those of us on council and for those who are watching from home. Now to be very clear the council was delivered some information early so they are several steps ahead of our watchers at home and those that might be in the audience. They were delivered the book 'guilty knowledge' from the Center for Security Policy by Frank Gaffney and this book is about what the US Government knows about the vulnerability of the electric grid but refuses to fix. So our council members have this as well as a number of links that were provided by the experts on this panel today. So with that being said I would like to give them as much time as possible. It is a technical and scientific topic and I know my fellow council members hopefully will have some insightful questions based on what they have already read and then what they will hear tonight. I would like to introduce the team led by Ron Jacobus, the Policy Specialist from Senator Bob Hall's office. Robert Janusaitis is a commissioner at the Harris County Office of Emergency Services District 9 and also the president of Houston InfraGard EMP SIG. And in full disclosure I am also a member of InfraGard as well. Michael Lambert is the Homeland Security Planner for Galveston County Office of Emergency Management and League City is part of his area of operation and responsibility. Scott Tucker is an architect and a specialist with Page Southerland Page and he has participated in building EMP hardening projects and will be able to address any technical questions that might arise from Council.

Ron Jacobus said I would like to start by thanking everyone for allowing us this opportunity to brief you all on this threat. Like the councilwoman said I am here representing my boss State Senator Bob Hall. We want to keep this as brief as possible but the information is pretty condensed so feel free to stop us at any point to ask questions.

EMP threat considerations for League City:**EMP Issue Overview**

High-impact threats are capable of causing a long-term nationwide power blackout throughout the United States. An electromagnetic pulse (EMP) is an exceptionally debilitating high-impact threat to the Texas electric power grid. The three separate vectors are Nuclear EMP, GMD (natural solar storms) and Non-Nuclear IEMI. Today's geo-political environment combined with our society's reliance on electronic technology elevates the severity of the EMP threat. Technology to "harden" the grid against the EMP threat exists, but has not been implemented effectively by the electric industry. The federal government's failure to protect the civilian based electric power grid has left Texas vulnerable to EMP. Since the Texas grid is self-contained, the State of Texas has an opportunity of protecting our electric grid infrastructure from EMP. There are three major interconnects (power grids): Western Interconnection, Eastern Interconnections (70% of the electrical load of the US) and ERCOT (Texas) Interconnection.

Understanding Nuclear EMP

A nuclear EMP is produced when a nuclear weapon is detonated at high altitude (between 25-250 miles). A small nuclear weapon can create an EMP blast large enough to cover the continental United States.

Indisputable EMP Threat Facts

Russia and China possess the capability to launch a nuclear EMP attack. Nuclear EMP technology has leaked to North Korea and further proliferated to the Islamic Republic of Iran. Russian, Chinese, North Korean, and Iranian military doctrines all advocate for the use of a nuclear EMP attack. What we know about Russia: Developed a nuclear EMP "Pin Down" attack capability during the Cold war era. Bragged of ability to "paralyze the United States" with a nuclear EMP during 1999 Balkans conflict diplomatic meeting. Actively maintain a nuclear EMP attack capability with a military doctrine that advocates for limited use of nuclear weapons. What we know about North Korea: Received and tested EMP-specific nuclear weapon design plans obtained from Russia and China. Currently orbiting two satellites capable of carrying a Nuclear EMP weapon payload. Collaborate closely with Iran on nuclear arms and missiles and repeated threaten the U.S. with nuclear attack. What we know about Iran: Have practiced missile launches from ship-borne platforms in the Caspian Sea. Repeatedly threatened the United States and Israel with nuclear attack. Actively collaborate with North Korea on nuclear weapons and missile research and developments. What we know about China: Have developed and proliferated nuclear EMP weapon technology. Sees a nuclear EMP attack as a primary means of incapacitating Taiwan and preventing U.S. military intervention. Military doctrine considers nuclear EMP as a key element to their greater information (cyber) warfare strategy.

