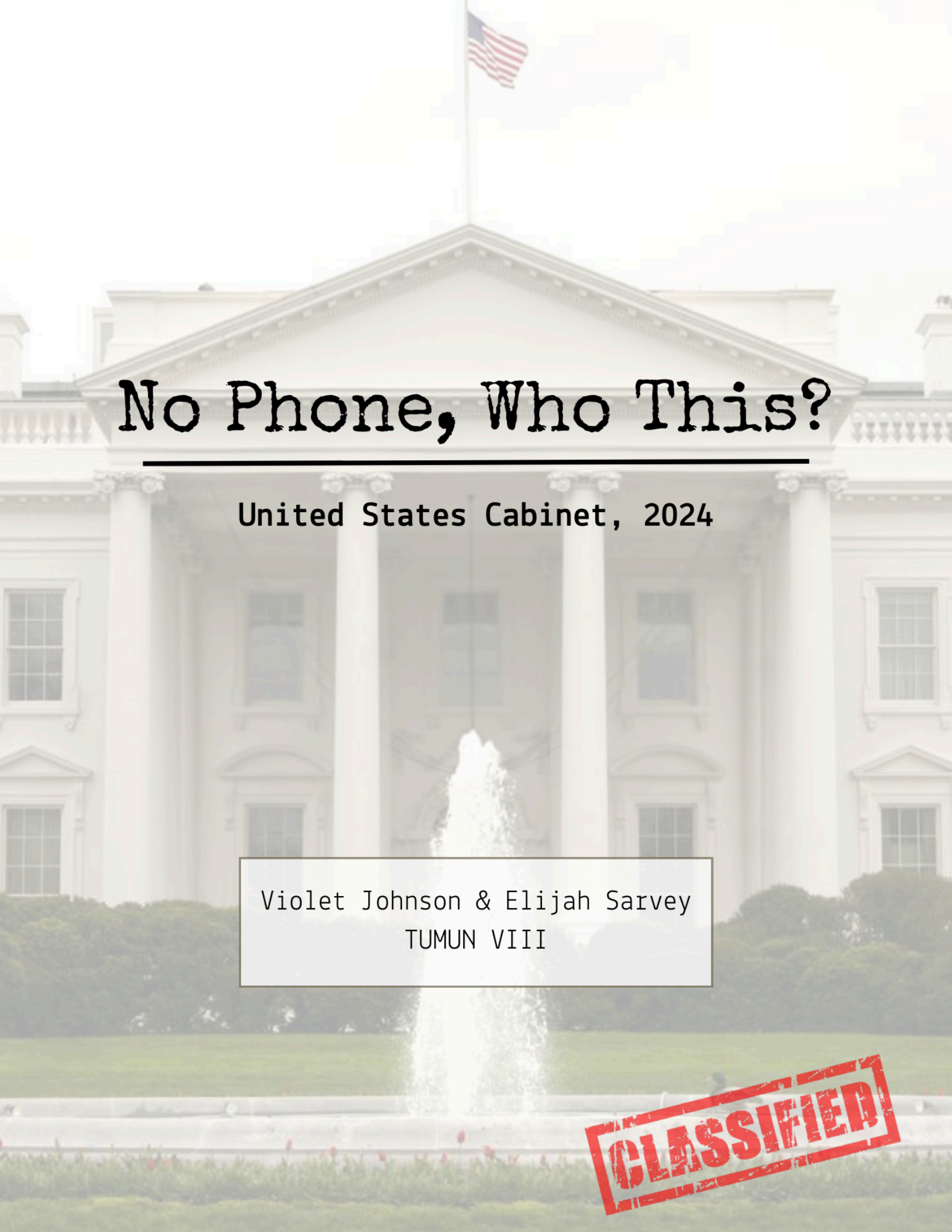

No Phone, Who This?

United States Cabinet, 2024

Violet Johnson & Elijah Sarvey
TUMUN VIII

CLASSIFIED

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Letters from the Crisis Directors

Dear delegates,

I am Violet Johnson, and as your Crisis Director for the eighth iteration of TUMUN, I am extremely thrilled to welcome you all to our committee, *No Phone, Who This?: United States Cabinet, 2024*. This is my second time being a Crisis Director and my fourth (and final) year involved in TUMUN, first as USG of Logistics and then as Secretary General. I am a senior at Tufts, majoring in International Relations and Russian & Eastern European Studies. I am ecstatic to conduct this committee, and I can't wait to see you all at Tufts in February.

