

From: Clanon, Paul  
Sent: 8/22/2011 9:49:49 AM  
To: Cherry, Brian K (/O=PG&E/OU=CORPORATE/CN=RECIPIENTS/CN=BKC7)  
Cc: Cooke, Michelle (michelle.cooke@cpuc.ca.gov); Lindh, Frank (frank.lindh@cpuc.ca.gov)  
Bcc:  
Subject: Space Weather

Brian, I assume you're assembling a high-level task force of washed-up and never-were, yet somehow movie-star-handsome, former astronauts to handle PG&E's response to the upcoming "damaging space weather"? Also, please dribble out one at a time over the next few months all internal memos, lawsuits, PowerPoint presentations, and officer-coverup directives in which PG&E is repeatedly warned about damaging space weather and chooses to do nothing, then has its lawyers blame its customers, aka "earthlings", for any adverse consequences resulting. Thank you.

### ***Bay Citizen - PG&E Warned to Prepare for Solar Storms***

By [John Upton](#), August 19

The California Public Utilities Commission warned Pacific Gas & Electric and other utilities in the state to prepare for an expected spate of damaging space weather, the San Francisco Examiner reported.

According to NASA, solar flares are sudden explosions of radiation on the surface of the sun. These explosions can damage satellites, power grids and power transformers. They frequently occur in bursts during cycles that repeat every 11 years or so, and scientists forecast solar storm activity will peak within the next two years.

Three large explosions that were detected on the sun earlier this month could mark the beginning of the expected spate of solar storms.

The phenomenon knocked out a power grid serving six million customers in Quebec, Canada during a burst of activity in 1989 -- two cycles ago.

Utilities must take steps to make sure that their transformers -- devices that transfer electricity from one electrical system to another -- will be able to handle the charges that massive solar eruptions could pack, California Public Utilities Commission member Catherine Sandoval warned during a hearing on Thursday, the Examiner reported.

"And no transformers are more important than those attached to nuclear power plants," Sandoval said.

PG&E spokesman Joe Molica told the Bay Citizen that PG&E would look to the North American Electric Reliability Corporation, which regulates power grid operators, for guidance on dealing with the threats.

Molica said the hazards posed by solar storms are greater on the eastern seaboard and in Canada than they are in California.

"The good news is that California is much less vulnerable to these things," Molica said.

Space weather can be difficult to predict, but Stanford University researchers announced this week in the journal *Science* that they used sound waves to detect the development of sunspots, and observed their migration over one to two days from the sun's innards to its outer layer.

Sunspots give rise to solar storms, which create solar flares, and the researchers said the discovery could lead to improved space weather forecasting.

"Researchers have suspected for a long time that sunspot regions are generated in the deep solar interior, but until now the emergence of these regions through the convection zone to the surface had gone undetected," Stanford graduate student Stathis Ilonidis said in a press release.

"We have now successfully detected them four times and tracked them moving upward at speeds between 1,000 and 2,000 kilometers per hour," Ilonidis said.