

February 28, 2005

Anton Colella  
Chief Executive  
Scottish Qualifications Authority  
Hanover House  
24 Douglas Street  
Glasgow  
G2 7NQ

Dear Sir

**SQA Low Uptake Review: Geology  
A Curriculum for Excellence**

The Scottish Earth Science Education Forum (SESEF) represents a wide range of Earth Science education stakeholders in Scotland, at all levels in education from Primary to Higher, museums and science education institutions, businesses including the oil and quarrying industries and their trade associations, and Governmental and quasi-Governmental bodies.

Following the media reporting of the proposed SQA review of low-uptake subjects last year, we are delighted to understand that the review is to be undertaken in the context of *A Curriculum for Excellence*, the 3-18 review of the curriculum.

However we write to express our belief that the terms of *A Curriculum for Excellence* and a range of other factors imply that SQA should be increasing its support for Geology, not considering its termination. Moreover, we understand that the reviews of Biology, Physics and Chemistry have begun, but that the review of the subject of the science of Geology has not.

*The Meaning of 'Low-Uptake'*

We believe the terms of your public position on low-uptake subjects are misleading. The SQA is a near-monopoly supplier of qualifications to local authorities and state schools who are near-monopoly suppliers of education in Scotland. This is not a market or even quasi-market situation. "Low uptake" has nothing to do with parental or student demand, as your spokesman seemed to imply in newspapers last year. It is a reflection of lack of supply on the part of schools and local authorities. We estimate on a *pro rata* basis, that if Geology was available in all Scottish schools, there would be approximately 2000-3000 pupils taking national qualifications. That view is supported by the 400 pupils in the 1980's who took Ordinary Grade Geology in the roughly 50 schools that offered the subject. Now a total of about 130-150 take Intermediate 1 or 2 or Higher Geology at the roughly 15 centres that present candidates.

*Evidence of the Significance of Geology*

If raw numbers, therefore, do not represent demand for Geology qualifications, what does? The investment made in SESEF, which supports Earth Science teaching in all sectors, over the last 3 years

is a more appropriate indication of Geology's importance. The UK Offshore Operators' Association's investment in Earth Science CPD programmes for teachers is at least £50,000 in Scotland alone. Scottish Natural Heritage has invested £80,000 in our work. The Scottish Executive Education Department, invested £350,000 of its Improving Science Education 5-14 CPD programme in a consortium lead by a small group of organisations, including SESEF. More than a third of that programme (notionally £110,000, say) dealt with the 5-14 science attainment targets that are precursors to Geology. We have provided CPD for many hundreds of teachers all over Scotland. Their interest, and that of their pupils, is enormous, fuelled not least by the dozens of television series covering earth science.

#### *A Curriculum for Excellence*

There are at least two reasons why the SQA review seems in conflict with *A Curriculum for Excellence* and the *Ministerial Response*.

Firstly, the essential thrust regarding national qualifications is towards broadening outcomes and towards greater choice and opportunity. We cannot see how the threatened removal of qualifications such as Geology can achieve these aims. We would happily assist discussions concerning the development of more integrated earth science and science qualifications. But unless there are Geology qualifications and training options to support the cadre of earth scientists now in schools, such evolution will never happen. Moreover, all the sciences need to be reviewed at the same time and Geology should be reviewed alongside Physics, Chemistry and Biology.

Secondly, the broad principles (of developing successful learners, effective contributors, responsible citizens and confident individuals) demand a science education that is real and relevant to the world in which we live, and therefore able to address the declining interest in science education amongst young people. In Scotland, of all places, Geology must be part of this. This country is the birthplace of the modern science, and for good reason. It makes a huge economic and cultural contribution, through the exploitation of the country's coal, iron, oil shale, building stone and oil. Most recently, the Northwest Highlands have attracted Global Geopark status that is expected to bring prestige and tourism to the country, and to provide a new educational resource and focus. And as we continue to live in a world of increasing environmental change and hazard, not least in Scotland, responsible citizens need to understand earth systems more, not less, than ever before. Most of the oil industry is here, the renewable energy industry is here, some of the most respected university Geology departments in the world are here. In the tragic days following the tsunami, the scientific news came from the the British Geological Survey in Edinburgh. It would be absurd if Scotland's school education system did not produce home-grown geologists and well-informed citizens.

In summary, we would ask you take account of the idea that it is 'just right' that there should be Geology qualifications throughout secondary schools and that these should be reviewed at the same time as Physics, Chemistry and Biology. Rather than 'reviewing low-uptake qualifications' (a process that itself can hardly be good for uptake) such as Geology, we would ask you to support them more. That is what we in SESEF have been doing and will continue to do. In the light of all our remarks above, it is worth recalling that *A Curriculum for Excellence* is based on the *National Debate*. What we are asking for is simply what the Scottish people have asked for.

Yours faithfully,

Professor Aubrey Manning (SESEF President)

cc. Peter Peacock, Minister for Education and Young People, Scottish Parliament  
Peter Harrison, Chairman, SQA Geology Panel