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Nearly All Critical Infrastructure Will Fail Without Grid Power

The Foundation for Infrastructure Resilience (FIR) released a paper today detailing the total devastation a power outage would have on America's critical infrastructure if it lasted even 30 days. FIR President Stephen Vollandt stated that "We have had power outages for up to ten days in many US locations in the past couple of years, mainly caused by fires or storms, that caused localized havoc and suffering. The California fires; the North Carolina, Virginia and Tennessee flooding, electric substation rifle attacks and a power outage causing the Virginia legislature's delay for five days in Richmond. If these lasted for just 30 days in a widespread outage, there would be tens of thousands of casualties, massive and dangerous infrastructure failures. Nuclear power plant waste fuel rods could overheat and ignite due to lack of pumped cooling. Worst of all, we are not ready."

The paper by Lt. Col. Stephen Chill, a key FIR advisor, details the impact on each critical infrastructure of up to a 30-day power outage. Chemical plants would cease to operate almost immediately, and water and wastewater plants would shut down allowing our streams and waterways to become fouled, and humans can only live without potable water for a few days. MG Luke Reiner USAF (Ret.), FIR's Chief of Staff, explained that "threats to our grid are at an all-time high from adversaries and weather or solar weather, or physical, cyber or even electromagnetic attack. This paper explores the consequences to our infrastructure and our citizens in a power out or black sky event. It should be required reading by civilian and military emergency planners, and all critical infrastructure owners and operators. In fact, every household in America should have a plan to go without power for at least 30 days if not more."

A chart detailing each infrastructure's time to failure is attached.

Summary Table

The following table summarizes the assessed general failure times for each Critical Infrastructure (CI) without power. The United States Government published an Energy Sector Specific Plan (SSP) that includes wording stating that each sector is reliant on energy/electricity. While the reliance on electricity was clearly stated, the timeline for failure was not. This table summarizes the assessed “times to failure” based on the more detailed CI analysis contained herein. These failure summaries are assessed for the majority of the CI (every sector will have some well-prepared entities).

Critical Infrastructure (CI)	Failure Within Seconds	Failure Within Minutes/hours	Failure Within Days	Limited Failure
Chemical				
Commercial Facilities				
Communications				
Critical Manufacturing				
Dams				
Defense Industrial Base				
Emergency Services				
Energy				
Financial Services				
Food and Agriculture				
Government Facilities				
Healthcare				
Information Technology				
Nuclear				
Transportation				
Water and Wastewater				

The newly released paper can be found at <https://fir.foundation/fir-public-relations-1>