

Standards for Standards Improving the Process

Peter Bernard Ladkin
RVS Bielefeld White Paper 1
3 February 2013

Principle 1. Standards should be made available at nominal cost to educational and training institutions with a need.

Subprinciple 1.1 Standards should be made available at non-prohibitive cost to organisations, including companies, with a need to adhere to or take account of those standards in their work and business.

Comment on Principle 1:

Currently, IEC 61508 in its IEC version is prohibitively priced for most universities, costing multiple thousands of euros/dollars.

In Germany, for a subscription fee of €400 per year, any organisation can obtain all standards published by DKE or DIN relevant for its work. That clearly satisfies both Principle 1 and Subprinciple 1.1. All the German versions of the European and ISO/IEC standards are covered by this; however, if one wants the English originals, this does not cover those.

In Britain, the IET has a library, use of which is free and unrestricted to all members and includes all IEC standards. However, a certain amount of time and effort is required to use a standard effectively through a specific geographical location at which it is available.

In the US, there is no effective provision for university professors to obtain copies of standards for teaching work, other than their university's paying full price for the standard.

Principle 2. Standards for which international interests align should be drawn up from the beginning by committees with an international membership of acknowledged experts in the subject matter.

Subprinciple 2.1. The technical content of a standard should be paramount. It should reflect the current state of technical knowledge in its subject matter, as also demonstrated-best industrial practices.

Comment on Principle 2:

The current situation is that national committees nominate experts to IEC committees as they will ("expert" is the name for anyone performing voluntary work as a member of some standards committee. There is no further control of qualification or technical expertise.

A result is that a committee can well consist entirely of people not in an intellectual position to fulfil Subprinciple 2.1.

It is not necessary for a committee to consist entirely of experts in the specific subject matter. There is a case to be made for contributions by generalists, as also by those with experience of the standardisation process to enable a committee to circumvent possible pitfalls and delays.

Fulfilling Principle 2 and Subprinciple 2.1 requires a change in the procedures for appointing committees. IEC Project Proposals are currently circulated amongst the national committees for approval. Maybe they could also be peer-reviewed (see Principle 3) before distribution. Maybe the composition of the Project Team/Maintenance Team could be Principle-3-peer-reviewed, and presence of a sufficient number of reknowned technical experts assured before the PT/MT is tasked.

The professional organisations, such as BCS and IET in the UK, the ACM and IEEE in the US, and the VDE in Germany, could also be asked for comment on Project Proposals / Maintenance Activities, yielding possibly a wider commentary group than circulation within standards organisations alone.

Principle 3. Proposed standards to be reviewed by a committee composed of internationally-recognised intellectual experts, whose recommendations shall be binding-under-negotiation.

Comment on Principle 3:

There is an issue of *qui custodiet ipsos custodes* – how does one assure that a proposed standard from a PT/MT fulfils technical criteria adequately?

One known method, subject to many pitfalls, is peer review. Current standards go through peer review via national committees, but there is no guarantee of technical excellence and many reknowned experts argue coherently that many standards, especially in system safety, fall short of technical excellence.

We may conclude that peer review on a pro bono basis is not ensuring the technical excellence on which engineers should be able to rely.

An alternative model is provided by EU-funded projects, especially Integrated Projects (IP). Each IP is subject to a multi-day annual face-to-face peer review by reviewers appointed by the EU. Each reviewer has international technical reknown in the subject matter or related, and hiser appointment is subject to confirmation by IP members. The reviewers may change from review to review. Reviewers are charged with rejecting or accepting deliverables. A review document is prepared, laregely giving the reasons for the rejection of any rejected deliverable and conditions for acceptance of a revised version.

EU reviewers are paid a fee depending on the time involved, and travel expenses. The EU review process largely attracts eminent reviewers and is widely regarded as enhancing the technical quality of the reviewed project deliverables. It appears therefore to be an appropriate model.