

COMPREHENSIVE INFRASTRUCTURE MITIGATION PROGRAMS

**Mitigation Programs for Life & Health Safety: Storm
& EMP-Safe High Efficiency Integrated Public Works
Utilities, Communications & Data Sys' Infrastructure**

A SYSTEMS APPROACH implementing DHS/FEMA Building Resilient Infrastructure and Communities (BRIC) facility mitigation programs which meet FEMA 361, ICC-500 & NSSA Standards incorporating steel-reinforced concrete structures providing near absolute protection from Extreme Wind exceeding 250 MPH, EF-5 Tornados, Cat 5 Hurricanes, Fires, Floods, Earthquakes, Geomagnetic Storm(s), Coronal Mass Ejections/ "Solar Flares", Sudden Ionospheric Disturbances, Electromagnetic Pulse/Nuclear Electromagnetic Pulse, High Altitude Electromagnetic Pulse and Intentional Electromagnetic Interference Threats

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MITIGATION PROGRAMS' VALUE PROPOSITIONS SUMMARY

FEMA's Building Resilient Infrastructure and Communities (BRIC) Program

The Department of Homeland Security and FEMA have recently developed an infrastructure & facilities preparedness mitigation or "hardening" grant funding program to reduce natural and anthropological disasters risks.

Section 1234 of the Disaster Recovery Reform Act of 2018 authorizes FEMA to **develop a new pre-disaster mitigation program - Building Resilient Infrastructure and Communities (BRIC)** to support states and communities to undertake new and innovative infrastructure projects that reduce the risks they face from natural and anthropological disasters.

On 13 March 2020, President Trump **Declared a National Emergency due to SARS-CoV-2 VIRUS, "COVID-19" Pandemic's** outbreak in the United States.

Our **Systems Approach Programs** develop integrated solutions for project categories including:

- Hardened/Protected Public Safety Shelters – Storm, Earthquake, Flood, Fire-Safe
- Health Safety Interior Spaces Protection from Natural & Aggressor Biological Threats
- Hardened/Protected Public Works Water & Wastewater Utilities Systems
- Hardened/Protected Microgrids MWe Generation and Distribution Systems
- Hardened/Protected and Waterproofed Internet/Data Fiber Hubs
- Hardened/Protected Fuels Tank Farms, Pipeline Pumping Station Systems
- Hardened/Protected Key Govt, DoD, DHS, Nat'l Communication, Laboratories
- Hardened/Protected RR, Locks & Dams, General Aviation & Govt Airfield Facilities
- Hardened/Protected Healthcare, Academic, Corrections and Commercial Facilities

Our **Systems Approach Programs** *achieve FEMA 361, ICC-500 and NSSA Standards compliance utilizing ballistic steel-reinforced concrete construction designs providing near absolute protection from:*

- ✓ Extreme Wind Exceeding 250 MPH
- ✓ Ef-5 Tornados and Cat 5 Hurricanes
- ✓ Earthquakes, Fires, Floods and Rising Sea Level(s)
- ✓ Geomagnetic Storm(s)
- ✓ Coronal Mass Ejections/ "Solar Flares"
- ✓ Sudden Ionospheric Disturbances
- ✓ Electromagnetic Pulse/Nuclear Electromagnetic Pulse
- ✓ High Altitude Electromagnetic Pulse
- ✓ Intentional Electromagnetic Interference Threats

**Great Plains Biosciences Group, LLC
Infrastructure Mitigation Programs**

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PUBLIC HEALTH & SAFETY: SARS-CoV-2 VIRUS and COVID-19 INFECTIONS¹

SARS-CoV-2 is an aerosolized virus, which means that it is so small that it can float in the air. It is a beta-coronavirus with a diameter between 60 nanometers (nm) and 140 nm, or 0.06 to 0.14 microns (micrometers).² This is about half the size of most viruses, which tend to measure between 0.02 microns to 0.3 microns.³

Virus-laden saliva or respiratory droplets expelled when talking or coughing, however, measure between 5 and 10 microns.⁴ N95 masks can filter particles as small as 0.3 microns,³ so they may prevent a majority of respiratory droplets from escaping, but not aerosolized viruses.

