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NSW Government
Design and Building Practitioners Regulation 2020
Policy and Strategy, Better Regulation Division
NSW Dept of Customer Service
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DESIGN AND BUILDING PRACTITIONERS REGULATION 2020 (PROPOSED)

Dear Sirs

We are members of the Australian Geomechanics Society (AGS), currently employed by JK Geotechnics in Sydney, NSW. The AGS is a technical society of Engineers Australia (EA), created to promote and advance the theory and practice of geomechanics in Australia. The membership of the AGS comprises Geotechnical Engineers and Engineering Geologists, with the two disciplines having significant cross over. I suggest that the AGS are well placed to provide further information to the NSW government on the roles of these two disciplines in the building industry.

With regard to the proposed Regulation, we would like to make the following comments and recommendations:

Registration of Compliance Declaration practitioners (page 23)

5. Do you support the proposed classes of Design Practitioner? Why or why not?

The Design Practitioner – Geotechnical Engineering should be renamed **Design Practitioner – Ground Engineering** to cater for Engineering Geologists which are key design practitioners for class 2 buildings (refer to the answer to Question 7).

6. Other than qualifications, skills, knowledge and experience requirements, are there any other eligibility criteria that applicants should meet to be eligible for registration?



No comment.

7. Are there other types of Design Practitioners that should be included or any that should be removed? If so, what are they and why?

Yes. The Regulations omit an essential type of Design Practitioner: **Engineering Geologists**.

Engineering Geologists investigate and interpret the natural and built environment subsurface to manage ground risks at planning, design and construction stage. They use their geological skills to enhance engineering practice in such fields as site investigation, slope stability analysis, mapping of geological and geotechnical hazards, foundation and earthworks design, and underground construction and excavation supervision. Engineering Geologists are therefore key Design Practitioners for residential apartment buildings class 2 and as such should be included in these Regulations.

The important role played by professional engineering geologists is already recognized by the NSW Department of Infrastructure, Planning and Natural Resources in their Geotechnical Policy Kosciuszko Alpine Resorts. This policy is applicable for building work covered by State Environmental Planning Policy No. 73 Kosciuszko National Park - Alpine Resorts) 2007. Professional engineering geologists with RPGeo or CPGeo are recognised by this Policy.

Poor characterisation and understanding of the soil or rock mass can severely impact class 2 buildings in NSW. Examples of geological hazards affecting NSW Class 2 buildings are provided in the table below. The damage to these class 2 buildings could have been avoided with an assessment of ground conditions by an Engineering Geologist.

 <p>Photo: James D Morgan / Getty Images</p>	<p>Erosion (Newcastle - 2020);</p> <p>Source: https://www.theguardian.com/australia-news/2020/jul/18/nsw-central-coast-houses-partially-collapse-after-beach-erosion-caused-by-swells </p>
 <p>Photo: Tim Hunter. Source: News Corp Australia</p>	<p>Differential settlement (Jordan Springs East - 2020).</p> <p>This issue led to a Contractor buying back 841 homes (source: https://www.theguardian.com/australia-news/2020/dec/15/western-sydney-lendlease-to-buy-back-up-to-841-homes-at-jordan-springs-east-site).</p>



Photo: Sydney Morning Herald

Slope instability (Thredbo - 1997);

This event led to the loss of 17 lives on Wednesday July 30, 1997.



Photo: Newcastle Star

Subsidence due to mine tunnel collapse (Swansea Heads - 2014).

Source:

<https://www.newcastlestar.com.au/story/2386272/mine-subsidence-damage-compensation-payouts-rise/>

The current Regulations do not cater for Engineering Geologists and changes are required in the definitions of Design Practitioners. We therefore recommend that the approach below is considered to cater for Engineering Geologists within the Regulations:

Group Engineering Geologists with the Design Practitioner - Geotechnical Engineers in a new design practitioner type called Design Practitioner - Ground Engineering Specialist

8. **Do you support the proposed qualification, skills, knowledge and experience requirements for each class of practitioner? Why or why not? Please make suggestions for additional or alternative requirements.**

As described in the answer to Question 7, we propose that:

Group Engineering Geologists with the Design Practitioner - Geotechnical Engineers in a new design practitioner type called Design Practitioner - Ground Engineering Specialist

9. **Do you agree that practitioners should be required to have 5 years of recent and relevant practical experience?**

Yes.

10. Some classes of practitioner have been proposed with authority to work on low and medium rise buildings? Do you support this approach?

No comment.

Registration of Professional Engineers (page 29)

11. Are there any other areas of engineering that should be captured for the purposes of designing or constructing a class 2 building, or a building containing a class 2 part?

Engineering geologists operate in the area of geotechnical engineering as currently defined in the Regulations (“an area of engineering that involves the mechanics of soil and rock and the application of the mechanics to the design and construction of foundations, retaining structures, shoring excavations, and ground bearing structures for buildings and other systems constructed of, or supported by, soil or rock”).

Mechanics of soils and rock depend on material and mass properties, which the professional engineering geologist is particularly well-suited to characterise. The engineering geologist fulfils a key role in the identification of any required changes to design assumptions during construction of foundations, particularly retaining structures, shoring excavations, and ground bearing structures and elements for Class 2 buildings which are constructed of, or supported by, soil or rock.

The important role played by professional engineering geologists is already recognized by the NSW Department of Infrastructure, Planning and Natural Resources in their Geotechnical Policy Kosciuszko Alpine Resorts. This policy is applicable for building work covered by State Environmental Planning Policy No. 73 Kosciuszko National Park - Alpine Resorts) 2007. Professional engineering geologists with RPGeo or CPGeo are recognised by this Policy.

For the proposed alternative (as provided in the answer to Question 7 - Design Practitioner - Ground Engineering Specialist), the only required change would be to rename the area of geotechnical engineering to area of ground engineering without further changes to the definition provided in the Regulations.

12. Do you support a co-regulatory approach for the registration of engineers?

No comment.

13. Pathway 1 will require an engineer to satisfy certain qualifications, skills, knowledge and experience requirements. Are there any other eligibility criteria that engineers should meet before being registered?

No comment.

14. The Regulation proposes recognition of Washington Accord accredited qualifications. Do you think this is appropriate? If not, what alternative approach do you suggest?

No comment.

15. Under Pathway 2 what criteria do you think the professional engineering body should satisfy to be eligible to perform their function?

No comment.



16. Would you be supportive of professional bodies developing a PSS for Pathway 3 to be available?

We would support Pathway 3 in the near future to cater for Engineering Geologists.

There are three Australian professional bodies which could provide professional accreditation for engineering geologists in the near future: the Geological Society of Australia (GSA), the Australian Institute of Geoscientists (AIG) and AusIMM (Australasian Institute of Mining and Metallurgy).

17. Do you agree that Professional Engineers should be required to have 5 years of recent and relevant practical experience?

Yes, we do agree that 5 years of recent and relevant practical experience should be required.

18. Do you support the proposed generic list of skills and knowledge requirements for all classes of engineering (excluding fire safety)? If not, please outline what you think the specific skills and knowledge for each class of engineer should be.

No comment.

Yours faithfully
For and on behalf of
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