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**RE: 2021 Targeted Update of ANZSCO Proposed Changes**

Engineers Australia appreciates the opportunity to provide feedback to the Australian Bureau of Statistics (ABS) on the targeted update of ANZSCO proposed changes. This letter has been developed to assist the ABS with the update by providing comments specific to the areas being reviewed relevant to the engineering profession.

Engineers Australia is the peak body for the engineering profession in Australia, constituted by Royal Charter to advance the science and practice of engineering for the benefit of the community. With around 100,000 individual members, Engineers Australia represents a wide range of engineering disciplines. As Australia's signatory to the International Engineering Alliance, Engineers Australia maintains national professional standards, benchmarked against international norms. Under the Migration Regulations 1994, Engineers Australia is the designated assessing authority to perform the assessment of the potential migrant engineering professionals' skills, qualifications, and/or work experience to ensure they meet the occupational standards needed for employment in Australia.

**Emerging Occupations**

**261313 – Software Engineers**

Engineers Australia recommends Unit Group 2613 be retitled to 'Software Engineers, Developers and Programmers'. It is further recommended Cyber Security Engineer be a separate occupation with 6 digits (261315) independent from the current proposal of specialisation within software engineer.

The main tasks or duties should include risk management, and the creation and development of tools and systems.

**261315- Cyber Security Engineer**

As mentioned above, Cyber Security Engineer should be a separate occupation independent from the current proposal of specialisation within software engineer. Instead of just installation and supports of the integration or software applications and systems, cyber security engineering includes the understanding of a broader spectrum of security risks and threats that need to be eliminated or mitigated, when creating, designing, evaluating and using all types of digital technologies, consisting of hardware, firmware and software components or applications in systems.

The main tasks and duties of a Cyber Security Engineer should also include the encryption/decryption aspects as well as risk management, and the creation and development of tools and systems.

**263299 - ICT Support and Test engineers nec**

The 'main tasks and duties' description under this category does not support an engineering or technology related title. The tasks are specific about advertising and supporting business growth etc. The classification and tasks of this code should be reviewed. It is considered the current description would be better placed under 2611 ICT Business and System Analysts.

Due to these being emerging areas it is recommended they are reviewed regularly (every 12 months) to ensure they are operating effectively and to update for clarity.

**Naval Shipbuilding**

**233511 - Industrial Engineer and 233513 - Production or Plant Engineer**

It is recommended the wording for the first main task be adjusted to 'developing and reviewing functional statements ...'

**233914 – Engineering Technologists**

It is recommended the 'lead statement / definition' for Engineering Technologist be changed. The current definition relates more to structures and infrastructure. Engineering technologists cover all areas of engineering, and the definition

should reflect this. If this change is unable to be made before the release of the update in November 2021, it is recommended that it be reviewed and changed at the first available opportunity. Engineers Australia would welcome the chance to provide further input on changes to engineering technologist and associate engineering classifications.

Within this occupation, a specialisation of “Ship Engineering Technologist” and/or “Maritime Engineering Technologist” should be included. Those specialisations are for the technologists involved in the design, construction, maintenance and operation of marine vessels and structures who have the knowledge, understanding and skills of naval architects but are not professional engineers.

#### **233916 - Naval Architect / Marine Designer**

It is recommended the title ‘Marine Designer’ be replaced by ‘Marine Engineer’. A “Naval Architect” is widely understood to be a professional engineer who is involved in the design, construction, maintenance and operation of marine vessels and structures. In contrast, there is no similar internationally accepted description of “Marine Designer” which may cover an infinite variety of knowledge, understanding and skills. This change will avoid the potential to mislead.

#### **Cyber Security**

##### **261313 – Software Engineers and 261315 - Cyber Security Engineer**

See comments under emerging occupations.

##### **261314 – Software Tester and 261317 – Penetration Tester**

To improve clarity, the first point in the main tasks should be changed from ‘...system program needs’ to ‘system performance against the specification’.

Further, the proposed title ‘Penetration Tester’ should be altered to be clearer. Engineers Australia recommends the principal occupation title be ‘ICT System Vulnerability Tester’.

#### **Other comments**

Engineers Australia recommends that the ABS collaborate with the Australian Government Department of Education, Skills and Employment and Department of Home Affairs to consider the appropriate skills authority to assess these areas (particularly the emerging areas) for the purposes of Australia’s migration program skills assessments.

Engineers Australia is the assessing authority for the majority of the engineering occupations. Software engineering is an anomaly due to it being considered a specialisation within an occupation. Engineers Australia accredits software engineering programs to internationally recognised benchmarks and would welcome the opportunity to assess this occupation category.

While not directly related to the current proposed changes, we would also note the following with regard to future changes:

- The emerging area of ‘sustainability engineering’ resonates and we would welcome the opportunity to contribute to early discussions on potential resultant occupations. The introduction of new classifications in this area are likely to impact university offerings and their professional accreditation to international benchmarks.
- A long-standing area of interest for Engineers Australia is the differentiation between 2334 Electronics Engineers and 2333 Electrical Engineers. 2334 Electronics Engineers are referenced in this change proposal and while changes are not suggested in our feedback, we would seek consideration being given to the two classes. From an Australian education perspective Electrical and Electronic Engineering is considered a combined Field of Education (0313). The differentiation of the ANZSCO classification leads to challenges when assessing underpinning qualifications for the occupation.

Engineers Australia would welcome the opportunity to continue this discussion and provide further input to the update as required. If this would be of benefit please contact Michael Bell, Policy Advisor at [mbell@engineersaustralia.org.au](mailto:mbell@engineersaustralia.org.au) or on +61 8 6214 6321.

Regards,

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