For those new to the topic, our crisis surrounds the potentially disastrous cascading effects of an electromagnetic pulse (EMP) from a targeted attack or a solar event. The idea for this committee was born out of many conversations on what-if-apocalypse scenarios and too much media consumption. While on the surface this topic can be difficult to understand scientifically, we plan to outline the most important information and challenge you to consider what kind of societal, political, and cultural effects an event of this scale would have. I know that a crisis committee set in the future may seem daunting, but I know you can rise to the occasion and apply many kinds of knowledge to this complex topic.

Please email me with any questions you have about the committee, Tufts, or Model United Nations. This is my eighth year of Model UN and I hope to be able to pass on some of my own experience. I can't wait to meet you all!

Violet Johnson

violet.johnson@tufts.edu

Dear delegates,

I am your Crisis Director, Elijah Sarvey, and it is with great pleasure that I welcome you to the No Phone, Who This? crisis committee. This marks my third year involved with TUMUN, but my first as a Crisis Director, and I couldn't be more excited to share this committee with all of you. Currently a senior majoring in Mechanical Engineering, I am particularly interested in the intersection of technology and politics, a central theme of this committee.

Since the 1970s, our world has increasingly relied on computers, running critical systems from communication to transportation and healthcare. However, this rapid growth has outpaced efforts to protect these systems, leaving them vulnerable to large-scale EMP attacks, cyber warfare, and solar geomagnetic disturbances (GMDs) that could result in widespread power outages and the destruction of computers. This crisis places you as a member of the US cabinet in the immediate aftermath of such a catastrophe, where you face the task of guiding the nation back to stability.

The challenges you will face in this committee are relevant to many of the world's other most pressing issues, including climate change and nuclear proliferation, all of which highlight the intricate relationship between society, politics, and technology. I hope that this committee will allow you to think critically about our world, practice your communication skills, and, most importantly, have fun!

Feel free to reach out to me at any time with any questions you may have regarding the committee, Tufts Engineering, or anything else on your mind. I look forward to meeting you all in February and seeing how this crisis unfolds!

Elijah Sarvey

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Committee Procedure

Delegate Conduct

We expect all delegates to conduct themselves with diplomacy and collaboration with both each other and the outside world in this committee. While our topic will deal with tense situations and issues, we expect you to act with maturity and decorum. There is a zero-tolerance policy for hateful language or behavior. If you feel you witness this behavior, please bring it to the attention of the Crisis Directors, the Chair, the Staff, or the Secretariat. We want everyone to have an overall positive experience in the committee room. We can only do this if we behave with sensitivity. We must also work to hold each other accountable to these standards.

Technology Policy

Since the nature of this committee is related to restricted technology access, in the name of realism, we will be limiting the amount of technology allowed. However, we understand that delegates often prefer to have access to their devices for research or notes. As such, ***we will only allow the use of laptops and other devices during unmoderated caucuses***. Delegates are expected to act with decorum during moderated sessions, giving speakers and the topic at hand their full attention.

Action Items

While there is *no position paper required for this committee*, we expect delegates to not only study this background guide but also conduct their research, using the works cited provided at the end of this guide. ***We discourage the use of sources outside of those listed at the end of this guide.*** Due to the complicated (and futuristic) nature of this committee, we believe it will be most clear if delegates use only what is provided. Please email either Crisis Director with any questions or concerns.

Background Information

Introduction

An electromagnetic pulse (EMP) is a burst of electromagnetic radiation that can damage or destroy electronic devices. They can be caused by natural events like solar flares, or human-made sources like high-altitude nuclear detonations or specific weapons designed to produce an EMP. EMPs are a national security threat because of their ability to destroy electronic systems, resulting in widespread damage to critical infrastructure leading to power and communication outages, the disruption of essential services, and civilian panic.[1] Currently, the United States is particularly vulnerable to such an event, due to a lack of safeguards and redundancies to protect electrical systems.[2]

In this committee, set in the summer of 2024, you will assume the role of a member of the current United States Cabinet in the aftermath of a large-scale EMP event. You will need to work together to guide the nation through a time of confusion and loss, investigate the cause of the event, and ensure the safety of the American people and our democracy in the lead-up to the 2024 election.

