



Ref: OIA 2223-0085

Jai Ganesh

Email: [fyi-request-19759-e8c3b50f@requests.fyi.org.nz](mailto:fyi-request-19759-e8c3b50f@requests.fyi.org.nz)

Dear Jai

Thank you for your email of 13 July 2022 to the Ministry of Business, Innovation and Employment (MBIE) requesting, under the Official Information Act 1982 (the Act), the following information:

“I was wondering how protected the NZ grid is against a sustained X class+ solar flare. Does NZ have a response plan in place for something like that?”

Unfortunately, we do not hold the information you requested, and we cannot think of another agency that would hold it, or whose functions would be more closely connected to it. We therefore refuse your request under section 18(g) of the Act because the information is not held. Having said that we include some information below that you may find relevant to your request.

Transpower, the state-owned enterprise responsible for electric power transmission in New Zealand, has an operational switching plan to reduce geomagnetic induced currents (GIC currents) associated with extreme coronal mass ejections (CME) eruptions that may be associated with X Class flares. Transpower monitors extensively across its network for GIC currents at over 23 locations and 66 transformers.

Transpower is working with GNS Science to obtain historic data from New Zealand’s official magnetometer, which is operated by GNS at the Eyrewell Geomagnetic Observatory. This data is being integrated into Transpower’s control centres. Transpower also receives space weather forecast information from the National Oceanic and Atmospheric Administration, run by the United States Department of Commerce.

In 2020, the Solar Tsunamis Endeavour Programme was approved funding by the Endeavour Fund, which is administered by MBIE to catalyse and rapidly test promising, innovative research ideas with high potential for benefit to New Zealand, and to enable refresh and diversity in the science portfolio. The programme was awarded \$15 million for five years, beginning in 2020 and continuing to the end of 2025.

The programme is an international collaboration led by the University of Otago to understand how New Zealand’s energy infrastructure will be impacted by an extreme space weather event. As part of the Solar Tsunami research programme, Transpower will continue to work with Otago University, Victoria University of Wellington and international parties to develop the geophysical models of the country so we can better estimate our exposure and accurately identify which parts of the network may be at risk and what we may be able to do to mitigate them.

The latest results from this international research collaboration will be available later in August when the programme has scheduled to run its present mitigation and switching plan against an extreme event such as a Carrington scale CME to test if New Zealand's present plan is still satisfactory.

The following links are some online resources that may be of interest to you:

[Keeping the power grid safe from solar storms | Transpower](#)

<http://auroraalert.otago.ac.nz/solartsunami/>

[2020 Endeavour Round Successful Projects \(mbie.govt.nz\)](#)

I trust that you find the information helpful.

Yours sincerely

A handwritten signature in black ink, appearing to be 'G. Wilson', with a long horizontal flourish extending to the right.

Gareth Wilson  
**Principal Policy Advisor**  
Energy and Resource Markets