Lab testing has shown 3M surgical masks can block up to 75% of particles measuring between 0.02 microns and 1 micron while cloth masks block between 30% and 60% of respiratory particles of this size. The science ^{5,6} clearly shows face coverings of various kinds do little if anything to prevent respiratory illnesses caused by aerosolized viruses; regardless of the mask, it cannot prevent you from exhaling or inhaling the aerosolized virus.

But influenza viruses — coronaviruses that cause the common cold and SARS-CoV-2 — all spread via the air, not just via droplets or touching contaminated surfaces, and it's important to realize that preventing droplet contamination does not mean you also prevent the transmission of an aerosolized virus.

Air Conditioning, Building Indoor Air Quality & SARS-CoV-2 Virus Transmission

In April and May 2020, US COVID-19 infections resulted in approximately 3,000 deaths per day representing approximately 7-to-8 percent of those infected. After a minor late-spring lull, confirmed US coronavirus cases erupted. By June and July, Arizona, California, Florida and Texas suffered their highest infection caseload numbers to date, and as the nation hurtles deeper into summer, the surge shows few signs of easing.

The increasing rates of COVID-19 cases have tracked with increasing summer temperatures in the southern and western states. Air conditioning provides relief from the oppressive southern tier states' heat and humidity and some experts are correlating air conditioned residential, office and commercial indoor spaces with the observed eruption of coronavirus cases.

Harvard Medical School's Edward Nardell said

“states using high levels of air conditioning in June due to “high temperatures” have experienced “greater increases in spread of COVID-19, suggesting more time indoors as temperatures rise,” similar to earlier in the year in northern states when people spent “more time indoors,” he said.

The typical building's HVAC system reuses dehumidified and pre-cooled “conditioned” air that has already been circulating within the building vs. pulling in new hot and humid outside air, the result of which is that aerosol virus particles keep recirculating throughout the space.

Dr. Nardell further stated

“as people go indoors in hot weather and the re-breathed air percentage increases the risk of infection is quite dramatic.”

Notes:

1. [Dr. Joseph Mercola, Masks - The Most Controversial COVID-19 Debate? July 29, 2020](#)
2. [StatPearls July 4, 2020, Etiology](#)
3. [SPhosp.org N95s — Sufficient Protection for COVID-19? \(PDF\)](#)
4. [WHO.int Transmission of SARS-CoV-2, Contact and Droplet Transmission](#)
5. [RC Reader June 11, 2020](#)
6. [Sott.net April 20, 2020](#)

PUBLIC HEALTH & SAFETY SHELTERS

Great Plains Biosciences Group LLC, (GPBG) of Newton Kansas incorporates our **Systems Approach Programs** for the protection of Life and Property. GPBG's EMP-proof hardened structures are included among the very best current design and engineering practice (Best Practice) for **Community Public Safety sheltering and Health Safety**.

GPBG achieves Top-rating Life-cycle Cost performance factors with efficient construction and low maintenance costs vs facilities with equal resiliency attributes and performance.

Our **Systems Approach Programs** provide cost-effective citizen protection and security functions for near-absolute protection from Aggressor Small Arms attack and Extreme Wind conditions exceeding 250 MPH that includes EF-5 Tornadoes and Cat 5 Hurricanes, as well as Fires, Floods and Earthquakes.

Occupants are protected from viruses, bacteria and other aerosols within the interior spaces of these structures due to advanced interior air quality – IAQ – management systems.

Aerosol Transmission of SARS-CoV-2 Virus – the “COVID-19” Coronavirus

- Mounting Evidence Suggests Coronavirus Is Airborne

Lidia Morawska is a Professor at Queensland University of Technology (QUT) in Brisbane, Australia, and Director of the International Laboratory for Air Quality and Health (ILAQH) at QUT, a World Health Organization (WHO) Collaborating Centre on Air Quality and Health, and past President of the International Society of Indoor Air Quality and Climate.

Following months of denying the importance of aerosol transmission of SARS-CoV-2, the WHO is reconsidering its whether there is a significant threat of coronavirus transmission by aerosols that can accumulate in poorly ventilated venues and be carried on air currents.

The WHO has maintained that the virus is principally spread by contaminated surfaces and by droplets bigger than aerosols that are generated by coughing, sneezing and talking. These are thought to travel relatively short distances and drop quickly from the air.