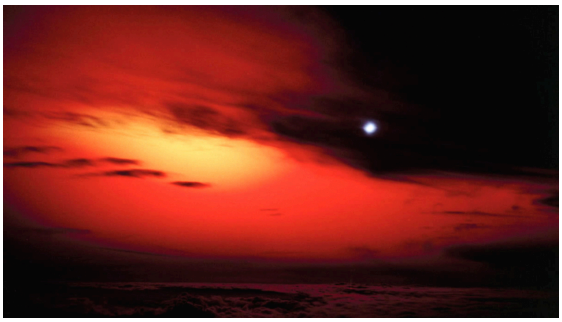
This section is intended to provide you with a selection of helpful information for you to reference as you plan for the committee and develop your crisis arc. *To avoid confusion, all systems impacted by the EMP event, and the scale of the damage will be explicitly listed and systems not included should be assumed to be fully intact.* However, when in doubt, please ask the Crisis Directors.

Political Landscape

Following the tense relations between the United States and the

[1] Radiation Emergency Medical Management. 2023.
[2] Lungren, Daniel. 2012.

Soviet Union during the Cold War, both nations conducted a full battery of tests with their nuclear arsenals, often launching them from tens to hundreds of miles above the earth. In July 1962, the United States deployed its next project in this series, codenamed Starfish Prime, 250 miles above the Johnston Atoll in the Pacific Ocean.[3]



Night sky after Starfish Prime, 1962.
https://www.science.org/content/article/us-tests-ways-sweep-space-clean-radiation-after-nuclear-attack

This hydrogen bomb would be approximately 100 times more powerful than the atomic bomb launched in Hiroshima during World War II. After it was detonated, Hawaii experienced unprecedented effects including damage to satellites, streetlights, and telephone service as a result of the accompanying EMP.[4] This EMP was just a taste of the kind of disaster that could occur if the electrical grid was impacted.[5] Although the Comprehensive Test Ban Treaty,

President Clinton signed the CTBT, 1996.
https://archive.nytimes.com/www.nytimes.com/politics/first-draft/2014/09/24/on-this-day-clinton-signs-nuclear-treaty/

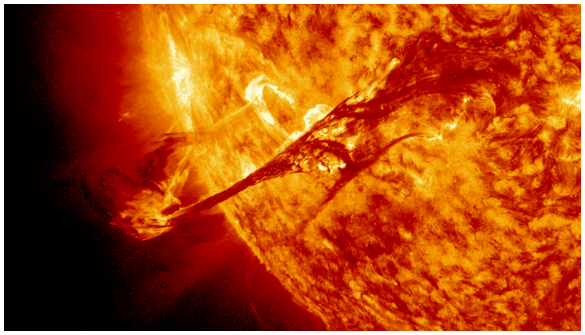
adopted by the United Nations in 1996, attempted to bring all nations together in agreement to halt nuclear testing, it remains not ratified by many major powers, including Russia, the United States, North Korea, Pakistan, Iran, and China.[6]

A targeted EMP attack is not the only kind of threat to our electrical grid. The other potential source of a powerful EMP event is

[3] King, Gilbert. 2012.

[4] King, Gilbert. 2012.
[5] Boatman, Liz. 2022.
[6] Kimball, Daryl. 2022.

our very own sun. One such case known as the Carrington Event was recorded in 1859 when a



Coronal mass ejection as captured by NASA's Solar Dynamics Observatory, 2012. https://svs.gsfc.nasa.gov/11095/.

geomagnetic solar storm disrupted and destroyed telegraph communications.[7] Had this event occurred in the 21st century, the effects likely would have been catastrophic, causing internet outages between continents and further damage.[8]

In 2017, North Korea claimed to have developed a large hydrogen warhead.[9] While the primary concern of such a weapon is a targeted nuclear attack on a major city through the use of an intercontinental ballistic missile (ICBM), a warhead of this magnitude could also be detonated high above the US to produce a powerful EMP without the need for the precision of an ICBM. At an altitude of 300 km, it is estimated that the resulting EMP could affect all 48 contiguous states.[10]

