

Code of Practice for Independent Safety Assessors (ISAs)



Change History

Version	Date	Status
Draft	10 April 2008	Published for public consultation
Version 1	2 December 2008	Revised and authorised by the ISA WG for release
Version 2	6 May 2009	Minor typographical corrections on introduction page
Draft 3.A	6 December 2011	Draft for ISA WG comment. Revised following periodic open review, committee review and review against the Haddon-Cave Inquiry report and the Engineering Council "Six Principles of Risk"
Version 3	8 March 2012	Issued

Please send suggestions for improvements, for example of other open access sources of data, for consideration by the Working Group to:

■ isawg@theiet.org

Disclaimer

This document is owned and maintained by the IET/BCS/SaRs/IMechE ISA Working group and is not the property of the IET, the BCS, SaRs or the IMechE.

The design of the document is © The IET 2015.

The information contained in this document should not be interpreted as representing the views of the IET, BCS, SaRs or IMechE. Nor should it be assumed that it reflects any current or future IET/BCS/SaRs/IMechE policy. The information cannot supersede any statutory or contractual requirements or liabilities and is offered without prejudice.

While the author, publisher and contributors believe that the information and guidance given in this work are correct, all parties must rely upon their own skill and judgement when making use of them. Neither the author nor the publishers assume any liability to anyone for any loss or damage caused by an error or omission in the work, whether such error or omission is the result of negligence or any other cause.

Where reference is made to legislation it is not considered as legal advice. Any and all such liability is disclaimed.

Cover Images (clockwise from top left)

- Nuclear power plant
- Euro fighter
- Oil and natural gas offshore platform
- London Underground

About the supporting organisations

- The IET is registered as a Charity in England & Wales (No. 211014) and Scotland (No. SC038698).
- The BCS is a registered charity (No. 292786)
- IMechE is a registered charity in England and Wales (No. 206882)
- SaRS is a registered charity in England and Wales (No. 801207)

Introduction to “Code of Practice for Independent Safety Assessors”

Independent safety assessment is the formation of a judgement, separate and independent from any system design, development or operational personnel, that the safety requirements for the system are appropriate and adequate for the planned application and that the system satisfies those safety requirements. It is increasingly being used to obtain assurance of safety.

Independent safety assessors carry responsibilities that demand a high level of professional conduct. The Codes of Practice of professional bodies whose members may carry out independent safety assessments provide for an appropriate level of general professional conduct. However, the role of independent safety assessor carries with it particular professional responsibilities that need to be emphasised in the professional conduct of the assessor. Furthermore, it is recognised that currently not everybody who carries out independent safety assessments is a member of a professional body.

This Code of Practice for independent safety assessors addresses the perceived need for a Code of Practice that:

- Addresses the particular responsibilities that apply to independent safety assessment.
- Can apply to everyone who carries out independent safety assessments, whether or not they are a member of a relevant professional body.

It supplements, rather than stands in place of, the Codes of Conduct and Codes of Practice of professional bodies.

The Code of Practice consists of a set of requirements (the “Code of Practice for Independent Safety Assessors”) that are mandatory for users of the Code together with amplification and guidance to help in using and applying the requirements.

The Code of Practice may be used and referenced by:

- Independent safety assessors: to show their commitment to a high level of professional conduct.
- Users of independent safety assessors: in procuring the services of an independent safety assessor and to guide their working relationship with them.
- Companies whose staff carry out independent safety assessments: to ensure high professional standards in the independent safety assessment services they provide.
- Everyone concerned with safety assurance: to have confidence in safety assurance through independent safety assessment.

This Code of Practice for Independent Safety Assessors has been produced by the ISA Working Group. The aims of the ISA Working Group are:

- To promote the ISA role of a safety professional as a means of providing independent safety assurance to the supplier, purchaser and user;
- To promote the ISA role of a safety professional in standards;
- To support safety professional development by defining minimum standards, identifying training that meets minimum standards and supporting resources;
- To provide support for professional ISAs by developing guidance and providing information that affects their role;

Purpose

To provide a benchmark for good professional practice in the conduct of independent safety assessment.