The Nuclear EMP Threat

Scud-in-a-tub threat scenario: solid state scud ballistic missile (likely an SA-2). Concealed in container on a freighter and is likely to defeat U.S. based defenses. Is the scud-in-a-tub realistic? In 2013, North Korean Freighter Chong chon Gang was intercepted with 2 nuclear capable SA-2 missiles hidden under 10,000 tons of sugar. The Russian 3M-54 Klub missile system was code named “sizzler”, a hidden missile deployment system. Other Nuclear EMP deployment vehicles include Fractional Orbital Bombardment Systems (FOBS), such as North Korea’s KMS 3-2 satellite, and high altitude air-balloons, such as the Breitling Orbiter 3, built by Cameron Balloons.

The United States Military & Nuclear EMP Preparedness

Military’s Nuclear EMP Preparedness - The Federal Government first began to protect select military sector assets from nuclear EMP in the 1960’s. Today, the Department of Defense strictly enforces several EMP protection standards, such as MIL-STD 188-125. The military is moving critical communication assets back into Cheyenne Mountain to protect from a nuclear EMP attack. Senator Bob Hall – Captain USAF was a former Air Force Systems Engineer at Norton AFB in California during the Cold War. The Senator was the lead team manager for the EMP hardening of the Minuteman Missile II System against the Soviet Union’s nuclear EMP attack capability. Developed the military’s ground and airborne based EMP detection devices. Quote from Admiral William Gortney, Head of NORAD and Northern Command “Because of the very nature of the way that Cheyenne Mountain’s built, it’s EMP-hardened. And so, there’s a lot of movement to put capability into Cheyenne Mountain and to be able to communicate in there.” While major military weapons systems and nuclear assets are hardened against EMP events, the military apparatus is heavily dependent on the commercial electric grid. The government is developing next-generation micro-grids to enable local generation and storage of power on military bases. The recent Defense Threat Reduction Agency contract has allowed for the development of EMP protected Micro-grids.

Understanding Natural EMP

A solar flare or geomagnetic solar storm is capable of generating a catastrophic EMP like event. The 1859 Carrington event, the 1921 railroad storm, and the 1989 Quebec solar storm. A large Solar flare narrowly missed Earth on July 22, 2012. NASA estimates natural EMP likelihood to be 12 percent per decade.

Economic Impact of an EMP event

Energy \$2,8000,000; **Telecommunications** \$2,000,000; **Manufacturing** \$1,600,000; **Financial Institutions** \$1,400,000; **Information Technology** \$1,300,000; **Insurance** \$1,200,000; **Retail** \$1,100,000; **Pharmaceuticals** \$1,000,000; and **Banking** \$1,000,000.

Societal Consequence of an EMP Event

A nuclear EMP attack or solar storm event could blackout the U.S. electric grid for weeks, months, or years. Congressional EMP commission estimates 90% population loss in 12 months or less.

Texas Legislative EMP Action Plan

States Focus to Protect Against EMP – The federal government’s failure to take action and protect our nation from the EMP threat has prompted individual states to take action: Maine – First state to pass a grid protection bill in 2013. Arizona – Legislature required its emergency management agency to develop preparedness recommendations for the public in the event of an EMP or GMD incident. Kentucky – Voted in 2013 to establish interagency working group to identify risk and assess the state’s preparedness to respond to acts of war or terrorism; including an EMP. Florida – Issued a proposal in 2014 that urged Congress to direct DHS to request resources to protect the nation’s grid and recover from an EMP event. Virginia: Recently passed legislation mandating a legislative commission to develop a plan to protect against these threats.

Texas Legislative Efforts and Challenges

Filed first EMP protection bill (SB1398) during the 84th legislative Session: faced stark and coordinated opposition from the Texas electric industry lobby; an uneducated public and legislative body allowed the electric lobby to negatively influence the legislative process with false information about EMP; EMP bill was watered down during the legislative process and died in the House Calendars Committee. Lt Governor Dan Patrick issued an interim charge for the Texas Senate to evaluate the security of the Texas electric grid, including EMP. During the interim session, our efforts have emphasized on education and outreach to further support our EMP protection efforts: 2016 Texas Grid Security Summit and EMP speaking engagements.

Preparation for 85th Session

Interim session objectives: Develop and maintain close working relationships with: engineers, emergency managers, national security policy experts, and professional groups and organizations. Development of Texas specific EMP Protection Cost Analysis. Development of Texas specific EMP tabletop exercise based on InfraGard’s Triple Threat Power Grid Exercise book. Further strengthen, update and build support for our EMP protection bill submitted during the 84th legislative session.