The Science of Electromagnetic Pulses

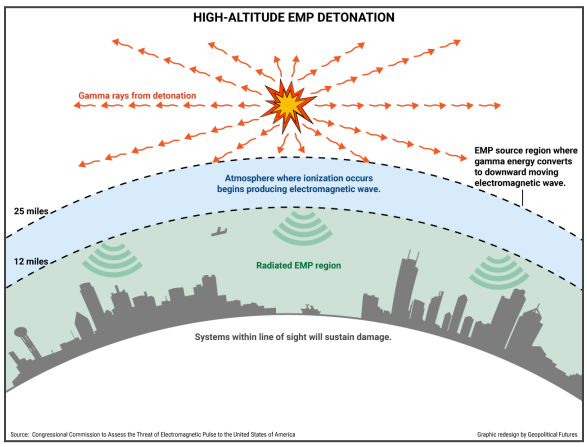
An EMP is a rapid and intense burst of electromagnetic radiation resulting from a sudden release of energy. The source and behavior of an EMP can vary and include nuclear detonations and solar flares.[11] Both have similar consequences but vary somewhat in their mechanics. However, all EMPs and their effects are governed by the fundamental laws of electromagnetism, described by Maxwell's equations, namely

[7] Dobrijevic, Daisy, and Andrew May. 2022.
[8] Dobrijevic, Daisy, and Andrew May. 2022.
[9] *The Economist*, 2017.
[10] Dorminey, Bruce. 2017.
[11] Friedman, George, and Phillip Orchard. 2018.

Faraday's and Ampere Maxwell's laws.[12]

Nuclear EMP

Nuclear EMPs consist of three different pulses. The first is called the E1 pulse and is produced when high energy gamma radiation released during a nuclear blast ionizes air molecules in the atmosphere, producing a high voltage electric field much like a very fast and powerful lightning strike.[13] This electromagnetic field passes through electrical systems



High-altitude EMP detonation. https://geopoliticalfutures.com/emp-threat-works-means-korean-crisis/

nearly instantaneously, inducing a sudden, large voltage in any conductors which most surge protectors are not equipped to protect against.[14] This poses a significant threat to low current, low voltage systems including computers and other technology that uses semiconductors.

An E2 pulse is more similar to lightning and is produced just after the E1 as a result of scattered gamma rays and neutrons. Because of widespread protection against lightning strikes, this pulse poses less of a risk, but the damage caused by the E1 may lead to increased E2 pulse damage.

The final, E3 pulse is a slower pulse produced by a disturbance of the Earth's magnetic field by the nuclear blast. This disturbance produces a time-changing magnetic field which induces a direct current in conductors over a longer period of time. This can damage transformers and other

[12] "A Plain Explanation of Maxwell's Equations." 2024.
[13] Dorminey, Bruce. 2017.
[14] Friedman, George, and Phillip Orchard. 2018.

parts of the grid which are designed to use alternating current.

Solar EMP

Solar EMPs, a type of naturally occuring geomagnetic disturbance (GMD), are similar to the E3 pulse of a nuclear detonation but are caused by temporary shifts in the Sun's magnetic field which interact with the Earth's magnetic field. Just like in the E3 pulse, this time-varying magnetic field induces currents in conductors.

Infrastructure

Grid Disruption: The immediate impact of an EMP on the electrical infrastructure would involve damage to the power grid and subsequent electrical transmission. The EMP can induce high voltages in conductive materials, damaging or destroying electronic components in power lines, transformers, and other critical elements of the grid.[15]

Satellite Disruption: EMPs can affect satellite communication systems, disrupting critical components of our interconnected communication infrastructure.[16] This breakdown could hinder emergency response systems, exacerbating the challenges posed by the crisis.

Healthcare: Damage to electronic systems and power transmission would compromise healthcare infrastructure. Medical equipment may be damaged directly from induced currents, or rendered unusable due to power and internet outages. Communication disruptions would also limit first responders' ability to respond to emergencies. The healthcare system of the United States is particularly vulnerable, due to a reliance on electronics and limited protections.[17]

[15] Averitt, Samuel. 2021. (pp. 50)

[16] Washington State Department of Health. 2003.

