

Environmental Activist-led Coordinated Cyber Attacks
The New Independence Group

Julia never liked the term “eco-terrorist”. Nor did she like “fascist”. A “hero” would be a more appropriate term for how she saw herself. After all, she was saving the world, just like the superheroes and superheroines she grew up admiring. This time she would be saving it from mankind's own ignorance and destruction. Her well-intentioned thoughts did nothing to stop her ego from getting a boost however. Julia took personal pleasure in crippling the world's only superpower without firing a single bullet. Surgical ingenuity was all that was needed to bring about the devastating consequences, albeit not all of them she foresaw before kicking chaos into action.

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With climate change-driven natural disasters occurring every month around the world, and rising pollution levels Julia was fed up with the lack of progress made by governments who did more superficial talking than acting. If there was any hope for her two young daughters growing up in a safe world – she needed to do something about it herself. She knew that this *something* had to be more serious than the superficial boycotting of meat, recycling some plastic or marching down Pennsylvania Avenue in a protest – no matter how many passionate people turned up.

Three years ago, Julia's then nine-year-old daughter, Jenny, suffered a frightening asthma attack whilst playing with her two younger sisters on a hot summer's day in their hometown

Chicago, Illinois. Jenny forgot her inhaler that day. Her death certificate listed air pollution as the leading cause of death. After painfully making her way through the five stages of grief, Julia knew she had to do something. Jenny's death was preventable had the air not been so toxic. Being a fifteen-year veteran of the US Army Cyber Command, she knew she had impeccable technical, leadership, reconnaissance, planning, and discipline skills. Using a special web browser called TOR, which allows users to connect to the dark web, Julia gradually established a team by recruiting disgruntled but intelligent members of climate and anti-government forums.

Three years later, the syndicate that claimed no name nor wanted any fame for their acts, had gathered sixteen extremely motivated, creative, and persistent members from around the world. They worked independently as two eight-person teams, focused on different targets but with the same attack date to cause maximum impact.

Their attack date would be July 3rd. They called this *America's New Independence Day*, to signify its independence from fossil fuels. The press would soon come to label them as the 'New Independence Group', alongside some more ugly names of course. The so-called New Independence Group mostly considered themselves patriots. They loved America and were protecting their country and future generations from the greed and corruption of the fossil fuel industries and idle Government. Julia did not see the national infrastructure they attacked as critical for enabling the country to survive, rather it was the critical infrastructure that was enabling and causing its destruction.

Her cell consisted of eight people. Anders, an AI engineer had left one of the world's leading AI firms after becoming exasperated at the direction AI use was being taken. He thought it prioritised money over doing good for the world. It was his idea to launch the AI-enabled phishing attack to surge the electric grid, and he showed support for Julia's idea to hit the emergency services with the TDoS attack, although he always played down his efforts. Molly, a charismatic professional penetration tester (essentially an ethical hacker hired by companies to expose security vulnerabilities) was in her early thirties. Jason, a veteran officer of the US Navy Seals, was seen as the Dad of the group and had over twenty-five years of front-line experience working on counter-insurgency operations and knew the tactics, techniques, and procedures the team should follow to stay under the radar of authorities. Julia recruited him in the pub following overhearing a conversation with his friend about his discontent with the current state of political inaction on climate change. Charlotte and her girlfriend Amelia were only nineteen years old but made up for it with their fierce creativity, passion, and intelligence. They had grown up in Detroit, Michigan and Cleveland, Ohio respectively. Pursuing something bigger than themselves, they met at a Fight for Our Future climate rally in Atlanta, Georgia. George, Jack, and Chloe too had incredible coding, cloud computing and cyber skills.

The eco-activists found an anonymous supporter on the dark web willing to fund them. Their operation cost just shy of \$2 million for all the R&D and technology procurement. Little did they know their friendly, yet mysterious donor was the fictitious handiwork of a foreign intelligence agency.

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Like clockwork, the attacks began just as Julia had planned. It was a three-pronged attack. First, a novel cyber-enabled disinformation campaign was launched just hours before a critical mass of people unknowingly acted on it. The companies simply did not have enough time to try to rebut the claim. Using AI to help send over fifteen million SMS messages and emails from spoofed but legitimate-looking addresses, the account holders of every major electricity provider were contacted with a fake message. The message informed the customers that they would be eligible to receive two hours of electricity between 17:00 and 19:00 that evening at 50% of the normal charge. The message, which addressed the customer by their name, address and signed off with their legitimate electricity provider's name, stated that this was a government-subsidised initiative to help alleviate the stresses caused by the ongoing record-breaking heatwave. The details of each customer were stealthily exfiltrated from the targeted energy companies when the New Independence Group installed their ransomware required for the next stage of the attack. As millions of Americans returned home from work that day, turned on their electricity-guzzling ACs and TVs and made the most of charging their electric cars at cheaper rates, the power grid surged, and cascading blackouts ensued.

