

LETTERHEAD

Friday 31 July 2008

Secretariat
Review of Australian Higher Education
GPO Box 9880
Canberra, ACT 2601

The Royal Australian Chemical Institute Inc (RACI), the professional body for chemists and chemistry in Australia, having 6000 members, wishes to provide the following submission to the Review of Australian Higher Education.

Many of the questions raised in the discussion paper are more specific than a professional body like ours would wish to respond to, but since our members are almost exclusively products of the higher education system it seems appropriate for us to make a few responses.

The four major headings under which the functions of higher education are introduced on page 2 (Section 1.2) are:

- developing high level knowledge and skills;
- generating new knowledge and developing new applications of knowledge;
- developing and maintaining a civil and sustainable society; and
- building the national economy and regional economies within Australia as a major knowledge-based industry in its own right.

Although the contents of these headings are amplified by subsidiary clauses, one aspect that is lacking is the integration of Australian higher education into the global knowledge 'economy'. This is most evident in the connections between Australian researchers and the international community, but also impacts on undergraduate education as the University of Melbourne, possibly to be followed by others, adopts course structures that are consonant with the European-driven Bologna Declaration on higher education. It might be that such ideas are held to be captured by words like 'society' and 'community of nations' that are to be found in the amplified function statements, but inclusion of a more explicit statement would be desirable. It is addressed to some extent in Section 3.6 (international arena).

In addressing Question 3, we would stress the importance of laboratory experience in undergraduate science (especially chemistry) degrees, and raise two issues in connection with it. The first is that financial pressures are causing chemistry departments to reduce the hours that laboratories are available for undergraduate instruction. This is of particular concern to RACI, since membership of RACI depends on the applicant having completed a course that meets our requirements for course breadth and depth, and we find increasingly that institutions are unable to meet the standards we set for accreditation of their degree courses. Secondly, our employer-members have brought it to our attention that graduates are not 'job ready'. While this situation is not new, although one new element may be reluctance on the part of employers to tolerate learning-on-the-job during the early months of a chemist's employment, the situation is exacerbated by reduced laboratory contact

hours. This is relevant to Questions 28-30 (Section 3.8), which address resourcing, although their focus seems to be institutional and inter-institutional.

Some universities assist students by incorporating 'work integrated learning' into the curriculum, but such programs make heavy demands on staff time. Extra resourcing will be necessary if they are to be sustainable.

I note that when I attended the Melbourne roundtable meeting on 25 June that every other profession represented there claimed to have the same problem! The chemists' problem is none the less real for that!

Finally, we wish to bring to the attention of the panel a study undertaken by RACI in 2004 and published as the *Future of Chemistry* report. A copy in electronic form has been provided to the panel. Recommendations 7 and 8 of our report deal with formal linkages between universities and industry, and with career information, respectively, but neither matter is explored in the review discussion paper.

Thank you for the opportunity to comment.

Yours sincerely

Ian D. Rae
President