[17] Ross, Lenard H., and F. Matthew Mihelic. 2008.

Transportation

Aviation: EMP-induced damage to electronic communication systems could compromise air traffic control infrastructure. This may lead to disruptions in communication between control centers and aircraft, potentially grounding flights and compromising the safety of air travel.[18] Aircraft rely heavily on electronic systems for navigation, communication, and control. An EMP could interfere with avionic systems, posing a significant risk.[19] Flights that were airborne at the time of an EMP may have difficulty landing safely.[20]

Automotive Systems: Modern vehicles are equipped with electronics for various functions, including engine control, safety features, and navigation. An EMP could disrupt these systems, leading to vehicle malfunctions, failures, or even accidents. The semiconductors within these vehicles will experience failure.[21]

Traffic Management Systems: EMP-induced damage to traffic management systems could result in chaos on roads and highways. Malfunctioning traffic lights, communication issues, and disrupted transportation infrastructure may impede the movement of goods and people.[22]

Mass Transit Systems: Public transportation networks, including buses and trains, heavily depend on electronic systems for scheduling, ticketing, and control. An EMP could disrupt these systems, leading to service interruptions and potential safety concerns.

Supply Chain Disruptions: The interconnected nature of transportation systems means that disruptions in one mode can have ripple effects throughout the supply chain. An EMP event could

[18] Dorminey, Bruce. 2017.
[19] Dorminey, Bruce. 2017.
[20] Averitt, Samuel. 2021.
[21] Washington State Department of Health. 2003.
[22] Washington State Department of Health. 2003.

lead to delays in the transportation of goods, impacting industries and commerce. Some studies have found that a significant EMP could negatively impact global GDP by as much as 5.6%.[23]

Long-Term Implications

Rebuilding Infrastructure: Recovering from the aftermath of an EMP event would necessitate significant investments in rebuilding and hardening the electrical infrastructure. This may involve replacing or repairing damaged systems and enhancing the resilience of the power grid against future EMP threats.[24]

Economic Impact: The extensive damage to electronic systems and infrastructure would have far-reaching economic consequences, affecting all industries, employment, and overall economic stability. This could impact up to 130 million Americans, imposing economic costs projected to be between $1 trillion and $2 trillion.[25]

The Current Situation

It is August 16th, 2024, when a large-scale EMP event occurs. The decision-makers of the United States and abroad are unaware if this event is solar or nuclear. Cabinet members will be challenged to assess the situation and manage the first steps after the disaster. The EMP affects most of the contiguous states.

Ahead of August, political tensions have been rising as the election between Republican candidate Donald Trump and incumbent Democratic Joe Biden remains close and heavily anticipated by those watching around the globe. The upcoming election has increased political turmoil and raised the stakes for the Biden Administration regarding efficient responses to crises. The US Cabinet convened right after the

[23] Schulte in den Bäumen, H., D. Moran, M. Lenzen, I. Cairns, and A. Steenge. 2014.
[24] Cybersecurity & Infrastructure Security Agency. 2023.
[25] Lungren, Daniel. 2012.

EMP occurred, as the grid collapsed around the United States. Delegates' first steps should include discovering how far the EMP effects reached, what kind of EMP was used, and what part of the infrastructure was affected. The previous administration, under President Trump, implemented Executive Order 13865, "Coordinating National Resilience to Electromagnetic Pulses," which outlines some of the preemptive steps that have been implemented since 2019.[26]

As a final reminder if there is any confusion regarding the material or the nature of the committee, please email the Crisis Directors. There will be a short Q&A session at the beginning of the committee to address any last-minute questions. We will also conduct a short briefing to bring delegates up to date with the crisis.

Characters

Kamala Harris is the Vice President. Apart from her constitutional role as the presiding officer of the Senate, Harris is a key advisor to the President. She engages in various domestic and international initiatives, contributes to policy discussions, and plays a crucial role in representing the administration's values and priorities.

Antony Blinken is the Secretary of State and manages all affairs related to international relations, and national foreign policy. In this role, he is entrusted with crafting and executing the nation's foreign policy, representing U.S. interests on the global stage. Blinken negotiates treaties, fosters international relations, and oversees the operations of the State Department.

