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Solar flare illuminates the grid's vulnerability

A massive burst of solar wind that erupted from the sun on Tuesday June 7th is expected to deliver only a "glancing blow" to the Earth's vulnerable magnetic field, NASA officials said yesterday. But it will preview what some experts call a potentially existential threat to the power grids of the United States and other nations, and the populations that depend on them.

NASA's "Solar Shield" satellite-based detection system scientists at the Goddard Space Flight Center, said the cloud of ionized particles from Tuesday's violent coronal mass ejection will largely miss Earth, giving some North American residents a glimpse of the aurora borealis, or northern lights, this weekend. It will not be a major event for the power grid, they said.

However, NASA spacecraft detected a much larger eruption last weekend on the backside of the sun headed away from Earth, generating a much faster-moving cloud.

"If this event was on a collision course with the U.S., we would have had a major space weather event," "In this regard, we got lucky."

The next peak cycle of sunspot activity is predicted for 2012-2014, bringing with it a greater risk of large geomagnetic storms that can generate powerful rogue currents in transmission lines, potentially damaging or destroying the large transformers that manage power flow over high-voltage networks.

"Geomagnetically-induced currents on system infrastructure have the potential to result in widespread tripping of key transmission lines and irreversible physical damage to large transformers," a 2009 report by the North American Electric Reliability Corp. (NERC) and the Energy Department says.

Extended Temp Forecast: Chicago Area

| Tue | Wed | Thu | Fri | Sat |
|---------|---------|---------|---------|---------|
| 58 - 73 | 64 - 69 | 59 - 72 | 61 - 69 | 68 - 75 |

Electricity Pricing Areas – On Peak July 2011

| | June 14, 2011 | Per kWh |
|----------------|------------------------------|-----------------|
| Cinergy | Hub Peak Swap Monthly | \$.05238 |
| PJM Hub | Electricity Monthly | \$.07150 |
| PJM | No. Illinois Peak LMP | \$.05508 |
| PJM | Western Peak LMP | \$.05608 |

ComEd Average Day Ahead LMP Electric Price

| Time Period | Average per Kwh |
|-----------------------------|-----------------|
| Jul 1 - Jul 31, 2010 | \$.04741 |
| Aug 1 - Aug 31 | \$.04628 |
| Sep 1 - Sep 30 | \$.02934 |
| Oct 1 - Oct 31 | \$.02702 |
| Nov 1 - Nov 30 | \$.02778 |
| Dec 1 - Dec 31 | \$.03545 |
| Jan 1 - Jan 31, 2011 | \$.03871 |
| Feb 1 - Feb 28 | \$.03581 |
| March 1 - Mar 31 | \$.03668 |
| April 1 - April 30 | \$.03448 |
| May 1 - May 31 | \$.03954 |
| June 1 thru June 13 | \$.04568 |

Weather - Tue: Cloudy. High 74F. Winds E at 10 to 15 mph. **Wed:** Cloudy with showers. High 64F. Winds ESE at 15 to 25 mph. Chance of rain 50%. **Thu:** Showers possible. Highs in the low 70s and lows in the low 60s. **Fri:** Mix of sun and clouds. Highs in the low 70s and lows in the low 60s. **Sat:** Times of sun and clouds. Highs in the mid 70s and lows in the upper 60s.

