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The EMP threat: Could Israel be blacked out?

Any modern country like Israel hit by an EMP could see its critical infrastructure instantly collapse in terms of communications, water, transportation, banking, finance and food.



Israel from space 1
(photo credit: NASA/BARRY WILMORE)

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Israel and other countries have focused significant energy on nuclear, chemical weapons and cyber [doomsday threats](#) – but are we ready for an electronic magnetic pulse attack that could cripple critical infrastructure and threaten national security? A range of experts addressed the issue in the Israeli context at a conference in Herzliya on Wednesday night co-sponsored by the Electric Infrastructure Security Council, IDC'S Sustainability School and IDC's Lauder School for Diplomacy and Strategy.

EMPs are bursts of energy that can be caused by a high-altitude nuclear detonation or a major solar storm.

A now notorious 2013 article discussed the prospect of North Korea employing space shuttle technology which it has used to place satellites in space in order to deliver such a nuclear blast above the US.

The explosion could cause massive voltage spikes in electronic devices and irreparably damage equipment ranging from small consumer electronics to large-scale power transformers.

Any modern country such as Israel hit by an EMP could see its critical infrastructure instantly collapse in communications, water, transportation, banking, finance and food.

Studies project that this combined collapse could cause wide-spread starvation and disease, and death from smaller threats such as fires which would be less controllable because of a lack of water.

Former chief scientist of the National Infrastructure, Energy and Water Ministry Shlomo Vlad said at the conference that an EMP attack is a real threat that Israel must be concerned about.

The EMP threat may be more likely to materialize than a traditional nuclear bomb striking the territory of a country, he said.

Unlike a nuclear attack targeting land, for an EMP attack "the means for delivery are relatively simple," Vlad said. Further, he explained that unlike a nuclear strike on land targeted at killing people (an EMP attack can indirectly lead to massive deaths, but the attack itself does not necessarily kill anyone), "EMP is not considered a weapon of mass destruction under international law."

The former chief scientist added that an EMP attack "does not leave behind signs which permit criminal identification of the perpetrator."

In addition, an EMP strike would leave Israel highly vulnerable to a conventional second-strike by any of its neighboring adversaries as it could cripple the IDF's superior electronic- based firepower and capabilities.

Top National Emergency Authority Official (RACHEL) Kobi Vimisberg said that the importance of electricity to a hi-tech country like Israel makes an EMP attack attractive to the nation's enemies.

Even if the likelihood of an EMP attack is low, a "country that does not prepare will pay" a heavy price, Vimisberg said.

Electric Infrastructure Security Council Israel Operations Vice President Dr. Ehud Ganani presented a mock video of what life in Israel might look like weeks after an EMP attack.

The video shows Israelis trying to stream out of the country on ships with Ben-Gurion Airport nonfunctional, doctors describing an inability to save patients

because it is difficult for their staff and medicines to get to the hospital, and health problems arising from an acute water shortage.

Reflecting actual estimates by officials, workers for the Israel Electric Corporation in the video say it took a year or longer to restore electricity on a widespread basis.

Top Israel Electric Corporation official Naomi Etzion said that the company is investigating several layers of preparation for an EMP attack.

First, it is crucial that all roles be clear beforehand, since after an EMP strike, poor communications may make it impossible to assign responsibilities, she said.

Second, she discussed specific physical defenses against an EMP attack: small add-on defenses; building more defensible structure for key infrastructure; and building entirely new facilities on a national scale that are more defensible.

IDC Lauder School Dean Boaz Ganor added that while the primary EMP threat comes from rogue states, jihadist groups discussed using an EMP weapon in June 2015 and March 2016, are familiar with the 2013 article about how North Korea could use it on the US, and that 100,000 YouTube videos have been posted on the issue.