Dr. Janet Yellen is the Secretary of the Treasury and oversees the production of currency, public debt, finance laws, tax laws, and fiscal

[26] Trump, Donald J. 2019. (Executive Order)

policy. In her positional capacity, Yellen manages fiscal policy, taxation, and the U.S. Mint.

Lloyd Austin is the Secretary of Defense and is responsible for national security matters and the Armed Forces. Beyond his official duties, Austin advises the President on defense matters, oversees the Armed Forces, and significantly contributes to the shaping of U.S. defense policies.

Tom Vilsack is the Secretary of Agriculture and oversees farming, food, and rural economic development. As the head of the Department of Agriculture, Vilsack oversees initiatives related to farming, rural development, and food safety. In his advisory capacity, he contributes to the President's decision-making on matters concerning agriculture, rural communities, and food security.

Deb Haaland is the Secretary of the Interior and manages federal lands, natural resources, territorial affairs, and Native American affairs. As head of the Department of the Interior, Haaland plays a pivotal role in environmental conservation, land use planning, and tribal relations.

Pete Buttigieg serves as the Secretary of Transportation, a key role in shaping and managing the nation's transportation policies and infrastructure. In his position, Buttigieg oversees vital aspects of the U.S. transportation system, influencing policies related to roads, bridges, public transit, and aviation.

Xavier Becerra is the Secretary of Health and Human Services. He oversees public health, Medicare, Medicaid, and various human services programs. Beyond his positional responsibilities, Becerra advises the President on health-related matters, implements health policies, and manages agencies critical to the nation’s well-being.

Jennifer Granholm assumes the role of Secretary of Energy, wielding significant influence over the

nation's energy policies and resources. As the head of the Department of Energy, Granholm oversees the country's energy portfolio, including renewable energy initiatives, nuclear programs, and energy efficiency policies.

Dr. Miguel Cardona is the Secretary of Education. He holds a vital role in shaping federal education policy and overseeing the Department of Education. Personally, Cardona advises the President on education matters, implements policies to enhance the U.S. education system, and plays a crucial role in the nation's educational development.

Alejandro Mayorkas in his capacity as Secretary of Homeland Security, is entrusted with managing national security, immigration policies, and disaster response efforts. Mayorkas advises the President on homeland security matters, oversees immigration enforcement, and coordinates the nation's response to disasters.

William Burns is the Director of the Central Intelligence Agency (CIA), a critical position in the intelligence community. As the head of the CIA, Burns is responsible for overseeing intelligence gathering, analysis, and operations. In his advisory role, he provides the President with insights into national security matters, counterterrorism efforts, and foreign intelligence, contributing significantly to shaping U.S. foreign policy.

***Delegates are encouraged to do extensive research on their character, as all of the United States' Cabinet members are modern public figures. Both personal information about the individual and role-specific information about the Cabinet position will prove useful.

Questions to Consider

- What are the potential societal, political, and cultural effects of an event of this scale?
- How should the national response differ if it is an EMP caused by a solar EMP or a nuclear EMP attack?
- How can various agencies collaborate to address the multifaceted impacts of an EMP event in the United States?
- What long-term strategies should be implemented to minimize the impact on critical systems?
- How can the committee address the potential humanitarian consequences of an EMP event, specifically concerning the impact on public safety, healthcare, and emergency response systems?
- What measures can be taken to ensure protection of vulnerable populations in the aftermath of an EMP event?
- What are the economic consequences of an EMP event on the United States?

Resources for Delegates

Bruce Dorminey, "North Korean EMP Attack Would Cause Mass U.S. Starvation, Says Congressional Report."

Daniel Lungren, *The EMP Threat: Examining the Consequences*. (US Hearing)

Donald Trump, "Executive Order 13865, Coordinating National Resilience to Electromagnetic Pulses." (Presidential Executive Order)

George Friedman and Phillip Orchard, "The EMP Threat: How It Works and What It Means for the Korean Crisis."

Washington State Department of Health, "Electromagnetic Pulse (EMP)."

***These are the suggested resources to start your research. While you can use any of the sources in the Works Cited, we recommend starting with what is mentioned above. These sources provide the most pertinent and impactful information.

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