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REDESIGNING STATE EMERGENCY MANAGEMENT LEGISLATION TO PROTECT ELECTRICAL NETWORKS IN THE EVENT OF A CARRINGTON EVENT: INTERNATIONAL RESPONSES AND DOMESTIC SOLUTIONS - A UAE, US AND AUSTRALIAN EXPLORATION.

Abstract

A Carrington Event is a solar coronal mass injection capable of penetrating the Earth's magnetosphere, destroying all satellites in Low Earth Orbit, and destroying all electronic devices on Earth, including electrical grids and power generators.

Examples of the destruction capable of a Carrington Event were it to unfold, include all radio waves being incapable of holding transmission for a period of several days, or weeks, as well electrical components failing, including transformers, transistors and inductors, spelling the end of all electronics and electrical networks.

The Carrington Event is named after the solar storm of 1859 where the Earth's fledgling telegraph network failed for several weeks. In July 2012, Earth narrowly missed a potential Carrington Event by roughly nine days.

Currently, domestic emergency legislation focuses on natural disasters such as earthquakes, floods, fires, droughts and pandemics. However, legislative instruments to allow for emergency powers in the event of a solar storm are absent from the domestic legal framework.

This paper will consider legislative reform and inter-legislative harmonisation specifically related to the United Arab Emirates On the Regulation of the Space Sector 2019 (UAE) and In Respect of the Establishment of the National Emergency, Crisis and Disasters Management Authority (NCEMA) 2011 (UAE); California Emergency Services Act 1970 (Cal.) as well as the South Australian Emergency Management Act 2004 (SA); to provide emergency services the ability to shut down the State's electrical grid as a preventative measure in the event of a Carrington Event occurring.

This paper will also consider the role international bodies such as UNOOSA may play in the notification and management of international responses to a Carrington Event.