Scott Tucker, an architect with Page Southerland Page, Inc. said I would like to talk about solutions to this problem. As architects we like to say that we can solve problems and we like to think about problems and how we solve it. I am going to talk to you a little bit about how we worked on this problem. The advantage we have had is we have actually done two large scale utility control facilities in the county and as far as we know these are the first two EMP protected control buildings in the country.

Assessment**Threats on any Given Facility**

The first thing we do is an assessment, not unlike what you would do for any other building that faces some kind of threat. We have a ready-made approach to solving these problems. Design is an “All Risk” vs. “Named Perils” approach to protection. Prioritization includes: Vandalism, Burglary/Theft, Accident/Explosion/Fire, Wind, Flood, Ballistic/Explosive Attack, EIMI and HEMP.

Relative Risks

You have to understand the threats in terms of both its rarity and its severity. A society wide existential threat, even though it may never happen it is something that we should think about because of the impact of that on society.

Susceptibility

Most buildings are transparent to electromagnetic energy and we know this because we have been designing shielded enclosures for buildings that have things such as MRI's, laboratories and testing facilities for nuclear as well as electromagnetic and magnetic energy. It is not unlike that kind of a problem to do it for EMP.

Threat Combinations

Combination of threats pose interesting design problems. You can create a solution to the problem. We work on solving those problems as a whole.

Process

Analyze proposed solutions for each threat scenario. Develop a model system (a facility, structure, building, etc.) comprised of typical subsystems and components. Analyze each subsystem (machinery, SCADA, computing & MEP infrastructures) in the model to identify possible vulnerable components. Identify vulnerabilities of components that make up the subsystem. For each vulnerable component in the model system, evaluate the effects of: HEMP scenario, IEMI scenario and GMD scenario. Identify specific systems critical to the operation of the system that contain vulnerable components. Evaluate whether the loss of that system will be critical to the mission served. Evaluate the impact of the loss of each component, and whether the loss will affect the critical subsystem, and in turn, the critical system.

Programming

In addition to typical project program, this part of planning needs a specific threat assessment, to include HEMP-IEMI. We produce a document we call architectural programming, basically a menu of both the problem statement and the solution to the problem, as basis of design.

Design

The only difference between designing for EMP and any other building is we add those extra inputs for those threats. There are particular facilities that are particularly vulnerable such as Energy Control Buildings, Network Ops Centers, 911 and Emergency Operations Centers, Power Substations and Data Centers and Telecommunication Facilities. Aspects unique to HEMP and IEMI are configuration and compactness of site; what parts of facility need protection; distance of site from suppliers and operations staff; and distance from threat. We look at what part of the inside of the facility do we protect. Design response - extent of protected volume, level of redundancy, special protectives, shield vs. repair and points of entry. Regulatory Compliance, Federal Legislation is not (yet) prescriptive; states are starting to fill gaps. Local building codes often conflict with EMP/IEMI protection methods. Components – will loss of one component of any system create a single point of failure. Would a component that is reliable under some threats (e.g. flood) be affected by a different type of threat (e.g. EMI)?

Construction

Building Facts: EMP/IEMI Protected Data Center includes HEMP/IEMI protection for white space, MEP Infrastructure, Signaling and Controls. Building size: 2 story 105,000 SF; White Space 23,000 SF; Shielded area 44,000 SF; Concrete, Tilt-Up panels, Steel Structure. Design Criteria EF-4 Hurricane & Flood Resistant, Bullet Resistant Openings, Secure Fencing & Gates. Construction Cost \$50 million. Issues – Execution: 6-Sides shielded, includes floor; EMP protected drains; storage, environment control and sequencing for special materials; minimizing points of entry; BIM/Field Technology; special protective measures; protection outside of shield; grounding; Teamwork, Innovation; and maintenance.

Commissioning

Testing includes 3 passes. During construction with connections, fasteners, welds; Before cover-up, thoroughness, partial tests of completed modules; and at completion, full EMI testing.

Lessons Learned

During this we learned how to control the cost of this kind of building, how important coordination is for something that you haven't done before, how important a schedule is and teamwork in having people who are willing to take a chance to be innovative and work on things that they haven't known.