In a July 8, 2020 article in [Nature magazine](#) by [Dyani Lewis](#), Dr. Morawska is cited recommending that the WHO recognize that coronavirus transmission by aerosol vectors is both a plausible and a significant SARS-CoV-2 infection vector; edited excerpts include:

“When SARS-CoV-2 emerged at the end of 2019, the assumption was that it spread in the same way as other respiratory viruses and that airborne transmission was not important.

“Experiments are now painting a more complex picture that points to the importance of aerosols as a transmission route. They have concluded that “there is a substantial probability that normal speaking causes airborne virus transmission in confined environments”.

“This is not the first time during the pandemic that clinicians and researchers have criticized the WHO for being slow to update guidelines.

“A study published by Morawska found that people infected with SARS-CoV-2 exhaled 1,000–100,000 copies per minute of viral RNA, a marker of the pathogen's presence. As the volunteers simply exhaled, viral RNA was likely to be carried in aerosols rather than in the large droplets produced during coughing, sneezing or speaking.

“Other studies found that aerosols of SARS-CoV-2 remain infectious for longer than do aerosols of some related respiratory viruses. Aerosols of the new coronavirus were found to remain infectious for at least 16 hours and had greater infectivity than aerosols of the coronaviruses SARS-CoV and MERS-CoV; researchers in Wuhan, China, detected SARS-CoV-2 RNA in aerosol samples collected in a hospital.

“The US Department of Homeland Security Science & Technology Directorate in found that environmental conditions play a significant part in how long virus particles in aerosols remain viable. This study suggests that indoor environments might be especially risky, as they lack ultraviolet light and because the virus can become more concentrated than it would in outdoor spaces.

“Researchers concluded in *Clinical Infectious Diseases* that studies on SARS-CoV-2 and other viruses strongly suggest that airborne transmission of SARS-CoV-2 is an important pathway.

“In May, 2020 the guidance from the German Department of Health explicitly found that “Studies indicate that the novel coronavirus can also be transmitted through aerosols ...”

“As of mid-July 2020, the USCDC doesn’t mention aerosols or airborne transmission, but it updated its website on 16 June to say that the closeness of contact and the duration of exposure is important.

“Researchers who argue for the importance of aerosols say that governments and businesses should take specific steps to reduce this potential route of transmission. **Morawska would like to see recommendations against air recirculation in buildings and against overcrowding; and she calls for standards that stipulate effective levels of ventilation, and possibly ones that require air systems to filter out particles or use ultraviolet light to kill airborne viruses.**”

Public Health and Safety in a Coronavirus-Legacy Environment

– Controlling and Killing Viruses using UV Light ⁷

Ultraviolet (UV) light has long been known to be a successful disinfectant for water, air and environmental surfaces. Ultraviolet light in its natural form comes from the sun and falls in the center of the light spectrum. The light spectrum starts with radio waves and moves to infrared, visible light then ultraviolet, followed by x-rays, gamma rays and cosmic rays.

Ultraviolet light is characterized in four wavelength ranges that determine its intensity, strength and source; the UV wavelength that is effective in disinfecting air, surfaces and water is germicidal UV-C (253.7nm or 254nm generalized).

UV spectrum light is capable of eliminating harmful viruses, bacteria, molds, spores and fungi. Specifically, the UV-C spectrum is responsible for this ability, which targets the microbe’s genetic structure.

At high UV-C doses, the light stops the reproductive capabilities of the microorganism which results in eradication of the microbe, as it cannot multiply and infect other hosts. Compared to mainstream sanitation methods, cleaning surfaces with UV light does not require any liquids. The chemical-free process is also considered to be safer, as individuals do not need to come in direct contact with the surface or object.

What is a Virus?

A virus is a microscopic organism that can be found almost anywhere on earth and can infect everything from plants to animals to humans and even fungi and bacteria. Viruses are complex in that there are many types and can affect different organisms in different ways.

Viruses are the most abundant biological entity on the planet and do not have a cure, irrespective of the type of virus; the only way to prevent the spread of a virus is by using vaccines or appropriate disinfection methods.

7. [Larson Electronics](#)

Viruses are parasitic and cannot replicate and spread without a human or animal host as they do not contain ribosome, which means they can't produce their own proteins, a necessity for reproduction and spreading.

How Does UV Light Kill Viruses, Bacteria, Molds, Spores and Fungi?

All viruses can be inactivated and killed when directly exposed to shortwave UV, UV-C at 254nm, which breaks down its cell walls. As a virus cannot produce its own protective shell of protein or other material, once it is severely damaged by UV-C the virus cell itself is unable to repair the damage; it loses its ability to infect the host and eventually dies off.