- This Code of Practice is provided in the form of requirements that are followed by additional amplification or guidance which is boxed.
- The term “safety” as used in this Code of Practice is to be understood as referring to system safety, where the system may consist of hardware, software, procedures and people.

Applicability

Any safety assessment activity in which the assessor is required to be independent.

- This Code of Practice applies only to the carrying out of system safety assessment activities for which independence is required. It does not apply to safety assessments where independence is not a requirement or to assessments that are carried out for purposes other than for assuring safety.
- It does not apply to inspections or assessments carried out to assure compliance with technical standards or regulations or to occupational health and safety assessments even though they may contribute evidence for the safety of a system.

1. General Professional Conduct

The conduct of the ISA shall be consistent with the practices embodied in the Code of Practice of a relevant professional body.

- This Code of Practice does not attempt to duplicate or override the requirements given in the Codes of Practice and Codes of Conduct of professional bodies (such as the IET and BCS) but provides additional requirements which are particular to ISA activities.
- ISAs do not necessarily have to be members of a professional body. However, where they are not, their behaviour should be compatible with the conduct requirements of a relevant body.
- ISAs should practice continuous improvement, for example by professional development and maintaining awareness of relevant developments in science, technology and legislation.

2. Independence

The ISA shall ensure that there is nothing that might affect or call into question their ability to carry out an impartial assessment or to make impartial judgements regarding safety.

- The ISA should be sufficiently independent that any commercial, financial or other interests do not compromise their ability to carry out the assessment or their judgements.
- The ISA may be an independent person, independent department or independent organisation with usually a higher level of independence required for more critical systems.
- The level of independence is usually defined in the standards applicable to the system development (such as IEC 61508).
- The applicable standards for certain sectors may require particular controls to be established for the management of the independence and impartiality.
- The independence requirements should cover all staff involved in the assessment including any sub-contracted assessment activities.
- The ISA should ensure that their independence is not compromised by any activities carried out by their organisation (such as designing or supplying constituents or subsystems that are within the scope of the assessment).
- The ISA should continually monitor their independence and inform the purchaser of the ISA services in writing if any conflict in the level of independence arises and take steps to resolve.
- The ISA should declare and justify their independence in writing (for instance, in an ISA Plan).

3. Competence

The ISA shall be demonstrably competent to undertake the assessment activities, to make judgements regarding safety and to communicate effectively the results of their work.

- All Codes of Conduct require an individual to be competent. The following items relate specifically to ISA competence:
- Guidance for the competency of ISAs can be found in the IET/BCS '[Competence Criteria for Safety Related Practitioners](#)' and its predecessor 'Safety, Competence and Commitment: Competency Guidelines for Safety-Related System Practitioners'.
 - The competence requirements will depend on the system being assessed and its application.
 - It is unlikely that one individual has sufficient competency to adequately undertake the complete assessment for a complex system. Therefore where a team of assessors is used the team should collectively have adequate competency.
 - If a team of assessors is used then there should be one ISA who is overall responsible for the conduct of the assessment and this person would typically be a Chartered Engineer or equivalent.
 - The competency of the ISA (individual or team) should be justified in writing, for instance in an ISA Plan. It should be demonstrated that the overall competency is sufficient to match the ISA competency requirements for the system being assessed.
 - An ISA should continually review required competencies. They should obtain specialist support and advice whenever additional competence is required that the ISA (individual or team) does not already have.
 - Some industries require the company which undertakes the assessment to be accredited. This process usually requires both the company to be assessed as meeting certain criteria (such as having a defined quality management system covering the assessment activities which meets a particular quality standard) and the individuals who will carry out the assessment as meeting certain competency criteria.
 - Competency requirements should cover the relevant technology, domain, skills and experience.
 - The ISA should know and understand the relevant safety legislation, regulations and standards.

4. Communication

All formal communication regarding safety that is made by the ISA shall be clear, timely, objective and documented and shall distinguish fact and evidence from opinion and judgement.