3. **DISCUSSION REGARDING ESTABLISHMENT OF AN INTERIM FIRE STATION 6 AT THE SOUTH SHORE ELEVATED TOWER LOCATED AT 6060 SOUTH SHORE BLVD.**

Gary Warren, Fire Chief said this is an interim station for the southeast League City area which is where we have our biggest gap in coverage. This has to do with our up and coming Insurance Services Office (I.S.O.) inspection. It rates cities on how good their fire protection is and sells that rating information to the insurance companies who set the rates that residents have to pay on their home insurance premiums. Cities can earn anywhere from a 10 to a 1, with 1 being the best. In 2010 League City had an inspection and came away with a split rating of 3/10. The exact score was 71.79 which equals a rating of 3 for properties within 5 miles of a fire stations and within 1,000 feet of a fire hydrant. At the same time, League City rated a 10 for all properties beyond 5 miles of a fire station and beyond 1,000 feet of a fire hydrant. In the last 6 years the water system has been dramatically upgraded, the public safety building was built, the Emergency Communications Center has been upgraded, emergency response staffing has been enhanced, training and emergency planning has been increased and automatic aid agreements are in place with strategic fire agencies surrounding League City.

In 2016 we have a consultant that is performing a rating of his own, gathering all the information together to show what kind of a score we should have and he will represent us November 16. He tells us that without a lot of extra effort, because of all of the improvements that have gone on within the last 6 years we could very well get an 88 which is a rating of a solid 2. What that means for residential, if the ISO rating changes from a 3 to a 2 the homeowners premium would be reduced by 8%. If the ISO rating changes from a 3 to a 1 the premium would be reduced by 9%. For commercial occupancies, if the ISO rating changes from 3 to a 2 they would see a 2% reduction in premiums. If it changes from 3 to a 1 they would see a 4% reduction in premiums. What a sixth fire station means to League City is we could earn an additional 2.88 points which should put us over 90, placing us in the ISO 1 range. Cities that have achieved an ISO 1 rating have shown a distinct advantage in their economic development efforts. The proposed location for Interim Station 6 is 6060 South Shore Boulevard, within the existing water tower. The base of the water tower is basically hollow with a large water main running up to the tank. It is 40 feet deep and the door way is 14 feet wide and we can fit a fire truck inside there easily. The estimated cost to make this functional is about \$10,000, which includes door activation, electrical outlet and a water faucet. On the second floor of the tower is an air conditioned office area that hasn't been used in a while and would serve to be a good place for the fire fighters to meet, fill out their reports and have some planning sessions. Engine 44, from Station 4 is the truck I am proposing to put at that station. Station 4 currently has two engines and they can afford to share one. We would reassign 13 of the volunteers from Station 3 to Interim Station 6 to support it. The long range plan is to build Station 6 in its final resting place and then move those people over at that time. In the mean time we will recruit more staff to support the interim station so we are fully functional, even in a new location. There are some precautions. We will need to have some warning signs out on South Shore Boulevard to let people know there is a fire station because there is a limited sight distance curve to the north side of that location and some big hedges that block the view. Also we need to make sure that we keep the security for that water tower strong through policy, especially the gate and garage closures because it is a critical city infrastructure. We would need to use judicious use of the sirens so that we don't offend the neighbors that live around there. We need to make sure we get out of the station and down the street before we turn on the sirens. Lastly, the ISO 1 is not guaranteed but attainable. So I propose to put that station in, go for those 2.88 points and take a shot at getting an ISO 1. Whatever we get we are going to keep for about 10 years.

4. CONDUCT A WORK SESSION OF THE CITY COUNCIL TO RECEIVE INFORMATION CONCERNING AGENDA ITEMS APPEARING ON THE MEETING AGENDA FOR THE OCTOBER 25, 2016 MEETING OF THE CITY COUNCIL OF THE CITY OF LEAGUE CITY.

NO VOTE OR ACTION WILL BE TAKEN ON ANY ITEM UNDER CONSIDERATION

5. ADJOURNMENT

At 7:25 p.m. Mayor Hallisey said, there being no further business this meeting is adjourned.

PAT HALLISEY
MAYOR

DIANA M. STAPP
CITY SECRETARY

(SEAL)

MINUTES APPROVED: January 10, 2017