THE COLLABORATING TECHNICAL SOCIETIES OF NZSEE, SESOC AND NZGS

MEDIA RELEASE – 4th OCTOBER 2022

Advice on revised National Seismic Hazard Model for design professionals and their clients

Alongside today's release by GNS Science of the revised National Seismic Hazard Model (NSHM), New Zealand's technical engineering societies have collaborated to publish an advisory document giving interim guidance to design professionals and their clients until such time as any future updates are made to the New Zealand building standards and regulations.

The New Zealand Society for Earthquake Engineering (NZSEE), the Structural Engineering Society of New Zealand (SESOC), and the New Zealand Geotechnical Society (NZGS) understand that the NSHM is one of many scientific inputs used to inform risk settings and design requirements in building regulations and standards.

Michelle Grant, President of SESOC says, "It will take time for the science to be evaluated and the Ministry of Business, Innovation and Employment to consider how to incorporate the model into building standards and regulations.

"I'm mindful that what we're seeing today with the revised NSHM is new data – it is not a design document for engineers."

Ms Grant says, "It will also take time to determine how to apply this data in engineering designs" she says.

"In the meantime, we want to provide our members clarity on the present regulatory requirements, and advice on how to proceed in the time between the model being released and any future Building Code update.

"That is why we've published an Interim Advice on the 2022 National Seismic Hazard Model Release advisory document – to help guide building designers in their discussions around hazard information with their clients and help them to engage in conversations regarding structural options which may buffer against hazard uncertainty," she says.

Earlier this year, the technical societies published the Earthquake Design for Uncertainty guidance providing good design principles that should be referred to alongside the new advice. "The feedback we have received from the sector on this guidance has been positive," says Ms Grant.

The technical engineering societies are currently planning a seminar for members on both the *Earthquake Design for Uncertainty* and the *Interim Advice for National Seismic Hazard Model*. The seminar will be held in Auckland, Wellington, and Christchurch, with an online option in late October. Invitations will be emailed in the near future.

You can read the *Interim Advice on the 2022 National Seismic Hazard Model Release* document here

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Note to Editors:

- *Engineers should remember that the minimum compliance pathway has not changed. Until B1/VM1 is updated, B1/VM1 continues to cite NZS1170.5:2004.*
- *For geotechnical design the Section 175 Guidance in Earthquake Geotechnical Engineering Practice Module 1 (V1, 2021) has not changed and can continue to be used. That guidance will be reviewed in parallel with the update of B1/VM1.*
- *Continue to use the design earthquake actions of NZS 1170.5:2004 (as cited by B1/VM1 on 1 July 2017) and Earthquake Geotechnical Engineering Practice Module 1 (V0, 2016) for all seismic assessments when calculating the %NBS rating. This is a legal requirement for EPB assessments, and allows for fair comparative assessments of all buildings.*
- *Refer to the August 2022 document "Earthquake Design for Uncertainty", for good design principles to assist with better performance in the face of hazard uncertainty. General themes include:*
  - *Adopt robust design practices, and consider the sensitivity of the design to an increase in demand.*
  - *Consider using low global ductility for the purpose of determining design actions but detailing for full ductility.*
  - *Ensure close collaboration with geotechnical engineers in the configuring of building foundation systems. Test the potential for ground deformation or significant degradation of strength (including liquefaction effects) at levels of shaking beyond ULS—so that instability or collapse potential can be mitigated/minimised.*
- *Risk is a combination of likelihood and consequence. In this case likelihood is the potential for a damaging earthquake to occur. Large earthquakes are rare events. MBIE's document Seismic Risk Guidance for Buildings gives guidance on risks posed by buildings to occupants.*

Interim Advice for National Seismic Hazard Model link: https://www.nzsee.org.nz/db/PUBS/2022-NSHM-Advisory_Rev1.0_October-2022-SESOC-NZSEE-NZGS.pdf

Earthquake Design for Uncertainty link: https://www.nzsee.org.nz/db/PUBS/Earthquake-Design-for-Uncertainty-Advisory_Rev1_August-2022-NZSEE-SESOC-NZGS.pdf

MBIEs Seismic Risk Guidance for Buildings link: https://www.building.govt.nz/assets/Uploads/getting-started/seismic-risk-guidance-for-buildings.pdf