As long as the UV light is of sufficient power and duration, it will bombard the virus cells with high levels of energy and break down the RNA and DNA of the virus rendering it unable to replicate itself and further infect the host.

In conclusion, the use of UV light has been proven to be a very effective method in killing viruses and bacteria when used properly and within the germicidal wavelength of 254nm.

UV-C Systems

Data from the International Ultraviolet Association (IUVA) reports that UV treatment has been around for more than 40 years. As a tried-and-tested solution, UV disinfection is prevalent in hospitals, medical or healthcare centers, laboratories, food processing, wastewater facilities, HVAC system management and more.

UV disinfection efficiency factors depend on several factors which principally include time, distance, UV light intensity, type of surface or object, resistance capabilities of the microbe. Sanitation is achieved by delivering concentrated UV doses at wavelength of 254nm.

UV-C Light Spectrum Virus Sanitation Applications

UV-C air sanitation applications include occupied areas - schools, healthcare, offices, buildings, industrial, manufacturing/processing, pharmaceutical, labs, warehouses, etc.

Powerful air purifiers work more rapidly than passive units as they physically draw surrounding 'dirty' air into unit filters, then the 'dirty' air is passed through the UV sanitation chamber where it is treated with UV-C light and the sanitized, clean air is returned back out into the room. These devices come with UV-C bulbs that provide a UV output in the 200nm to 280nm UV-C range – powerful enough to kill 99.9% of bacteria and viruses.

Typical UV-C Systems Operation

Surrounding "dirty" air is drawn into the UV purifier via filters. The "dirty" air passes through the UV sanitation chamber where it is treated with UVC light using UV-C spectrum fluorescent or LED lamps.

The disinfection process kills up to 99.9% of viruses, bacteria, mold, spores and other harmful microbes. Clean sanitized air exits the chamber through a louvered exhaust panel and is released back into the building space.

STORM AND EMP- SAFE POWER, DATA & PUBLIC WORKS SYSTEMS

GPBG's **Systems Approach Program** achieves compliance with FEMA 361, ICC-500 & NSSA Standards – 12/06 – (7.) Structural Design Criteria for protection of critical Power, Data & Public Works Infrastructure.

These structures providing near absolute protection from EF-5 Tornado, Cat 5 Hurricane, rising water levels, Extreme Wind exceeding 250 MPH, Fires, Flood and Earthquakes.

GPBG's structures completely enclose and protect the Power, Communications and Public Works Infrastructure Systems' communication, data, mechanical and electrical components.

The 2014 Quadrennial Homeland Security Review

Combating terrorism remains DHS's primary mission, but recent disasters have led DHS to adopt a risk-based approach to significant threats from both man-made and natural disasters which is identified in its 18 June 2014 second quadrennial report.

The 104-page report considers disastrous weather events a growing challenge, citing Hurricane Sandy, which killed 117 people and knocked out power to 8.5 million residents.

A changing climate will only increase the risk of more natural disasters, and such risk, combined with an aging infrastructure and population increases in vulnerable areas, sets the stage for a catastrophe.

DHS must improve technology transfer to ensure that new infrastructure is built to be more secure and resilient, and current infrastructure is well protected. Preparedness and resilience initiatives are positive investments.

Natural and Weaponized Electromagnetic Threat Categories

GMS	Geomagnetic Storm(s)
CME	Coronal Mass Ejections/ "Solar Flares"
SID	Sudden Ionospheric Disturbance
EMP	Electromagnetic Pulse
NEMP	Nuclear Electromagnetic Pulse
HEMP	High Altitude Electromagnetic Pulse
IEMI	Intentional Electromagnetic Interference

Electromagnetic Pulse/High Aaltitude Electromagnetic Pulse Facility Hardening

Electromagnetic pulses and geomagnetic storms can alter Earth's magnetic field, triggering destructive surging currents in power and microelectronic circuits.

EMP/GMS can destroy or immobilize power plants, distribution grids, water and wastewater pumps, communications and data centers, machinery, aircraft and vehicles. Electromagnetic energy creates ('induces') voltages in equipment which could exceed component tolerances of the equipment.

Electromagnetic Pulse (EMP) or a Coronal Mass Ejection (CME) from our sun produce high powered electromagnetic 'rays' that are very damaging to electrical and electronics-based equipment. EMPs and CME events are catastrophic no matter what.