At the same time, a custom ransomware that the New Independence Group had painstakingly installed months earlier was activated. The computer networks of every major electricity provider and their vital SCADA computer systems responsible for monitoring and adjusting electricity levels, alongside the computer systems of national rail and road safety signals, were simultaneously disabled. Transport needed to come to a halt otherwise backup fuel could still easily be transported after the blackouts. Getting the ransomware onto dozens of different computer systems was a laborious but exciting task for the team. It involved a combination of bribery, and social engineering their way onto secure sites, with Chloe and Amelia even

getting jobs as legitimate employees in some of the companies in order to plug their malicious USBs into the air-gapped networks. As an extra little touch, the team placed the Bitcoin addresses of some of the major oil executives on the ransom note, just to fuel conspiracy and mess about with the law enforcement agencies who would be soon investigating it.

Third, and starting at 17:00, a Telephony Denial of Service (TDoS) attack orchestrated through Voice over Internet Protocol (VoIP) technology was deployed against the 911 emergency services across the whole of America. The damage was mostly done already from the electrical surge. Yet, Julia insisted despite challenges from some of the team, that the TDoS attack must be executed. She argued if they were to have any long-term impact, the fallout after the incidents must be as memorable... as painful as possible. Secretly, she partly wanted others to feel what she felt when Jennie was taken from her. Sheer helplessness.

It was the first time a mass distributed denial service had been conducted on the emergency services using real-time AI-generated synthetic 'deepfake' audio, however her teammate Anders was a whizz at programming it. The AI, hosted on hundreds of different cloud-hosted computer instances that appeared to the emergency call handler and their technology to be real phones, was capable of receiving the audio from the call operator and having a conversation with them. The AI models played panicked voices speaking to and listening to the 911 call operators, sending out false alerts, sometimes multiple calls for the same lie. The emergency calls centre erupted. Not since 9/11 had every operator been simultaneously occupied. "Help! My house is on fire... my kids are trapped inside, please come quick!" ... "There's an active shooter in the Springfield mall" ... "A bomb just went off in the subway" ...

“A bus just crashed into a lorry, and the bus fell in the river... come quick!”. The voices from the AI, trained on thousands of hours of online audio clips, sounded eerily realistic.

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Many ideas had crossed Julia’s mind on how to make an impact. ‘We could sever submarine fibre optic internet cables that form a big part of the internet’s physical backbone’ she thought. ‘Or we could take down commercial aircraft with drones, or’... countless ideas ran through her head. However, aimless damage was not Julia’s goal. Inflicting damage had to have a meaningful purpose. America had to see how weak its energy security was. How dirty and corrupt the system was. If people could feel the same pain Julia felt when she lost Jennie, they too would want to stop all emissions at any cost. Hitting the electricity grid would have the greatest impact as every sector relied on it.

She had always understood the intentions behind the dyed hair, baggy clothes-wearing vegans protesting about fossil fuel use. But she thought it was a waste of time. Nobody listens to the annoying teenagers blocking the road with their bodies and banners. It just frustrates people who would otherwise support the cause. If people were going to listen, Julia knew she had to get their attention in a big way. Prolonged damage to the infrastructure responsible for emitting the greenhouse gases was the best way Julia could see to bring about this change. She knew her attacks would not cause irreparable damage – but it should be enough to highlight the problems with the status quo.

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In a high security yet nondescript office block over seven thousand miles away, the General, wearing an impressively decorated military uniform, turned to the President. A thin smile formed at the corners of each man's lips. They turned back to the collage of TVs. The one directly in front of them showed real-time satellite imagery of North America – its eastern seaboard hidden in an unfamiliar darkness. America was on its knees. All it had taken was a ridiculously small amount of funding and some helpfully disgruntled and unsuspecting Americans.

Still staring intently at the imagery from one of their state satellites, the President spoke gently in his native tongue.

“Commence Phase B, General”.

“Yes Sir, with pleasure” replied the General. He nodded at a group of four men in their twenties, dressed in casual civilian clothes, sitting around four powerful-looking computers. They understood his signal, and the team leader began eloquently drumming on his keyboard. The other members of the New Independence Group had no idea of what was to come when they read “Anders is typing...”.