- There should be an agreed means of escalating safety issues.
- Findings and other significant communications should be formally reported and documented.
- Findings would typically include not just the overall opinion on the safety of the product or system but observations raised during the assessment on documentation etc.
- Typically, the findings would be reported to the appropriate Design or Safety Authority.
- Findings should be reported in a timely manner so that remedial action may be taken without unduly compromising the development programme.
- Findings should avoid subjectivity as such opinions cannot be adequately defended.
- Findings should avoid reporting trivial points which may distract from key safety issues (such as typographical issues unless they substantially affect meaning).
- If appropriate, the ISA should track the issues raised to a satisfactory resolution.
- The ISA should not ignore other issues that they observe in the conduct of their assessment (such as those which may indirectly affect the safety of the system being assessed or may even be in another system) and should report these in an appropriate manner.

5. Proportionality

The ISA's assessment rigour shall be in proportion to the safety risk addressed.

- This relates to the safety aspects of the programme or product (as opposed to, say, programme risks) which if not adequately addressed could adversely affect the safety of the system.
- The ISA should balance effort on safety issues according to their safety criticality.
- The ISA should ensure that there is a balance of direct evidence (for instance, from assessment of evidence obtained from analysis, test or review) and indirect evidence (for instance, from checking the definition and compliance to processes for risk assessment, development and verification).
- Other factors may influence rigour of assessment, for instance use of new technology or previous experience of the development team with similar systems.
- The ISA should be open minded towards different ways of working and approaches to achieving and demonstrating safety that are used in the project under assessment.

6. Advice

The ISA may only provide advice if it is clear that it cannot compromise their independence.

- Customers and projects often seek advice or guidance from the ISA but this could compromise independence.
- The ISA should only offer advice or guidance that is general, not specific to the system under development and such as would be given to any broadly similar project. Examples of advice which could be given include safety management process best practice, guidance on the interpretation of standards and the consequences of specific technology choices. Examples of advice which could compromise independence include which design option should be taken, what technology to use and specific mitigations for hazards.

7. Integrity

The ISA shall ensure that their judgements regarding safety are not influenced by inappropriate pressures or other factors.

- The ISA should be alert to pressures from the client/project or from their own employer, which may include time and financial pressures and attempt to avoid them if possible. Otherwise, they should raise and seek to resolve the matter with the relevant management.
- Where a matter of professional integrity is concerned, a member may seek advice from their professional institution.
- See also guidance under requirement 2 on Independence.

8. Priority of Safety

The ISA shall seek to ensure that safety is given due priority.

- Safety should be the top priority for the ISA.
- The ISA should encourage openness and a balanced view with respect to safety matters and should set a personal example, for example avoiding a 'good news only' or 'bad news only' culture.
- When the ISA considers that safety is not being given sufficient priority or is not addressed adequately, the ISA should make best endeavours to ensure that the information is communicated to all appropriate parties, giving their reasons.
- If the ISA identifies a safety issue that is outside their remit, they should ensure that appropriate persons are notified.

9. Escalation

The ISA shall make best endeavours to ensure that the safety implications for the operation of the system are made known to appropriate persons or organisations that have responsibilities for its safety.

- If the judgements of the ISA regarding safety are not accepted then the ISA should make best endeavours to ensure that the implications for the safe operation of the system are made known to appropriate persons or organisations that have responsibilities for its safety.
- If appropriate, the ISA should inform the person's employer or the relevant safety authority of the potential risks involved which may include the consequences or any danger or loss which could ensue.
- Any such communication should be carried out responsibly and within the wider context of applicable Codes of Practice of relevant professional bodies.

10. Management and Planning

The ISA shall ensure that the ISA work programme is planned and managed so that it delivers the required outputs when needed and minimises disruption or delay to the client project or programme.

- The ISA terms of reference should be defined for the programme or project.
- The ISA work programme should be planned and agreed with the client.
- The ISA should ensure that the ISA roles and responsibilities (including those of an ISA team) are known and understood by all relevant persons.
- If at any time the ISA believes that the authorised resources and effort are not sufficient to carry out the ISA work satisfactorily, they should raise this as soon as possible with the appropriate person or organisation.
- The ISA should monitor the client project or programme for changes and should modify the ISA work programme to take into account any such changes.
- The ISA should inform, justify and seek to reach agreement with the client in respect of any significant changes to the ISA work programme, particularly if they might affect planned ISA deliverables or the client project or programme.
- While the ISA should seek to minimise disruption or delay to the client project or programme, this should not be at the expense of an adequate assessment of safety.