On July 9, 1962, the U.S Military detonated a 1.4-megaton H-bomb over the Pacific at an altitude of 250 miles. Power circuits were shorted out in Oahu, Hawaii, 900 miles away.

The March 9, 1989 "coronal mass ejection" triggered a geomagnetic storm that knocked out power for 6 million people in Canada and the USA for at least nine hours.

Lightning cracks across the sky are 10,000 volts and more.

For comparison EMP is both similar and different to the above but much more powerful the closer to ground zero one is, and CME could not only be up to EMP powerful but is also sustained – the Earth could be in the sun's blast zone for hours or days whilst an EMP burst is milliseconds.

Weaponized EMP Threats include

- **Nuclear electromagnetic pulse (NEMP)**, resulting from a nuclear explosion. This is also known as High altitude nuclear **EMP (HEMP)**, which produces a pulse of a much larger amplitude and different characteristics due to interactions with the Earth's magnetic field.

NEMP/HEMP from a nuclear detonation can still be higher than 100,000 volts hundreds of miles away.

- **Non-nuclear electromagnetic pulse (NNEMP) weapons.**
- **IEMI - Intentional Electromagnetic Interference**

Electromagnetic energy creates ('induces') energy potential (voltage) in equipment even when it is not plugged in. That energy could very easily exceed tolerances of the components of the equipment – something as low as 30V inducement could irreparably damage electronics.

Additionally, vulnerability of electronic memory components are at risk; should the electronic memory component physically survives the EMP transient overvoltage event, there remains the strong probability that the critical programming codes it contains may be sufficiently corrupted to render the system inoperable.

EMP events and IEMI attacks onto power and/or communication lines can have huge impact on systems, the effects varying from the very subtle – errors in data streams and microprocessor instruction operation through to system lockups, hard resets and even permanent damage which renders a system beyond repair.

IEMI differs from most other EM threats in that it typically occupies a narrow frequency band, contrasting with other threats such as lightning and HEMP (high-altitude EMP), which are very broadband in nature.

IEMI threats range from “Radio Shack” level to Military; low-cost hardware including modified microwave ovens, Radio Frequency guns or EM jammers that can be bought for a few hundred Dollars. While technically unsophisticated, such attacks could easily cause persistent disruption or damage without leaving an evidence of an attack.

A Diehl pulsar is an off-the-shelf “interference source” capable of emitting a 350MHz damped sine wave output and 120kV/m at 1m continuously for 30 minutes; provided with an appropriate antenna, it is capable of disruption or damage at a long distance.

High power military systems include the Boeing CHAMP missile and the Russian-developed RANETS-E, which is capable of a 500MW output and range of 10km.

Mobile attack platforms can vary from trucks with antennae to Drones and Missiles. Additionally, an Aggressor’s IEMI equipment can be extremely stealthy, especially if fixed equipment can be set in proximity to the targeted system – in a building across the street or even an adjoining room, potentially allowing an attack to go unnoticed for a long time, or possibly to not be noticed at all.

This emphasizes a very critical threat characteristic regarding IEMI protection – target access. Access is in terms of distance either from threat to target in radiated systems, or to incoming power and communications cables for injected conducted disturbances.

GPBG's Hardened Wastewater Treatment Systems

GPBG achieves system protection from natural or man-made threats enclosing and providing system capability to ride-through major Storm or Aggressor Threat events without service disruption.

GPBG's WWTP design achieves system protection from natural or man-made threats and operates without fugitive odors, noise, bird/animal nuisance or disease vectors; the insulated building maintains the optimum biological process temperature range.

GPBG's enclosed process basins and treatment works and on-site electrical power produced from WWTP biogas, solar and wind generators achieves energy self-sufficiency and the systems' capability to ride-through major storm events without contaminating the community from untreated sewage discharged from overtopped sewer plant tanks.

Years of droughts in the Western United States and Global fresh water shortages have made the re-use of wastewater an appropriate water resource; GPBG's enclosed systems support the development of wastewater reuse projects that are priced at nearly half of the cost to build, own and operate vs current state of the art systems.

GPBG's enclosed treatment process systems achieve reuse quality effluents utilizing efficient and cost-effective technologies.

