

**Question for written answer E-007151/2017
to the Commission**

Rule 130

Carolina Punset (ALDE)

Subject: Self-protection plans and means for nuclear plants in the EU to cope with potential extreme solar phenomena

The US's Nuclear Regulatory Commission¹ and National Oceanic and Atmospheric Administration (NOAA)² have expressly acknowledged that six separate nuclear incidents caused by relatively large 'solar storms' have taken place. Although relatively large, the storms were smaller than the Carrington Event in 1859, the likelihood of a repetition of which has been estimated to be at least 5% by the UK's National Risk Register of Civil Emergencies³. Other scientists, such as Pete Riley, have given an estimate of around 12%⁴.

The NOAA reports that the first of those nuclear incidents in Europe took place on 30 October 2003, at Barsebäck 2, a now-decommissioned nuclear power plant in Sweden 25 km from Copenhagen.

1. In the face of those potential extreme solar electromagnetic phenomena, will the European Nuclear Safety Regulators Group establish specific duties for European operators to protect them against the phenomena and to be included in their internal and external nuclear emergency plans?
2. Just as specific protocols and means were established to address every other form of risk that could affect plants (fires, earthquakes, etc.), when will the regulations on extreme solar phenomena be drawn up?
3. In the Commission's view, and given the formally recognised 5% chance of an extreme solar phenomenon which could lower levels of nuclear safety in the Union taking place, is it acceptable that no nuclear regulation specifically on those phenomena exists?

¹ <https://www.nrc.gov/reading-rm/doc-collections/gen-comm/info-notices/1990/in90042.html>

² National Oceanic and Atmospheric Administration, NOAA, Technical Memorandum OAR-SEC 88. Halloween Space Weather Storms of 2003.

³ United Kingdom Government, National Risk Register of Civil Emergencies, from 2012 edition ('Newly assessed risks'):
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/211858/CO_NationalRiskRegister_2012_acc.pdf; and continuously since then in all subsequent editions between 5 and 50% (2013, 2015 and 2017).

⁴ Pete Riley, 'On the Probability of Occurrence of Extreme Space Weather Events',
<https://ntrs.nasa.gov/search.jsp?R=20120003491>.