- i.** US-EPA and Metcalf & Eddy's text guidelines for US domestic sewage guidelines provide for roughly 100 GPD/person. Influent strength BOD₅ in the USA typically ranges from 200-250 mg/L.
- ii.** These systems can be engineered to meet all effluent discharge water quality requirements including aquifer recharge quality specification.

GPBG's integrated, hardened wastewater treatment system assures uninterrupted achievement of effluent discharge quality requirements.

Smart Grid – Microgrid Definitions

The U.S. Department of Energy's official definition of a microgrid is "a group of interconnected loads and distributed energy resources within clearly defined electrical boundaries that acts as a single controllable entity with respect to the grid (and can) connect and disconnect from the grid to enable it to operate in both grid- connected or island-mode."

The main benefits to consumers of a Microgrid approach include:

Security - power supply redundancy can be provided along with greater effectiveness. Also, the proximity of supply sources to the user or loads provides an opportunity for continuous operations even if other more remote utility grid resources are not available.

Resiliency – the ability to shift to local resources to meet the energy needs of the local grid. Also, potential independent operation of local grid should larger interconnected utility grid not be available. Based on the previous, storm and emergency preparedness (multiple factors need to be considered for this to be true including location and placement of equipment especially in a downtown environment adjacent to a body of water like the Bay and prone to potential hurricane impact. Finally, a microgrid can be designed with some self-healing characteristics through the use of technology such as automated switches.

Efficiency - ability to shift load and "usage" to off-peak hours through the use of grid interconnected resources such as energy storage. Also, provides ability to maximize use of local resources and can facilitate interconnection of resources such as renewable energy and other alternative resources.

Sustainability - encourages and can facilitate integration of renewables to the system. Also, the system can actively signal, monitor, and control demand response resources locally to meet the needs of the microgrid loads.

Microgrid Benefits and Characteristics

The microgrid can accomplish capacity benefits in multiple ways: A microgrid would take system balancing to a localized level allowing the microgrid controller to call on local resources to meet the power demand within its service island.

The microgrid SCADA controller monitors its Client Utility System Power usage utilizing pre-determined (or dynamically inputted) utility power support parameters. The microgrid's SCADA feeds-in local resources such as **demand response protocols, storage and generation** to manage differences between the two and maintain power quality factors.

A microgrid would generally provide (through the use of energy storage) the opportunity to buy power during off-peak hours and then supply during peak hours allowing the same lines to feed twice or more the load capacity of the surrounding system during peak

The scenarios above can result in savings to the utility, area and consumers within it. For the utility, they would be able to use more cost-effective resources such as base load units at night to feed the power needs of the microgrid. In addition, the utility can postpone or eliminate the need for infrastructure improvements based on a few hours per day peak.

Finally, a microgrid can make it easier to "plug-n-play" a variety of resources such as renewable and other alternative energy sources.

Several large cities within North America are successfully establishing microgrid districts.

GPBG's Hardened Smart Microgrids

Smart Microgrids enable critical infrastructure – Governmental, Medical, Manufacturing and Institutional facilities and Net-Zero and DC (direct current) Communities to efficiently provide onsite generation, and electrical distribution and management.

Smart Microgrids enhance the value of distributed renewable resources, especially solar and wind power generation systems, by providing a reliable localized electrical system that can disconnect from the central utility grid and operate independently for extended periods of time during an emergency.

Smart Microgrids can be “hardened” public works assets which can provide resilience measures protecting against system degradation or failure by geomagnetic storm (GMS), radio frequency weapon (RFW) or nuclear weapon-generated Electromagnetic Pulse (EMP) threats. Radio frequency weapons are a non-nuclear EMP weapon capable of emitting a pulse similar to a nuclear E1 EMP, with less destructive power capability and short range, typically limited to ranges of less than one mile.

Storm-proofed Smart Microgrids configured as resilient installations with anti-GMS/EMP hardened features allow public safety, governmental, medical and institutional facilities' critical power and data infrastructure systems to maintain operations independent of the central utility grids' ability to continue to function.

GPBG's Hardened Microgrid Platforms include the integrated management of DOD, FBOP, Critical Government Installation and Healthcare - unique and Civil Systems:

- Distributed Electrical Power Generation (DGR), Storage and Distribution Systems
- Industrial and Public Works Potable Water Supply Systems
- Industrial and Public Works Wastewater Treatment Systems
- Communications and Data Systems